International Studies in Entrepreneurship

Paul D. Reynolds
Richard T. Curtin *Editors*

New Business Creation

An International Overview

Springer

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Dedicated to our wives,
Eileen Curtin and Anne-Marie Reynolds,
in recognition of their patience and support.

Preface

An Academy of Management Professional Development Workshop in August 2009 provided an overview of eight longitudinal panel studies of business creation. At an informal meeting of the various presenters, it was suggested that one way to facilitate comparisons of the various projects and assist other researchers not familiar with the exciting challenges of collecting and analyzing panel data was to provide a collective progress report. Each national team agreed to provide an overview of their project and its status as of the end of 2009. This book is the product of that meeting and the subsequent efforts of the various national teams. Ironically, this volume will go to press just before the 2010 Academy of Management meetings, where the workshop of 2009 will be replicated with status reports from nine national projects.

The editors very much appreciate the effort and time the national teams gave to make this book possible.

The development, funding, and implementation of longitudinal studies of business creation is relatively recent, the first projects were implemented in the early 1990s. This volume represents a status report on 11 projects in nine countries. These projects form one of the more coherent and substantial research programs related to business creation and entrepreneurship.

A substantial amount of new and unexpected information has been developed by this research program. The complexities of the business creation process and the long time required to reach fruition suggest there are major untapped opportunities for analysis and theoretical development. Our hope is that this book will encourage others to implement projects or invest in the analysis of the existing data sets to advance the understanding of this important topic.

The chapters in this book demonstrate the complications of tracking the business creation process and the substantial scientific benefits of documenting one of the most critical features of market economies – new business creation.

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Contents

List of Figures

List of Tables

Chapter 1
Introduction

Paul D. Reynolds and Richard T. Curtin

1.1 Introduction

There are at least 200 million people around the world involved in business creation. Another 200 million are owners or managers of new firms less than a few years old. These estimates were developed by the Global Entrepreneur Monitor (GEM) research program that covered 75 countries, about 80% of the world population. The true global total of people involved in the start-up process is probably higher, close to a quarter of a billion individuals, with another quarter of a billion involved as owners and managers of new firms.[1] There is an overlap between these two groups, with about 1% of adults who report they are both attempting to start a new business as well as own and manage a new firm (Figure 1.1).

Few features of modern life involve so many individuals, perhaps one in every ten adults in the world, about which so little is known. The focus of this book is understanding how people become involved in business creation and complete the process with an operational new firm. This book includes comparable data from nine countries. Projects in each county identified those active in business creation, referred to as nascent entrepreneurs, and tracked their progress over time. A major focus of these projects was expanding our understanding of the factors that facilitate entry into the entrepreneurial process and completion with the establishment of a new firm.

The countries represented in this book, the size of the population in the labor force age range (18–64 years old), and the estimated number of individuals involved in the first two stages of business creation are presented in Table 1.1.

[1]See Reynolds et al. (2005) for an overview of the procedure used to develop the estimates. Data are from Reynolds and Hechavarria (2009) and the project website, "www.gemconsortium.org." As these estimates are based only on those 18–64 years of age in each country, the estimates omit the efforts of those under 18 or over 65 years of age and are, therefore, slightly conservative.

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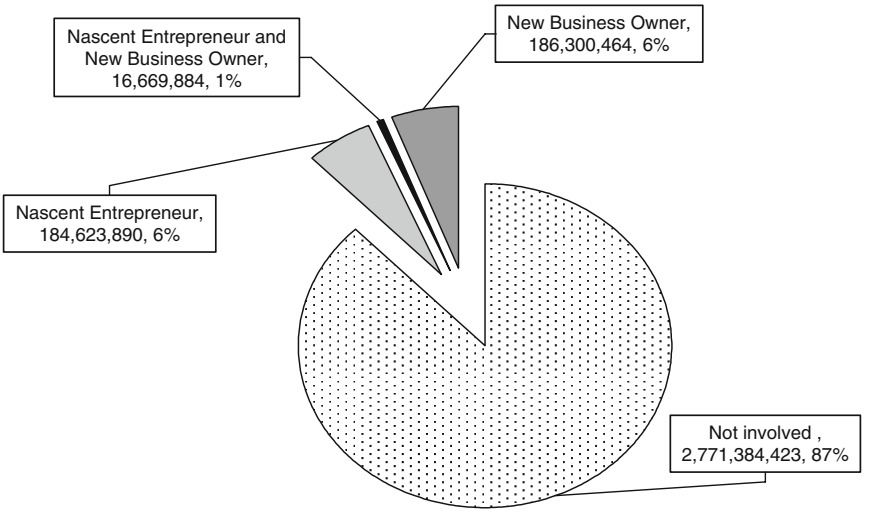

Fig. 1.1 Participation in business creation, 75 GEM countries 2000–2009

It should be clear that there is considerable diversity among these countries, from the largest in the world, China, to several of the smaller countries, Norway and Latvia. Just as important is the diversity of the national economies represented in this group, with considerable variation in the economies of China, Germany, and the USA, perhaps less so in other, more homogenous countries, such as the Norway or Sweden. There is also diversity in the cultural acceptance of entrepreneurship. European countries – Germany, Latvia, Netherlands, Norway, and Sweden – reflect an emphasis on stability and predictable work careers. The Anglo countries – Australia, Canada, and the USA – reflect a greater tolerance for economic change and career diversity. Finally, there are countries undergoing major structural adjustments, such as China and Latvia.

Table 1.1 Counts of nascent entrepreneurs and new business owners: selected countries

Country	Total population 18–64 years of age: 2009	Nascent entrepreneur	Nascent entrepreneur and new business owner	New business owner
China	899,421,013	46,139,332	5,998,991	75,311,292
USA	192,626,700	12,461,766	1,589,440	6,192,798
Germany	51,692,964	1,359,998	172,491	805,781
Canada	21,666,952	993,270	125,595	565,818
Australia	13,579,331	779,750	77,430	605,670
The Netherlands	10,699,786	223,732	8,483	265,470
Sweden	5,552,494	94,946	11,323	110,936
Norway	2,897,690	110,329	13,148	94,188
Latvia	1,465,335	53,491	2,318	43,035
Totals	1,199,602,265	62,216,614	7,999,219	83,994,988

One important and unresolved question is the extent to which business creation is similar in all national contexts. Does the start-up process have a different character in different national contexts? Variations in the start-up process might reflect differences in culture, political institutions, the size of the economy, or state of development. The variation represented by these nine countries with business creation panel studies provides evidence relevant to this important issue.

1.2 Entrepreneurship and Firm Creation

Entrepreneurship is viewed as a desirable personal and national attribute that receives a great deal of public attention. It is often presented as the solution to a wide range of problems, including economic growth and job creation as well as social integration and individual advancement. Despite the importance of these goals, the analysis of entrepreneurship and the study of business creation, two closely related but distinct issues, coexist in an uneasy tension.

The creation of new organizations – religious, military, political, productive, and philanthropic – has been an integral feature of human history. Specific attention to new commercial ventures may have begun with the speculation of Say (1816); he was the first to describe individuals who created temporary entertainment events as entrepreneurs. They would now be called "producers." In France, those who manage construction projects – another form of temporary commercial endeavor – are still referred to as entrepreneurs.

Other than focusing on the firm creation process itself, other perspectives have emphasized different features of the process, such as the amount of risk involved, recognition of opportunities worthy of exploitation, or the positive impact of creating new products, services, or productive procedures for an economy – reflected in the "creative" part of the creative destruction process.[2]

The main form of analysis has been a case study approach. Historical analysis of existing firms and economic sectors has contributed a great deal, but such analyses have reflected retrospective accounts of the survivors, particularly the big winners that dominate major industries.[3] Systematic empirical study of new firm creation, as a central feature of entrepreneurial phenomena, was delayed by the lack of representative samples of business ventures in the early stages of the firm life course.

A major breakthrough occurred with the availability of comprehensive registries of business establishments[4] that could be used to identify the creation and

[2] See Knight (1921) for definitions based on risk, Kirzner (1979) for definitions based on opportunity recognition, and Schumpeter (1934) for the discussion of creative destruction.

[3] See Chandler (1993) for the study of the rise of General Motors, Ichbiah and Knepper (1991) on the history of Microsoft, and Vance and Scott (1994) on the emergence of Wal-Mart.

[4] Establishments are single locations of economic activity; firms are coordinated efforts to achieve a common purpose. A single firm may involve coordination of one or more establishments.

disappearance of business firms. Knowing the ownership relationships among the establishments would allow a distinction to be made between new establishments created in the expansion of an existing multiunit enterprise and those developed independently by a team of entrepreneurs.[5] Once a comprehensive registry of all business establishments was suitably reorganized, it was discovered that new and small firms were a major source of job creation. In the USA, new autonomous firms are now considered the source of one half of all new jobs,[6] a finding replicated in all advanced economies where appropriate data sets have been developed.[7] Moreover, there is growing evidence of the substantial contributions of new firms to job creation, improved productivity, and economic adaptation and change. Economic growth of market sectors, country regions, or national economies is always associated with increased levels of business creation. While the role of new firms in the causal mechanisms leading to economic growth has yet to be clearly established, economic growth without new firm creation is rare.[8]

Another seminal finding was that most new firms are not consistent with the romantic images of entrepreneurship, famed in song and story. The largest proportion, more than 95%, are ordinary ventures that represent only incremental changes in business activity. Most new restaurants are very similar to existing restaurants. A new auto repair facility may appear to be very much like existing repair shops. A new marketing consultant seems to be serving the same function as existing marketing consultants. On the other hand, each of these examples may represent incremental changes in the product or service offerings or the procedures used to produce the output. The restaurant may have a new and distinct menu, the auto repair shop may have the latest in diagnostic equipment and repair procedures, the new marketing consultant may be using recent advances in the use of large data sets to assess and interpret consumer buying patterns. The incremental changes may be small, but the cumulative effect can be substantial by providing more consumer choices, improving work productivity, or establishing new, more precise profiles of consumer preferences.

In contrast, the image and writings about entrepreneurship tend to focus on the dramatic, game changing heroes – or heroic firms. Images of Andre Carnegie, Henry Ford, Sam Walton, or Bill Gates as they created US Steel, Ford Motor Company, Wal-Mart, or Microsoft tend to dominate the discussion, along with commentaries about innovation, growth orientation, or a preference for risk. There is no question that some firms have had a dramatic impact on the economy and were responsible for major changes in the goods and services as well as productivity and growth. But

[5] The first such analysis was completed by Birch (1979, 1981).

[6] Acs and Armington (2004).

[7] Schreyer (1996).

[8] Estimates based on the Global Entrepreneurship Monitor surveys finds that some countries recently experiencing high growth (Hong Kong, Singapore, and Taiwan) have relatively low levels of participation in business creation (Reynolds et al. 2004).

the potential for the pursuit of systematic research is hampered by the lack of comprehensive censuses or representative samples of highly innovative, opportunity exploiting, growth-oriented firms reflected in the concept of entrepreneurship as transformative creative destruction.[9]

This knowledge gap was partially closed by basing research on new listings in business registries, although limited to only those new ventures that proceeded to the point of being included in a registry. The majority of these new firms do not reflect the innovative, high growth ventures reflected in the popular image of "real entrepreneurship." Yet it is research based on this mass of new businesses that provide systematic empirical support for conclusions about the many contribution of the entrepreneurial sector: job creation, productivity improvements, innovation and adaptation, as well as a presence during economic growth.[10]

1.3 Conceptualization of the Entrepreneurial Process

Much of the research on contextual factors affecting new firm creation has been based on economic and demographic characteristics, such as the association of the prevalence of unemployment, short-term interest rates, or recent population growth on aggregate indicators of entrepreneurship. The prevalence of self-employment or new listings in a business registry[11] has been widely used as indicators of entrepreneurship. Such procedures do not give much attention to the time lag between changes in the contextual factor and changes in the indicators of entrepreneurial activity. These models assume, often implicitly, that there is an immediate impact, suggesting little or no time is required to create a new firm. Such assumptions do not seem justified.

---

[9]Most of the systematic research has attempted to utilize existing data sets. Studies of entrepreneurship have utilized data sets reflecting reports of self-employment (or plans to pursue self-employment), small businesses, firms in high technology or innovative sectors, or new entries in business registries. In several cases the indicators are unlikely to capture much about anything new or innovative. For example, most self-employed or small business owners have actually been in that situation for some time – most small ventures are old small ventures. The majority of firms in sectors considered high technology or innovative are actually doing rather prosaic things, acting as suppliers or subcontractors to the small proportion creating or utilizing advanced technology. The other option, new entries in business registries, are more closely related to the idea of entrepreneurship as business creation, but again the majority of the new ventures appear to be replicating existing business activity.

[10]For a recent overview see Van Praag and Versloot (2007), job growth contributions presented in Acs and Armington (2004) and Schreyer (1996), contributions in productivity in Foster et al. (2002, 2005); contributions to market innovation in Baumol (2005), and association with economic growth in Wennekers and Thurik (1999) and Audretsch et al. (2006).

[11]This might be the number of new firms registered in a year per 100 firms registered at the beginning of the year or the annual number of new registrations per 1,000 employed adults or 1,000 persons 18–64 years old.

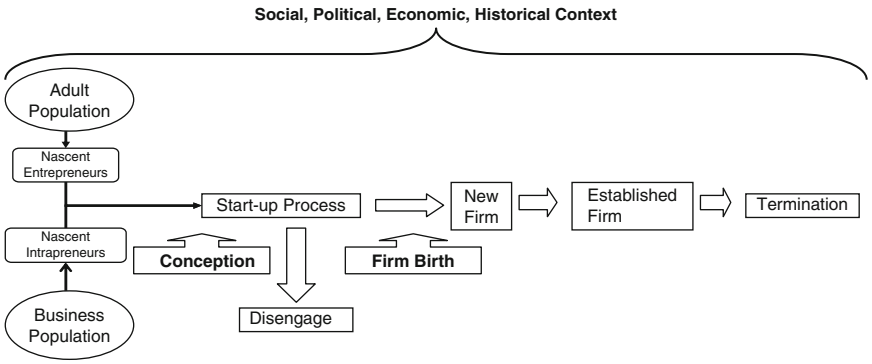

Fig. 1.2 Business creation process: context and critical transitions

There is little question that creating a new business is a process. It takes some time for the various elements to be assembled and redeployed to create goods and services. Indeed, the more complex and sophisticated the business, the more elements that will be involved and the longer it may take to reach operational status. The basic conceptualization of the process is presented in Figure 1.2.

The research focus is on the individuals or teams that elect to pursue new firm creation. They may be individuals choosing to pursue business creation on their own, nascent entrepreneurs, or those working on a start-up in response to their employers, nascent intrapreneurs. At some point, the level of activity and resource commitment will pass a threshold that can be considered equivalent to conception in biological gestation. Entry into the start-up process thus represents a serious effort to create a new firm and typically entails a wide range of activities as plans are developed and resources assembled and re-configured to create the new venture. The results of these efforts can then lead to the implementation of an operational new firm – a firm birth. Other start-up ventures may be discontinued and no operational new firm will emerge.

There are three transitions associated with this perspective: entry into the start-up process, disengagement from a start-up venture, and the birth of a new firm. There is not, however, widespread agreement on either the theoretical definition or operational indicators of these three transitions. The lack of consensus may be a source of disagreement about some basic patterns.

This conceptualization has been the basis for two major research programs, programs with complementary but diverse objectives. The first research program has been the longitudinal studies of business creation. Those identified as active in the start-up process were tracked over time to determine the outcome of their efforts. While given various labels, the Panel Study of Entrepreneurial Dynamics (PSED) may be the most widespread. Each shares the same research design and an effort has been made to harmonize many of the interview schedules.[12] These projects are the focus of this book.

[12] See Gartner et al. (2004) for an extensive overview of the theoretical issues that were the basis for the first US project (US-PSED I).

The Global Entrepreneurship Monitor (GEM) research program has emphasized measures of those involved in the business creation process.[13] The major empirical focus has been on the prevalence – number per 100 adults – of nascent entrepreneurs in different countries. Once individuals are identified as actively involved in business creation, there is no attempt to complete follow-up interviews to determine the outcome of their efforts. By 2009, estimates of the presence of nascent enterprises and new firms had been developed for 77 countries.

Harmonization of analyses has been facilitated by the use of similar, in some cases identical, procedures for identifying nascent entrepreneurs in these two complementary research programs. Both the GEM and PSED research programs have provided major advances in understanding the scope and complexity of the business creation process.

1.4 Global Comparisons of Stages in the Business Life Course

Data from two stages of the business creation process are gathered annually as part of the GEM research agenda. The prevalence of those involved in the start-up process, or nascent entrepreneurs, is developed along with the prevalence of those who are owner-managers of new firms, those profitable for 3–42 months old. Information is also obtained on the expected or current number of owners, which can be used to estimate the prevalence of the number of nascent enterprises and or new firms.[14]

The prevalence of nascent entrepreneurs – the number per 100 adults 18–64 years old – from GEM surveys for these nine countries is provided in Figure 1.3 as the darker bars. The variation is from 7 per 100 in the USA[15] to 2 per 100 in the Netherlands and Sweden. By dividing the number expecting to own the firm, it is possible to estimate the prevalence of nascent enterprises, represented by the lighter bars. There is substantial variation, from four nascent enterprises per 100 adults in the USA to 1 per 100 adults in Netherlands and Sweden.

A similar presentation is possible regarding new firms, as presented in Figure 1.4. The darker bars represent the prevalence of new firm owners, which ranges from 9 per 100 adults in China to about 2 per 100 adults in Sweden and Germany. Again, dividing by the number of owners per new firm allows estimates of the prevalence of

[13]The GEM research design is summarized in Reynolds et al. (2005); much of the data and most of the hundreds of global and national reports are available on the project website, "www.gemconsortium.org."

[14]Sources of data summarized in footnote 1; based on consolidating date for all years where available from 2000 to 2009, some countries have data for less than 10 years.

[15]The prevalence rate is sensitive to the age range of the base. The US panel studies us a base of 18–74 years, which reduces the prevalence slightly to 6 per 100 individuals, reflecting the low involvement of those 65–74 years of age.

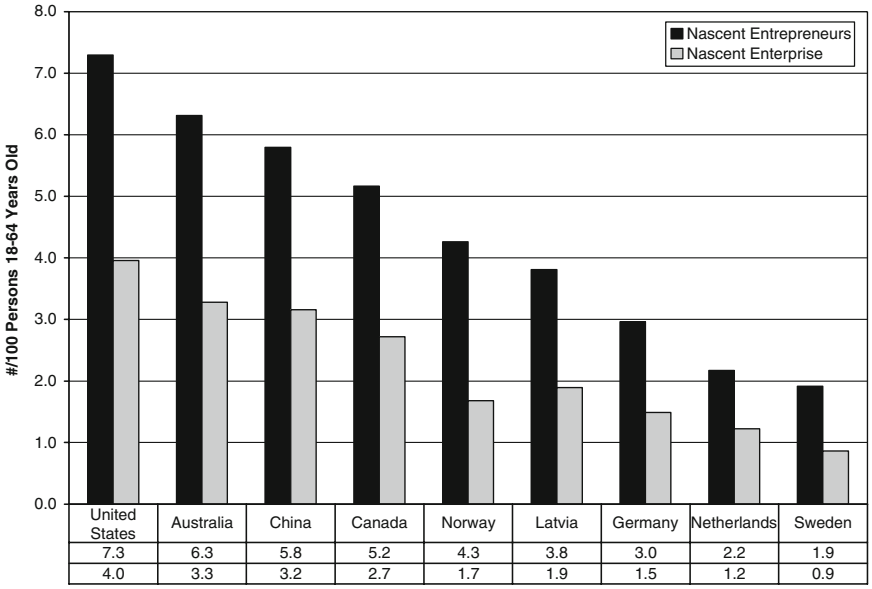

Fig. 1.3 Prevalence of nascent entrepreneurs and nascent enterprises

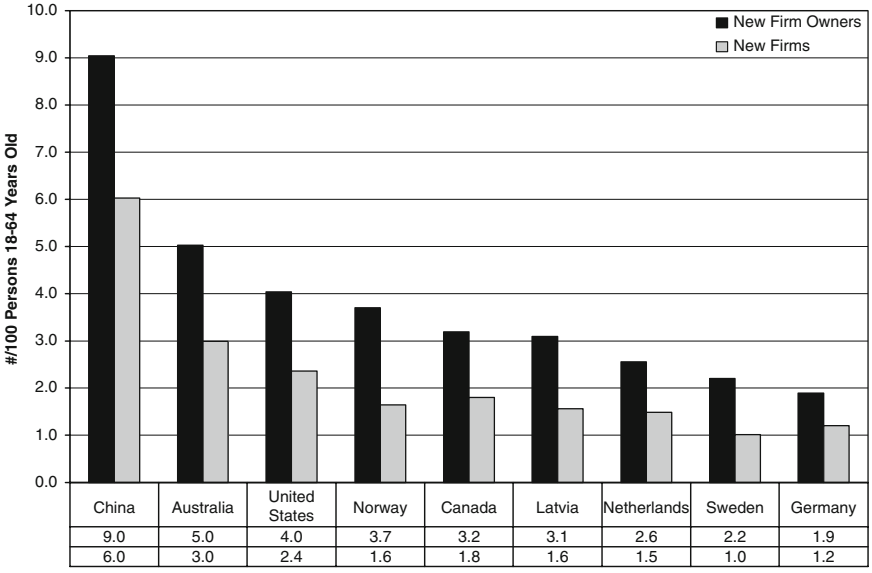

Fig. 1.4 Prevalence of new firm owners and new firms

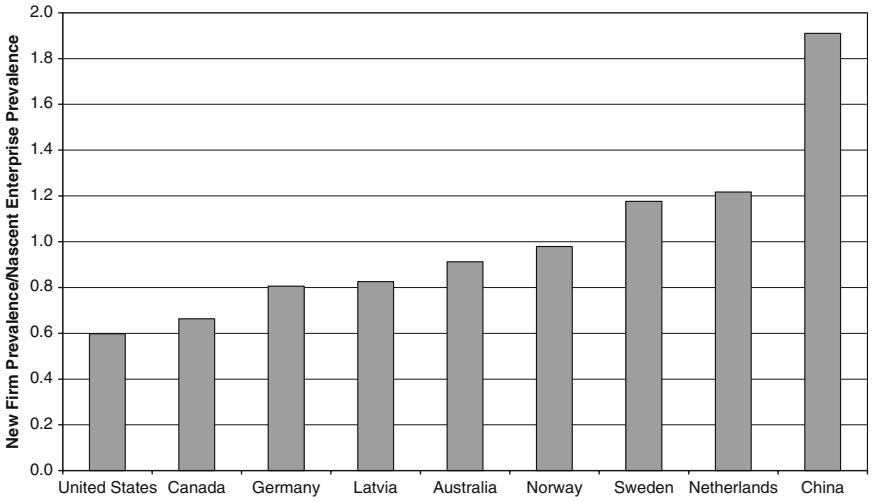

Fig. 1.5 Ratio of new firms to nascent enterprises

new firms, which ranges from 6 per 100 adults in China to 1 per 100 adults in Sweden and Germany.

On a first impression, it may appear that an estimate of the transition from nascent enterprise to new firm is provided by dividing the two prevalence rates. The ratio of new firms to nascent enterprises is presented in Figure 1.5. It shows that for the USA for each nascent enterprise there are 0.6 new firms; for Canada, it is about 0.65. On the other hand, the presentation would suggest that each start-up effort in Sweden, Netherlands, and China is responsible for more than one new firm. Something is clearly amiss; it would seem that this ratio is inappropriate as a measure of the success in completing the transition from nascent enterprise to new firm.[16]

What might account for these wide differences in the ratio of new firms to nascent ventures? Differential measurement errors in estimates of the prevalence of nascent entrepreneurs and in the prevalence of new firms may have distorted the results. More generally, different processes across countries may affect the prevalence of those in each of these two different stages of the new firm creation process.

Several factors, for example, may increase or reduce the prevalence of nascent or start-up enterprises.

- There is a reluctance on the part of individuals to get involved in business creation, reducing the prevalence of nascent enterprises.

[16] A comparison across 66 GEM countries finds no relationship between a measure of economic development, GDP per capita adjusted for purchasing power parity, or the size of the sample and the ratio of new firms to nascent enterprises.

- Those who become involved in business creation do so for a very short period of time, perhaps they are well prepared and quickly launch a profitable new firm or quickly discover the business idea is not viable and disengage from the process.

Other processes may *increase* the prevalence of nascent or start-up enterprises.

- People enter the process with little preparation and background and stay in the start-up stage for an extended period of time.
- More complicated and sophisticated ventures may require more time and resources to complete the start-up process or determine the venture was not viable and discontinue the effort.

All of these factors would affect the prevalence rate of nascent enterprises and, in turn, the ratio of nascent to new enterprises.

Other factors may also affect the prevalence of new firms, including:

- A high survival rate in the early years would increase the prevalence of new firms.
- A low survival rate, or an early discontinuance, could reduce the prevalence rate.

Hence, a range of different factors could affect the transformations through the early stages of the firm life course.

For example, if nascent entrepreneurs entered the process well prepared, with substantial resources and are working to implement a relatively uncomplicated business where there is strong demand for the product or service, they may be in the start-up phase for a short period of time, weeks or months. Those start-ups ventures that achieve initial profitability find there is strong demand for their products and little competition may well survive for more than 42 months. The joint effect of these two processes would then lead to a low prevalence of nascent enterprises and a high prevalence of new firms; the result would be a high ratio of new firms to nascent ventures – as found in China.

In contrast, if nascent entrepreneurs enter the process poorly prepared and with few resources or are trying to implement a complex venture requiring substantial effort to develop, they may be in the start-up phase for several years. If those who launch new ventures find competition intense and survival a major challenge, there may be high levels of discontinuance shortly after initial profits are achieved. The result would be a low ratio of new firms to nascent ventures, as found in the USA and Canada.

But this is speculation. These are inferences about cross-sectional data reflecting two stages of the business life course gathered at the same time. The relative importance of these various processes at different stages of the firm life course cannot be established without the utilization of a different research strategy. The best way to estimate the importance of these different processes on prevalence rates across the firm life course is to track progress using a longitudinal research design. Designs harmonized across countries would provide information on the relative significance of these processes in different national contexts; this is a primary focus of this book.

1.5 Overview of the Country Studies

Longitudinal studies of business creation, summarized in Table 1.2, have been initiated in nine countries, which involve 11 different projects and 14 distinct cohorts. The first cohort in this set was identified in Norway in 1996, followed by cohorts identified in 1998 in the Netherlands, Sweden, and the USA. Shortly, thereafter, the Canadian cohort was selected in 2000. The second round of studies began with the second US cohort, identified in 2005, followed by the first of four annual German cohorts assembled from 2006 to 2009; cohorts were identified in Australia and Latvia in 2007, a second set of Netherlands cohorts assembled from 2001 to 2009, and an urban cohort in China in 2009.

These projects have shared procedures for the screening and identification of nascent entrepreneurs/ventures, but the procedures have changed over time. Technical advances in the screening procedures have improved the yield, leading to more efficient – lower cost – procedures for identifying a representative sample of those in the start-up process. While the number of screening interviews required to capture an eligible nascent entrepreneur has decreased, careful analysis seems to indicate that the prevalence in the population has not changed, at least for the USA between 1998 to 2000 and 2005 to 2006 (Reynolds 2008).

Two types of comparisons are possible between nascent entrepreneurs and adults not involved in business creation. For all projects, basic socio-demographic data – age, gender, educational attainment, etc. – are obtained on the entire screening sample, which provide opportunities for comparisons. Some projects also identified a comparison group of age peers not involved in business creation that completed a detailed interview about their work situation, family background, career orientation, and personality. Comparison groups were identified and interviewed as part of the Australian, first Netherlands, Swedish, and the first US projects.

There is some variation among projects in the timing of the follow-up interviews. While most have implemented annual follow-ups, some have initially emphasized semiannual follow-ups, such as the German and Swedish project, and later switched to annual follow-ups. The first US project completed follow-ups about every 14 months, the second US project attempted to adhere to a strict 52-week follow-up schedule.

The number of follow-up interviews varies somewhat. The discovery that a proportion of nascent ventures take more than 2 years to reach a resolution has led to follow-up interviews over a longer time frame in several projects, such as the US PSED II and Sweden.

What is not apparent from Table 1.2 is the attrition that occurs over time. Two issues have a major impact. First is the typical problem of actually locating and interviewing respondents for the follow-up interviews, most projects lose 10–20% of their respondents each year. The lack of information about who actually succeeded and who failed means that estimates of the overall success rate of nascent entrepreneurs as well as the importance of potential barriers and facilitators must

Table 1.2 Overview of 14 panel studies in nine countries

Country	Screening year	Screening sample	Cohort	Follow-ups (completed/ planned)
CAUSEE[a]				
Australia: nascent entrepreneurs[b]	2007	30,105	625	1/3
Australia: new firm owners	2007	30,105	561	1/3
Australia: comparison group	2007	30,105	481	
CA-PSED				
Canada: nascent entrepreneurs	2000	49,763	148	5/5
CN-PSED				
China: nascent entrepreneurs:	2009	10,585	392	0/2
GE-PANE[c]				
Germany I: nascent entrepreneurs	2006	4,049	52	5/5[d]
Germany II: nascent entrepreneurs	2007	13,000	186	4/5
Germany III: nascent entrepreneurs	2008	4,751	71	3/5
Germany IV: nascent entrepreneurs	2009	6,032	NA	1/5
LV-PSED				
Latvia: nascent entrepreneurs	2007	9,000	400	1/2
NL-PSED I				
Netherlands I: nascent entrepreneurs	1998	21,393	517	4/4
Netherlands I: comparison group	1998		586	
NL-PSED II				
Netherlands II: nascent entrepreneurs	2001–2009	29,902	634	1/1
NO-PSED				
Norway: nascent entrepreneurs	1996	9,533	203	3/3
SE-PSED				
Sweden: nascent entrepreneurs	1998	30,427	405	6/7[e]
Sweden: comparison group	1998		608	
US-PSED I				
USA I: nascent entrepreneurs	1998–2000	62,612	824	3/3
USA I: comparison group	1998–2000	5,047	431	
US-PSED II				
USA II: nascent entrepreneurs	2005–2006	31,845	1,214	3/5
Total: nascent cohorts only		312,997	5,640	

[a] Comprehensive Australian Study of Entrepreneurial Emergence.
[b] The Australian screening sample was the source of all three samples; 93% did not qualify as either nascent entrepreneurs or new firm owners and 1 in 50 were selected for the comparisons group.
[c] German Panel of Nascent Entrepreneurs.
[d] The German project is completing four follow-ups every 6 months, the fifth at 12 months.
[e] The first four follow-ups were at 6-month intervals, the last three were completed annually.

be carefully developed. Also important is the practice of dropping those individuals from the cohort who report they have abandoned the start-up venture. Although reported as abandoned at the time of the follow-up interview, such ventures may be reactivated at any time. All projects have focused follow-up resources on those still in the start-up process or managing new firms.

The total resources devoted to this research paradigm are substantial. In these nine countries, almost 300,000 individuals have been screened to locate almost 6,000 nascent entrepreneurs, which are then interviewed from one to eight times. Most national teams involve three to five researchers with a total of over three dozen scholars working on these nine country projects.[17] This represents a considerable effort over multiple years by the research teams. The number of scholarly papers based on these data sets has matched the considerable effort and resources devoted to this research paradigm.

1.6 Conceptual and Operational Definitions

Cross-national analysis of business creation is facilitated by harmonization of the conceptual and operational definitions of major concepts. The unit of analysis may be the most important; either the nascent entrepreneur, as a natural person, or the start-up venture, as a nascent firm, can be considered the unit of analysis. Most of the projects reported in this book have assembled data sets that will facilitate analysis using either unit of analysis.

The second important features are the identification of a set of transitions. The major transitions associated with the business creation are entry into or the beginning of the start-up effort and leaving the start-up phase with either the birth of a new firm or abandonment of the start-up effort. While there is considerable agreement on the conceptual definition of these transitions, there is some variation in how they have been identified in various projects.

1.6.1 Identifying Nascent Entrepreneurs

A critical feature of the panel studies is the criteria used to select those who are to be considered as nascent entrepreneurs. Once initial screening is completed, it is impossible to locate suitable cases that have been overlooked. On the other hand, unsuitable cases captured by a broad screening can easily be deleted during analysis. For this reason, the basic screening procedure attempts to identify the widest possible range of potential nascent entrepreneurs. Additional items are then asked that eliminate individuals or business ventures that are not considered to be actively involved in new venture creation. There have been adjustments and improvements in these procedures since the first projects were implemented in 1996.[18] Table 1.3 is a presentation of the

[17] Perhaps the largest group was members of the Entrepreneurial Research Consortium (ERC) that pooled funds and talent to implement US-PSED I, over 34 member units from 6 countries represented 120 scholars (Gartner et al. 2004).

[18] The first projects were completed in Wisconsin (Reynolds and White 1997); followed by a national pretest by adding a module to the monthly University of Michigan Survey of Consumer Attitudes in October–November of 1993. These preliminary studies are not included in this volume.

Table 1.3 Items used to locate candidate nascent entrepreneurs

No	Item	NO-PSED	NL-PSED I	SE-PSED	US-PSED I	CA-PSED	US-PSED II	NL-PSED II	GE-PANE	LV-PSED	CAU-SEE	CN-PSED
	Screening year (earliest)	1996	1998	1998	1998	2000	2005	2006	2006	2007	2007	2009
S1	Are you today, alone, or together with someone else, trying to start or acquire a new business?	X										
S2	Are you, alone or with others, now trying to start a. SE-independent firm?/US… new business?			X	X							
S3	Among the adults living in this household, is there anyone who, along or with others, is now trying to start a business or new venture?					X						
S4	Are you, alone or with others, now trying to start a new business, including any form of self-employment or selling any goods or services to others?						X	X	X	X	X	X
S5	…, among the adults living in your household, is there anyone who, alone or with others, is now starting a new business or venture for his or her employer, as part of his or her job assignment?					X						
S6	Are you, alone or with others, now trying to start a new business or a new venture for your employer? An effort that is part of your job assignment?			X	X							

S7	Are you, alone or with others, now trying to start a new business or a new venture for your employer, an effort that is part of your normal work?			X	X	X	X	X	
S8	Are you, alone or with others, currently the owner of a business you help manage, including self-employment or selling any goods or services to others?			X	X	X	X		
S9	Have you, alone or together with someone else, started or acquired a business during the last year?	X							
S10	Did you, alone or with others, intend to start a new business, including any self-employment or selling any goods or services to others, in the last 12 months?								X

items used in the screening interviews to identify candidate nascent entrepreneurs for the studies reviewed in the following chapters. After some variation in the first set of projects, where screening was initiated from 1996 to 2000, there has been some uniformity in the screening items. Except for the Australian CAUSEE and the CN-PSED, all projects have used three items in the screening module, identified in Table 1.3 as S4, S7, and S8. These items identify an independent start-up effort, an employer sponsored start-up effort, and those that consider themselves actively managing a going business.

Additional items, as summarized in Table 1.4, are then used to disqualify candidate nascent entrepreneurs on various criteria. Two criteria have been widely used with very similar wording and procedures. The first, summarized as C1, is designed to determine if the candidate nascent entrepreneur has recently engaged in any significant behavior – a start-up activity – to put a new business in place. This helps eliminate the wishful romantics. The second, item C2, is related to potential ownership and was designed to ensure that the candidate nascent entrepreneur has something at risk or, as it is often described, "skin in the game." This would exclude those helping others start a business as an employee but not expecting to own part of the new venture.

The third criterion was designed to identify those ventures that would be considered new firms and no longer in the start-up phase. While there is agreement that this is an important criterion for exclusion, several strategies have been used to identify "operational new firms." Depending on the actual criteria used, some borderline cases may be excluded as a profitable new firm or included as a start-up venture. Hopefully, only a small proportion of cases would be at this threshold and have a small impact on the overall estimates.

The projects that have identified nascent entrepreneurs in the GEM screenings have used the criteria C5 in Table 1.4, based on payments of salaries and wages to the owners. This is assumed to occur after all other expenses have been paid and represented a level of initial profits. This criterion has the advantage of simplicity for cross-national administration and low cost – it requires only a single question.

The second procedure is a set of questions to determine if positive monthly cash flow had been achieved. The 1998–2000 screening for the US PSED I cohort identified the presence of positive monthly cash flow covering all expenses and salaries for 3 months prior to the screening interview, C3 in Table 1.4. The CAUSEE[19] and US PSED II screening also used several questions to identify the presence of positive monthly cash flow for six of the past 12 months, C.4 in Table 1.4. These more precise measures do require more interview time.

[19]The Australian project is called the Comprehensive Australian Study of Entrepreneurial Emergence (CAUSEE) and this label is used for reference. All other projects start with a two letter abbreviation of their country name.

Table 1.4 Criteria used to exclude those who are not active nascent entrepreneurs

No	Item	NO-PSED	NL-PSED I	SE-PSED	US-PSED I	CA-PSED	US-PSED II	NL-PSED II	GE-PANE	LV-PSED	CAU-SEE	CN-PSED
	Screening year (earliest)	1996	1998	1998	1998	2000	2005	2006	2006	2007	2007	2009
	Additional selection criteria:											
C1	Over the past 12 months have you done anything to help start a new business, such as looking for equipment or a location, organizing a start-up team, working on a business plan, beginning to save money, or any other activity that would help launch a business?			In	In		In	In	In	In	In	In
C2	Will you personally own all, part, or none of this new business?				In		In	In	In	In	In	In
C3	Items to determine if positive monthly cash flow covering all expenses and salaries occurred for more than 3 months prior to the screening interview.				Ex							
C4	Items to determine if positive monthly cash flow covering all expenses and salaries for more than 6 of past 12 months.						Ex				Ex	
C5	Has the new business paid any salaries, wages, or payments in kind, including your own, for more than 3 months?							Ex	Ex	Ex		
C6	Money invested and income received and registered as a legal entity			Ex								

In criteria required to include case as nascent entrepreneur, *Ex* criteria utilized to exclude cases as no longer a nascent entrepreneur

1.6.2 Operational Measures of Transitions

A precise description of the start-up process requires explicit operational criteria to determine the three main transitions. The analysis of the start-up process will be relatively vague without a procedure for providing operational definitions of entry into the process and disengagement from the start-up process. Exit from the start-up may occur when either a new firm is born or the start-up venture is abandoned. Determining the timing of these events is facilitated when the nascent entrepreneur is asked about the initiation of specific start-up events and the month and year when they occurred.[20] Some projects, however, have not collected this data and have relied on the dates of the interviews to track changes over time.

The range of criteria for initial entry into the process used by each country is summarized in Table 1.5. While other analyses with these data sets may have used other criteria, the criteria for chapters in this book are provided in Table 1.5.[21] For example, the LV-PSED has used the date of first serious thought about the new venture, the NO-PSED has used the data of the first start-up activity, and the CA-PSED and GE-PANE have used the dates of the initial interview as the beginning of the start-up window.

A more complex criterion was adopted, after some effort, for US-PSED I and US-PSED II. For these data sets, the dates of start-up activities were consolidated across all interviews, initial and all follow-ups, and only those cases reporting two activities within a 12-month period retained.[22] The earliest of the first event of the first pair occurring within 12 months is considered the date of entry into the start-up process, presented as E.2 in Table 1.5. For a small number of cases, this date occurs after the initial screening and first detailed interview, reflecting additional start-up activities reported in the follow-up interviews. While this procedure is complicated to implement, it is reliable and provides confidence in identifying the date when serious efforts to implement the new firm were initiated.

The other transitions are related to exit from the start-up process, which can occur when the nascent venture becomes a new firm or the effort has been abandoned. As with the other transition, there is some variation in the operational definition of these transitions. Procedures used to infer a new firm birth are summarized in Table 1.6. The earliest and most widely used operational criterion has been reports from the nascent entrepreneur respondents. The respondent is asked if the business is operational and when this occurred. The problem with this procedure is that different

[20] For those that cannot remember the month, a useful estimate can be based on a response to the season – winter, spring, summer or fall.

[21] When these data sets are placed in the public domain, as with the US-PSED I and US-PSED II, hundreds of analyses are developed and each one may utilize different criterion for the transitions; a recent bibliography is available on the project website, "www.psed.isr.umich.edu."

[22] A small number of cases report three or more activities but never two within a 12-month period, they were considered to be relatively inactive and not retained in the analysis.

Table 1.5 Criteria for beginning of the start-up process

No	Item	NO-PSED	NL-PSED I	SE-PSED	US-PSED I	CA-PSED	US-PSED II	NL-PSED II	GE-PANE	LV-PSED	CAU-SEE	CN-PSED
	Screening year (earliest)	1996	1998	1998	1998	2000	2005	2006	2006	2007	2007	2009
	Identifying start-up date (initial entry)											
E1	Date of initial start-up activity	X										
E2	Excluding date of initial serious thought				X		X					
	Earliest date of first two start-up activities completed within 12 months											
E3	Dates of interview, initial screening=time 0					X			X			
E4	Initial thought about the new business									X		

Table 1.6 Transition out of the start-up process: criteria for new firm birth

No	Item	NO-PSED	NL-PSED I	SE-PSED	US-PSED I	CA-PSED	US-PSED II	NL-PSED II	GE-PANE	LV-PSED	CAU-SEE	CN-PSED
	Screening year (earliest)	1996	1998	1998	1998	2000	2005	2006	2006	2007	2007	2009
	Identifying new firm birth											
NF1	Respondent report: business is established and operating	X							X			
NF2	Respondent report: venture is an operating business				X	X						
NF3	Monthly positive case flow covering all expenses and owner salaries for at least six of the previous 12 months						X			X		
NF4	Money invested and income received and registered as legal entity.			X								
	Not yet developed											X

respondents will use different standards for considering the nascent venture as "operational." Equally troubling, the researchers may not know what these standards might be. The procedure also has operational consequences as the respondent may receive different modules in a follow-up interview depending on the reports of the current status of the start-up venture. Those cases considered an operational new firm will get different questions than those considered still in the start-up process. This has led to a more precise measure of initial profits, positive monthly cash flow for at least six of the past 12 months, NF3 in Table 1.6. This measure has been used in several of the recent projects, the US-PSED II, LV-PSED, and CAUSEE.

Similar procedures have developed with regard to determining disengagement, summarized in Table 1.7. The earliest studies relied on the reports of respondents, D1 in Table 1.7, which has the advantage of simplicity. In one case, US-PSED I, separate items refer to disengagement of the respondent, D2 in Table 1.7, and termination of all effort on the start-up venture by all team members as well, D3 in Table 1.7. A multidimensional criterion was developed for US-PSED II, D5 in Table 1.7, which required the respondent to report little work on the start-up in the previous year, little work planned for the next 6 months, a shift of career focus away from the start-up and a definition of their work career that did not involve this start-up. The percentage reporting disengagement was, however, about the same for US-PSED I and US-PSED II.

1.7 Chapter Overviews

The following chapters represent the current status of the panel studies in the different countries as of late 2009; they are presented in country alphabetical order.

Chapter 2 describes the Comprehensive Australian Study of Entrepreneurial Emergence (CAUSEE); screening was completed in 2007–2008 and data from the first follow-up had just been obtained in late 2009. Major portions of the CAUSEE interview schedules were harmonized with the second US study (PSED II); a comparison of the results from the first detailed interviews of CAUSEE and PSED II has just been published (Davidsson and Reynolds 2009). CAUSEE is unique in the development of a broader range of samples than any other project in this book. Not only are data being collected on representative samples of nascent entrepreneurs, recently established new firms, and a comparison group, but a sample of convenience of high potential new ventures has also been developed.

The Canadian National Study of Entrepreneurial Dynamics, presented in Chapter 3, was one of the first set of projects to be implemented; parts of the procedure were harmonized with the first US project, PSED I, initiated with the support of the Entrepreneurial Research Consortium (ERC). Screening was completed in the year 2000 and the last data collected in 2004. As a result, the Canadian team has had time to analyze and interpret the major patterns and much of this chapter reviews these contributions.

Table 1.7 Transition out of the start-up process: criteria for disengagement

No	Item	NO-PSED	NL-PSED I	SE-PSED	US-PSED I	CA-PSED	US-PSED II	NL-PSED II	GE-PANE	LV-PSED	CAU-SEE	CN-PSED
	Screening year (earliest)	1996	1998	1998	1998	2000	2005	2006	2006	2007	2007	2009
	Identifying start-up date (initial entry)											
D1	Respondent report: business plan is abandoned	X										
D2	Respondent report: given up on start-up				X		X		X			
D3	Enterprise terminated: no longer being worked on by anyone?				X							
D4	Respondent report: business abandoned					X						
D5	Respondent reports: less than 160 hours devoted to start-up in past 12 months and expects to devote less than 80 hours in next 6 months and start-up not a focus of work career for next year and considers self to be disengaged from the start-up venture						X			X	X	
D6	No contact with respondent									X		
	Not yet developed											X

The Chinese Panel Study of Entrepreneurial Dynamics (CPSED) is the newest project represented in this volume. Chapter 4 describes how they selected eight cities to represent four major regions of China and, in turn, developed a cohort of nascent entrepreneurs based on screening representative samples of adults in each city. This project took full advantage of the interview schedules developed for the CAUSEE and US-PSED II projects, which enhances the potential for precise comparisons of the business creation in Australia, China, and the USA.

The German Panel of Nascent Entrepreneurs (GE-PANE) presented in Chapter 5 has taken advantage of the representative samples of nascent entrepreneurs identified in the Global Entrepreneurship Monitor (GEM) annual surveys. While the yield from each annual cohort is small, by tracking and following four cohorts over time, they not only increase the sample sizes to provide more precise descriptions of German business creation but provide the potential for determining the impact of changes in national conditions on the business creation process.

Another project taking advantage of the GEM screening procedure has been the Latvian Panel Study of Entrepreneurial Dynamics (LV-PSED), discussed in Chapter 6. A rather large GEM sample was interviewed in 2007, providing a reasonably sized cohort for additional follow-up interviews. The LV-PSED also utilized many of the modules from the US PSED II interview schedule, facilitating future comparisons of business creation in Latvia with that the Australia, China, and the USA.

The Netherlands is one of two countries that have implemented two separate projects. Chapter 7 provides a brief overview of the initial project with screening in 1998 to identify both a cohort of nascent entrepreneurs and a comparison group. This effort was harmonized with the first US project, PSED I, during its initial sponsorship by the Entrepreneurial Research Consortium (ERC). The benefits of this project led to systematic follow-ups of nascent entrepreneurs identified in the GEM annual surveys from 2001 to 2009. Coordination with the German effort (GE-PANE) was initiated in 2006; this has facilitated comparisons of business creation in the two countries.

The Norwegian Project (NO-PSED), presented in Chapter 8, has the distinction of being one of the first panel studies to identify a cohort of nascent entrepreneurs. Participation in the Entrepreneurial Research Consortium (ERC) facilitated the timely design and implementation of the NO-PSED; initial screening was completed in 1996 and the final follow-ups were completed in 1999. Consequently, the Norwegian team has also been able to complete a great deal of analysis, which is summarized in this chapter.

The Swedish researchers were an integral part of the beginning of the Entrepreneurial Research Consortium and developed funding for a major study that was harmonized with the first US project, PSED I. The identification of a cohort of nascent entrepreneurs and a comparison group was completed in 1998. The most recent follow-up was completed more than 10 years after the initial detailed interviews, the longest follow-up of any business creation panel study.

The two projects launched in the USA, PSED I and PSED II, are the focus of Chapter 10. The US PSED I was not the first project to identify a representative

sample of nascent entrepreneurs and follow them over time; the earliest project was completed in Wisconsin in 1993 (Reynolds and White 1997). But it was the first US project with a nationally representative sample and a comprehensive interview schedule. The project, with screening completed from 1998 to 2000, was made possible by the 34 member units of the Entrepreneurial Research Consortium. The 120 scholars involved were responsible for developing the 60 minute phone interview and 12 page self-administered questionnaire that provides the most extensive, multifaced description of business creation that has yet to be implemented (Reynolds 2000; Gartner et al. 2004). The successes of this project led directly to the design and implementation of the second US project, PSED II; screening was completed in 2005–2006. Three follow-ups had been completed with both projects by the end of 2009. Remarkably, the nature of the two nascent entrepreneur cohorts was so similar that they could be combined for much of the analysis. The material in Chapter 10 provides an introductory overview; more details are available in the large mass of chapters, books, dissertations, and peer-reviewed journal articles have been based on the PSED I and PSED II data sets.[23]

1.8 Commentary

The work of the scholars on these national teams is unprecedented. They are developing detailed portrayals of business creation using a harmonized conceptual scheme and a common research strategy. The final Chapter 11 provides a brief overview of some of the major patterns among the different national projects, with particular attention on the prevalence rates, basic features of the nascent entrepreneurs, and the available data on the outcomes from the entrepreneurial process. Chapter 11 concludes with comments about policy implications and the most promising directions for future research.

References

Acs ZJ, Armington C (2004) Employment growth and entrepreneurial activity in cities. Reg Stud 38(9):911–927

Audretsch DB, Keilbach MC, Lehmann EE (2006) Entrepreneurship and economic growth. Oxford University Press, New York

Baumol WJ (2005) Small firms: why market-driven innovation can't get along without them. Chapter 8 in US Small Business Administration (2004). The small business economy: a report to the president. US Government Printing Office, Washington, DC, pp 183–206

Birch D (1981) Who creates jobs? Public Interest 6:3–14

[23] An extensive bibliography is periodically updated and provided on the project website: "www.psed.isr.umich.edu."

Birch DA (1979) The job generation process. MIT Program on Neighborhood and Regional Change, Cambridge. Report prepared for the US Department of Commerce, Economic Development Administration

Chandler AD (1993) The visible hand: the managerial revolution in American business. Harvard University Press, Cambridge

Davidsson P, Reynolds PD (2009) PSED II and the Comprehensive Australian Study of Entrepreneurial Emergence [CAUSEE]. Chapter 13 in Paul D. Reynolds and Richard T. Curtin (Eds). New Firm Creation in the U.S.: Initial Explorations with the PSED II Data Set. New York: Springer, pgs 263–278

Foster L, Haltiwanger J, Krizan CJ (2002) The link between aggregate and micro productivity growth: evidence from retail trade. NBER Working Paper Series #9120. National Bureau of Economic Research, Cambridge

Foster L, Haltiwanger J, Syverson C (2005) Reallocation, firm turnover, and efficiency: selection on productivity or profitability? (NBER Working Paper Series #11555). National Bureau of Economic Research, Cambridge

Gartner WB, Shaver KG, Carter NM, Reynolds PD (eds) (2004) Handbook of entrepreneurial dynamics: the process of business creation. Sage, Thousand Oaks

Ichbiah D, Knepper SL (1991) The making of Microsoft. Prima Publishing, Rocklin

Kirzner IM (1979) Perception, opportunity, and profit: studies in the theory of entrepreneurship. University of Chicago Press, Chicago

Knight FH (1921) Risk, uncertainty, and profit. A. M. Kelly, New York, 1964 reprint

Reynolds PD (2000) National panel study of US business startups: background and methodology. In: Katz JA (ed) Advances in entrepreneurship, firm emergence and growth, vol 4. JAI Press, Stamford, pp 153–228

Reynolds PD, White SB (1997) The entrepreneurial process: economic growth, women, and minorities. Greenwood, Westport

Reynolds PD, Bygrave WD, Autio E, others (2004) Global entrepreneurship monitor: 2003 summary report. Babson College, Babson Park

Reynolds P, Bosma N, Autio E, Hunt S, De Bono N, Servais I, Lopez-Garcia P, Chin N (2005) Global entrepreneurship monitor: data collection design and implementation: 1998–2003. Small Bus Econ 24:205–231

Reynolds PD (2008) Screening Item Effects in Estimating the Prevalence of Nascent Entrepreneurs. Small Business Economics 33(2):151–163

Reynolds PD, Hechavarria D (2009) Global entrepreneurship monitor (GEM): adult population survey data set, 1998–2003 [Computer file]. ICPSR20320-v2. Inter-University Consortium for Political and Social Research, Ann Arbor, 2009-05-13

Say J-B (1816) A treatise on political economy. A. M. Kelley, New York, 1964 reprint

Schreyer P (1996). SMEs and employment creation: overview of selected quantitative studies in OECD member countries. Organization for Economic Co-operation and Development, Paris, STI Working Papers 1996/4

Schumpeter JA (1934) The theory of economic development. Harvard University Press, Cambridge

Van Praag CM, Versloot PH (2007) What is the value of entrepreneurship? A review of recent research. Institute for the Study of Labor (IZA), Bonn, Discussion Paper No. 3014

Vance SS, Scott RV (1994) Wal-Mart: a history of Sam Walton's retail phenomenon. Twayne, New York

Wennekers S, Thurik R (1999) Linking entrepreneurship and economic growth. Small Bus Econ 13:27–55

Chapter 2
Comprehensive Australian Study of Entrepreneurial Emergence (CAUSEE): Project Presentation and Early Results

Per Davidsson and Paul Steffens

2.1 Introduction

It is widely acknowledged that entrepreneurship is one of the most important forces shaping changes in the economic landscape (van Praag and Versloot 2007). An understanding of the process by which new economic activity and business entities emerge is therefore vital. The Comprehensive Australian Study of Entrepreneurial Emergence (CAUSEE) is a research project that aims to uncover the factors that initiate, hinder, or facilitate the process of emergence, survival, and success of new independent businesses.[1] As such, an important objective of the project is to contribute conceptually, empirically, and methodologically to the international frontier in entrepreneurship research. Being the most comprehensive study of its kind ever undertaken in Australia, another major objective of the project is assist policy-making and business practice in this region.

CAUSEE employs and extends the research approach developed through the first US Panel Study of Entrepreneurial Dynamics (US-PSED I) (Gartner et al. 2004) and similar studies. Parts of the design were carefully harmonized with the second US-PSED II study that is currently being undertaken in the USA (Reynolds and Curtin 2008, and Chapter 10), and parts of the CAUSEE design has subsequently been adopted by the Chinese study (see Zhang et al., Chapter 4). While CAUSEE benefits greatly from the progress that has been made in previous

[1]CAUSEE has external funding in the form of two major grants from the Australian Research Council (grants DP0666616 and LP0776845), significant additional contributions from National Australia Bank, the professional services firm BDO, and resources provided by Queensland University Faculty of Business. We gratefully acknowledge this support.

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research on nascent entrepreneurship it also has some design features that deviate from (most) other, similar studies:

1. CAUSEE is a venture-level study – it consistently treats the venture (rather than individual or team) as the unit of analysis. The respondent is regarded a spokesperson for the venture and responds for all team members and their contributions.
2. In addition to Nascent Firms (NF) the study also follows a separate, sizable group of Young Firms (YF); i.e., cases that were "over qualified" for inclusion as NF but which had been trading in the market for less than 4 years.
3. As high-growth firms are relatively rare in any random sample of new firms, CAUSEE includes nonrandom over samples of "high-potential" NF and YF.
4. Unlike some other projects, CAUSEE includes a control group that allows rudimentary socio-demographic comparison between individuals who are and are not involved in early-stage business development processes.
5. CAUSEE incorporates theory-driven content related to effectuation, bricolage, the resource-based view, venture novelty, and venture relatedness, which has not been included in counterpart studies.
6. CAUSEE studies entrepreneurial emergence in an Australian context.

The first wave of data collection was initiated in April, 2007. Four waves, conducted at 12-month intervals, are planned. At the time of writing, the third wave of data collection is underway.

The purpose of this chapter is to explain the CAUSEE design and to present some early results.

2.2 Context and Research Team

CAUSEE is housed at Queensland University of Technology (QUT) in Brisbane, Australia. It comprises an experienced team of entrepreneurship researchers and theorists. Chief Investigator Per Davidsson initiated the project. He was a member of the Executive Committee of the Entrepreneurship Research Consortium (ERC), which developed the original PSED design (Gartner et al. 2004). He was also Chief Investigator on the Swedish counterpart study (see Samuelsson, Chapter 9) and has published extensive reviews of this line of research (Davidsson 2006; Davidsson and Gordon 2010) as well as commentaries on the method challenges involved (Davidsson 2005a; Davidsson and Wiklund 2001). The other chief investigator for the project, Paul Steffens, has brought years of research experience with innovation and high technology ventures, and knowledge of Australian business and policy practice to the team. Two additional QUT-based chief investigators, Jason Fitzsimmons and Siri Terjesen,[2] strengthen the team's competence on method

[2] Fitzsimmons and Terjesen currently have other affiliations.

issues and other related topics. Four doctoral students, Scott Gordon, Semasinghe Dissanayake, Julienne Senyard, and Christophe Garonne are also active on the QUT team. In addition, CAUSEE benefits from international partner investigators Paul Reynolds, Ted Baker, and Saras Sarasvathy. Reynolds is the "founding father" of this type of research (Davidsson 2005b) whereas Baker and Sarasvathy are the primary names associated with theoretical developments related to bricolage and effectuation in entrepreneurial processes, respectively (Baker and Nelson 2005; Sarasvathy 2008).

2.3 Definitions of Critical Events

One of the major lessons from PSED-type research so far is the enormous heterogeneity and fluid "borders" of entrepreneurial activity. Life would be simpler (but possibly also duller) for entrepreneurship researchers if business founders at some point in time made clear, explicit decisions that they wanted to start a business (for the purpose of economic gain), then searched for and evaluated different opportunities, and then selected and implemented the selected opportunity, following a logical sequence of behavioral steps that was similar across cases. In reality, business founders start businesses – or fail to do so – for all kinds of reasons; alone, with other people, or with institutional owners involved; following all thinkable (and probably some unthinkable) process durations and sequences, including spending more than 10 years in the process without reaching a resolution, or having sales before thinking of starting a business (see, e.g., Davidsson 2006; Davidsson and Gordon 2010). Some people claim they are trying to start a business although in actual fact they are not making much progress at all over long periods of time; some do not quite know what it is they are doing or whether it should be called "a business," and therefore two people doing exactly the same things may report themselves as "nascent entrepreneurs" or not (see, e.g., Reynolds 2007, 2009).

All of this calls for well-conceived and researcher-defined criteria for defining the status of the venture. This is what researchers involved in PSED-type research have been developing and refining over time. For NF, CAUSEE is fully harmonized with US-PSED II as regards survey items that can be used for:

1. Determining whether a case is eligible for inclusion in the sample in the first place.
2. Setting a date for the commencement of the start-up process.
3. Determining transition from nascent to operational status.
4. Determining transition from nascent to terminated status.
5. Setting dates for the above mentioned transition events.

In addition, CAUSEE has developed similar, researcher-controlled criteria for the YF category, which is not included in the US-PSED II study.

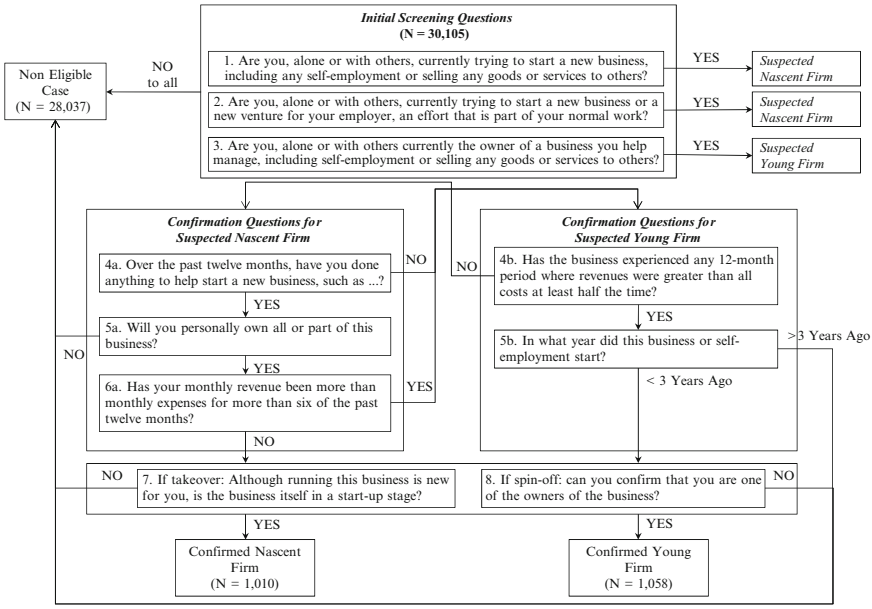

Fig. 2.1 Screening procedure

Figure 2.1 illustrates the screening process and screening criteria, although even this somewhat complex picture is a simplification.[3] For example, it does not illustrate the capture of a control group (which was done by randomly selecting 2% of those not qualifying as NF or YF). Neither does it describe the prescreening of the nonrandom sample of "high-potential" NF and YF. In addition to the figure we should also explain that in rare cases where ambiguity could otherwise arise, additional questions and criteria ascertained that (a) when a respondent was involved in both a valid NF and a valid YF, preference was given to the former; (b) when a respondent was involved in more than one valid NF, preference was given to the most recently initiated effort, and (c) when a case was initially identified as a suspected YF or NF case based on the first three screening items but failed to confirm the "suspected" status on subsequent items, it was checked whether it was a valid member of the other focal category (e.g., YF instead of NF) before the case was finally determined ineligible for inclusion.

In a nutshell, in order to be included as NF, the case has to a) affirm at least one of the first two screening items (1–2); b) confirm that concrete actions toward starting a business have been undertaken within the last 12 months and that the respondent will be a part owner of the venture (4a; 5a); and c) disconfirm having regular revenue that covers all costs (6a). To be included as YF, the case had to confirm the

[3]The exact survey items and skip patterns can be obtained from the authors on request.

third screening item (3, which already requires ownership); confirm having at least one 12-month episode where revenue covered all costs half of the time; and date the first such episode as occurring within the last 3 years.

Retaining all cases qualifying according to these criteria may still be overly inclusive of cases showing a very low level of activity or having been in the process for a very long time without reaching a resolution (Reynolds 2009; Delmar and Shane 2004). In CAUSEE, no project-wide decision has been made about further narrowing of the sample. Similarly, no such decision has been made regarding the date for the commencement of the gestation process, which can be determined in different ways (e.g., first gestation activity initiated, first time *n* activities were undertaken within *m* months). However, the harmonization with US-PSED II regarding a number of time-stamped "gestation activities" allows for applying stricter and/or harmonized criteria regarding both of these issues.

Given CAUSEE's venture-level focus, in follow-up interviews we first ask a series of questions to make sure the (emerging) venture can still reasonably be called "the same" as in the previous interview. NF cases where the respondent claims that what they now (intend to) offer the market is a "completely different product or service" *and* that this is a new effort that did not grow organically out of the original one, are regarded as terminated. In the first follow-up (Wave 2), no cases were excluded as a result of this test. All other items for determining transition to operational status or termination are harmonized with US-PSED II. NF cases are regarded terminated if:

1. They have failed to answer "yes" to either of the following questions: "In the past 12 months, since the first interview, did you devote more than 160 hours – 4 weeks of full time work – to this business start-up?" or "Over the next 6 months, do you expect to spend more than 80 hours – 2 weeks of full time work – on this business start-up?" *and*
2. They answer "no" to "Over the next 6 months, will somebody else spend more than 80 hours – 2 weeks of full time work – one this business start-up?" *and*
3. They answer "disengaged" to the question "Do you consider yourself to be actively involved with the new business start-up you were working on 12 months ago, or disengaged from it?" *and/or*
4. They answer "yes" to "It appears that neither you nor anyone else is currently working on the start-up you were working on 12 months ago. Is that correct?"

YF cases, in their turn, are considered terminated if:

1. The respondent fails to affirm "Is this business still active? Is it still trading regularly and are you or others working with it at this point in time?" *and*
2. The respondent answers "Bankrupt" or "Closed without bankruptcy" to "Can you explain a little more what happened? Did the firm go bankrupt; did you close down voluntarily; is it a seasonal business that is currently off season, or is the business dormant but you intend to reactivate it?"

To establish whether a venture has achieved operational status the following questions are asked in follow-up interviews:

1. Has this business received any sales revenue, income, or fees for more than 6 of the past 12 months?
2. Was the monthly revenue more than monthly expenses for more than 6 of the past 12 months?
3. Are salaries for the owners who were active in managing the business included in the computation of monthly expenses?

For the purpose of wording for some subsequent CAUSEE questions, affirming Q1 above is treated as "being operational."[4] As a definition of outcome status for research purposes, either 1, 1+2, or 1+2+3 can be set as the required benchmark. Again, there is no project-wide CAUSEE policy regarding which benchmark to use, but the data obtained – which also includes time stamps of first occurrence of these events – allow for harmonization with the stricter criterion applied by US-PSED II (1+2+3).

While no criteria will be perfect what has been described above represent major strides forward compared to the original US-PSED I study, where the screener items may not have triggered all valid cases to offer a "yes" and where it was left to the respondents subjective judgment to determine whether the venture had reached an operational (or terminated) status.

2.4 Methodological Overview

After comprehensive questionnaire development work, a version of the instrument was pretested on a convenience sample of 71 nascent and young businesses in November–December 2006. After analysis, redesign, programming, and internal testing, a full-scale pilot test with computer aided telephone interviewing (CATI) using a random digit dialing (RDD) procedure was commissioned to TNS Australia and undertaken in April–May 2007. This pilot test included contact with 1,810 Australian households for a yield of 78 nascent or young firm founders, who also completed the full interview. After further analysis and some minor redesign, the large-scale screening for eligible cases started in early July 2007 and continued into April 2008, using the RDD-CATI techniques. When possible, the eligible cases were

[4]In addition to the items described here, information caught in passing at the opening of the follow-up interview can be used for cases that refuse to participate in the full interview. For example, "question zero" for nascent cases reads: "You may recall that last year you were interviewed as part of Queensland University of Technology's study of new business start-ups. We are now following up on those interviews. We know that some of the start-up attempts will now be up and running firms while others are still in a start-up stage and others still have been abandoned. We are equally interested in all of these and eager to hear what has happened in your case. Which would you say is true for the business you were trying to start 12 months ago – is it now up and running; are you or somebody else trying to get it started, or has it been discontinued?"

taken through the comprehensive interview immediately following the screening, while in other cases, the longer interview was done by later appointment. A total of 30,105 adults (with equal male/female representation) from randomly selected households went through a screening interview (including the full-scale pilot test cases as the redesign was minor). Sample sizes and response rates for the first two waves of data collection are displayed in Table 2.1. The nonrandom samples of "high-potential" ventures are excluded here as well as in all analyses presented in this chapter.

The prevalence of nascent and young firms in the CAUSEE data is similar to (economically) comparable countries in the Global Entrepreneurship Monitor (GEM) surveys but lower than what has usually been reported for Australia in GEM (Bosma and Harding 2007; Hindle and O'Conner 2004). Consequently, a similarly sized screening sample for CAUSEE compared with the US-PSED II study has resulted in significantly fewer NF cases (Reynolds and Curtin 2008, and Chapter 10). Considering the length of the full phone surveys (40–60 minutes) – and in comparison with most published entrepreneurship research – the proportion of eligible cases that participate is high. However, the response rate in wave 1 – around 60% – is a little lower than what was obtained in US-PSED II (Davidsson and Reynolds 2009). The W2 level of cooperation – over 80% – is clearly satisfactory. The current indication is that W3 will also achieve cooperation from over 80% of eligible cases.

CAUSEE's focus is on the examination of theoretical relationships between variables rather than achieving representativeness of a particular empirical population. Consequently weighting to achieve better matching with the underlying population of either individuals or new ventures has not been a major focus. Available socio-demographic information about the Australian population together with this data collected for NF, YF, and control group cases in the sample allow for some such adjustments when judged appropriate and important. However, CAUSEE's focus on the venture level introduces additional sampling issues. If there is no sampling or nonresponse bias, the screening procedure used should yield a close approximation of a representative sample of nascent *entrepreneurs*. However, with the RDD and screening procedures employed, ventures with several team members and those that have a gestation process of longer duration have a higher sampling

Table 2.1 CAUSEE sample sizes and response rates

	n	% of eligible cases
Participants screened	30,105	
Qualified to participate	2,068	6.9
Nascent firms	1,010	3.4
Young firms	1,058	3.5
Control group	586	1.9
Completed W1 questionnaires	1,186	57.4
Nascent firms	625	61.9
Young firms	561	53.0
Completed W2 questionnaires	967	81.5
Nascent firms	493	78.9
Young firms	474	84.4

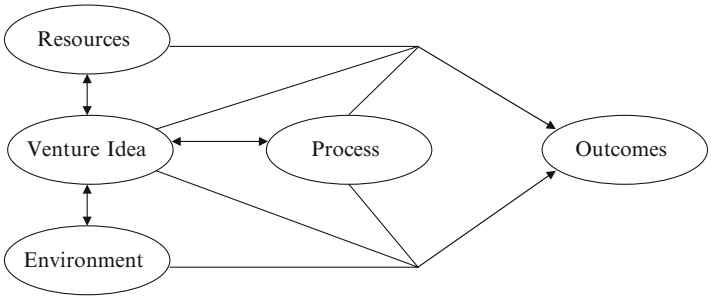

Fig. 2.2 The components and fit of the process of emergence of new organizations and activities

probability (Davidsson 2006). When judged important, additional approximate corrections for this can be made using team size and gestation duration information obtained within the survey.

Figure 2.2 and Table 2.2 provide a good overview of the main contents of the research. Figure 2.2 provides a graphical overview of the core concepts and relationships investigated in the CAUSEE research. Table 2.2 lists the main sections of the Wave I questionnaire that follow after successful screening (cf. above). The table also indicates the degree of harmonization with the US-PSED II study.

Conspicuous in its absence in Figure 2.2 is a box labeled "The Individual." This is because of the venture-level perspective that CAUSEE employs. The characteristics of the founder(s) may only be part of the human and social capital at the venture's disposal, and these are seen as resources just as are financial and other resources that are also captured by the questionnaire contents. Hence, it is the broader Resources concept that is included in the figure. This is a major emphasis in the questionnaire contents as indicated by the "Team resources"; "Resource advantages," "Sources of funding and advice," and "Bricolage" sections in Table 2.2.

In their influential article, Shane and Venkataraman (2000) pointed out that entrepreneurship research has paid too little attention to characteristics of the *venture idea* (often referred to as "the opportunity"). In response, the CAUSEE research thoroughly investigates the novelty and relatedness of the venture idea (cf. Dissanayake et al. 2008) as well as the changes it goes through over time (cf. Davidsson et al. 2006). Consequently, these areas are covered in separate sections of the questionnaire. Basic classifications of the type of venture idea along different dimensions (e.g., solo vs. team; product vs. service focus; line of industry, etc.) are made in the section "Classifying the venture."

The Environment is not given much room in the questionnaires but enters the research via knowledge of what industry and region (type) the ventures belong to. Non-survey data about the characteristics of regions and industries can be added to the data set.

As regards *process*, a very important part of the survey are the time-stamped *gestation activities* that we investigate, and which also appear in the US-PSED II study. Other sections also capture process issues, e.g., "Effectuation" and "Venture

Table 2.2 Sections in the CAUSEE Wave I interview schedule

Section	Purpose	Applies to	Harmonized with US-PSED II
Classifying the venture	Categorizing the venture on a number of dimensions	All ventures	Mostly
Gestation activities	Initiation and completion of certain activities typical for start-ups, inclusive of time stamps for these events	Nascent ventures	Yes
Activities	Similar to above but adapted to young firms and without time stamps	Young firms	N/A
Venture idea novelty	Degree of four types of novelty (product, marketing, process/sourcing, target market)	All ventures	Unique to CAUSEE
Venture idea relatedness	Degree of relatedness to prior knowledge; available resources; market opportunities	Nascent ventures	Unique to CAUSEE
Venture idea change	Different types of changes of the idea and reasons for these changes	Nascent ventures	Unique to CAUSEE
Effectuation	Behaviors reflecting theoretical effectuation principles	All ventures	Unique to CAUSEE
Team resources	The investment of Human, Social, Financial, and other resources	All ventures	Partly
Resource advantages	Identification of particular resource strengths and weaknesses (RBV)	All ventures	Unique to CAUSEE
Bricolage	Use of frugal tactics for obtaining and combining resources	All ventures	Unique to CAUSEE
Sources of funding and advice	Use and relative importance of different sources	All ventures	Unique to CAUSEE/funding info simplified in CAUSEE
Internationalization	International experiences, perceptions, and ambitions	All ventures	Unique to CAUSEE
Future expectations	Assessing the founders/views on the firm's future development	All ventures	Partly

idea change." In addition, the reassessment of information in other sections across waves also captures process issues. This is particularly true for "Venture idea novelty" and "Resource advantages," where the CATI programming explicitly compares scores across waves and additional questions are asked regarding the reasons for changes over time.

Assessment of *outcomes* is a challenge in studies of nascent and young firms. Because the ventures are at early (and slightly different) stages, traditional performance measures may not be relevant or available. In addition, it is not always the case that abandonment of the start-up is a worse outcome than is continuation, and similar issues arise for other outcomes on supposed "better–worse" scales (see Davidsson 2006, 2008). CAUSEE will employ a range of outcome variables such as the pace of progress in the process; reaching certain milestones like first sales or profitability; levels of sales, employment, and profitability; growth, etc. The addition of the YF sample is a major advantage as what appears to be drivers of success in the NF sample can be retested with more conventional performance measures in the YF group.

As indicated by the graphical representation of the framework, entrepreneurship research has moved beyond simplistic, direct, additive, and linear relationships. Issues of *fit* and *interdependence* between the different components will consequently be a key interest in the project. Ideas about these contingencies have been elaborated in Davidsson (2005c).

While some revisions of the questionnaire contents are made between waves, the main approach is to reassess all variables that are logically time variant in each wave. An important addition in Wave 2 (and beyond) is an "exit interview" for cases that have been discontinued since the previous interview. This section is also partly harmonized with US-PSED II. Discontinued cases are also taken through most of the "Classifying the venture" and "Gestation activities" sections.

2.5 Sample Characteristics and Early Results

As mentioned above the main emphasis in the CAUSEE project is on the venture level of analysis. However, the inclusion of a control group consisting of a random 2% of the non-qualified respondents allows for some rudimentary comparisons between early stage entrepreneurs and other people. These are displayed in Table 2.3.

This analysis reveals a number of differences between early-stage entrepreneurs and others. The early-stage entrepreneurs are younger on average; they are somewhat more likely to be male; they are more highly educated, and they are more likely to have a parent who owned a business or was self-employed. This resembles results from previous studies of nascent entrepreneurs (Delmar and Davidsson 2000; Reynolds et al. 2004). However, it is important to note that the educational difference is mainly due to the age difference; when we only include individuals under 40 years (analysis not reported) there is no significant difference in educational attainment.

Table 2.3 Characteristics of nascent firms, young firms, and control respondents

Variable	Nascent firm respondent	Young firm respondent	Control group respondent	Stat. sig. across the three groups	Stat. sig. NF versus YF
Age (years)	44.0	43.8	49.5	$P < .001$	n.s.
Male (pct)	55.8	57.2	47.4	$P < .001$	n.s.
University education (pct)	37.8	37.6	23.9	$P < .001$	n.s
Home owner (pct)	69.7	76.6	75.2	$P < .05$	$P < .005$
Immigrant (pct)	26.6	25.7	23.2	n.s.	n.s.
Parental role model (pct)	58.7	55.0	48.2	$P < .005$	n.s.

Young firm respondents differ from nascent entrepreneurs by having a higher incidence of home ownership (and also of owning investment properties; not displayed). This indicates that founders with a better financial endowment find it easier to take the venture to an operational stage and/or make it survive the first few years, which is supported by separate analyses of NF outcomes (cf. Davidsson et al. 2009).

Figures 2.3–2.5 display some basic characteristics of the (emerging) firms in the CAUSEE sample. Information on what type of start-up the venture represents (in terms of the categories in Figure 2.3) was obtained for NF cases only. In combination with Figure 2.4, the results reveal that the "normal" start-up remains an independent, "brick-and-mortar" venture. *Franchising* and *multilevel marketing* initiatives are comparatively very small categories in numbers. Note that the low numbers for *corporate entrepreneurship* and *purchase of existing business* are in part due to the requirements that the respondent be part owner of the business and that the business activity itself is new, respectively.

There is a large difference in the emphasis on Internet sales between NF and YF categories. This is likely to partially reflect a trend over time toward an increasing proportion of new businesses that rely more on Internet sales. However, preliminary analyses of NF outcomes (not reported here) within suggest that it is also due to those refraining from online sales more often reaching an operational status (at least within a given time frame, Davidsson et al. 2009). Interestingly, comparisons of data from the two available waves of data collection reveal that there is a trend toward convergence across the two categories. Among the YFs, 14% indicate an increase in online sales emphasis whereas 8% signal a decrease. By contrast, 18% of the NF cases estimate an increase in the online proportion of sales across the interview waves, while as many as 25% lower their corresponding estimate. Arguably, this is a nonrandom pattern that reflects the learning and adaptation that is going on during early stage venturing.

Figure 2.5, displaying industry affiliation, reveals sizeable differences between the NF and YF categories. In particular, the proportion of NFs in Retailing and Manufacturing is much higher than YFs. The tendency is similar (but weaker) for consumer services and health, education, and social services. By contrast, there are a substantially higher number of YFs in construction (incl. real estate) and business consulting/services. There are different possible interpretations. Arguably, manufacturing is a special case among those that have over representation of NFs. It may be that manufacturing firms are more complex (and ambitious) businesses to set up and that the start-up process therefore takes longer (cf. results for "Product" emphasis below). This alone could produce the observed pattern even if the manufacturing start-ups are as successful at getting started and surviving as the average start-up. Alternatively, the result could reflect a higher tendency for manufacturing start-ups to give up in the process due to the cost and complexity of getting such firms going. However, preliminary multivariate analyses do not ascribe a separate negative, and significant effect of manufacturing industry affiliation on the likelihood of becoming operational (Davidsson et al. 2009).

The higher prevalence of NF for retailing is strongly supported by US data, which have the percentage of retailing NFs at about twice that of the sector's share of established firms (Reynolds and Curtin 2008). One plausible interpretation of

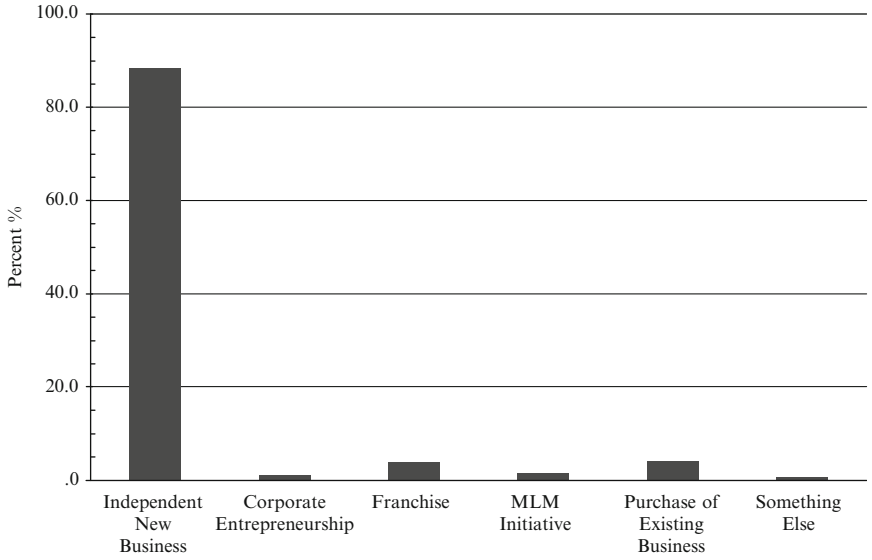

Fig. 2.3 Type of start-up (NF only)

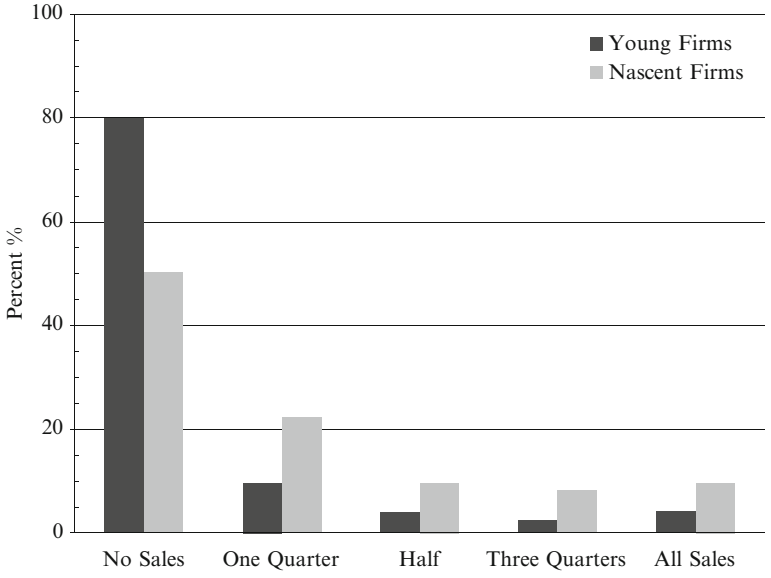

Fig. 2.4 Percent (intended or actual) Internet sales

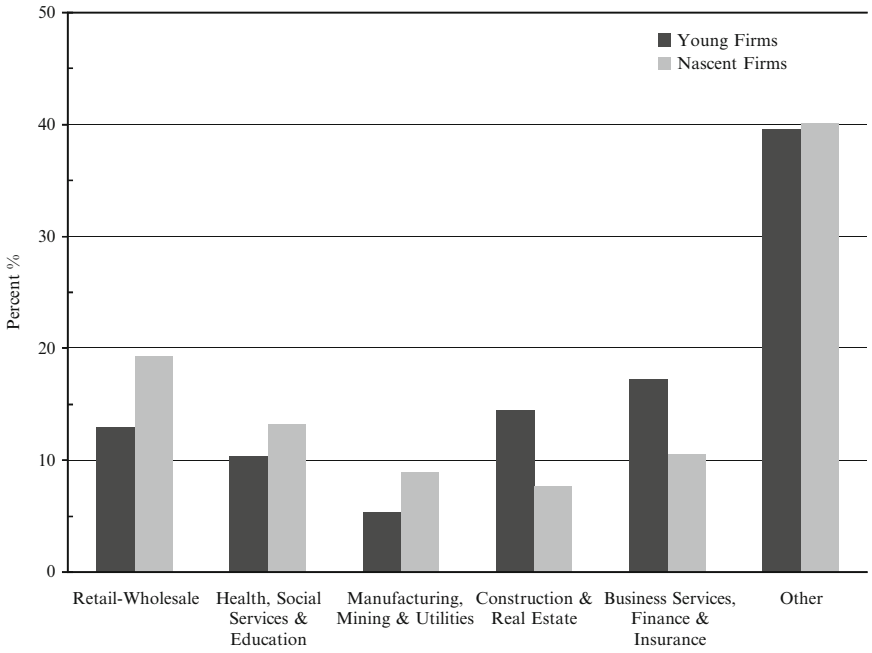

Fig. 2.5 Industry affiliation

Table 2.4 Characteristics of nascent firms versus young firms

Variable	Nascent firm	Young firm	Stat. sig.
Team (vs. Solo, pct)	49.1	46.3	n.s.
Opportunity (vs necessity) driven (pct)	75.8	70.8	n.s.
Growth (vs manageable size) focus (pct)	25.1	16.4	$P < .001$
Product (vs service) focus (pct)	37.9	24.1	$P < .001$
R&D emphasis (pct)	44.6	25.0	$P < .001$
Hi-tech firm (pct)	31.2	26.6	$P < .05$

this pattern is that many dream of starting their own firm in this industry but fail to actually get it going or to sustain it for very long. An analysis of outcomes for the NF category suggests the latter – retailing start-ups are actually significantly *more* likely to reach an operational stage early (Davidsson et al. 2009). Together these results indicate that the retailing industry is characterized by low barriers to entry, but high barriers to survival (Geroski 1995). These results also highlight the importance of examining different outcome variables at different points in time when investigating drivers of success in early-stage venturing.

Some additional comparisons between the NF and YF categories are made in Table 2.4. Both groups show a high incidence of team ventures. This said, the

proportion is actually lower than previously reported for, e.g., Sweden (Delmar and Davidsson 2000). As noted above, the sampling mechanism over samples team ventures. However, this is true only when the team members come from different households, and it gets worse when the average team size is larger. In actual fact, most teams only have two members and about half of these two-person teams are spousal or *de facto* couples (Davidsson et al. 2008; Ruef et al. 2003). Previous research suggests team start-ups are more successful (Stam and Schutjens 2004). If this were true for the earliest stages of venture creation one would have expected a significantly higher proportion of team start-ups among YFs compared to NFs. This is not the case in Table 2.4, and neither do relational analyses among NFs suggest team start-ups are more likely to get up and running (Davidsson et al. 2009). Possibly, the importance of drawing on the skills and networks of several people becomes relatively more important at a somewhat later stage than we investigate in CAUSEE.

Table 2.4 reveals statistically significant and, in some cases, very large NF–YF differences that suggest that NFs are on average characterized by higher levels of ambition and technological sophistication. Hence, NFs are more likely than YFs to (a) offer products rather than (only) services to the market; (b) claim R&D will be a major emphasis of the business; (c) say they are aiming at maximum growth rather than confining themselves to a "manageable" size, and (d) characterize their firm as "hi-tech." There may be at least four contributing reasons for these differences. First, more sophisticated and ambitious ventures may take longer get up and running. Second, they may be more difficult to get up and running at all and/or to keep alive, thereby having higher termination prevalence. Third, respondents may learn about the comparative standing of their venture and adjust their assessment of it without making any actual changes to what they are doing (this could apply to R&D and hi-tech). Fourth, the founders may adapt their venture in a simplifying and less ambitious direction in order to make it realizable at all subject to their resource constraints. Since data on the same dimensions are available from the second wave, collected 12 months later, the data themselves can to some extent indicate which of these processes are at work. Table 2.5 summarizes some comparisons of this kind for continuing cases.

The table displays two proportions. Taking the first two rows and NFs as the example, the "% of W1" column states that 16% of those who said in W1 that they had a product (or mixed product/service) focus, now (in W2) say they have a service focus. By contrast, only 7.4% of those who claimed a service focus at W1 have shifted in the opposite direction and claim a product (or mixed) focus at W2. The "% of all shifting" indicates the proportion of all continuing NF cases that went through the indicated type of shift or switch.

The results in Table 2.5 are very revealing – and somewhat depressing for those who want to see more high-growth and/or hi-tech business being started. All results in the table go in the same direction: over time, both NF and YF respondents either reassess or adapt their firms in such a way that they lower their technological sophistication and growth orientation. Notably, this is starting from a situation where the more ambitious firms were already in minority in W1. In some instances, as many as 50% or more of the cases claiming a "higher potential"

Table 2.5 Product versus service focus changes between interview waves (W1W2)

	Nascent firm		Young firm	
Variable	% of W1 shifting	% of all shifting	% of W1 shifting	% of all shifting
W1 product/mixed → W2 service focus	16.0	7.6	18.7	5.5
W1 service → W2 product/mixed focus	7.4	3.9	5.1	4.3
W1 growth → W2 manageable size focus	53.2	15.8	49.2	8.9
W1 manageable size → W2 growth focus	6.5	4.7	5.1	4.3
W1 high R&D emphasis → W2 not so	37.9	16.6	59.1	14.2
W1 not so → W2 high R&D emphasis	23.7	13.3	8.8	6.7
W1 hi-tech → W2 Not so	30.9	10.2	32.3	8.5
W1 not so → W2 hi-tech	11.7	7.9	5.9	4.3

status in W1 have adjusted either their venture or their view to a less ambitious stance 12 months later. These adjustments are particularly strong for growth orientation and claimed R&D emphasis. The fact that the adjustments are almost as common among YFs as among the (understandably more fluid) NF cases indicates that not only sobering realism among now more experienced respondents are at work here. There may also be a pure method effect of reduced social desirability or impression management (Randall and Fernandes 1991) – when greater rapport with the respondent has been built in later waves through repeated interviewing, respondents may be less likely to want to "impress" the interviewer with the ambitious nature of the venture.

At the close of this section, we note that any representative sample of new and emerging ventures will be dominated by relatively modest, low-key, and largely imitative start ups. Some additional descriptive statistics portraying the NF category in CAUSEE underscores this observation. At W1, the median amount invested in the venture was AUD 8,000 (approximately USD 7,000). The median expected employment size in Year 5 is four people, and median expected sales for the fifth year stop at AUD 150,000. As indicated in Table 2.5 there is reason to believe that even these modest estimates may be exaggerated. This does not make the firms in the sample economically unimportant. By their sheer numbers the many small, new firms can add up to major effects on employment and other aggregate economic outcomes (Davidsson et al. 1998; van Praag and Versloot 2007). In addition, it is out of this pool of ventures that do not look like much at an early stage that giants like IKEA, Waste Management, and Starbucks might arise. However, the modest nature of the average venture also points at the importance of securing enough representation of the "higher end" of new venturing in order to learn anything at all about that category. This is why CAUSEE includes nonrandom over samples of "high-potential" ventures although they are not covered in the current report.

2.6 Additional Process Observations

The series of question capturing the incidence and timing of a number of "gestation activities" has proven to be a particularly useful and versatile part of the contents in previous studies of nascent entrepreneurship. These questions have been used individually or in aggregate form as IVs (e.g., testing the effect of having [sought] external funding); as DVs (e.g., reaching milestones or making progress); as process descriptors; as control for "age" or "stage," and as a basis for reorganizing the data set according to "project timeline" rather than "interview wave timeline" (Delmar and Shane 2004; Reynolds 2007). CAUSEE includes over 30 questions about gestation activities, which except for some country-specific tax and registration variables is in full harmonization with the US-PSED II study. These questions apply to NF cases only. All questions are asked in the first wave of data collection, whereas in subsequent waves, the respondents are again asked questions that only

concern activities they have not previously confirmed having completed. Since this is a particularly important part of the design, respondents of terminated ventures are also asked to give this information to the best of their ability, before they are guided to the "exit interview" section.

We will report only one simple fact about gestation activities here, namely, what proportion of cases had already completed certain activities at the time of the first interview. This information is summarized in Table 2.6.

A detailed examination of the table suggests that the type of activities found in the three columns differ. Arguably, almost all activities that are logical necessities in all business creation processes appear in the leftmost column. This means that a majority of cases have already completed many of these activities. Sometimes this may have occurred long before the interview, making the timing information less reliable. That is, the PSED-CAUSEE approach is in this regard somewhat less "real time" based than what would be ideal. Remedies to this problem would be cumbersome and costly, such as approaching a second respondent in the case of team start-ups, or only accepting nascent cases that had undertaken fewer than *x* critical activities at the point of the first interview. However, pooling of data from several country studies would allow at least for checking the effect of applying a stricter "nascent" criterion to an analyzable number of cases.

By contrast, many of the activities in the rightmost column clearly do not apply to all cases. While this information has not been used much in previously published

Table 2.6 Gestation activities completed at first interview (NF only)

Completed by > 50% of all NF cases	Completed by 25–50% of all NF cases	Completed by <25% of all NF cases
• Registered business name • Decided physical location • Decided legal form • Product development Initiated Completed • Initiated marketing • Discussed with customers • Gathered comp. info • Defined bus. Opportunity • Determined regulatory req. • Registered for ABN • Business planning Initiated Completed • Invested money • Business contactable via phone; email • Materials purchase	• Financial projections • Liability insurance • Business plan revision • Registered for GST • Work full time on business • Opened separate bank account • Retained an accountant • Contacted business assistance organization • Taken business classes • Lease Agreements	• Ownership agreement • Developed proprietary technology • IP application Lodged Granted • Registered for PAYG tax • External funding Sought Received • Supplier credit organized • Hired employee(s) • Joined trade association • Joined online business community • Joined face-to-face business network • Set up website

research, the PSED-CAUSEE design acknowledges this by allowing "not relevant for this business" as one of the response alternative. From a practical point of view the low numbers for networking indicators in Table 2.6 can be a cause of concern, as previous research has suggested this to be of great importance for outcomes (Davidsson and Honig 2003).

We now look at a further indicator of venture change over time. Table 2.7 builds on questions regarding the respondents' self-assessed novelty of their business model along four dimensions – product novelty; promotion and selling approach novelty; production or sourcing method novelty, and novelty in market selection or customers served. Each of these is assessed on four-point scales ranging from "imitative" to "entirely new to the world." During the second (and subsequent) interview, the score obtained is compared to that from the previous wave. If there is a nontrivial change, the respondents are asked about the reason for this change: is it mainly because they now realize their approach is more/less novel than previously thought, or is the change in score due to some real change they have made to their business model?

As can be seen, the respondents are more likely to adjust their assessment of novelty downward than upward (left part of Table 2.7). The difference is particularly pronounced for production/sourcing novelty where the respondents are more than twice as likely to adjust down rather than up. As regards the reason for the adjusted assessment it is far more likely to be due to learning more about the own firm's relative standing than to having undertaken any real change to the business model. In this regard, the results are particularly consistent concerning the reason for negative changes are particularly consistent , with a remarkably stable three quarters of the cases reporting that the downward adjustment is due to learning rather than real change. Clearly, these results give insights into the learning that goes on in the process, but without the added information about reasons for change any effects of learning could easily be misinterpreted as effects of real changes to the business model.

Taken together with the results of Table 2.5, this serves as an indication of both the strengths as well as the pitfalls associated with using longitudinal data for understanding process issues. These trends over time in Table 2.7 are in line with those in Table 2.5, which indicated that the (real or perceived) ambitions of ventures tend to diminish on average over time. Clearly, the finer analysis of the reasons for change leads one to question the degree to which the observations in Table 2.5 are due to actual venture changes, versus a more realistic and informed assessment of the venture.

2.7 A Brief Look at Outcomes

Assessing and interpreting the performance of new and small firms is challenging for a variety of reasons (Brush and Vanderwerf 1992; Cooper 1993; Davidsson 2008). When the study includes nascent firms this problem is aggravated because

Table 2.7 Changes in business model novelty (W1W2) for continuing cases

	Pct of all cases		Pct within higher/lower category			
Variable	Increased novelty	Reduced novelty	Increased due to learning	Increased due to real change	Reduced due to learning	Reduced due to real change
Product novelty	9.6	16.0	70.2	23.4	74.3	23.1
Promotion and selling novelty	9.0	13.7	54.5	40.9	74.6	22.9
Production/sourcing novelty	6.3	13.1	45.2	48.4	73.4	23.4
Market selection novelty	11.2	13.5	58.2	38.2	75.7	21.2

typical outcomes such as revenue and profits are not yet relevant for large parts of the sample. For NFs we therefore currently focus on contrasting the status of the venture at the time of the second interview. Unfortunately, in 132 out of 625 NF cases (21.1%), the outcome is unknown, due to nonparticipation in the second wave of interviewing. Using the remaining 493 cases, we examine whether, when recontacted 12 months after the initial interview, the firm is:

1. *Operational* (up and running), defined as having revenue for at least 6 of the past 12 months. This applies to 217 cases, or 44%. (Alternatively we could have applied the stricter criterion that revenues should cover all costs. Under this definition, only 121 cases (19.1%) have reached operational status.)
2. *Terminated*, meaning that neither the respondent nor others are planning to undertake any further work on the start-up. This applies to 139 cases, or 28%.
3. *Still trying* to get operational. 153 cases – 31% – are found in this intermediate category.[5]

It is essential to contrast all three outcomes rather than just comparing, for example, those getting operational with all others. Otherwise one can easily confound factors that truly affect the *success* versus *failure* of the start-up process with those that simply indicate that *it takes longer to reach a resolution* in either direction. The hypothetical result patterns in Table 2.8 can serve to illustrate this. In the table, a positive effect, indicated by one or more plus signs, means a contribution to what we presume is a better outcome, or the first of the two outcomes in each contrast (column heading). Hence, plus signs mean being associated with Operational rather than Terminated; with Operational rather than Still trying, and with Still trying rather than Terminated, respectively. The number of plus signs indicates the strength of the relationship. Conversely, negative influences on outcomes are indicated by one or more minus signs.

In these hypothetical analyses *Characteristic 1* can relatively safely be interpreted as a "success factor." Having (more of) the characteristic is associated with a greater likelihood of getting operational and a lesser likelihood of having terminated. *Characteristic 2* is positively associated with being still trying versus

Table 2.8 Hypothetical response patterns and their interpretation

Outcome contrast vs. outcome driver	Operational vs. terminated	Operational vs. still trying	Still trying vs. terminated
Characteristic 1	++++	++	++++
Characteristic 2	None	– –	++++
Characteristic 3	None	+	– – –
Characteristic 4	++++	None	None
Characteristic 5	None	None	++++
Characteristic 6	None	None	None

[5]Note that because 16 cases terminated after getting operational the counts and percentages do not sum up to 493 and 100, respectively.

termination and may have been interpreted as a success indicator if only the third (rightmost) analysis were performed, or regarded as uninfluential if only the first (leftmost) analysis were considered. In actual fact, the result across the three analyses suggests this is a factor extending the time it takes to reach an outcome in either direction, not being indicative of success or failure per se. *Characteristic 3* does the opposite; it shortens the process. *Characteristic 4* and *Characteristic 5* are both possible "success factors" albeit not as clearly as *Characteristic 1*. Their influence could have gone undetected had not all three analyses been performed. Finally, *Characteristic 6* is uninfluential and therefore unproblematic – the interpretation of its role would be correct regardless of whether just one or all three contrasts were performed.

By conducting a series of multivariate logistic regression analyses making the above three contrasts we arrive at the results summarized in Table 2.9.

The overall impression from these preliminary results – which are further elaborated on in Davidsson et al. (2009) – is that *action; prior experience and contacts*; *direct investment of time and other resources*, and *willingness to adapt* are the main

Table 2.9 Factors associated with start-up process duration and success

Associated with a *longer* process	Associated with a *shorter* process
• Technological sophistication and/or novelty (hi-tech; R&D focus; novelty especially as regard product and production process) • Higher ambition (growth focus; nonlocal sales aspiration) • Higher education • Large firm managerial experience • Use of "bricolage"	• Retailing industry
Associated with *more favorable* outcomes	Associated with *less favorable* outcomes
• Number of gestation activities completed at first interview and in the following 12 month period • Hours invested by owners over the last 12 months • Industry experience • No Internet sales • Bank loan funding • Credit card debt funding • Founder owning their house • Adaptability; willingness to revise venture idea and business plan • Evenly paced start-up process • Prior start-up success • Prior customer contact • Prior, excellent business reputation • Venture possessing some inimitability advantage • Specific venture activities: registering the business; completing product/service development; purchasing inputs; acquiring equipment/facilities; joining a trade association; initiating collaborative agreement with other organization	• Product (rather than Service) focus • Team start-up • Non-European ethnic origin • Business planning; especially formal planning and a focus on using the plan as step-by-step action plan • Other specific gestation activities: formalizing ownership agreement; retaining a lawyer; determining regulatory requirements; contacting support agency

drivers of more favorable outcomes. It is also notable that some human capital and venture characteristics commonly associated with higher potential ventures are related to longer process duration. As explained above, had the analyst assessed only one outcome, e.g., getting operational (vs. all others) at this one point in time, it would have been easy to confusingly find (and erroneously report) these variables to be associated with less success in the venture creation process. In future reports, we plan to delve deeper into the robustness of these results as well as their possible theoretical explanations.

We should caution that Table 2.9 builds on the simplification that *Operational* is the most and *Terminated*, the least favorable outcome. This is not universally true. Those getting "operational" may never become profitable and in such cases, it is better to terminate early rather than late. This could be argued to (partly) explain the somewhat controversial, negative results for business planning (other than plan revision). Business planning defenders may want to interpret the results as suggesting that if not a clear driver of positive outcomes, business planning may be helpful for terminating earlier rather than later those efforts that are "doomed." However, additional analyses (not displayed) within the *Terminated* category does not support that notion. Across three indicators (subjective positive-negative experience from the start-up attempt; likelihood of trying a start-up again, and admitting to having incurred financial losses) the indication is that if anything, terminating planners have had a worse start-up experience than terminating non-planners, although these differences are not statistically significant. Neither is such an interpretation in line with previous research, which instead indicates that business planning is *positively* associated with persistence (nontermination) but not with performance (Davidsson and Gordon 2010).

The young firms lend themselves to analyses of more conventional outcomes. At the time of writing, we have not yet performed any detailed analyses of outcomes for the YF category. According to a simple, self-report indicator, 16% have terminated (i.e., a much lower figure than for NFs), while the remaining cases are split equally between having grown and developed or being essentially unchanged. The proportion with unknown outcome is smaller than for NFs while in the first round NFs were more willing to participate than YFs (Table 2.1). This triggers the suspicion that a significant proportion of the NF cases with unknown outcome is in fact terminated and that the true discontinuance rate among NFs may be higher than the 28% reported above.

2.8 Concluding Remarks

The CAUSEE project benefits greatly from the experiences gained through prior and concurrent panel studies of nascent and early stage entrepreneurship. In addition to providing data from a new empirical context – Australia – the CAUSEE project has several distinguishing features, such as following longitudinally samples of both nascent and young firms; including over samples of "high potential" ventures, and

making room in the interview for unique, theory-driven content relating to effectuation, bricolage, the resource-based view, etc. While in many ways this chapter has barely scratched the surface (note that many of the questionnaire sections in Table 2.2 have hardly been used at all in the current reporting of results), the reported findings have hopefully conveyed some of the rich potential in the CAUSEE data. That potential is arguably much greater than what a small team can utilize. Therefore, although there are no plans to put the data set in the public domain, we will invite selected colleagues to collaborate on papers investigating research questions within their expertise.

References

Baker T, Nelson RE (2005) Creating something from nothing: Resource construction through entrepreneurial bricolage. Adm Sci Quart 50(3):329–366

Bosma N, Harding R (2007) Global entrepreneurship monitor. GEM 2006 summary results. Babson College and London Business School, Babson Park and London

Brush CG, Vanderwerf PA (1992) A comparison of methods and sources for obtaining estimates of new venture performance. J Bus Venturing 7(2):157–170

Cooper AC (1993) Challenges in predicting new firm performance. J Bus Venturing 8:241–253

Davidsson P (2005a) Method issues in the study of venture start-up processes. In: Fayolle A, Kyrö P, Ulijn J (eds) Entrepreneurship research in Europe: outcomes and perspectives. Edward Edgar, Cheltenham, pp 35–54

Davidsson P (2005b) Paul D. Reynolds: Entrepreneurship research innovator, coordinator, and disseminator. Small Business Economics 24(4):351–358

Davidsson P (2005c) The types and contextual fit of entrepreneurial processes. Int J Entrepreneurship Educ (listed as academic year 2003/4) 2(4):407–430

Davidsson P (2006) Nascent entrepreneurship: empirical studies and developments. Found Trends Entrepreneurship 2(1):1–76

Davidsson P (2008) Interpreting performance in entrepreneurship research. In: Davidsson P (ed) The entrepreneurship research challenge. Elgar, Cheltenham, pp 189–212

Davidsson P, Gordon SR (2010). Nascent entrepreneur(ship) research: A review. Queensland University of Technology, Brisbane. Manuscript available at eprints.qut.edu.au/19622/

Davidsson P, Honig B (2003) The role of social and human capital among nascent entrepreneurs. J Bus Venturing 18(3):301–331

Davidsson P, Hunter E, Klofsten M (2006) Institutional forces: The invisible hand that shapes venture ideas? Int Small Bus J 24(2):115–131

Davidsson P, Lindmark L, Olofsson C (1998) Smallness, newness and regional development. Swed J Agric Res 28(1):57–71

Davidsson P, Reynolds PD (2009) PSED II and the Comprehensive Australian Study of Entrepreneurial Emergence [CAUSEE]. In: Reynolds PD, Curtin RT (eds) New firm creation in the United States: preliminary explorations with the PSED II data set. Springer, New York, pp 263–278

Davidsson P, Steffens P, Gordon S, Garonne C, Senyard J (2009). Business creation processes in Australia: What start-up attempts get up and running, and why? A preliminary assessment. Queensland University of Technology, Brisbane. Manuscript available at www.causee.bus.qut.edu.au/results/

Davidsson P, Steffens P, Gordon S, Reynolds PD (2008) Anatomy of new business activity in Australia: Some early observations from the CAUSEE project. Queensland University of Technology, Brisbane. Manuscript available at eprints.qut.edu.au/archive/00013613

Davidsson P, Wiklund J (2001) Levels of analysis in entrepreneurship research: current practice and suggestions for the future. Entrepreneurship Theory Pract 25(4, Summer):81–99

Delmar F, Davidsson P (2000) Where do they come from? Prevalence and characteristics of nascent entrepreneurs. Entrepreneurship Reg Dev 12:1–23

Delmar F, Shane S (2004) Legitimating first: Organizing activities and the survival of new ventures. J Bus Venturing 19:385–410

Dissanayake S, Gordon S, Davidsson P (2008) Understanding venture idea newness, relatedness and change among nascent entrepreneurs. Paper presented at AGSE international entrepreneurship research exchange. Melbourne. Available at www.causee.bus.qut.edu.au/results/AcademicConferencePapers.jsp

Gartner WB, Shaver KG, Carter NM, Reynolds PD (2004) Handbook of entrepreneurial dynamics: the process of business creation. Sage, Thousand Oaks

Geroski PA (1995) What do we know about entry? Int J Ind Organiz 13:421–440

Hindle K, O'Conner A (2004) Westpac GEM Australia. A study of Australian entrepreneurship in 2004. Westpac Corporation and Swinburne University, Melbourne

Randall D, Fernandes M (1991) The social desirability response bias in ethics research. J Bus Ethics 10(11):805–817

Reynolds PD (2007) New firm creation in the US: A PSED overview. Found Trends Entrepreneurship 3(1):1–151

Reynolds PD (2009) Screening item effects in estimating the prevalence of nascent entrepreneurs. Small Bus Econ 33(2):151–163

Reynolds PD, Carter NM, Gartner WB, Greene PG (2004) The prevalence of nascent entrepreneurs in the United States: Evidence from the Panel Study of Entrepreneurial Dynamics. Small Bus Econ 23(4):263–284

Reynolds PD, Curtin RT (2008) Business creation in the United States: Panel study of entrepreneurial dynamics II initial assessment. Found Trends Entrepreneurship 4(3):155–307

Ruef M, Aldrich HE, Carter NM (2003) The structure of organizational founding teams: Homophily, strong ties, and isolation among U.S. entrepreneurs. Am Sociol Rev 68(2):195–222

Sarasvathy S (2008) Effectuation: elements of entrepreneurial expertise. Elgar, Cheltenham/Northampton

Shane S, Venkataraman S (2000) The promise of entrepreneurship as a field of research. Acad Manage Rev 25(1):217–226

Stam E, Schutjens V (2004) The performance of team start-ups in the first phases of the life course. Research Paper, Erasmus Research Institute of Management (ERIM), RSM Erasmus University

van Praag CM, Versloot PH (2007) The economic benefits and costs of entrepreneurship: A review of the research. Found Trends Entrepreneurship 4(2):65–154

Chapter 3
The Canadian Panel Study of Entrepreneurial Dynamics

Monica Diochon, Yvon Gasse, and Teresa Menzies

3.1 Introduction

The objectives of the Canadian National Study of Entrepreneurial Dynamics[1] were three-fold:

1. To determine how the economic and social context, individual and personal factors, and household features affect the emergence of individuals trying to start new firms.
2. To understand the procedures and strategies involved in assembling resources to implement new firms and the subsequent effect on firm birth, survival, and growth.
3. To improve the effectiveness of educational and assistance programs, enhance the impact of government policies, and contribute to the creation of a more efficient entrepreneurial engine.

This study was the first Canadian large-scale effort to develop a representative sample of those starting new firms and, as well, firms in the start-up or "pre-organizational" phase of the entrepreneurial process. Once the initial sample was created and interviewed, the cohort was tracked annually for 4 years to develop a better understanding of how nascent entrepreneurs go about putting a new business in place as well as the outcomes of their efforts. Because of this extensive follow-up, the focus of analysis in the Canadian PSED was on the process outcomes and the factors contributing to those outcomes. This contrasts with the analysis

[1]Financial support for the project came from two sources: Industry Canada, Entrepreneurship & Small Business Division, which supported the initial screening; and the Social Sciences and Humanities Research Council (SSHRC) of Canada which provided funding for all phases of the ERA II, The study of Nascent and Growing Enterprises project.

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conducted in other countries where the emphasis was more on the factors leading to nascent entrepreneur status as well as the process nascent entrepreneurs undertook in attempting to start a business. Accordingly, the findings presented here reflect our focus.

The chapter begins by setting out the conceptual and operational definitions of critical events. This is followed by a methodological overview of the three phases of the research, where details of data collection and profiles of the sample (and subsamples) are provided. It then provides insight into who Canadian nascent entrepreneurs are by describing their personal characteristics, their motivations to get into business, what kind of businesses they are starting, what they are doing to get started, and their goal-setting commitment. Two particular themes – teams and gender – are then dealt with. This is followed by a brief summary of the activities nascent entrepreneurs engaged in during the start-up process. Subsequently, attention turns to outcomes. Upon presenting the self-reported start-up status for the four annual follow-ups, two distinct cohorts – new firms and nascent enterprises are differentiated. In reporting some of the key findings from our exploration of factors associated with outcomes, the importance of sustainability is emphasized in dealing with the following issues: the relationship between individual factors and engagement in the start-up process; the nature and impact of gestation-specific human capital; and the relationship between start-up activities and new venture emergence. We conclude the section with an in-depth discussion of "new firm" measurement. The chapter ends by considering the impact of the project on policy and scholarship.

3.2 Research Collaboration

In addition to the three principal researchers, there have been a number of others involved in different capacities over the duration of the project. In particular, the Canadian research team has benefited from the professional services of Maripier Tremblay, who served as the project's primary research assistant, and is now associate professor of entrepreneurship on the Faculty of Administrative Sciences and research associate of the Chair of Entrepreneurship and Innovation at Laval University. She has been responsible for collecting and organizing data for all rounds of interviews with the participants. There have been 32 undergraduates, 5 master's students, and 3 doctoral students involved with the Canadian project. Peter Robinson, a member of the initial research team, has been instrumental in coordinating the first round of data collection in the Canadian western provinces. The initial screening of participants from the Canadian population was completed under the supervision of Gilles Therrien, CEO and scientific director of SOM, a Canadian polling firm affiliated with the Gallup group.

The research design of this project was a result of a collaborative effort among members of the Entrepreneurship Research Consortium (ERC) that involved over 120 scholars.

3.3 Conceptual and Operational Definitions of Critical Events

In this project, the core definitions and conceptualizations utilized by the US-PSED I in establishing its procedures for selecting a representative sample, for developing systematic descriptions of the entrepreneurial process and for tracking the process and its outcomes over time were adopted.

With the research being exploratory, a range of factors potentially impacting on new firm emergence were investigated over the course of the project (see Table 3.1 below). These factors include the context, the activities (these include 14 activities classified as precursor behaviors that entrepreneurs commonly undertake to establish a new business [e.g., develop a business plan, look for facilities or equipment location, ask for funding]), the organizing (formal and informal), and the individuals involved in the process. Indeed, because current knowledge of the start-up process is lacking, it is inappropriate to generate hypotheses or formal theories.

Utilizing an individual unit of analysis, self-reports were relied upon in determining critical transitions. However, as the project progressed, the need for further development in defining and measuring firm birth was recognized and responded to. This will be dealt with later in the chapter.

3.4 Methodological Overview

In this section, the three components of the research design are outlined, followed by a detailed description of data collection and a profile of the sample (and subsamples).

Table 3.1 Factors potentially impacting new firm emergence

Context	Individual(s)
Economic	Socio-demographic background
Social	• Age, gender, ethnic origin, nationality, language, mobility
Activities	
Nature and sequence of activities during gestation	Work, career background
	• Work, career experience
Competitive strategy	• Educational or occupational training
	• Family business background
Organizing	
Formal organizational arrangements	Context
• Ownership structure	• Work and family situation/responsibilities
• Registration activities	• Income/net worth
• Financial structure	• Presence of supportive social networks
Informal organizing	Personal predispositions
• Use of social networks	

3.4.1 Research Design

The three phases of the study are summarized below:

Phase I: Large-scale screening. The first stage involved large-scale screening to create a sample representative of the Canadian population of adults, those 18 years old or older, who were actively involved in attempting to start a new business. Those individuals engaged in autonomous start-ups are referred to as nascent entrepreneurs, while those sponsored by an existing firm are referred to as nascent intrapreneurs.

Phase II: Initial detailed interviews. The second stage of data collection (Summer and Fall 2000) involved detailed phone interviews followed by completion of self-administered questionnaires mailed to the respondents. This phase provided information regarding strategy, activities and progress in the firm gestation process. In addition, extensive data on geographic and industrial contexts of the start-up efforts was gathered.

Phase III: Follow-up data collection. The third stage consisted of four systematic phone and mail interview follow-ups in order to determine the outcome of efforts to establish a new firm. These later phases have provided more information on nascent entrepreneurs and intrapreneurs, on their subsequent success at launching the firm and, in turn, on the initial growth of the new business. Five major dimensions were analyzed in the follow-up data: business/strategy, context, finance/business angels, gender/family, and personality.

3.5 Data Collection

The first phase of this research project was to find people starting new firms.[2] The target population was all Canadian households with adults able to complete a questionnaire by phone in French or English. Within these households, the polling firm systematically sought to identify any nascent entrepreneurs or intrapreneurs. A nascent entrepreneur was defined as "a Canadian adult who, alone or with others, is now trying to start a new business." On the other hand, an intrapreneur "is a Canadian adult who, alone or with others, is now trying to start a new business or a new venture for his/her employer, as an effort that is part of his/her job assignment."

A representative sample was developed by calling phone numbers selected at random and, after it was determined that this was a household (and not a business), talking with the first available head of household or one of the "adults of

[2]This first phase of data collection has been conducted by a major Canadian polling firm, SOM (Gallup), from February 9 to March 20, 2000.

the household," who was then interviewed as the informant. These individuals provided information about whether they or any other adults in their household were trying to start a new business. If the informant indicated that she or he was actively involved in starting up a new venture, she or he was asked to participate in the study. If not, then the interviewer asked to speak with the first person in the household that the informant named as a nascent entrepreneur and that person was asked to participate in the study. Also, for a random subsample of 1,549 households, a short questionnaire was completed, which aimed at measuring the incidence of other categories of people involved in entrepreneurship, such as: if they owned a business; or tried in the past to start up a business but subsequently abandoned the effort; or were business owners in the past (alone or with others) but subsequently closed it, sold it, transferred or discontinued it; or invested personally in a nascent business as business angels during the last 3 years, although this business was not their own. Considerable efforts were made at this point to interview all eligible respondents, but only one adult was screened for suitability for the interview. The screening items used in the interviews are listed in Table 3.2.

The screening questionnaire was prepared and programmed by SOM, a major Canadian polling firm, associated with Gallup, from the definitions used for a similar study completed in USA. For the English version, the US wording was used and SOM then translated the resulting questionnaire into French. The sample was randomly generated among all Canadian telephone exchanges (random digit dial sampling). Interviews were completed by telephone using a sophisticated CATIS system to identify adults that are representative of Canadian citizens 18 years of age or older in 21,116 households. Up to eight calls were placed to reach the households included in the sample.

By collecting data on *all adults in each sampled household*, it has been possible to locate "nascent entrepreneurs" in about 1.8% of these 21,116 households (margin of error less than 0.2%). This stratified proportional sample is representative of all Canadian adults and households, those 18 years or older from all provinces. The sampling plan for this survey was stratified proportionally to the number of households in each Canadian province. The number of interviews that were completed within each province is proportional to the number of Canadian households within each of these provinces. Because the sampling plan is a proportionally stratified sample of households with a very high response rate, the data did not have to be weighted.

In the second phase of this national project, the US-PSED I questionnaire was adapted for Canadian respondents. The Canadian questionnaire pursued 25 topic areas in a 49-page interview schedule. Teams of researchers across Canada completed the interviews with the nascent entrepreneurs by phone. Typically, an interview took 1 hour to complete. The mail questionnaire comprised 15 sections. Multiple call-backs were necessary for contacting most of the nascent entrepreneurs and three (3) separate mail-outs were used to obtain a higher response rate for the mail questionnaire. Table 3.3 provides an overview of the interview schedule modules.

Table 3.2 Wording of screening items related to new and small business activity

Screening items related to new business activity (Main sample of 21,116 households)	
Overall household screening	How many adults (18 years and older) living in your household including yourself, are presently actively involved in starting up a new venture or business project whether it be freelance (alone or with others) or as part of a job assignment, on behalf of an employer? So that we may better understand each other for what is to follow, I would like to get his (their) first name(s) beginning with you if you are among this group of individuals.
Nascent Entrepreneur/Nascent Intrapreneur	Will you be an owner, in part or in whole of this company or venture that you are trying to launch, alone or with others for your own business or that of your employer? During the last 12 months, have you done anything to help start this new business, such as looking for equipment or a location, organized a start-up team, worked on a business plan, begun to save money, or any other activity that would help launch a business?
Other screening items related to business activities (Subsample of 1,549 households)	
Business Owner	Are you the owner or part-owner of a business? This would include farms, home-based business such as home day care or independent consulting, or other type of business activity. It could be a full-time or part-time effort...
Discouraged Entrepreneur	Have you, alone or with others, tried to start a business and given up?
Discontinued Business Owner	Have you ever been the owner or part-owner of a business that may have become inactive, shut down, sold or transferred?
Business Angel	Have you made a personal investment in a new start-up business in the past 3 years, not including your own business?

3.6 Description of the Sample

In total, for the screening survey, 21,116 interviews were completed with Canadian households. As Table 3.4 shows, the breakdown of call results brought us, after exclusion of close to 50% of the global sample drawn (adding B to I, less F), to an estimated net response rate of 71.0%.

Entrepreneurs: How many and what are they like? Table 3.5 uses the data from the screening to estimate the rate of nascent entrepreneurship along with engagement

Table 3.3 Overview of interview schedule modules

Topic Modules	Screening	Mail quest. 1	Mail quest. 2	Initial interview	1-Year follow-up interview	2-Year follow-up interview	3- and 4-Year follow-up interview
Screening questions	ALL			ALL			
Assessment of criteria for nascent entrepreneur	ALL						
Socio-demographic	ALL			ALL			
Confirm business activity				ALL			
Confirm same business activity					All	All	All
Business status					All	All	All
Problems encountered					ISU; QUIT	ISU; QUIT	ISU; QUIT
Start-up activities				ALL	OB	OB	OB
Business Registration				ALL	OB	OB	OB
Start-up nature				ALL			
Start-up team				ALL	OB	OB	OB
Start-up needs				ALL	ASU; ISU	ASU; ISU	ASU; ISU
Market and competition perception				ALL			
Competitor's strategies				ALL			
Help services and programs knowledge				ALL	OB	OB	OB
Financial structure					OB	OB	OB
Expectations regarding new business				ALL			
Respondent profile				ALL			
Family antecedents				ALL			
Family structure				ALL			

(continued)

Table 3.3 (continued)

Topic Modules	Screening	Mail quest. 1	Mail quest. 2	Initial interview	1-Year follow-up interview	2-Year follow-up interview	3- and 4-Year follow-up interview
Reasons for quitting					QUIT	QUIT	QUIT
Motivations to be in business again					QUIT	QUIT	QUIT
Reactions regarding interview				ALL			
Opportunity identification		ALL	ALL		OB		
Attitudes and perceptions		ALL	ALL		OB		
Financial management		ALL	ALL				
Business skills and knowledge		ALL	ALL				
Entrepreneurial profile		ALL	ALL		ALL	ALL	ALL
Other business start-up					ALL	ALL	ALL
Career profile and occupational information		ALL	ALL		ALL	ALL	ALL
Financial situation					ALL	ALL	ALL

OB operational business, *ISU* inactive start-up, *ASU* Active start-up, *QUIT* abandoned project

Table 3.4 Screening survey call results

Breakdown of call results	
A. Initial sample	49,763
B. Never reached during the data collection period	5,863
C. Not in service or discontinued	12,084
D. Business numbers	4,663
E. Lines out of order	156
F. Non eligible	83
G. Out of stratum	30
H. Disabilities/Foreign languages	725
I. Not at home	38
J. Incomplete	0
K. Household refusals	4,515
L. Respondent refusals	490
M. Completed interviews (household calls)	21,116
Summary statistics	
N. Numbers not reached (B + E)	6,019
O. Numbers reached (A − (N + G))	43,714
P. Non usable numbers among reached (C + D + H)	17,472
Q. Usable numbers among reached (O − P)	26,242
R. Estimate of usable numbers not reached (NQ/O)	3,613
S. Estimated total of usable numbers (Q + R)	29,855
Estimated nonresponse (%) ((R + I)/S)	12.2
Estimated refusal (%) (J + K + L)/S	16.8
Estimated response rate (%) ((M + F)/S)	71.0

in other stages of the entrepreneurial process. The first column shows the percentage of households with at least one individual involved in that particular stage. For instance, we found nascent entrepreneurs or intrapreneurs in 1.8% of Canadian households (more or less 0.2%), which by inference, would mean that 237,000 Canadians were trying to start up new businesses at any given point in time. This is 1.1% of the total Canadian adult population. The figures do not include people less than 18 years of age.

As mentioned previously, this study has also developed a random subsample of other types of entrepreneurs (*representing about 7.3% of the total sample*). Using the same technique, it has been possible to locate 1,549 households with other types of entrepreneurs. From this particular subsample, we have identified 11.7% of households with business owners; 5.3% of discouraged entrepreneurs; 9.4% of discontinued business owners; and 2.0% of business angels (margin of error between 0.7% and 1.5%). Similarly, we estimated at 8.6% the proportion of adult Canadians who owned a business: 3.3% tried to start up a business but subsequently quit; 6.3% did own a business in the past but had sold it, closed it, transferred it to another owner or just stopped operating it. Finally, only 1.4% of adult Canadians have invested into nascent businesses that were not their own, during the last 3 years before the interview.

Ultimately, the screening process identified 472 households with people answering "yes" to one of the first two questions in the survey seeking to identify nascent

Table 3.5 Incidence estimates for several categories of people and households

Categories	Percent of households including such people	Margin of error (%)	Number of Canadians (thousand)	Percent of adult Canadians
Nascent entrepreneur or intrapreneur (active and future owner)	1.8	(0.2)	237	1.1
Business owner	11.7	(1.6)	1,875	8.6
Tried to start up a business in the past but quit (discouraged)	5.3	(1.1)	724	3.3
Owned a business in the past (discontinued)	9.4	(1.5)	1,376	6.3
Invested in a nascent business in the past 3 years (angels)	2.0	(0.7)	299	1.4

The margin of error for the first category is much smaller than for others because this estimate is based on all the interviewed households (21,116) whereas other incidences are obtained from a random subsample of 1,549 households

entrepreneurs or intrapreneurs. These households included a total of 593 entrepreneurs or intrapreneurs. In the sampling procedure, every person in the household corresponding to the screening criteria has been considered for the sampling as a potential respondent; in other words, more than one nascent entrepreneur could have been interviewed in each household, even if they were working on the same business venture. However, additional questions eliminated those who were not active and those who did not anticipate being an owner of the new business, for instance, those who were starting up a new venture for their employer who would remain sole owner of the new business. After removing these individuals, we were left with a panel of 463 eligible entrepreneurs or intrapreneurs. Table 3.6 gives detailed figures for the different steps of the recruited sample.

Among the 463 nascent entrepreneurs who were recruited, deemed active and having an ownership interest, there were four for which gender and age were not disclosed. The following table provides the distribution by age and gender for the 459 nascent entrepreneurs or intrapreneurs. Table 3.7 shows that nascent entrepreneurs were essentially male, that is for two cases out of three. They were also mainly recruited from the age group of 25–44 years (60%).

The incidence of nascent entrepreneurship does not differ greatly by province. As shown in the map (Figure 3.1), the percentage of the adult general population approximates closely to the percentage of nascent entrepreneurs found in our survey, according to province. However, in the Atlantic Provinces (New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island) the incidence of nascent entrepreneurship is slightly lower, whereas in the Prairie Provinces (Saskatchewan and Manitoba combined) the incidence is higher.

Table 3.6 Number of recruited nascent entrepreneurs

Number of eligible households		
• With a member trying to start up a new business		429 (2.0%)
• With a member trying to start up a new business or venture for his/her employer		120 (0.6%)
• One or the other (total less those in both categories simultaneously)		472 (2.2%)
Number of eligible individuals	Number of households	Number of eligible individuals
• Household with only one entrepreneur	365	365
• Household with two entrepreneurs	96	192
• Household with three entrepreneurs	8	24
• Household with four entrepreneurs	3	12
Total	472	593
Exclusions		
• Will not be one of the owners		55
• Has not been active during the last 12 months		75
Subtotal		130
• Eligible		463
• Refused to be enrolled in the panel		47
• Eligible individuals willing to participate		416

Table 3.7 Age–gender distribution of nascent entrepreneurs or intrapreneurs ($n=459$)

	Male	Female	Total
18–24 years old	9.6	3.3	12.9
25–34 years old	19.0	10.2	29.2
35–44 years old	19.4	10.9	30.3
45–54 years old	13.3	6.3	19.6
55 years old or older	5.7	2.4	8.1
Total	66.9	33.1	100.0

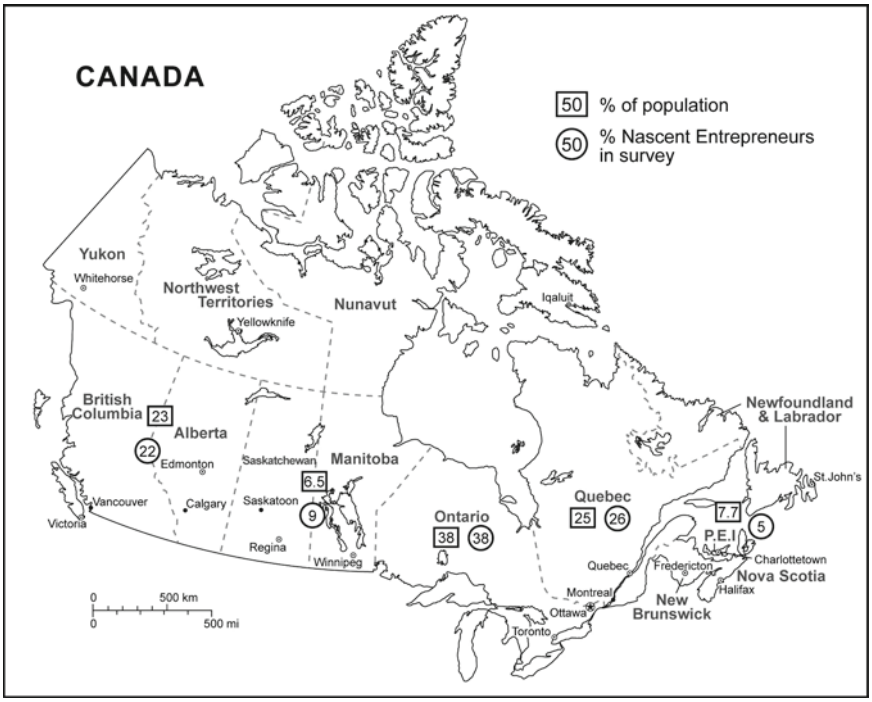

Fig. 3.1 Incidence of Nascent Entrepreneurship compared to the Canadian Population by Province. Statistical limitations – (1) Population figures are from the 2001 Canadian Government Census, Nascent Entrepreneur figures are from 2000 phone survey; (2) age of population is 20–64 while nascents aged from 22 to 65; (3) the achieved sample of nascent entrepreneurs by geographic area is limited by potential non response error

3.7 Who Are Canadian Nascent Entrepreneurs?

In describing Canadian nascent entrepreneurs, this section begins by outlining their personal characteristics, followed by their motivation to start a business, the types of businesses they are starting, what they are doing to get started and their goal setting commitment.

On average, Canadian nascent entrepreneurs are 41.5 years old, with most being white Caucasian males (67% are male and 33% women) and 70% are Anglophones.

Table 3.8 shows the dominant occupational background of the founders. Collectively, the two areas most highly represented are *sales and services* and *business, finance, and administration*. In most instances, start-up teams are comprised of people with complementary working experience backgrounds.

More than half the entrepreneurs interviewed had no prior experience starting a business. About 20% had already started or helped to start one business before this one. Their closest partner in the project had started or helped to start one other business in 28% of cases. For about 65% of respondents, their business idea was less than 3 years old.

3.7.1 Their Motivation to Get into Business

The three main factors prompting respondents to start a business include: a *passion for the field* (22%), to improve their *financial situation* (21%) and finally to *be her or his own boss* (13%). When asked what they would be doing if they were not starting a business, many people said they would be working for others (46%). About 22% of respondents said they would be taking care of family or spending more time on hobbies.

Being an entrepreneur is not always easy. When people decide to start a business, they may do so for a number of different reasons. To determine this we included a question in the first mail questionnaire sent to respondents of our phone survey. The question asked "To what extent are the following reasons important to you in establishing this new business?" and we listed 11 options, for example, "to achieve a higher position for myself in society" and "to continue a family tradition." Interestingly, the three items which all entrepreneurs in this study share the desire for is:

- To have considerable freedom to adapt their own approach to work
- To have greater flexibility for their personal and family life
- To challenge themselves

Most people think that if they work hard, they can successfully start a business. However, if the business is not successful, they will be willing to work for someone else. Respondents in our survey most often reported that they faced problems

Table 3.8 Primary occupation sector, prior to the current nascent venture, of the major owner (lead entrepreneur) and that of their business partner

Primary occupation sector	Survey respondent (lead entrepreneur) (%)	Business partner in this nascent venture (%)
Sales and services	15.5	15.4
Business, finance and administration	13.2	21.1
Natural and applied sciences	10.1	5.8
Arts, culture and recreation	10.1	7.7
Other	10.9	13.5

balancing time between business, personal and family life, and the lack of mentors who can provide advice and support.

3.7.2 What Kind of Businesses Are They Starting?

The sector the business operates in has a major impact on the nature of the start-up process. For example, businesses in the field of new technology need more time for product development while a key focus for manufacturing businesses is human resources. Canadian nascent entrepreneurs are starting businesses in three major industries: customer or consumer service, retail, and business consulting (Figure 3.2). These three major sectors are services producing rather than goods producing, and as such represent 75% of the Canadian economy in general, as measured by employment (Statistics Canada 2010).

The majority of businesses are sole proprietorships (approximately 57%) with the others choosing to organize as partnerships or limited companies. More than 85% of businesses are "independent start-ups by the individual or team." While approximately half the businesses are started solely by the respondent, the other half is equally divided between *respondent and spouse only* and *respondent and others*. The average number of owners is 1.5. The majority of businesses (60%) are located in a residence or on personal property.

Sales expectations for the first year of operation were estimated to be, on average, CA $177,553 (range was CA $0 to CA $3 million). The sales revenue estimates for their fifth year in business were, on average, CA $3,349,323 (range of CA $2,000 to CA $250 million). In terms of human resources, most businesses did not plan to hire employees but if they did the estimates were only one or two additional employees after 5 years.

Almost all the entrepreneurs who participated in the study wanted *a business they could manage by themselves or with a few key employees.* In fact, the findings suggest that most people trying to start a business seem to be pursuing self-employment rather than high growth ventures that are typically associated with entrepreneurs.

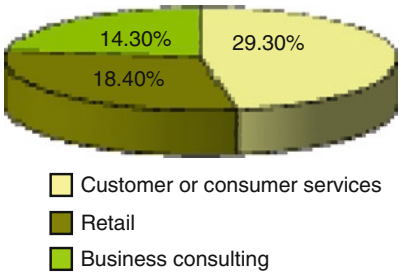

Fig. 3.2 Industry sector of the businesses

3.7.3 What Are They Doing to Get started?

Time. On average, nascent entrepreneurs work about 30 hours a week on their start-up, although close to 40% report working less than 20 hours a week on it.

Planning. About 37% had completed a business plan while 27% were in the process of doing so. Most nascent entrepreneurs said they had done some marketing (63%) and had talked to potential customers (81%); 78% had made purchases of inventory or material and 50% had purchased major items. About half the respondents had prepared projected financial statements.

Investment. When interviewed in 2000, half the respondents were in the process of saving money. Almost all respondents (83%) have invested personal money in their business. For most, the amount was less than $10,000. In terms of other sources of funding, financial institutions and private investors topped the list (46% reported having approached financial institutions or others).

3.7.4 Their Goal-Setting Commitment

An analysis of Canadian nascent entrepreneurs' goal-setting commitment (De Clercq et al. 2009) found it to be positively related to self-efficacy. This may explain an entrepreneur's willingness to exert high levels of effort when belief in their venture and self-capabilities is strong. Additionally, goal commitment was positively related to the availability of private financial support, and negatively related to public financial support. Also, normative pressure was found to support the entrepreneurship career choice. Overall, internal personal factors had a stronger effect, as one would expect, than external factors. Educators, trainers, and consultants can assist entrepreneurs with realistic goal setting, business planning, and enhancement of an entrepreneurial culture.

3.8 Team Structures

Our knowledge about new venture ownership teams, just as our knowledge about new ventures in general (Reynolds 2000), is at an early research stage, with little accumulated theory (Ucbasaran et al. 2003). It has been suggested that almost half of new ventures are started with a team (Kamm and Shuman 1990; Ruef et al. 2003), so studying new venture ownership teams is highly pertinent to entrepreneurship. Additionally, findings indicate that firms started with a team rather than a solo entrepreneur have a higher potential for growth (Cooper and Bruno 1977; Dyke et al. 1992; Lee and Tsang 2001), which holds importance for economic development and sustainability. The incidence of teams in our Canadian sample is shown in Table 3.9 below. Of the 44% of the nascent entrepreneurs belonging to teams, 83% were teams of two people and the remaining were larger teams. Of the teams, 26% were spousal teams.

The percentage of solo entrepreneurs was similar among men and women. While men were equally likely to be in single or mixed-gender teams, women were more often in mixed-gender teams (Menzies et al, 2007). Ownership structure is an important part of the many decisions, which must be made by nascent entrepreneurs and research would help inform team-related decisions.

3.9 Nascent Entrepreneurs and Gender Issues

While it is well known that women have a lower incidence of entrepreneurship than men (Minniti et al. 2005), an important, yet often overlooked, question is whether the personal and business characteristics, attitudes toward the planned business, the business creation process, and potential for launching and growing a business, differs according to gender?

In examining these issues, the "Myths" about women entrepreneurs developed by the US Diana Project team (Brush et al. 2001) were used as an organizing framework for analyzing the Canadian data (Menzies et al. 2004) that had been gathered during the first long interview with 150 nascent entrepreneurs. Our sample comprised 52 women and 92 men ($n = 144$ due to missing data) and involved 34 variables.

Table 3.10 lists the "Myths," the variables used to examine each "Myth," the variables that were found to be significantly different according to males versus female responses, and on balance whether there was support or not for the "Myth." Overall, there is very little evidence to support the many "Myths" about women entrepreneurs. However, as shown in the Table, it appears that there *is* support for the idea that women are not pursuing the more quantitative subjects at university, for example, computers, math, and some sciences. Thus, when it comes to starting businesses that are hi-tech, and most popular with venture capitalists, then women in general may be disadvantaged. Clearly, some women do take majors in the quantitative areas but just not as frequently as men.

Further analysis of gender differences were based upon 3 years of data and focused on personal and business characteristics, the process of business creation, and the prediction of a successful start-up outcome by gender (Menzies et al. 2007). Within the cohort, 62% of respondents were male and 36% were female.

No difference between men and women was found with regard to: completion of a formal business plan (as found in the earlier study), expectations of hiring employees, length of the gestation period, total number of gestational activities completed, and most importantly, the likelihood of achieving a successful business

Table 3.9 Ownership structure of Canadian nascent entrepreneur teams

Nascent entrepreneurs	Percentage (%)
Solo entrepreneurs	56
Partnerships	44

Table 3.10 An examination of derogatory myths about women entrepreneurs

"Myths" framed as Hypotheses	Variables used to examine	# of variable sig. different	Conclusion
Women do not have the right educational backgrounds to build large ventures	1. Education level 2. University major – subject* 3. Courses re business start-up*	# 2 # 3	Strong support *for* this "Myth"
Women do not have the right types of experience to build large ventures	1. Years working experience 2. Exp. in industry of business 3. Management exp. 4. Experience of other start-ups 5. Parents owned a business.	None	NO support for this "Myth"
Women are not in networks and lack the social contacts to build credible ventures	1. People helping re start-up 2. Contacted Helping programs 3. Know how to contact programs 4. Family support	None	NO support for this "Myth"
Women do not have the financial savvy or resources to start high growth businesses	1. Projected Financial Statements 2. Asked for loan for start-up 3. Invested own money 4. Home owner 5. Net worth level 6. Income level 7. If a partnership 8. Type of partners (relationship)* 9. Has team been organized 10. Have employees been hired	# 8	Strong support *against* this "Myth"
Women-owned ventures are in industries *unattractive* to venture capitalists	1. Spending on R&D 2. Business is hi-tech* 3. Copyright held* 4. Trademark/patent held 5. Industry sector.	# 2 # 3	Some support for this "Myth"
Women do not submit business plans to equity providers	1. Business plan	None	NO support for this "Myth"

(continued)

Table 3.10 (continued)

"Myths" framed as Hypotheses	Variables used to examine	# of variable sig. different	Conclusion
Women do not want to own high growth businesses	1. Size preference 2. Reasons for starting 3. Image of startup 4. In operation still in 5 years 5. Home-based business or not 6. % Income expected from start-up	None	NO support for this "Myth"

*$p < .05$

start-up. However, differences were found in some areas, as the descriptive statistics presented in Table 3.11 indicate.

Men concentrated more in applied science and computers, and women more often majored in health-related subjects. Females, as one would expect, reported performing a higher percentage of household tasks. Men estimated a higher probability that their business would be operating in 5 years, they reported more start-up experience, were more likely to own their home, and had more friends and neighbors with businesses. As mentioned in our previous study, women were significantly less likely than men to have a copyright for materials used in their business, at 6% and 21%, respectively ($\chi^2(2) = 7.89$, $p < .05$). Men reported more often having a high tech business. Also, women (37%) were significantly less likely to have a dedicated phone line for the business than were men (84%), ($\chi^2(1) = 4.07$, $p < .05$). For the nature of the business, women estimated that a higher percentage of their customers would be local than did men, while men estimated that a higher percentage of their customers would be international.

Overall, in this study we found few differences between male and female nascent entrepreneurs. Findings point tentatively to male nascent entrepreneurs having more factors that lead to confidence building, for example, owning a home, being less burdened by household or childcare tasks, having friends and neighbors who own businesses, having previous start-up experience, expecting that the business will be around in 5 years, having a hi-tech business and expecting to trade internationally. Taken together, these factors might impact entrepreneurial self-efficacy, networking opportunities, and time to work on the start-up. Predicting who would achieve an operating business showed that women who were members of a start-up team were significantly more likely, in fact six times more likely, to achieve an operating business. Team building is clearly important for women more than male entrepreneurs. Overall, however, the largest predictor of operating success was found to be good preparation, as shown by the number of gestational activities completed.

Table 3.11 Nascent entrepreneurs personal and business characteristics by gender

	% Male	% Female	Total	N	Mean	SD
*College or university major***						
Administration, accounting, math	24	33	27			
Health and natural sciences	10	24	15			
Applied sciences and computers	32	4	22			
Education, social services, arts	20	15	18			
None/other	15	24	18			
Home ownership						
Are you the owner of the residence you live in?* Yes	70	54	64			
Personal Commitments						
What percentage of household or child tasks do you do?***						
Male				87	47.6	32.0
Female				53	74.7	27.4
Role Models						
Business ownership among close friends and neighbors:						
Most**	14	8	12			
Some	31	41	35			
Few	46	25	39			
None	9	25	15			
Start-up experience						
Previous start-up experience?** Yes	54	28	44.6			
None	46	72	55.4			
Longevity expectations						
What is the likelihood that this business will be operating 5 years from now?*						
Male				88	85.7	21.4
Female				51	76.0	28.0
Type business						
Company is hi-tech: No or Not Applicable **	65	85	72			
Yes	35	15	28			
Scope of business – geographical						
Source of expected customers (percentage)**						
Local: Male				87	49.8	38.3
Local: Female				53	70.2	32.1
International: Male				82	21.4	35.3
International: Female				50	7.6	17.0

*$p < .05$; **$p < .01$; ***$p < .001$

3.10 Process

By the third year of incubating a business, the nascent entrepreneurs reported that they had engaged in the following activities presented in Table 3.12 (Menzies et al. 2006). As you will note, there is considerable variation in the activities that were "popular" as opposed to those that were not commonly undertaken.

3.11 Outcome Overview

Fundamental to developing a better understanding of the start-up process, which is the key focus of this research project, is determining the outcomes that result from nascent entrepreneurs' efforts. At follow-up, there were four possible outcomes: the

Table 3.12 Nascent entrepreneur efforts to start a business: business gestation activities within the first 3 years of activity

Activity	% Reporting
Business plan is started, not yet complete	8
Business plan is in progress	22
Business plan is complete	51
Product development is an idea	8
Product development is a model	10
Product development is a prototype	9
Product development is ready for sale	70
Marketing is underway	71
Hold copyright, not registered	9
Hold copyright, registered	15
Business purchases have been made	83
Major business purchases have been made	54
Have approached customers, researched competition	89
Have prepared projected financial statements	59
Saving money to invest in the business	54
Approached people/banks for funds: initiated	5
Approached people/banks for funds: completed	35
Have engaged home help	23
Work 35 hours per week or more on business	56
Have part-time employees	16
Have one full-time employee	4
Have two full-time employees	4
Have three or more full-time employees	13
Have hired nonowner employee(s)	25
Business has a separate phone listing	48
Has taken a business class	44
Business has independent premises	17
Business has a separate bank account	64
Business has filed a federal tax return	48

nascent entrepreneur succeeds in creating a new firm, the nascent entrepreneur is still trying to start the firm; the nascent entrepreneur has put his or her start-up efforts "on hold"; or the nascent entrepreneur has "given up" and abandoned his or her efforts to start a business. The items used in the follow-up interviews to indicate outcome status are provided in Table 3.13 below. As indicated previously (Table 3.3), a different set of questions was asked depending upon the current status of the start-up effort. Those reporting an inactive start-up effort or one that has been abandoned completed a much shorter interview than those reporting infant firms or an active start-up effort.

Table 3.14 profiles the outcome status reported by Canadian nascent entrepreneurs for each year of follow-up. For the first 3 years, the percentage of the sample reporting an operating business is fairly consistent at approximately 33% of the sample interviewed, whereas in year 4 the percentage declines to 24%. Almost 40% of nascent entrepreneurs were still actively trying to launch their venture at the time of the first year follow-up but only 7% were still trying to do so 3 years later. Relatively speaking, the percentage of inactive start-ups was fairly consistent over the first 3 years, ranging between 12% and 16%. However, in the fourth year this figure dropped to 4%. With respect to start-ups that had been abandoned, only 15%

Table 3.13 Outcome status items in the CA-PSED

Item Number	Question
1.	Our records show that you completed an interview with us back on (STATE DATE). At that time you said you were actively involved in helping start a business (IF APPROPRIATE: which you referred to as: _____).
	Are you still involved with this new firm start-up?
	1. YES[ ]
	2. NO[ ]
	998. DON'T KNOW[ ]
	999. REFUSED[ ]
2.	How would you describe the current status of this start-up effort? Is it now an operating business, still in an active start-up phase, still a start-up but currently inactive, no longer being worked on by anyone, or something else? (IF UNSURE WHETHER 1 OR 2, MARK 1. IF UNSURE WHETHER 2 OR 3, MARK 2. IF UNSURE WHETHER 3 OR 4, MARK 3.)
	1. →OPERATING BUSINESS[ ]
	2. →ACTIVE START-UP[ ]
	3. →INACTIVE START-UP[ ]
	4. →NO LONGER WORKED ON BY ANYONE[ ](skip to q 27)
	5. →SOMETHING ELSE[ ](SPECIFY: _____)
	998. DON'T KNOW[ ]
	999. REFUSED[ ]

Table 3.14 Outcome status at the time of annual follow-up (2001–2004)

	2001 (12 mths)		2002 (24 mths)		2003 (36 mths)		2004 (48 mths)	
Start-up status	*n*	%	*n*	%	*n*	%	*n*	%
Operating	44	33	39	33	35	34	22	24
Active start-up	52	39	21	18	8	8	6	7
Inactive start-up	17	13	19	16	13	12	4	4
Abandoned	19	15	40	33	48	46	58	65
Total	132	100	119	100	104	100	90	100

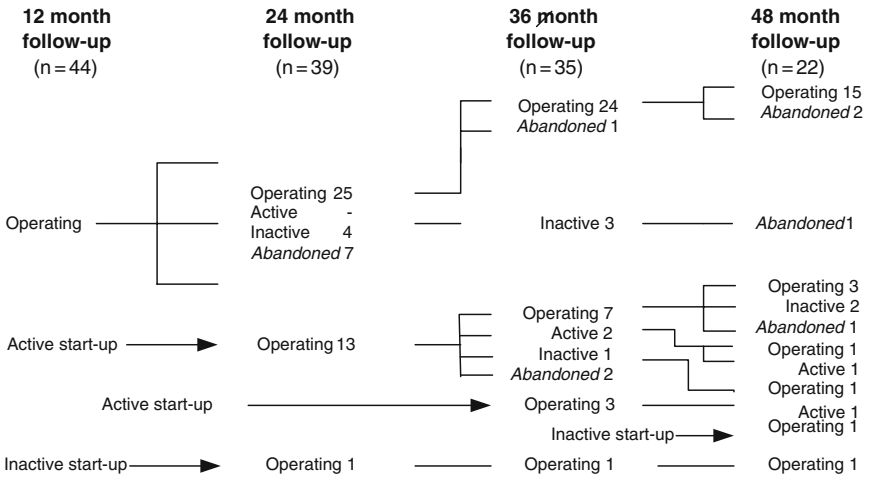

Fig. 3.3 Operating (new firm) status by follow-up interview

of respondents had given up on their ventures at the time of the first year follow-up whereas by the fourth year of follow-up 65% had given up.

In considering the outcomes reported above, two distinct cohorts can be identified – new firms and nascent enterprises. Upon joining other business organizations, new firms may survive, grow or discontinue operations. Nascent enterprises, on the other hand may become operational in the future, may become inactive or may be abandoned. In tracking the outcomes of both of these cohorts, Figures 3.3 and 3.4 capture the associated dynamics and provide key insight into the issue of sustainability. For example, Figure 3.3 enables us to see that among the 44 ventures reported to be operating in 2001 (12-month follow-up), 34% ($n=15$) were still operating in 2004 (48-month follow-up), while 28.6% ($n=4$) of those reported to be first operating in 2002 (24-month follow-up) were still operating in 2004. Clearly, any understanding of new firm formation that is based on achieving but not maintaining an operating status would be fatally flawed. Indeed, if we are to better understand the start-up process the need, value, and importance of sustainability cannot be overstated.

Considering the high rate of turnover among businesses (Pinfold 2001), particularly those less than 5 years old, it would seem reasonable to expect the gestation

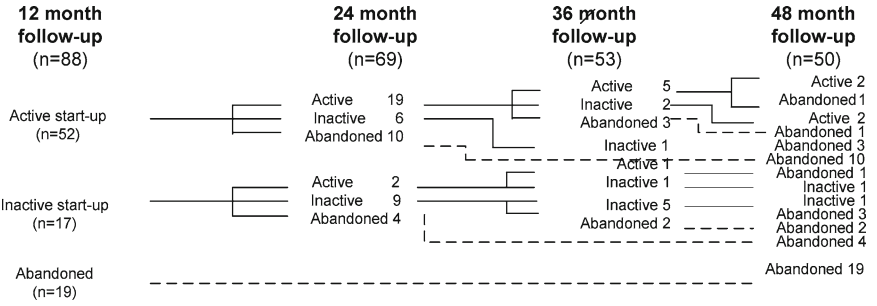

Fig. 3.4 Active, inactive, and abandoned status by follow-up interview

period to generate even more casualties. While our research documents a high number of exits from the start-up process, the self reports suggest that an exit does not necessarily mean "failure." For example, among the 21 businesses that ceased to exist between year 1 and year 2, the three main self-reported reasons, in order of importance, were that she or he was (1) working too hard or for too many hours, (2) wanting to achieve a better balance between work and other parts of her or his life, and (3) looking for or taking a job with another company.

Among all people who reported giving up on their start-up in the second year follow-up ($n = 38$), the most important reason was to look for or take a job with another company, while the next most important reason was to achieve a better balance between work and other aspects of their life, followed by the fact that they felt they were working too hard or too long. Losing money was not among the top reasons for giving up on the venture. These findings suggest that "deaths" and "unsuccessful" efforts to start a business are the result of a conscious choice rather than "failure." Undoubtedly, a decision to stop doing something is not synonymous with failure. Therefore, it is important to ensure "failure" is not being overstated.

3.12 Exploring the Factors Associated with Outcomes

In following the sample over time, an outcome oriented focus was developed very early on in the project. Initially, that involved identifying factors that differentiated between nascent entrepreneurs that reported being engaged in the start-up process and those who reported being disengaged. Subsequent waves of data collection enabled us to explore the factors differentiating those who started and stayed in business and those who did not. Indeed, during the course of our investigation, it soon became apparent that if we were to learn more about the factors influencing "success" in starting a business, then our knowledge would need to be based on ventures that not only started but stayed in business. This, in turn, led us to consider the transition from "becoming" to "being" a new business, and how that could and should be defined, operationalized and subsequently explained.

The following sections present some of the key findings according to: the relationship between individual factors and engagement in the start-up process, the nature and impact of gestation-specific human capital, and the relationship between start-up activities and new venture emergence. We conclude this discussion by exploring the issue of "new firm" measurement.

3.12.1 Individual Factors and Engagement in the Start-up Process

An analysis of the relationship between individual factors (socio-demographic background, work-career background, personal context, and personal predispositions) and continued engagement in start-up efforts was seen as a key step in filling the void in our understanding of gestation. The categorical variable used to classify respondents according to whether their start-ups efforts were: operating, active, inactive, no longer worked on by anyone, or something else was dichotomized to facilitate a comparison of engaged (sustained) versus disengaged (discontinued) start-up efforts. Accordingly, operating and active ventures were reclassified as "engaged" while those deemed to be inactive or no longer worked on by anyone were reclassified as "disengaged."

With one exception, the independent variables examined are all categorical. To determine the extent to which heuristics were used in decision-making, five three-point (1 = unimportant; 2 = somewhat important; 3 = very important) scales were used to measure the value of more information in making a choice between ALPHA and BETA. ALPHA is defined as "A business that would provide a good living, but with little risk of failure, and little likelihood of making you a millionaire," while BETA was defined as "A business that was much more likely to make you a millionaire but had a much higher chance of going bankrupt.": The five scales are "The chances of going bankrupt for both ALPHA and BETA; The exact amount of earnings if ALPHA and BETA were successful; The time and effort required to manage ALPHA and BETA; The experience of those managing businesses like ALPHA and BETA; and Your feelings about the type of business activity represented by ALPHA and BETA." (The questionnaire module is provided in Appendix) A value of information index was created by averaging the scores on these five items (Chronbach alpha = .71). In this index, a high score indicates less use of biases and heuristics in decision-making.

Socio-demographic, work-career and personal context factors (with the noted exception of "support of family and friends") were found to be unrelated to process engagement. However, certain personal predispositions were shown to differentiate those who disengaged from the start-up process from those who persevered. Both decision-making style and goal orientation were associated with nascent entrepreneurs' engagement in the entrepreneurial process.

As seen in Table 3.15, those who described themselves as someone who preferred doing things differently ("innovators") were more likely to be disengaged than their counterparts describing themselves as someone who preferred doing

things better ("adaptors") (χ^2 (1, N=94)=4.029, p = .022). In terms of goal orientation, those who aspired to have a business "as large as possible," were found to be less likely to be still engaged in the entrepreneurial process than those who desired a business she or he could manage by herself or himself with a few key employees (χ^2 (1, N=111)=10.929, p = .001). Interestingly, most nascent entrepreneurs were confident in their ability to achieve personal goals. Yet, such a belief was unrelated to continued involvement in the entrepreneurial process. Furthermore, the nascent entrepreneurs who were less likely to perceive their problem-solving style as being a good match for the type of problems encountered in starting a business were more likely to discontinue their efforts to start a business (χ^2 (2, N=101)=20.259, p=.001). Generally, nascent entrepreneurs indicated a low preference for risk.

3.12.2 The Nature and Impact of Gestation-Specific Human Capital

The ensuing analysis of the association between human capital and *success* in creating a business represents another key step in addressing the void in our knowledge of gestation. Whereas the term *human capital* (HC) usually refers to a hierarchy of skills and knowledge (Ucbasaran et al. 2008) with broad application across a variety of economic settings the phrase *specific HC* relates to skills and knowledge with a narrow scope of applicability (Gimeno et al. 1997).

For the analysis, only ventures that were operating or abandoned at the time of the fourth year follow-up (n=81) were included (since the final outcome of active or inactive start-ups had yet to be determined). Subsequently, a new variable was created, consisting of three categories: operating (venture is operational in the fourth year of follow-up *and* had been operational for at least 3 consecutive years), initially operating but later abandoned (abandoned at the time of the fourth year follow-up but had previously been operating), and abandoned (without ever becoming operational).

All human capital (both general and specific) data, with one exception, comes from the initial phone survey. The exception, being an element of specific HC, was financial management capability (FMC) data, which were gathered from the initial mail questionnaire. The range of FMC was assessed according to four levels: Level 1 (no formal records), Level 2 (keeps formal records), Level 3 (separation of personal and business affairs), and Level 4 (cash or accrual based accounting). To facilitate subsequent analysis of FMC and its relationship to other gestation-specific human capital as well as its role in successfully starting and staying in business, this variable was dichotomized as "low" and "high."

Because of attrition, the sample used in exploring the relationship between FMC and success in starting a business consisted of only 43 respondents. On the one hand, this significantly constrains analysis. On the other hand, 4 years of follow-up provides an unprecedented opportunity to assess the relationship between gestation-specific human capital and three key outcomes of the start-up

Table 3.15 Comparative analysis of the personal predispositions of engaged versus disengaged nascent entrepreneurs ($n=114$)

	Engaged ($n=57$)		Disengaged ($n=57$)			
Personal predispositions	Number	Percent	Number	Percent	χ^2	Significance
Preference for: ($n=94$)						
"Doing things better"	33	64.7	18	41.9	4.029	0.022**
"Doing things differently"	18	35.3	25	58.1		
Goal orientation ($n=111$)						
I want it [the business] to be as large as possible	2	3.6	16	28.6	10.929	0.001***
I want a size to manage by myself or with a few key employees	53	96.4	40	71.4		
Belief actions will lead to goal accomplishment ($n=62$)						
High confidence	30	83.3	20	76.9	0.093	0.377
Low confidence	6	16.7	6	23.1		
Perceived extent that preferred style of solving problems matches type of problems encountered in starting a business ($n=101$)						
Often a good match	42	73.7	16	36.4	20.259	0.001***
Sometimes a good match	13	22.8	13	29.5		
Rarely a good match	2	3.5	15	34.1		
The following three ventures have the same "expected payout" in the sense that the probability of success times the profit is the same. If *your skill and energy could affect the outcome* of each, which would you prefer? ($n=62$)						

A profit of $5,000,000, but a 20 % chance of success	5	13.9	5	19.2		
A profit of $2,000,000, but a 50% chance of success	4	11.1	6	23.1	[a]	
A profit of $1,250,000 but an 80% chance of success	27	75.0	15	57.7		
Assuming you are the sole owner, which situation would you prefer ($n=63$)						
ALPHA (as defined in methods section)	29	78.4	21	80.8	0.001	.538
BETA (as defined in methods section)	8	21.6	5	19.2		

Differences between "Adaptors" and "Innovators" in perceived importance of more information in making a choice between ALPHA and BETA ($n=62$)

	t-Statistic[b]	ρ	Means	Standard Deviation
Adaptors	.291	.773	2.6143	.38846
Innovators			2.5826	.38571

**Significant at $p<0.01$; ***significant at $p<.001$ (All tests of personal predispositions are one-tailed)

[a] Two cells had expected counts less than 5

[b] Because Levene's F was not statistically significant ($p<.05$), the "equal variances assumed" t was used

process – an operating business that is started and sustained, an operating business that is started but later abandoned, and an abandoned start-up (never operational).

The *general* human capital dimensions under investigation – education and work experience – were unrelated to success in firm formation. Overall, 80% of respondents reported having at least some post-secondary education. While the majority (54%) of nascent entrepreneurs had more than 15 years work experience, a smaller percentage (39.5%) reported having comparable industry experience. It is interesting to note, that the group of nascent entrepreneurs reporting the highest levels of education and most work experience were those who started and later abandoned their venture.

With respect to *specific* human capital, neither start-up education nor start-up experience was associated with financial management capability. Indeed, the majority of respondents (63%) had not taken any classes or workshops on starting a business, were novices to the start-up process (57%), and were characterized by a wide range of financial management capability. While formal record-keeping indicates the most fundamental level of requisite knowledge and skill needed to make effective financial decisions, 11.6% of respondents failed to meet this standard (in reporting no plans to keep formal records).

In considering outcomes, nascent entrepreneurs who started and stayed in business ("operating" group) exhibited the strongest overall financial management capability, with 84.6% of that group being classified in the top two levels of the FMC range. In comparison, 40% of the initially operating group and 75% of the abandoned group were similarly categorized.

Nascent entrepreneurs who initially became operational but later abandoned their business have the dubious distinction of being the group with the weakest financial management capability overall (60% were classified in the bottom two FMC levels). While 30% of this group indicated they would not be keeping financial records (Level 1), 10% of the "abandoned" group and none of "operating" group were not keeping financial records.

Nascent entrepreneurs belonging to the "abandoned" outcome group recorded the largest percentage of individuals classified in the Level 4 FMC category (30%). Indeed, a higher level of financial management capability facilitates effective evaluation of the opportunity, whereby a negative assessment would result in the start-up being abandoned.

Interestingly, 72.7% of respondents who succeeded in establishing a sustainable business had *no* prior start-up experience (see Table 3.16). However, neither start-up experience nor start-up education was found to be associated with success in starting and staying in business. With respect to FMC, the findings show that nascent entrepreneurs with high FMC were significantly more likely to start and stay in business than their counterparts with low FMC ($\chi^2(1, N=23)=4.960$ $p=.026$).

The fact that start-up experience and start-up education were unrelated to financial management capability or success in firm formation raises a key question with respect to start-up classes and workshops. Could it be that more emphasis on financial management may be needed within start-up classes and workshops?

Table 3.16 Gestation-specific human capital by operating status

Financial management capability ($n=23$)	Operating status					
	Operating		Initially operational but later abandoned			
	n	%	*n*	%	χ^2	Significance
Low (Level 1 or Level 2)	2	15.4	6	60.0	4.960	.026*
High (Level 3 or Level 4)	11	84.6	4	40.0		
Start-up experience ($n=37$)						
None	16	72.7	8	53.3	1.472	.225
Has previously helped start one or more other businesses as owner or part-owner	6	27.3	7	46.7		
Start-up education ($n=37$)						
None	14	63.6	12	80.0	1.143	.285
Has taken classes or workshops specifically on starting a business	8	36.4	3	20.0		

*Significant at $p<0.05$

Furthermore, when considered in relation to outcomes, it is notable that the highest percentage (80%) of those reporting no start-up education was found within the group who initially started and later abandoned their start-up. This suggests that classes or workshops have the potential to assist nascent entrepreneurs in avoiding a "false positive" when evaluating an identified opportunity. Indeed, half the group who abandoned their start-ups had taken start-up classes. It seems reasonable to conclude that such nonformal education may have helped these entrepreneurs better evaluate the opportunity, thus leading to the ultimate decision to abandon the start-up process.

The insight gained into the issue of whether factors associated with individuals who succeed in founding a business are a cause or effect of venture formation represents a unique contribution of this investigation. With FMC measured at the outset and outcomes measured over time, it is clear that higher levels of FMC were not associated with venture formation. Amidst evidence that Canadian nascent entrepreneurs who indicated no plans to keep formal records (Level 1 FMC) were unsuccessful in establishing a sustainable new firm, it would seem that a basic level of financial knowledge and skill plays a key role in gestation. For the nascent entrepreneur who wants to increase the odds for success, the findings underscore the need to acquire a basic capacity for financial management.

3.12.3 Start-up Activities and New Venture Emergence

In viewing process as a sequence of events or activities that describes how things change over time (Van de Ven and Engleman 2004; Aldrich 2001; Davidsson and

Wiklund 2001; Sztompka 1991; Low and MacMillan 1988), the following analysis used activities as the units of social process, upon which explanations of outcomes are built. In doing so, the set of activities used by Carter et al. (1996) and others in the study of entrepreneurial emergence (Delmar and Shane 2004; Reynolds 2000) were classified according to three conceptual categories: *commitment* (preparing a business plan, devoting full time to the business, saving money to invest in business, investing own money, developing a product/service, purchasing raw materials, inventory or supplies), *connection* (organizing a team, marketing, seeking financing, talking to customers), and *control* (applying for or obtaining a patent/trademark, getting financing, hiring employees, purchasing, leasing or renting raw materials/major items).

In building our knowledge of the start-up process, the sustainability of the venture is a central issue, particularly for policymakers and prospective entrepreneurs. Therefore, we explored whether those ventures that are brought to fruition and *sustained* over time (hitherto referred to as "operating") involve a different pattern and timing of start-up activities than those ventures that either never become operational or cease operations (hitherto referred to as "nonoperating").

The measurement of activities and outcomes pertaining to organizational emergence, including how they unfold over time, replicated that used by Carter et al. (1996). For each activity, respondents indicated whether it had been initiated, completed, not initiated or not relevant. If the activity had been initiated or completed she or he was asked to indicate the month and year of initiation and/or completion. From the dates associated with the initiation of activities, a time frame of firm development was created.

A categorical variable was used to classify respondents according to whether their start-up was: operating, active, inactive, no longer worked on by anyone, or something else. The sustainability of firm births was established by collapsing the outcome status categories as follows: ventures that were reported to be operating in each of the 3 years of follow-up ($n=23$) were considered "operating" while those ventures reported to be not operating ($n=69$) at the time of the third follow-up (2003) were categorized as "nonoperating." Additionally, two other start-up indicators were used in the analysis: income from sales and federal income tax filing. Respondents were asked to indicate whether the venture had income from sales and whether a federal income tax form had been filed for the venture. If the respondent answered affirmatively, she or he was asked to indicate the month and year the event first occurred.

In exploring "how" new firms emerge, our analysis indicated that the activities engaged in during the start-up process did provide a basis for differentiating operating ventures that have been sustained from nonoperating ventures. Nascent entrepreneurs who established sustainable operating businesses were more likely to devote themselves full time to the venture, to have made arrangements for child care, to have received financing from others, and to have initiated or formed the start-up team.

It is interesting to note that many activities typically associated with providing a solid foundation for starting a business such as preparing a business plan or financial

statements were not significant in differentiating between the groups. Table 3.17 provides further insight into this issue by profiling the extent to which each group of nascent entrepreneurs engaged in the entire set of start-up activities. An examination of the activities that did not statistically discriminate is quite revealing. It shows that over 70% of both groups had purchased materials/supplies/inventory, invested their own money in the venture, developed a product or service model, and talked to potential customers. Indeed, with respect to start-up indicators, the percentage from both groups reporting income from sales also exceeds 70%.

In analyzing the initiation of activities across the timescale, all nascent entrepreneurs had a similar rate of activity during the first year of start-up efforts. Subsequently, entrepreneurs who brought their venture to fruition initiated significantly more activities and then maintained that rate as compared with those who eventually became classified as nonoperating. Indeed, the average number of activities (8.00) initiated by nascent entrepreneurs with an operating venture were significantly greater than the average initiated (6.49) by those whose ventures were nonoperational.

In terms of the sequencing of activities, as indicated in Table 3.18, commitment activities were engaged in first by both groups. Interestingly, both groups exhibited a very similar pattern of start-up activity during this period. Indeed, those who

Table 3.17 Percentage of activities initiated within 5 years of first behavior

	Operating ($n=23$)	Nonoperating ($n=69$)
Discriminating activities		
Devoted full time	57	35
Arranged for child care	35	16
Got financial support	78	51
Organized start-up team	62	43
Asked for funding	48	27
Saved money to invest	57	42
Determined legal status of business	96	97
Hired employees	22	13
Other start-up activities		
Prepared business plan	65	63
Prepared financial statements	55	44
Purchased major items	61	47
Purchased materials, supplies, inventory	87	71
Have copyright	22	22
Applied for patent	9	3
Invested own money	96	78
Began marketing/promotion	76	65
Developed product/service model	100	87
Talked to potential customers	74	75
Start-up indicators		
Income from sales	83	71
Filed federal income tax	39	34

eventually gave up were far more active in attempting to bring their business to fruition within the first year, indicating the first year of gestation was a key influence on their decision to exit the start-up process. The fact that the rate of activity among the "nonoperating" group declined after the first year of start-up activities suggests the expected duration for starting a business is shorter for this group than that of their counterparts.

While our analysis indicates that a sustainable operating business can be differentiated from a nonoperating start-up effort according to the activities engaged in, the order of activities had no bearing on whether a sustainable venture would be formed. Generally, the differences in the nature of activities initiated between the two groups suggest that engaging in activities that *connect* the nascent entrepreneur with others (i.e., asking for funding, organizing a start-up team) are the fulcrum for *controlling* the resources needed to establish a sustainable venture.

Upon analyzing the activities of nascent entrepreneurs, a time frame of firm development was established. Indeed, respondents reported initiating or completing gestation activities more than 5 years after initiating or completing the first such activity. Considering the length of time it takes to complete gestation, it would appear that the speed and flexibility small businesses are noted for is a capacity that develops once the firm becomes operational. With respect to future research, the notion of expected duration is an issue that warrants further investigation.

The insight gained from studying ventures that were conceived but later abandoned is, perhaps, the greatest contribution of this aspect of the research. In comparing the activities of those who brought a sustainable venture to fruition to the activities of those who had other outcomes, we were able to establish that *commitment* activities do not have any predictive ability with respect to sustainable firm formation.

Table 3.18 Sequencing of start-up activities

Year 1	Operating ($n=23$)	Nonoperating ($n=69$)
First month		Developed product/service model
First quarter	Developed product/service model	
Second quarter	Devoted full time	Devoted full time
		Hired employees
Third quarter	Talked to potential customers/gathered information about the competition	Made purchases of raw materials, supplies, inventory
		Organized start-up team
		Prepared business plan
Fourth quarter	Organized start-up team	Prepared financial statements
	Prepared financial statements	Purchased/leased or rented major items like equipment, facilities or property
	Asked for funding	
		Talked to potential customers
		Started marketing/promotion

3.12.4 Exploring the Adequacy of "New Firm" Measurement

While conceptualizations of the start-up process abound (see, e.g., Bygrave 1993; Herron and Sapienza 1992; Kuratko et al. 1997), problems in measuring the primary dependent variable have thwarted the development of a better understanding of new firm formation. The lack of correlation among measures of "new firms" noted in the extant literature (Aldrich et al. 1989; Birley 1984, 1986; Busenitz and Murphy 1996; Carter et al. 2004; Kalleberg et al. 1990; Murphy 2002) is indicative of the difficulty in demarcating when the transition is made from gestation to firm formation. Moreover, it suggests that different groups of firms or firms at different stages in their life course are being identified (Carter et al. 2004).

Our analysis of the literature identified three critical deficiencies inhibiting the development of appropriate measurement (Diochon et al. 2007): a lack of definition, inappropriate theoretical underpinning, and weaknesses in the research design. Central to the understanding of any phenomenon is a definition of key concepts as they establish the basis upon which explanation and influence are founded. "New firm" formation is no exception. As so aptly put by Hakim (1994, p. 6), "Being clear that something did, or did not, happen is a crucial first step before considering possible explanations…" Yet, the literature provides little help in this regard, as we could find no explicit definitions for the term "new firm."Additionally, while measures are expected to emerge from the theoretical perspective taken, Gartner and Shane (1995, p. 297) "found few articles that attempted to offer any theory for why certain measures of entrepreneurship were used." While firm founding, generally, is recognized as a process (Carter et al. 2004; Hannan and Freeman 1989), most process-focused studies, being based on outcome-driven explanations (Van de Ven 1992), have been retrospective in nature and therefore subject to a number of biases, most notably selection bias.

In addressing these deficiencies, the following definition of "new firm" has been proposed (Diochon et al. 2007): *a recently formed commercial organization that provides goods and services for sale*. Adopting an evolutionary process theory perspective as the conceptual foundation, it is assumed that explanations will be built forward – from observed or recorded events to outcomes (Van de Ven 1992). Utilizing the approach suggested by Bryman (1993), the "new firm" concept is operationalized by breaking it down into different components or "dimensions." Returning to our definition, three dimensions are identified as important in meaningfully defining a "new firm" (providing an operational definition): recency or newness, a form of organization, and sales. We argue that a business would be considered recently formed (or new) if it became operational within the previous 12 months, with "newness" being measured at the individual level according to self-reports of the status of the start-up (i.e., operating, still trying, inactive, or abandoned) and the reported date when operating status was achieved.

In adopting any of three main organizational forms – proprietorship, partnership, or incorporation – goods and services can be provided for sale. Therefore, self-reports of any of these forms would constitute an appropriate indicator of organizational

form. Although incorporation is one of the most commonly used indicators of firm formation (Carter et al. 2004), we contend there is no rationale for focusing on this particular organizational form to the exclusion of others.

Sales of goods and/or services (Busenitz and Murphy 1996) are one of the many criteria used in previous studies to identify a new operating firm. Others include: employees (as determined by government records), a separate bank account, a separate phone or phone listing for the business, credit with suppliers, visibility of the business (as determined by physically canvassing an area to identify businesses; Aldrich et al. 1989), a listing with Dun and Bradstreet, the filing of an income tax return, the payment of employment insurance premiums. However, with the exception of sales, none of these criteria would be appropriate indicators of being operational for *all* firms. For example, not every business has employees. Yet, sales alone have not proven to be a valid indicator of firm founding. For example, Diochon et al. (2005) found sales to be reported by those who have yet to consider themselves operational. However, if an individual perceives her or his start-up to be operational *and* reports sales of goods and services, arguably, this would be a valid indicator of firm founding.

In sum, we contend that if a start-up exhibits all three dimensions outlined above, then it has made the transition from becoming to being a business. However, within the context of developing a better understanding of new firm formation, the issue of sustainability cannot be ignored. Given the high rate of failure among new firms, we can ill afford to base our understanding of successful start-up on firms that are not sustained.

Fundamentally, sustainability is contingent upon profitability. While firms can be operational but unprofitable, over time, the firm will cease to exist if revenues do not exceed expenses. Since most firms fail within the first 3–5 years, at a minimum, a "new firm" would need to be in existence for at least 3 years to be considered sustainable. Consequently, we maintain that if a venture was reported to be operating for 3 consecutive years, this would constitute one indicator of sustainability.

Generally, then, we would expect a multidimensional approach in measuring sustainable new firm founding to produce a different sample of new firms than that derived from a single measure at a particular point in time. Since the instruments used for the initial and follow-up telephone interviews contained a range of firm founding indicators, the opportunity to compare the above proposed multidimensional measure to that of single-item measures was made possible. Most of the items asked the respondent whether an event had occurred (1 = yes; 2 = no) and if the response was yes, she or he was asked in which month and year it had taken place.

In choosing firm founding items to include in the comparative analysis, we based our selection on the indicators most commonly used by researchers and policymakers in the extant literature. For example, Statistics Canada's *Business Register* relies on income tax files and the payroll deduction account files to determine the total number of new business establishments in Canada. Therefore, we selected items concerning income tax filing and employment insurance premiums. Responses to questions about firm founding events were analyzed for those reporting

an operating business. Sustainability was assessed according to self-reports of an operating business for three or more consecutive years (e.g., 2001–2004 or 2002–2004).

Table 3.19 profiles the completion of firm founding events by respondents reporting an operating business at the time of the first year follow-up interview as compared with those reporting a *sustainable* business (operating status three or more consecutive years) and those reporting a *sustainable new* business (a sustainable business that became operational 12 months or less prior to first being reported as operational in a follow-up interview).

Of the 44 people reporting an "operating" status at the first year follow-up, 37 (90% of those providing a response) indicated this event occurred within the previous 12 months. Accordingly, these 37 firms were deemed "new." Among the 19 businesses considered sustainable, 17 (89.5%) were reported to have become operational within 12 months prior to the interview when an operating status was first perceived. Despite the fact that each respondent's status as a nascent entrepreneur was double-checked at the outset of the initial interview,[3] approximately 10% of both groups gave a date for when the business first became operational that preceded the initial interview. This suggests that recall may be an issue when conducting interviews on an annual basis.

In terms of legal form, approximately 59% of both the "operating" and "sustainable operating" groups chose to organize as a proprietorship. However, the "operating" group was more inclined to incorporate (22.7%) than the sustainable operating group (15.8%) and less inclined to organize as a partnership (18.2% vs. 26.3%). These findings challenge the popular notion that incorporated businesses are more sustainable than proprietorships or partnerships. However, these results should be considered cautiously. Anecdotal evidence based on our experience working with entrepreneurs indicates that the terms partnership and incorporated business are often confused. Although a business may be incorporated, it is often described by the founders as a partnership.

Income from sales was reported by all respondents. Analysis of other founding indicators reveals both groups exhibited a similar pattern of event completion with respect to filing a federal income tax return, and paying employment insurance premiums. However, 8% more of the sustainable operating group reported having employees and 6.6% more of this group also reported having monthly revenue that exceeded expenses. These differences are not surprising as a business would be expected to have a greater capacity and need for employees once it became more profitable. Yet, given that the sustainable group is more likely to have employees, it is peculiar that this group was not found to be more likely to pay employment insurance premiums. We will return to this issue in due course.

Additional insight into firm founding events can be gleaned from analyzing the sequencing of their completion among sustainable new firms. Reports of when these

[3] Start-ups with a positive monthly cash flow that covered expenses and the owner-manager salaries for more than 3 months were considered infant firms and dropped from the sample at that stage.

Table 3.19 Founding indicator completion rates and timing

	Self-reported operational status 2001 ($n=44$)		Self-reported operational status for three consecutive years[a] ($n=19$)		Self-reported sustainable new business ($n=17$)		
Proposed indicators	*n*	%	*n*	%	*n*	%	Average number of months since event first occurred
Operational within previous12 months ($n=41$[b])	37	90.2	17	89.5	17	100.0	8.3
Legal form							
Proprietorship	26	59.1	11	57.9	10	58.8	n/a[c]
Partnership	8	18.2	5	26.3	5	29.4	
Incorporated	10	22.7	3	15.8	2	11.8	
Income from sales ($n=42$)	42	100.0	19	100.0	17	100.0	15.7
Other founding indicators							
Employees	15	34.1	8	42.1	7	41.2	8.5
Filed federal income tax return ($n=43$)	30	69.8	13	68.4	11	64.7	[d]
Paid employment insurance premiums	11	25.0	5	26.3	5	29.4	9.8
Monthly revenue exceeds expenses ($n=42$)	37	88.1	18	94.7	16	94.1	9

[a] Data were drawn from the follow-up interview that first reports an operating business

[b] Numbers in brackets indicate the number of 01 respondents answering the particular question; there were no missing data among the 19 respondents reporting sustainable businesses

[c] Respondents were not asked when the legal form was chosen

[d] Only the year in which this event first occurred was reported. Out of 11 respondents, 10 reported first filing an income tax return in 2000 and 1 reported first filing in 1995

events first occurred indicate that "sales" is the first founding event to occur while becoming operational is the most recent event. Once again the results exhibit a peculiarity that relates to the one noted above. On average, respondents reported first paying employment insurance premiums 3 months prior to first hiring employees. However, further analysis of the data indicates that the low number of responses likely account for this idiosyncrasy. Of the seven respondents with employees, all provided a date for when the first employee was hired but only four individuals provided a response to the question about when employment insurance premiums were first paid.

The evidence of variation within the sample in completing certain firm founding events shows that very distinct groups of firms would be identified by some single item measures. For example, if incorporation is used as the sole indicator of firm founding among our sample of nascent entrepreneurs, close to 80% of the

firms reported to be operating in 2001 would be excluded, while 90% of the firms reported to be operating in 2004 would be likewise expunged. Of the 17 sustainable new businesses, only two were incorporated (11.8%), which means that 88% of this group would not be counted as new firms if incorporation was the main determinant.

It is insightful to consider the findings according to the criteria the Canadian government uses to account for new businesses. Only 29.4% ($n=5$) of the sustainable new businesses would be counted as new businesses by Statistics Canada – the country's national statistical agency. Since payroll deduction files are relied upon in determining the number of new businesses created each year, only employer-based businesses that have paid employment insurance premiums would be counted. Strangely enough, all employment generated by individuals creating jobs for themselves is ignored. Equally strange is the fact that 64.7% ($n=11$) of the sustainable new businesses would be counted as "business establishments" by Statistics Canada's *Business Register* but only five would ever be counted as a new business. To be entered in Statistics Canada's *Business Register*, a business must have at least one paid employee, have annual sales revenues of $30,000, or be incorporated and have filed a federal corporate income tax return at least once in the previous 3 years. Indeed, in light of these classification procedures, it is hardly surprising that the extent of correspondence between the 2.2 million "business establishments" in Canada and the 2.3 million persons in the population who are identified as "self-employed" is unknown (Industry Canada 2003). If the Canadian context is any indication of the situation in other countries, there is a pressing need to address the inconsistencies between government databases or registries.

In considering the adequacy of our proposed multidimensional measure of new firm founding, the evidence indicates considerable correspondence between the measures of the three dimensions we identified as important in operationalizing the new firm concept. All respondents who reported being "newly" operational also reported income from sales as well as a form of organization. However, not all respondents who reported income from sales or a form of organization were deemed new. Although these two dimensions are key aspects of being operational, they are insufficient in demarcating the transition from becoming to being a new firm. Given that a form of organization and sales were found to be events that invariably preceded being "newly" operational (the last reported firm founding event) the evidence suggests that the items used to measure recency or newness – start-up status and date of the event – together form a valid indicator of successful transition from becoming to being a "newly" founded firm.

Additionally, the findings suggest that demarcating when a start-up has made the transition from becoming to "being" a new firm involves meeting two key criteria: being newly operational and being sustainable. It is interesting to note that one of the 17 firms we deemed a sustainable new business has yet to have monthly revenue that exceeds expenses. Since profitability is a key determinant of sustainability, the sustainability of this venture is yet to be established. This one case aside, the sample derived from our new firm measure appears to provide a sound basis for developing an understanding of the start-up process.

3.13 Impact of the Project on Policy and Scholarship

Generally, the findings from this research suggest a need to reevaluate the validity of policy that aims to create an "entrepreneurial economy" by encouraging the creation of new firms. Typically, the term "entrepreneurship" is associated with "innovation" and "growth." Yet, this research indicates that the people who are most likely to establish a new firm (nascent entrepreneurs who sustain their efforts to establish a business) are neither highly innovative or growth oriented. While new firms make a valuable contribution to the economy, their role in creating an entrepreneurial economy is difficult to identify. Indeed, if we accept the notion that entrepreneurship involves innovation and/or growth, the term "nascent entrepreneur" may be a misnomer.

On a more positive note, the results suggest that government programs designed to encourage more planning, marketing, and a personal financial investment are making inroads. Although these activities did not discriminate between the "operating" and "nonoperating" ventures, they were reported by over 60% of both groups, underscoring the acknowledgement of their importance. The activities that did discriminate between operating and nonoperating ventures explained less than 30% of the variance. This draws attention to the fact that developing initiatives to stimulate new venture creation more effectively is a complex issue requiring a multifaceted approach that better reflects the range of factors affecting new venture formation.

The research also suggests that it may be beneficial to review the time horizon of some government initiatives designed to facilitate new venture formation. Considering that nascent entrepreneurs complete gestation activities over the span of several years, the time frame of some programs may need to be reconsidered. Finally, with a better understanding of why ventures were abandoned, it is important to ensure that the outcomes of programs designed to encourage new firm formation are being validly measured and appropriately evaluated.

The results also have implications for new firm researchers, who typically use an organizational unit of analysis. For example, the Dun and Bradstreet Dun's Market Identifier (DMI) files have been the most widely used data source in studying new firm births. Yet, our findings indicate that employer-based firms account for less than a third of the sample's sustainable new firms. Similarly, they indicate that proprietorships or partnerships would be ignored by new firm research that uses new incorporations to determine the rate of new firm formation (Gartner and Shane 1995). Fundamentally, the evidence from our research shows that many new businesses would be excluded if an organizational unit of analysis was adopted. However, in tracking nascent entrepreneurs over time, cross-level interactions – between the individual and organizational units of analysis – could be more fully explored. In doing so, the extent to which the number of organizations overlaps with the number of self-employed could be determined. This previously unaddressed issue is important for researchers and policymakers alike.

3.14 Appendix

The relevant questions from the self-administered mail questionnaire used in measuring the use of heuristics are:

H9. Consider two types of new businesses. Assuming you are the sole owner, which situation would you prefer? (CHECK ONE BOX ONLY)

□ 1. ALPHA – A business that would provide a good living, but with little risk of failure, and little likelihood of making you a millionaire
□ 2. BETA – A business that was much more likely to make you a millionaire but had a much higher chance of going bankrupt

H10. If you could obtain more information to make a choice between businesses ALPHA and BETA, how important would each of the following be? (CIRCLE ONE FOR EACH ROW)

	1 = Unimportant	2 = Somewhat important	3 = Very important
(a) The chances of going bankrupt for both ALPHA and BETA	1	2	3
(b) The exact amount of earnings if ALPHA and BETA were successful	1	2	3
(c) The time and effort required to manage ALPHA and BETA	1	2	3
(d) The experience of those managing businesses like ALPHA and BETA	1	2	3
(e) Your feelings about the type of business activity represented by ALPHA and BETA	1	2	3

References

Aldrich HE (2001) Who wants to be an evolutionary theorist: remarks on the occasion of the year 2000 OMT distinguished scholarly career award presentation. J Manag Inq 10(2):115–127

Aldrich H, Kallengerg A, Marsden P, Cassell J (1989) In pursuit of evidence: Sampling procedures for locating new businesses. J Bus Ventur 4(6):367–386

Birley S (1984) Finding the new firm. Acad Manag Proc 47:64–68

Birley S (1986) The role of new firms: births, deaths, and job generation. Strategic Manag J 4:361–376

Brush C, Carter N, Gatewood E, Greene P, Hart M. (2001). *The Diana Project Women business owners and equity capital: The myths dispelled*. Kansas City, Missouri: Kauffman Center for Entrepreneurial Leadership, 20 pp

Bryman A (1993) Quantity and quality in social research. Routledge, London

Busenitz LW, Murphy GB (1996) New evidence in the pursuit of locating new businesses. J Bus Ventur 11(3):221–231

Bygrave WD (1993) Theory building in the entrepreneurship paradigm. J Bus Ventur 8(3):255–280

Carter NM, Gartner WB, Reynolds PD (1996) Exploring Start-up Event Sequences. J Bus Ventur 11:151–166

Carter NM, Gartner WB, Reynolds PD (2004) Firm founding. In: Gartner WB, Shaver KG, Carter NM, Reynolds PD (eds) Handbook of entrepreneurial dynamics: the process of business creation. Sage, Thousand Oaks, CA, pp 311–323

Cooper AC, Bruno AV (1977) Success among high-technology firms. Bus Horiz 20(2):16–22

Davidsson P, Wiklund J (2001) Levels of Analysis in Entrepreneurship Research: Current Research Practice and Suggestions for the Future. Entrep Theory Pract 25(4):81–99

De Clercq D, Menzies TV, Diochon M, Gasse Y (2009) Explaining nascent entrepreneurs' goal commitment: An exploratory study. J Small Bus Entrep 22(2):123–140

Delmar F, Shane S (2004) Legitimating First: Organizing Activities and the Survival of New Ventures. J Bus Ventur 19(3):385–410

Diochon M, Menzies T, Gasse Y (2005) Exploring the relationship between start-up activities and new venture emergence: A longitudinal study of Canadian nascent entrepreneurs. Int J Manag Enterp Dev 2(3/4):408–426

Diochon M, Menzies T, Gasse Y (2007) From becoming to being: Measuring firm creation. J Enterp Cult 15(1):21–42

Dyke LS, Fischer EM, Reuber AR (1992) An inter-industry examination of the impact of owner experience on firm performance. J Small Bus Manag 30(4):72–87

Gartner WB, Shane SA (1995) Measuring entrepreneurship over time. J Bus Ventur 10(4):283–301

Gimeno J, Folta TB, Cooper AC, Woo CY (1997) Survival of the Fittest? Entrepreneurial human capital and the persistence of underperforming firms. Administrative Science Quarterly 42: 75–783

Hakim C (1994) Research design. Routledge, London

Hannan MT, Freeman JH (1989) Organizational Ecology. Harvard University Press. Cambridge MA

Herron L, Sapienza HJ (1992) The entrepreneur and the initiation of new venture launch activities. Entrep Theory Pract 17(1):49–55

Industry Canada (2003) Key small business statistics. Communications and Marketing Branch, Industry Canada, Ottawa, Canada

Kalleberg AL, Marsden PV, Aldrich HE, Cassell JW (1990) Comparing organizational sampling frames. Adm Sci Q 35(4):658–688

Kamm JB, Shuman JC (1990) Entrepreneurial teams in new venture creation: A research agenda. Entrep Theory Pract 14(4):7–17

Kuratko DF, Hornsby JS, Naffziger DW (1997) An examination of owner's goals in sustaining entrepreneurship. J Small Bus Manag 35(1):24–33

Lee DY, Tsang EWK (2001) The effects of entrepreneurial personality, background and network activities on venture growth. J Manag Stud 38(4):583–602

Low MB, MacMillan IC (1988) Entrepreneurship: Past research and future challenges. J Manag 14:139–162

Menzies TV, Diochon M, Gasse Y (2004) Examining venturing-related myths about women entrepreneurs with an investigation of nascent entrepreneurs. J Dev Entrep 9(2):89–107

Menzies TV, Diochon M, Gasse Y, Elgie S (2006) A longitudinal study of the characteristics, business creation process and outcome differences of Canadian female *vs.* male nascent entrepreneurs. Int Entrep Manag J 2:441–453

Menzies TV, Diochon M, Gasse, Y (2007) *Mixed and same sex entrepreneurial founding teams: composition, characteristics, process and outcome differences*. Paper presented and published in Proceedings at the ICSB World Conference, Turku, Finland, June 13–15

Minniti M, Bygrave D, Autio E (2005) Global entrepreneurship monitor. Babson College, Babson Park, MA, 67 pp

Murphy GB (2002) The effects of organizational sampling frame selection. J Bus Ventur 17(3):237–252

Pinfold JF (2001) The expectations of new business founders: The New Zealand case. J Small Bus Manag 39(3):279–285

Reynolds PD (2000) National panel study of U.S. business startups: Background and methodology. In: Katz JA (ed) Advances in entrepreneurship, firm emergence and growth, vol 4. JAI Press, Stamford, pp 153–227

Ruef M, Aldrich HE, Carter NM (2003) The structure of founding teams: Homophily, strong ties, and isolation among U.S. entrepreneurs. Am Sociol Rev 68:195–222

Statistics Canada (2010) http://www40.statcan.gc.ca/l01/cst01/econ40-eng.htm?sdi=industry%20sector

Sztompka P (1991) Society in action: the theory of social becoming. University of Chicago Press, Chicago, IL

Ucbasaran D, Lockett A, Wright M, Westhead P (2003) Entrepreneurial founder teams: Factors associated with member entry and exit. Entrep Theory Pract 28(2):107–127

Ucbasaran D, Westhead P, Wright M (2008) Opportunity identification and pursuit: Does an entrepreneur's human capital matter? Small Business Economics 30:153–173

Van de Ven AH (1992) Suggestions for studying strategy process: a research note. Strat Manag J 13:169–192

Van de Ven AH, Engleman RM (2004) Event-and outcome-driven explanations of entrepreneurship. J Bus Ventur 19:343–58

Chapter 4
Anatomy of Business Creation in China: Initial Assessment of the Chinese Panel Study of Entrepreneurial Dynamics

Yuli Zhang, Jun Yang, Kevin Au, and Paul D. Reynolds

4.1 Introduction

The Chinese Panel Study of Entrepreneurial Dynamics (CPSED)[1] is the first large-scale longitudinal study of new firm formation in China, and is based on a representative sample of nascent entrepreneurs (NEs) in eight urban areas. The primary purpose of the CPSED project is to uncover the factors that initiate, hinder, and facilitate the emergence and development of new ventures in China. It aims not only to describe nascent entrepreneurship in China, but also to provide new knowledge on entrepreneurship, taking advantage of the unique context of China.

In the first wave of data collection, the CPSED project contacted 20,998 Chinese households in eight representative cities in China by telephone, through random dialing. Of those contacted, 974 were NEs, 601 of whom went through a comprehensive telephone interview regarding the status and development of their start-ups. The project will follow the development of these start-ups and collect two more waves of data over a 2-year period. This report gives a first glimpse into business creation in China based on the first wave of data. Three major questions are addressed: (1) What are the characteristics of NEs? (2) What do NEs do during the business gestation process? and (3) What types of businesses are being started?

This report is divided into several sections. The first section introduces our research objectives and research framework. The second section describes the methodology of the CPSED project, and in particular, the criteria used to identify NEs in China and the sampling procedure. The third section reports the prevalence and characteristics of NEs in terms of demographic information and previous experience. The fourth section provides detailed information on the activities undertaken

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during the business gestation process. The fifth section depicts the characteristics of the new ventures or start-ups. We conclude with a summary of the research findings and their implications for researchers, founders, and policy makers.

4.2 Research Context and Team

The CPSED is sponsored by the National Natural Science Foundation of China, which contributed Chinese Renminbi (RMB) 250,000 for the screening process and the first wave of telephone interviews. The project is supervised by a team from the Business School of Nankai University in Tianjin, China. The chief investigator of the CPSED, Professor Zhang Yuli, is a pioneering scholar in Chinese entrepreneurship research, and is also the chief investigator of the distinctive project funded by the National Natural Science Foundation of China. The second chief investigator, Dr. Yang Jun, contributed to the questionnaire designs and three-wave pilot study. Dr. Ren Bing is also currently serving as chief investigator. The initiator of the Hong Kong Global Entrepreneurship Monitor (GEM) studies, Professor Kevin Au, is a partner investigator of the CPSED project, as is initiator of the US PSED program, Professor Paul Reynolds. Several graduate research assistants are also involved with the project, including Tian Li, Long Dan and Wang Rui.

4.3 Previous Research and Design Considerations

Current research shows that the relationship between new firm creation and economic growth is pervasive across countries. Regardless of the particular national characteristics, countries with higher levels of entrepreneurial activity seem to have higher levels of subsequent economic growth (e.g., Audretsch and Thurik 2004; Lundström and Stevenson 2005; Reynolds et al. 2004; Reynolds and Curtin 2008). For example, Gao et al. (2006, 2008) have highlighted the contributions of entrepreneurship to economic growth, job creation, and innovation in the Chinese economy. However, despite the consensus on the significant contributions of entrepreneurship to social welfare, our knowledge of how new businesses come to life is still scant (Reynolds 2007; Reynolds and Curtin 2008). This is especially true for China. Although “explosive” entrepreneurship in the economy has created an economic miracle in China in the last few decades, research on Chinese entrepreneurship is still in its infancy. It was not until the end of the last century that Chinese entrepreneurship began to attract academic attention, but the literature on the subject has since grown rapidly. In a recent review, Lu and Zhang (2009) reported 24 papers related to Chinese entrepreneurship published in the three leading entrepreneurship journals since 2000, which accounts for half of the total publications on the subject since

1989.[2] In the organization and management journals, the upward trend of entrepreneurship research is equally significant (Yang and Li 2008).

4.3.1 Entrepreneurship and Institutional Transition in China

The implicit assumption in the literature is that exploring Chinese entrepreneurship may provide context-specific value-added knowledge to entrepreneurship research (Yang and Li 2008; Tan et al. 2009). China provides a distinctive context for research on organization and management that tests the limits of theories founded in Western societies (Chinld and Mollering 2003; Tsui et al. 2004). Thus, the first objective of the CPSED project is *to explore relevant contextual factors related to organizational emergence to provide context-specific value-added knowledge on entrepreneurship*.

Institutional transition – social, political, and economic – has had a significant impact on the emergence and development of entrepreneurship in China. The lack of strategic factor markets during institutional transition, such as venture capital and professional managers (Ahlstrom and Bruton 2006; Bruton and Ahlstrom 2003), creates unique obstacles for Chinese entrepreneurs in gathering the necessary resources to launch their own businesses (Peng and Health 1996). Current research mainly addresses these issues for new ventures or small businesses (e.g., Batjargal and Liu 2004; Peng 2004; Xin and Pearce 1996), but research on NEs and organizational emergence remains undeveloped.

The second issue resulting from institutional transition relates to opportunity recognition, which is a signature event in entrepreneurial process. Opportunity recognition is the process of accessing, analyzing, and transforming information on unmet market needs or an insufficiency of resources or capacity to create valuable products and services (Kirzner 1997). During institutional transition in China, transaction-related and market-related information, which is essential for opportunity recognition, has been largely uncodified and somewhat restricted in the economic system (Boisot and Child 1996). This situation has led Chinese entrepreneurs to seek opportunity-related information through personal networks. Thus, although research in the Western context highlights the importance of weak ties in opportunity recognition (e.g., Ardichvili et al. 2003), the situation may be different in China. Bian (1997) suggests that in conditions of low marketization, it is strong ties that provide valuable information and resources, whereas in a context of high marketization weak ties may be more helpful. It should prove a promising research direction to explore the effects of social networks on opportunity recognition and to combine these effects with factors related to information analysis and transformation, such as previous experience and knowledge and entrepreneurial efficacy.

[2]Lu and Zhang (2009) reviewed articles in the Journal of Business Venturing, Entrepreneurship Theory, and Practice, and Journal of Small Business Management.

The external environment can exert a significant influence on the strategy that entrepreneurs choose to achieve growth (Luo 2003; Park and Luo 2001; Peng 2003; Tan 2007; Tan and Litschert 1994; Tan and Tan 2005; Tan et al. 2008; Tan and Zeng 2009). This is thus another issue related to institutional transition that the CPSED seeks to explore. The external environment during China's institutional transition has been characterized as turbulent, dynamic, and unpredictable. Previous research has provided substantial evidence that the strategic orientation of Chinese firms has shifted toward risk-taking, innovation, and proactiveness during the different stages of institutional transition (Tan and Tan 2005; Tan 2007). Entrepreneurship, by definition, means new firm entry (Lumpkin and Dess 1996). As an important aspect of the strategic orientation of new ventures, the questions arise as to whether Chinese new ventures have adopted a stronger entrepreneurial orientation than with their counterparts in the West to deal with the turbulent environment, and the extent to which environmental, industrial, and individual factors encourage new ventures to take an entrepreneurial strategic orientation.

In addition to institutional transition, Chinese cultural tradition, including Confucianism and strong Familism, may also contribute to the characteristics of entrepreneurship in China (Au and Kwan 2009; Tan et al. 2008). For example, conflict is unavoidable in decision-making during the entrepreneurial process (e.g., Ensley et al. 2002; Lechler 2001). Chinese people tend to use avoiding strategies to deal with conflict, whereas Westerners tend to use confrontational strategies (Tse et al. 1994). Furthermore, the collectivist orientation of Chinese people renders the maintenance of face in public very important. This also leads them to avoid conflict so that they and their opponents do not appear to be acting disrespectfully (Chen et al. 2005). The different views on conflict held by Chinese people may cause them to manage and deal with conflict during the entrepreneurial process differently. Cultural differences may also lead entrepreneurs to adopt a different style of negotiation with external and internal stakeholders, such as venture capitalists, suppliers, buyers, and other resource holders. However, although conflict resolution research in the areas of organization and strategy in China is abundant (e.g., Farh et al. 1998; Tsui and Farh 1997; Xin and Pearce 1996), systematic research on conflict resolution in the arena of entrepreneurship is rare.

In summary, the context for entrepreneurship in China may be unique in terms of the major changes in important institutions (social, political, and economic); the unique challenges in identifying promising business opportunities in the absence of comprehensive and accurate market information; and the turbulent and unpredictable nature of the economic structure. As a further complication, collective or collegial decision making is not widely accepted in China. As a result, different perspectives on the turbulent and ambiguous context may not be openly discussed by a team of NEs. The traditional mode of decision making, whereby a single leader makes the final decision, may be less effective when developing a business strategy under extreme uncertainty.

4.3.2 Comparison Between the CPSED and US-PSED

Chinese entrepreneurship may be unique, but so little is known about firm creation in China that no empirically based conclusions are possible. As the first large-scale, longitudinal study based on a representative sample of NEs in China, the CPSED employs a rigorous methodology to capture NEs and follow the process of their entrepreneurial activity over time. The study design was developed for the first US Panel Study of Entrepreneurial Dynamics, US-PSED I (Gartner et al. 2004; Reynolds 2007). This approach has several important advantages over other methods of studying start-up businesses. The real-time, longitudinal design avoids the selection bias involved in only studying start-ups that actually became operational firms while ignoring the failures. The design also reduces the hindsight biases, memory decay, and rationalization after the fact, which easily distort results when business founders are asked to account for the start-up process in retrospect.

The US-PSED program has made a substantial contribution to entrepreneurship research. Based on the data sets of US-PSED I and II, a wide range of scholarly articles, dissertations, and book chapters as well as a detailed assessment of the unique nature of those who launch new firms has been completed (Reynolds 2007). Understanding the origins of new businesses, the firm creation process, has been dramatically affected by the development of longitudinal studies of the start-up process. There are, a number of unexplored issues regarding firm creation and there is a potential for the CPESD to make unique contributions.

The CPESD strives to address several additional topics that complement those examined by the US-PSED project (see Table 4.1). The initial US-PSED I investigated the characteristics of NEs and the gestation process of a firm, rather than addressing how and why new ventures end up the way they do. It also explored many other important aspects of entrepreneurship. Subsequent studies in other countries, including the CAUSEE in Australia and US-PSED II in the United States, have followed the US-PSED I model closely.

We see no obvious reason to simply replicate these studies. Instead, we designed the CPSED to facilitate international comparison and theoretical advancement on nascent entrepreneurship. Stated more specifically, the second objective of the CPSED is *to encourage the cross-national comparison of relevant aspects of entrepreneurship to uncover the effects of cultural differences on*

Table 4.1 The comparison between CPSED and US-PSED II

US-PSED II issues	CPSED response
More like a general social-economic survey	The in-detail investigations of entrepreneurship
Focus on the description of entrepreneurial process	Focus on how the outcomes come from
Less contextualization	Contextualized issues
Exploration broad range of entrepreneurship	Focus on fewer, theory-driven issues

entrepreneurship and its outcomes. The third objective of the CPSED is *to uncover the black box of entrepreneurial initiation and firm birth and to explore the factors that initiate, hinder, and facilitate the process of new business creation*. In sum, the CPSED was designed not only to describe nascent entrepreneurship in China, but also to substantially advance the international research frontier of this topic by providing context-specific value-added knowledge. The CPSED is also expected to provide important implications for entrepreneurs and policy makers.

4.3.3 Research Framework and Design of the CPSED

The major research components of the CPSED are presented in Figure 4.1. In this model, the outcomes of new business ventures are the results of interactions among individuals, opportunities, and processes, with the entrepreneurial climate having a moderating effect on these relationships. The research framework is based on opportunity-oriented research on entrepreneurship. Shane and Venkataraman (2000), for example, defined entrepreneurship as the process of recognizing, evaluating, and exploiting entrepreneurial opportunity, and argued that entrepreneurship research should focus on the questions of how opportunity is recognized and how exploitative strategies are designed based on the opportunity discovered. Davidsson (2006) further conceptualized entrepreneurship as a process of fit between the key components of entrepreneurs, opportunity, environment, and processes. This involves, for example, the matching of entrepreneurs with opportunities in a fashion that result in the better exploitation of those opportunities to achieve superior outcomes. It is likely that the combination of new opportunities and expert entrepreneurs is successfully exploited in a highly flexible and effectual process. As indicated by the joined arrows in Figure 4.1, the underlying

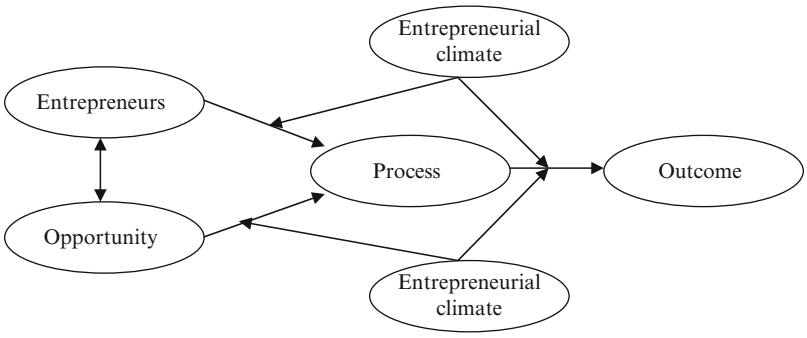

Fig. 4.1 The components of CPSED research

assumption of this research is not that each of these factors has a separate effect on the outcome. Rather, the fit among the components is regarded as the central issue.

As suggested in the framework, it is *entrepreneurs* who, due to their knowledge or affiliations, networks, and entrepreneurial efficacy, determine the future of a new venture. Substantial sections of the questionnaire used in the CSPED are thus devoted to determining the backgrounds of entrepreneurs, such as their general work experience and specific experience. This allows several questions to be addressed, such as the kind of knowledge affiliated with different kind of experiences, the way in which different kinds of experiences are creatively combined to achieve success, and the way in which knowledge-based advantages are built and disadvantages overcome.

Another focus is to assess the effects of the key characteristics of *opportunity*, such as the source of venture ideas, the means by which they are recognized, and the different degrees and types of innovativeness. As in the CAUSEE study, the latter is an important part of the research, although the means of measurement is different. The relationship between the characteristics of opportunity on the one hand and processes and achieved outcomes on the other is also an important issue. It is likely, for example, that a higher level of opportunity for innovation may urge entrepreneurs to behave in a more effectual way.

The longitudinal design of the study, with repeated data collection over several years, makes it especially suited for studying *process* issues. This includes assessing the pace and sequence in which typical gestation activities (such as developing a product or service, securing external financing, writing a business plan, and forming an entrepreneurial team) are undertaken in more and less successful cases. Additionally, the CPSED measures the characteristics of entry strategies in real time, thus allowing the development of entrepreneurship in terms of the market-product dimension to be tracked.

As regards the *entrepreneurial climate*, the design of the project allows for two comparisons. First are national comparisons with Australia and the USA. Second are comparisons of four regions and eight cities within China. Entrepreneurial climate, and in particular the munificence of that environment, is investigated from a theoretical perspective.

Assessing the *outcomes* over time is also an important aspect of the project. To match and allow comparison with the US-PSED II, the stages of entrepreneurial endeavor, growth aspiration, and initial performance are investigated. In the CPSED, the outcomes investigated include not only the creation of a new venture, but also the nature of the new organization. As an important characteristic of new ventures, entrepreneurial orientation is also cultivated during the gestation process. The degree of entrepreneurial orientation is determined by various factors at the individual, firm, and environmental levels. Exploring the antecedents of entrepreneurial orientation in the gestation context based on longitudinal data should make a substantial contribution to entrepreneurship research.

4.4 Methodology

The approach of the CPSED is modeled on the US-PSED II, with adaptations to fit the Chinese context in terms of sampling. Rather than nationwide sampling, the sampling is conducted in eight representative cities in China. Funding limitations relative to the huge population in China makes it difficult to sample nationwide. A comparison of the data on the growth rates of newly founded firms among all the 31 provinces and municipalities in mainland China from 2005 to 2007 from the web site of the National Statistic Bureau of China indicates a significant difference among the four Chinese regions, that is, Eastern China, Northeastern China, Central China, and Western China ($F = 3.91$; $p < 0.05$). The details are shown in Figure 4.2.

A stratified sampling approach was used. The first step was to divide mainland China into the aforementioned four regions in terms of the prevalence of entrepreneurial activity. Eight cities in the four regions were then selected for sampling, namely, *Beijing*, *Tianjin*, *Hangzhou*, and *Guangzhou* in Eastern China, *Wuhan* in Central China, *Shenyang* in Northeastern China, and *Chengdu* and *Xi'an* in Western China. These eight cities are developed provincial capital cities or municipalities, and each plays an essential role in the economic development of its region. It is believed that sampling in these eight cities to some extent reflects the characteristics of nascent entrepreneurship in each region. The social-economic index of the eight cities is presented in Table 4.2.

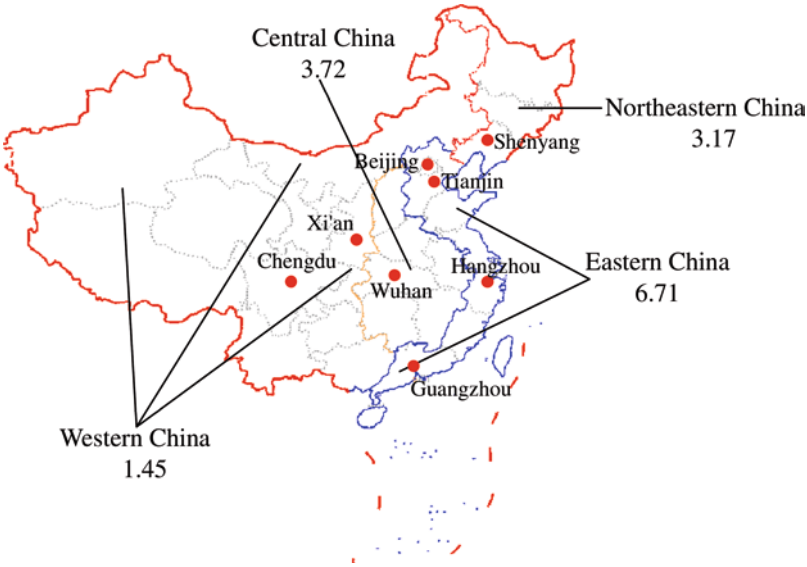

Fig. 4.2 Cities sampled and entrepreneurial activity in different regions of China. China's statistical yearbooks in 2007 and 2008. (1) The number in the figure represents the mean value of the growth rates of newly founded firms in each region. (2) The black color circle in the figure represents the selected sampling city

Table 4.2 Social economic index of sample cities (China's Statistical Yearbook 2005)

City	Population (10 million)	GDP (%)	Per capital GDP (RMB)	Manufacturing sector (%)	Service sector (%)	Exports (%)
Beijing	1.15	3.14	37,058	2.23	5.92	3.47
Tianjin	0.79	2.15	31,550	2.16	2.93	3.52
Hangzhou	0.50	1.84	35,113	1.84	2.40	2.56
Guangzhou	0.57	3.02	56,271	2.51	5.03	3.62
Shenyang	0.52	0.88	15,116	2.15	1.86	0.31
Wuhan	0.61	1.43	24,889	1.25	2.19	0.33
Chengdu	0.82	1.60	20,626	1.41	2.30	0.32
Xi'an	0.54	0.51	27,387	1.28	1.18	0.34
Total	5.50	14.47	–	14.83	23.81	14.47

The percentage in each column means the number of each city to the whole country

After determining the sample cities, we checked the prevalence of household telephones to ensure that phone screening was a rational approach. The results indicated that it was suitable for us to adopt phone interviews as the screening method, as the prevalence of household telephones in each city in 2002 was relatively high (Beijing: 90%; Tianjin: 91.6%; Shenyang: 76%; Wuhan: 89%; Chengdu: 93%; Guangzhou: 96%; Hangzhou: 95%; Xi'an: 81%). With ongoing urbanization, the prevalence of household telephones is likely to increase. An initial pilot test that used a random digital dialing procedure was conducted among households in Beijing, Hangzhou, Shenyang, and Tianjin in February 2009 to collect information on the survey costs. The pilot test identified that 4.5% of all telephone numbers needed to be called in each sample city. Based on these findings, we estimated that identifying each sample would cost about 100 RMB (each call costs 5 RMB), and that the total cost of successfully amassing a complete sample would be about 350 RMB after adding in the cost of the interview, gift, and other payments. This cost was deemed affordable.

A comprehensive questionnaire was developed, and an initial version of the questionnaire instrument was pretested on a small sample of 20 NEs in April 2009 to check its feasibility and the respondents' understanding of the survey questions. After analysis, redesign, programming, and further internal testing, a full-scale pilot test with computer-aided telephone interviewing (CATI) using a random digital dialing procedure was outsourced to Millward Brown ACSR, a professional joint survey company in China with 15 years of telephone interview experience, and conducted in May–June 2009. The purpose of the third round pretest was to further confirm the feasibility of the survey and the reliability of the survey items. In this pilot test, some 2,341 Chinese households were contacted to yield 42 NEs, who completed the full interview. After further testing and redesign, full-scale screening for eligible cases was initiated in early July 2009. The screening and the first-wave follow-up interviews were completed at the end of August 2009.

The procedure used to identify NEs is similar to that used in the US-PSED, but adapted to accommodate the nuances of the Chinese language. The first-round pilot test revealed that in China, when somebody is asked whether he or she is currently

starting a business, the "Yes" answer always subjectively means that they have made a substantial effort to create a business, whereas "No" does not always mean that he or she has not undertaken a start-up. We thus had to make an alteration to identify NEs in the Chinese context whereby the respondent had to answer affirmatively to at least one of the following questions before further screening questions were asked.

1. Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others?
2. Did you, alone or with other, intended to start a new business, including any self-employment or selling any goods or services to others, in the last 12 months?

The detailed procedure used to identify the NEs is shown in Figure 4.3. For respondents who answered "Yes" to the two initial questions, it was necessary to confirm that they were (or intended to be) either owners or part owners of the emerging firm to identify potential NEs. Potential NEs also had to confirm that the firm being launched was still in the start-up stage, that is, that it had not generated any revenue or as yet sold any goods or services, otherwise they were deemed not to be NEs.

As stated, we identified those who answered "No" to the first set of questions and "Yes" to the second set of questions as potential NEs. The potential NEs then had to

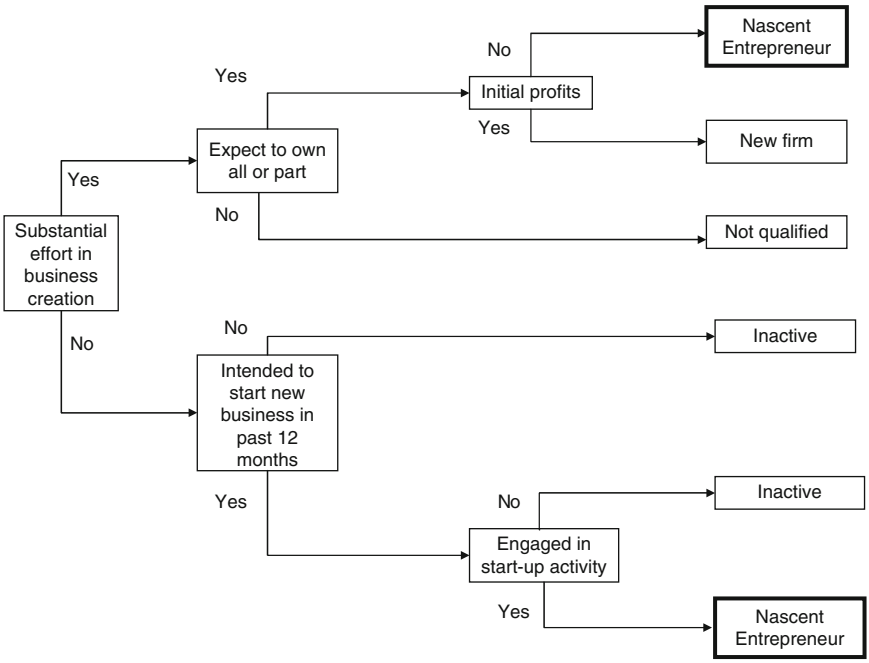

Fig. 4.3 Procedure used to identify NEs

confirm that they had undertaken some concrete "start-up behavior," such as writing a business plan or organizing a start-up team, within the previous 12 months, otherwise they were deemed not to be NEs. Only those identified as NEs, in the boxes with heavy dark borders, received the detailed interviews. The interviews were terminated for all other respondents, new firm owners, not qualified, and inactive.

This process yielded 974 (4.77%) NEs. These were directed to the detailed interview (40–60 minutes) either directly following the screener or later by appointment. The full-length interviews were completed by 601 NE cases. The detailed information on the CPSED operational features, as well as its comparison to US-PSED II and CAUSEE, can be seen in Table 4.3.

These are the cases we focus on in most analyses in this report. It is worth noting that we at this stage have not applied weighing to correct for any socio-demographic bias in our sample (compared to the Chinese adult population in each city). Although parts of the main questionnaire include questions that were asked in exactly the same way as in the CPSED and US-PSED, we do not provide country comparisons in this report for the non-weighing data.

4.5 Entrepreneurs: Number and Characteristics

In this section, we provide detailed information on the prevalence of NEs and their characteristics in terms of demographics and experience. Overall, the level of independent entrepreneurial activity in China was found to be relatively high compared with other countries, and several interesting observations were made regarding the characteristics of NEs.

4.5.1 The Prevalence of Nascent Entrepreneurs

The first critical transition in the firm creation process is entry into the start-up phase. Eligible NEs were defined as individuals who (a) considered themselves to be in the process of firm creation; (b) had undertaken some activity to launch a new firm, such as preparing a business plan, organizing a founding team, seeking a bank loan, or similar; (c) expected to own or own part of the new venture; (d) and had not yet started operating the business.

Note that the main purpose of the CPSED is not to assess and compare the level of independent entrepreneurial activity in China, which is the main purpose of the Global Entrepreneurship Monitor (GEM) study. Rather, the procedure of identifying NEs and the random sampling aimed to gain a preliminary understanding of the level of entrepreneurial activity in China. Estimates of the level of entrepreneurial activity in the Chinese population in the summer of 2009 are provided in Table 4.4.

Table 4.4 indicates a lower prevalence of NEs (4.77%) in China than that found in the GEM research (Gao et al. 2008). A possible interpretation of this is that the difference may be caused by the use of different items to identify NEs, as recent US

Table 4.3 CPSED, US-PSED II, and CAUSEE: major operational features

	CPSED	US-PSED II	CAUSEE
Population of interest	City sample of noninstitutionalized 18 years and older	National sample of noninstitutionalized 18 years and older	National sample of noninstitutionalized 18 years and older
Selection of households	RDD households phones	RDD households phones	RDD households phones
Dates of operation	July–August 2009	October 2005–February 2006	July 2007–April 2008
Size of initial screening	20,998	31,845	28,383
Prevalence initially eligible: #/100	4.63	4.93	3.44
Number initially eligible	974	1,571	977
Proportion eligible completing initial detailed interview	61.7%	77.3%	60.8%
Number completing initial detailed interview	601	1,214	594
Criteria for nascent entrepreneur	(1) Consider self-active; (2) Engaged in start-up behavior; (3) Expect some ownership; (4) Start-up not yet an operational new firm	(1) Consider self-active; (2) Engaged in start-up behavior; (3) Expect some ownership; (4) Start-up not yet an operational new firm	(1) Consider self-active; (2) Engaged in start-up behavior; (3) Expect some ownership; (4) Start-up not yet an operational new firm
Screening interview firm	Millward Brown ACSR, Inc.	Opinion Research Corporation, Inc.	Taylor Nelson Sofres, Australia
Detailed interview firm	Millward Brown ACSR, Inc.	University of Michigan, Institute for Social Research	Taylor Nelson Sofres, Australia
Length of detailed interview, average	47 minutes	60 minutes	47 minutes
Comparison group	None	None	2/100 of not active
Number of variables in initial detailed data set	366	1,477	657

(1) The detailed operational information on PSED II and CAUSEE are accessed in Davidsson and Reynolds (2008). (2) All counts are unweighted

Table 4.4 Comparisons of level of activity: CPSED and US-PSED II

	CPSED	US-PSED II	GEM China
Total adult persons (millions)	56.5	203.8	800.0
Candidate nascent entrepreneurs, first two questions	13.3%	22.6%	16.4%
Total candidate nascent entrepreneurs (millions)	7.51	46.1	131.0
Eligible nascent entrepreneurs	4.63%	5.96%	6.7%
Total eligible nascent entrepreneurs (millions)	2.62	12.1	54.0

(1) The CPSED defined adult persons as 18–64 years old, whereas the PSED II defined them as 18–74 years old. (2) The CPSED sampled eight urban cities, whereas the PSED II sampled nationwide. (3) The GEM data was gathered in 2007 and sampled nationwide

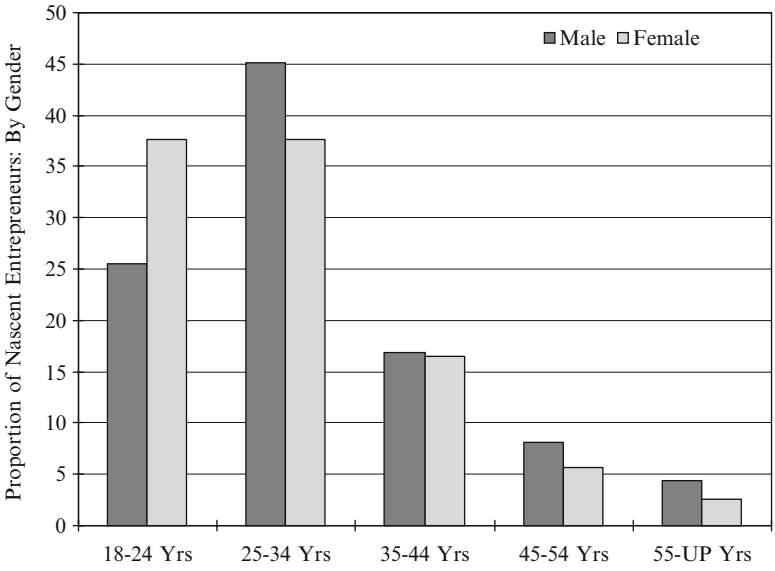

Fig. 4.4 Participation of NEs in firm creation by age and gender

data suggests that this may arise, at least in part, from subtle differences in sampling and screening criteria (Reynolds 2007). Second, the CPSED focuses only on cities, whereas the GEM studies also cover rural areas.

In terms of international comparisons, the result indicate a lower prevalence of entrepreneurship than that found by the PSED II in the USA (6.0 per 100) and a higher prevalence than that found by the CAUSEE in Australia (3.4 per 100) (Davidsson et al. 2008; Reynolds and Curtin 2008). Overall, our findings are consistent with the impression given by the GEM studies that the level of independent entrepreneurial activity in China is relatively high compared with many other developed countries (Gao et al. 2006, 2008), although not quite as high as in the USA, relative to the size of the population.

Estimates of the level of entrepreneurial activity are provided in Figure 4.4 by age and gender. The bars indicate the percentage of NEs in each age group.

Figure 4.4 shows that men were more than twice as active as women in terms of prevalence of entrepreneurial activity (67.8% vs 32.2%). Further, the peak of entrepreneurial activity seems to occur among individuals of around 27 years old. Similar patterns have been observed in other countries, although with some small differences. In the USA, for example, the results of the US-PSED II reflect that men are again about twice as active as women in terms of prevalence rate and total count, but that the peak age of entrepreneurial activity is slightly older at around 30 years of age (Reynolds and Curtin 2008).

4.5.2 Characteristics of NEs

We made more effort in the first wave of data collection to describe the characteristics of individual NEs who were launching a new business, in terms of demographic background and previous experience. The gender, age, and marital status of the nascent cohort are presented in Table 4.5. As stated, men comprised 67.8% and women 32.2% of the NE sample. In terms of age distribution, 68.6% of the NEs were between 25 and 54 years of age, which is lower than the 74% in the PSED II cohort. Consistent with this difference, there was a slightly higher proportion of NEs younger than 24 years of age in the Chinese cohort (Reynolds and Curtin 2008). In terms of marital status, 50.5% of the Chinese NEs were married and the remaining 48.7% were single.

All of the respondents in the survey were asked about their previous social status. In all, 43.8% of the NEs were employees in business organizations and 15.3% were students without work experience. In previous research, Chinese entrepreneurs were classified into three main categories: peasant entrepreneurs, government entrepreneurs, and expert entrepreneurs, with the first two comprising the majority and the latter (those with business experience) being rare (Peng 2001). However, the results of the CPSED study indicate that things have changed with the marketization process, and expert entrepreneurs with business experience have now become the majority.

Table 4.5 Gender, age, and marital status of NEs

	Case number	Percentage (%)
Male	408	67.8
Female	193	32.2
18–24 years	162	27.6
25–34 years	256	43.7
35–44 years	101	17.3
45–54 years	44	8.0
55-up years	23	3.4
Marriage	304	50.5
Divorce	8	1.3
Single	289	48.7

Table 4.6 Social status and residential tenure of NEs

		Percentage (%)
Born and living in city		51.4
Not born, living in city	11 or more years	9.0
	5–10 years	21.4
	0–4 years	17.3
Not born, not living in city		0.8

The respondents were asked also whether they were natives of the city in which they were interviewed. They were then classified into one of the three categories shown in the middle section of Table 4.6. The largest category, with over 50% of all NEs, was those who were born and lived in the city. A minority group, comprising 0.8% of all NEs, contained those who were not born in the city and did not live there. The remaining 47.7% consisted of those who were not born in the city but had lived there for many years. Within this category, about 36.3% had lived in the city for less than 4 years, 44.8% had lived in the city for between 5 and 10 years, and the remaining 18.9% had lived in the city for more than 10 years.

In summary, the main patterns found in the CPSED cohorts of NEs are that men comprised more than two-thirds of the group; more than three in five were between 25 and 54 years of age; about 43.8% were employees of business organizations with some business experience and skill, with former government officials being rare; over 60% were born and lived in the city of interview and 47.7% were immigrants to the city; and 81.1% had lived in the city for less than 10 years before the interview.

Several studies have reported the significance of previous experience on entrepreneurship and new venture growth (e.g., Barringer et al. 2005; Delmar and Shane 2006; Fiet 2008; Ucbasaran et al. 2009; Westhead et al. 2003). Specifically, it has been found that the knowledge arising from previous work experience helps NEs to identify entrepreneurial opportunity (Fiet 2008; Shane 2000), as NEs always make decisions based on their previous experience (Westhead et al. 2003; Barringer et al. 2005). In the first wave of the CPSED, substantial effort was made to measure the previous experience of the NEs. We tried not only to measure the nature of that experience, but also to capture the source or affiliation of that previous experience. Figures 4.5 and 4.6 present the characteristics of the sampled NEs in terms of start-up experience and related-industry experience.

Figure 4.5 shows that about 73.5% of the NEs reported no previous experience, 11.6% had experience with one start-up, and 12.9% had participated in between two and four start-ups. Serial entrepreneurs who had been involved in five or more start-ups (Ucbasaran et al. 2009) comprised about 2.0% of all active NEs. Compared with the US cohort from the PSED, the proportion of those with entrepreneurial experience was much higher in this study, and consistent with this difference, there was a slightly lower proportion of NEs involved in two or more previous start-ups (Reynolds and Curtin 2008). There was no statistically significant difference between the men and women in the CPSED NEs in previous experience ($p < 0.068$). However, a significant difference between the genders was found in terms of successful entrepreneurial experiences ($p < 0.05$), although there was no gender difference in self-reported unsuccessful experiences.

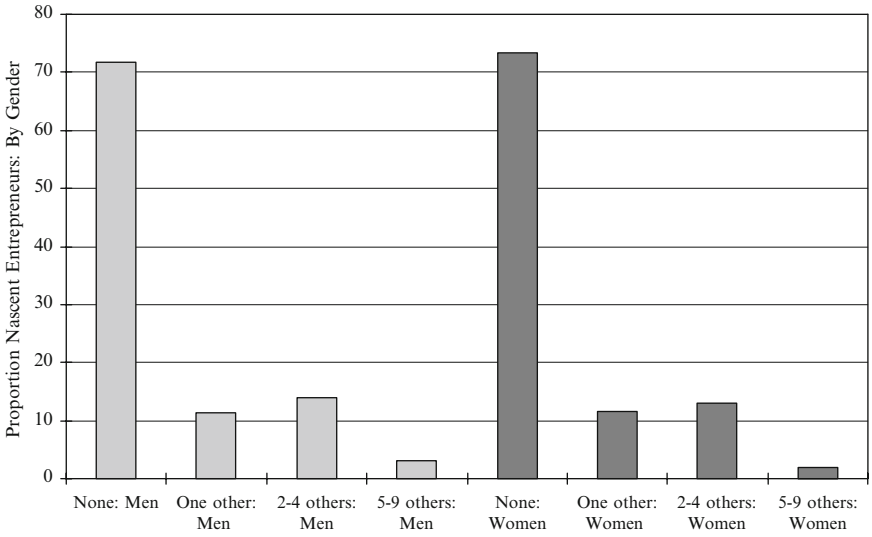

Fig. 4.5 NEs by gender and previous start-up experience

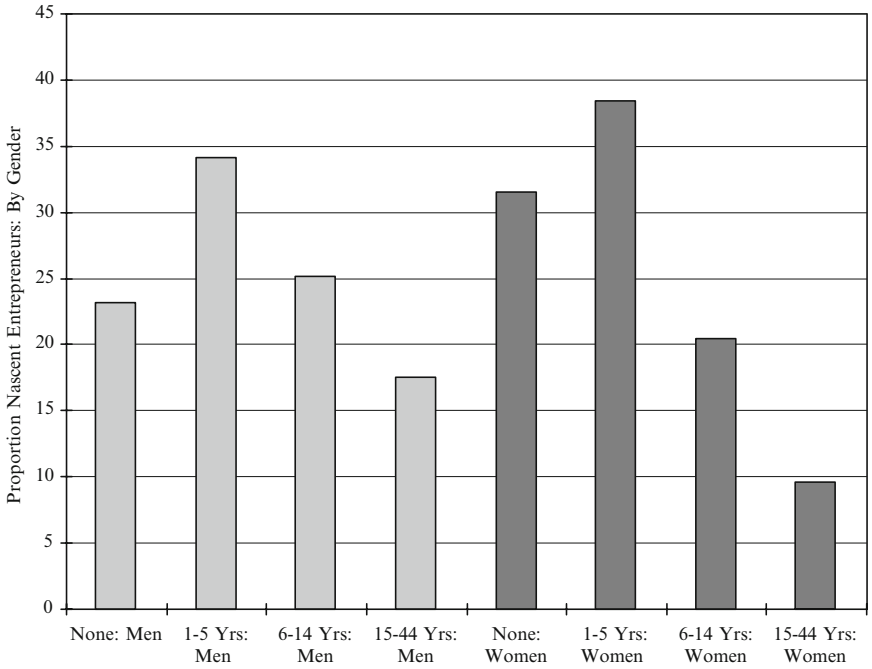

Fig. 4.6 NEs by gender and work experience

The amount of work experience in related industries is described in Figure 4.6. About a quarter reported no previous experience in an industry related to their start-up, and another quarter reported between 6 and 14 years' experience. There was a clear difference in this measure of human capital. There was also a significant gender difference ($p<0.05$) and social status difference ($p<0.01$), with women reporting somewhat less related-industry experience than men. About 30% more women reported no related-industry experience at all, and fewer women than men reported experience of greater than 6 years.

In summary, there was considerable diversity among the sampled NEs in previous work experience in a related industry, with women appearing to report less experience than men. There was no significant difference between the men and women in terms of entrepreneurial experience in general, but a considerable gender difference in terms of successful entrepreneurial experiences, with women reporting fewer successful experiences than men.

4.6 The Start-up Process: What Nascent Entrepreneurs Do?

New firms do not emerge suddenly or spontaneously, but require many activities and substantial effort on the part of entrepreneurs (Reynolds and Curtin 2008). Our first-wave detailed interview gathered information relating to the activities pursued during the start-up period and during the initiation of new ventures. We were concerned with 16 start-up activities that were adapted from the list of 34 start-up activities used in the US-PSED II. This report utilizes the framework of Reynolds and Curtin (2008) to articulate the activities of Chinese NEs during the business gestation process and to make comparisons with the data from other countries.

A summary of the proportion of NEs who reported that they had been engaged in each activity during the first detailed interview is provided in Table 4.7, ranked by prevalence of activity. Similar to Reynolds and Curtin (2008), the 16 activities used in the CPSED questionnaire were used to develop six indices, which are presented in Table 4.7. Less than one in six of the start-ups had completed any of the activities in the business presence category, whereas the corresponding figure for their US counterparts was one in five (Reynolds and Curtin 2008). Of the remaining 13 activities, fewer than eight had been initiated by more than 80% of the NEs. Three gestation activities had been carried out by most of the NEs at some point, namely, the saving of personal funds for the start-up, developing financial projections, and collecting market-related information. The three least prevalent activities were employment, legal registration, and securing external financing. This reflects both a considerable diversity in how new businesses are developed, and a difference in the requirements of new enterprises in different markets. For example, intellectual property rights will be relevant for only a minority of start-ups, and for a substantial proportion, it will not be necessary to purchase or lease major capital assets. However, initial planning seems to be important for most new ventures, regardless of market or industry.

Table 4.7 Start-up activities by prevalence: CPSED and US-PSED II

	Indices			
Start-up activities	CPSED	PSED II	CPSED	US-PSED II
Began saving money to invest in the start-up	SUI.4	–	69.4%	–
Developed financial projections	SUI.3	SUI.3	68.4%	25.0%
Began to collect information on customers	SUI.5	–	68.1%	66.0%
Initiated business plan	SUI.3	SUI.3	62.7%	48.0%
Established supplier credit	SUI.2	SUI.2	47.9%	19.0%
Actually invested own money in the start-up	SUI.4	SUI.4	41.8%	75.0%
Began development of model, prototype of product, service	SUI.5	SUI.5	35.4%	53.0%
Organized start-up teams	SUI.3	–	32.1%	–
Purchased materials, supplied inventory, components	SUI.2	SUI.2	26.3%	43.0%
Purchased or leased a capital asset	SUI.2	SUI.2	23.6%	41.0%
Began to promote the good or service	SUI.2	SUI.2	19.0%	36.0%
Hired an employee	SUI.1	SUI.1	18.1%	7.0%
Legal form of business registered	SUI.1	SUI.1	17.1%	26.0%
Sought external funding for the start-up	SUI.3	SUI.3	14.3%	13.0%
Initiated patent, copyright, trademark protection	SUI.5	SUI.5	6.0%	4.0%
Established phone book or internet listing	SUI.1	SUI.1	4.8%	44.0%
Start-up activities	CPSED		US-PSED II	
Total included on the interview schedule	16		34	
Number reported on first interview (average)	5.6		7.2	
Percent reporting 1–4 activities	41.9%		30.0%	
Percent reporting 5–8 activities	40.5%		38.0%	
Percent reporting 9–10 activities	9.8%		15.1%	
Percent reporting 10–16 activities	7.8%		16.9%	
Total	100%		100%	
Reported activities in each SUI	CPSED		US-PSEDII	
SUI.1 Business presence index, % of three activities	13.3%		27.2%	
SUI.2 Production implementation index, % of four activities	29.3%		31.5%	
SUI.3 Organizational, financial index, % of four activities	44.4%		29.1%	
SUI.4 Personal planning index, % of two activities	55.6%		57.6%	
SUI.5 Task, product development index, % of three activities	36.4%		28.7%	

(1) The information on PSED II is available in Reynolds and Curtin (2008). (2) There is a minor difference in defining activity category between CPSED and PSED II

Compared with the findings of the US-PSED II, the average number of activities reported by the Chinese NEs was lower, at 7.2 versus 5.6, respectively. Nearly twice as many of the NEs in the PSED II than the Chinese NEs reported engaging in more than nine activities (32.0% vs 17.6%). However, more of the Chinese NEs than the US-PSED II NEs reported engaging in fewer than eight activities (82.4% vs 68.8%). Despite the larger range of activities included in the US-PSED II (34 vs 16 for CPSED), it is reasonable to suppose that NEs in the USA act more rapidly than their counterparts in China. This may be due to the presence in the USA of infrastructure that is supportive of entrepreneurship and to the additional obstacles faced by NEs in China due to the current institutional transitions.

Data on the difference in gestation activities between the CPSED and US-PSED II cohorts are provided in Table 4.7. The items included in each of the start-up activity indices are provided at the top of Table 4.7, and the relative frequency of each is provided at the bottom. There are some differences between the two cohorts for the five indices. The US-PSED II cohort reported more activity in the indexes related to acts that would enhance business presence, production implementation, and personal planning. The NEs in the CPSED cohort reported more activity on the other two indices. These results also indicate that NEs in USA act in a more rapid way to promote their products and services to the market, and that the main obstacle Chinese NEs must deal with when launching new businesses is accessing the resources needed, in conditions of imperfect strategic factor markets. This is clearly demonstrated by the prevalence of the activities in the organizational and financial index in the US and Chinese cohorts of 44.4% and 29.1%, respectively.

The main characteristics of the start-up process in China are that the Chinese NEs expend more effort on resource acquisition in the gestation process than their US counterparts, and the average number of activities initiated by Chinese NEs was fewer at 5.6 than that of their US counterparts at 7.2. Further, the Chinese NEs sought to minimize the potential uncertainty of launching a new business by collecting information on customers and developing financial projections.

4.7 The Outcome: What Types of Firms Are Started?

Table 4.8 presents the characteristics of the new enterprises started by the Chinese NEs. It can be seen that new enterprises in China are mainly distributed in the wholesale and retail industry (40.6%); the catering, hotel, and restaurant industry (15.6%); and the professional services industry (15.6%). In total, 41.9% of the new enterprises had a start-up capital of RMB 100,000 or less, while only 18.6% had a high start-up capital of RMB 500,000 or more. As regards growth aspirations, 57.9% of the NEs reported that they intended to keep the size of their enterprise under control; 34.9% stated that their turnover in the first year of operation would be less than RMB 100,000; and only 8.5% projected that their turnover would be more than RMB 5,000,000. As regards employment, 86% of the NEs expected to employ fewer than 20 employees in the first year.

Table 4.8 Nascent enterprises by industry, start-up capital, and growth aspiration

	Percentage (%)
Industry	
Wholesale and retail	40.6
Restaurant and hotel	15.6
Professional service	15.6
Manufacturing	7.0
Real estate	3.7
Agriculture	2.3
Communication	2.0
Bank and finance	1.3
Others	11.9
Start-up capital (*RMB*)	
Less than 100,000	37.6
From 100,000 to 500,000	41.9
More than 500,000	20.4
Growth aspiration	
Keeping controllable size	57.9
Growing as large as possible	41.1
Predicted 1st operation year revenue (*RMB*)	
Less than 100,000	34.9
From 100,000 to 5,000,000	56.6
More than 5,000,000	8.5
Predicted 1st operation year employment	
Less than 20	86.0
From 20 to 100	12.7
More than 100	1.3

We also measured the outcome of entrepreneurship in two additional ways. The first was the accomplishment of two milestone events during the gestation process, that is, legal registration and formal employment, and the second was the total number of gestation activities (Carter et al. 1996). In the Chinese sample, 17.1% of new enterprises had been legally registered, a measure adopted by scholars of population ecology theory to signify firm birth. Further, 18.1% had hired employees, a measure used by labor market theorists to signify firm birth. As none of the respondents of the CPSED had obtained any sales revenue at the time of interview, the firm birth rate was zero from the perspective of industry organization and entrepreneurship. The factors with potential effects on the accomplishment of the two milestone events are shown in Table 4.9, which shows significant differences between those achieving and not achieving these milestones in terms of entrepreneurial demographics, previous experiences, and type of entrepreneurship.

Unexpectedly, demographics seem to be better potential predictors of the accomplishment of the two milestone events, whereas the experience-related characteristics had no significant impact. The results also indicate that men were more likely to legally register their firm in the early stages of the entrepreneurial process, although there was no significant difference between men and women in terms of

employment. The NEs between the ages of 35 and 54 were more likely to legally register their business and employ staff in the early stages of the entrepreneurial process. There was no significant difference in terms of either start-up experience or related-industry experience, both of which are considered highly relevant criteria by venture capitalists who are assessing the potential of a new venture. This begs the question of why this relatively heterogeneous experience led to homogeneous outcomes. Based on the initial findings, it is reasonable to suppose that certain dimensions of previous experience may be not essential for entrepreneurial success, but that it is rather the combination of previous experience embedded in different contexts – whether organizational, functional, entrepreneurial, or industrial – that plays the vital role here. Table 4.8 also indicates that technological entrepreneurship is more likely to lead to legal registration and employment.

The potential predictors of outcome in terms of the gestation activities initiated by the NEs are presented in Table 4.10. There are significant differences among the majority of items, except for start-up experience. Specifically, men aged between 25 and 54 years and with related industry experience of between 1 and 5 years undertook more gestation activities than the other NEs. The results also indicate that the type of entrepreneurship has a bearing, in that NEs who engaged in team entrepreneurship and technological entrepreneurship undertook more activities than those engaged in individual entrepreneurship and non-technological entrepreneurship.

In summary, Chinese new enterprises have the following characteristics. Nearly half fall within the wholesale and retail industry, the majority tends to keep a controllable size, about half aim to obtain a first-year revenue of between RMB 100,000 and RMB 5,000,000, and 86% expect to employ less than 20 staff in the first year of operation. Demographics rather than previous experience seem to be better predictors of the accomplishment of milestone events in the business gestation process, previous experience plays an essential role in promoting entrepreneurial endeavor, and team entrepreneurs and technological entrepreneurs seem to act more rapidly than other types of entrepreneurs.

4.8 Conclusion

The CPSED is the first large-scale longitudinal study of new firm formation, based on a representative sample of NEs in China. In this initial report, we present selective, descriptive findings from the first wave of data collection, which to some extent represent the characteristics of about 27 million NEs in the urban areas of eight cities in China. The key findings can be summarized as follows.

- Our results are partly consistent with the conclusion in previous research on entrepreneurial activity that the prevalence of nascent entrepreneurship is relatively high in China. However, our data suggest that the number is lower than in the USA relative to the size of the population. The differences may be caused by sampling procedure and the focus of this study on urban areas.

Table 4.9 The milestone event undertaken by demographics, experience, and type of entrepreneurship

		Registration: population ecology			Employment: labor market		
		Yes (%)	Not (%)	Sig.	Yes (%)	Not (%)	Sig.
Gender	Male	20.8	72.9	$p<0.01$	18.6	81.4	$p=0.65$
	Female	9.3	90.7		18.1	81.9	
Age	18–24 years	11.1	88.9	$p<0.05$	9.3	90.7	$p<0.01$
	25–34 years	16.8	83.2		21.9	78.1	
	35–44 years	25.7	74.3		20.8	79.2	
	45–54 years	22.7	77.3		27.3	72.7	
	55-up years	17.4	82.6		8.7	91.3	
Start-up exp.	None	16.2	83.8	$p=0.29$	16.4	83.6	$p=0.44$
	One others	13.0	87.0		21.7	78.3	
	2–4 others	23.4	76.6		22.1	77.9	
	5–9 others	25.0	83.1		25.0	75.0	
Related-industry exp.	None	18.5	81.5	$p=0.89$	20.2	79.8	$p=0.95$
	1–5 years	16.6	83.4		19.0	81.0	
	6–14 years	16.5	83.5		17.4	82.6	
	15–59 years	17.6	82.4		20.3	79.7	
Type of entre.	Solo entre.	13.5	86.5	$p=0.10$	17.1	82.9	$p=0.26$
	Team entre.	20.3	79.7		19.9	80.1	
	Tech. entre.	25.2	74.8	$p<0.01$	23.9	76.1	$p<0.01$
	Non-tech entre.	12.3	87.7		14.7	85.3	

Table 4.10 Status of entrepreneurial endeavor by demographics, experience, and type of entrepreneurship

		Gestation activities initiated (average)	Statistical significance (ANOVA)
Gender	Male	5.82	$p<0.001$
	Female	4.98	
Age	18–24 years	5.12	$p<0.05$
	25–34 years	5.90	
	35–44 years	5.73	
	45–54 years	5.52	
	55–up years	4.17	
Start-up experience	None	5.44	$p=0.30$
	One others	5.50	
	2–4 others	6.16	
	5–9 others	5.41	
Related-industry experience	None	5.05	$p<0.01$
	1–5 years	6.24	
	6–14 years	5.75	
	15–59 years	5.02	
Type of entrepreneurship	Solo entre.	4.83	$p<0.001$
	Team entre.	6.25	
	Tech. entre.	6.18	$p<0.001$
	Non-tech entre.	5.17	

- The typical start-up is a traditional, fully independent business, located in a traditional industry, such as wholesale and retail, restaurant services, or professional services, that provides existing products or services with minor adaptation. More than 40% are strongly growth oriented. However, it is true for any country that NEs are relatively aggressive because of the high expectations accorded start-ups, especially in the early stages.
- Male, older NEs with related-industry experience seem to advance the entrepreneurial process more rapidly than others. Further, team entrepreneurs and technological entrepreneurs seem to act more rapidly. That is, to the extent that the founders have a choice, team building and industry selection are critical success factors.
- Demographics, rather than previous experience, seem to be better predictors of the accomplishment of the milestone events of legal registration and formal employment in the business gestation process. The uniform correlation between demographics (e.g., gender, age, and education) and personal affiliation (e.g., experience and networks) indicates that the effects of personal affiliation may interact with those of demographics. This finding suggests that we should further explore the role of experience and networks in determining entrepreneurial success in the gender, age, and education subsamples of NEs.
- Chinese NEs make more effort to access resources during the gestation process compared with their US counterparts. This finding further highlights institutional transitions as a source of obstacles to resource acquisition.

- Chinese NEs attempt to deal with the external uncertainty of launching a new business by collecting information on customers and developing financial projections.
- The business skill of Chinese founders has developed significantly, although it is still not at the level of their Western counterparts. The majority of Chinese NEs now have some kind of experience, whether industrial, managerial, or entrepreneurial. Previous experience seems to play an essential role in promoting entrepreneurial endeavor.

These initial findings have significant implications for researchers, NEs, and policy makers. In terms of the implications for entrepreneurship research, and research in the Chinese context in particular, the findings suggest that exploring the role of previous experience in promoting entrepreneurial endeavor in transitional economies is a promising field. Research in the Western context has underlined the relevance of previous experience to entrepreneurial success (e.g., Barringer et al. 2005; Delmar and Shane 2006; Fiet 2008; Ucbasaran et al. 2009; Westhead et al. 2003). However, our initial analyses do not find previous experience to have a significant effect in the Chinese context either on the status of the entrepreneurial endeavor or on the accomplishment of milestone events in the entrepreneurial process. In an underdeveloped market, experience in the promotion of business skills may be insufficient by itself to achieve entrepreneurial success due to the imperfect strategic factor market and the dominant role of government in regulating business (Tan et al. 2009). Future research on the conditional effects of different kinds of experience on entrepreneurial endeavor and success in China is thus needed to elucidate how institutional transition affects entrepreneurship.

Regarding the gestation process, the initial findings suggest some differences between Chinese and US entrepreneurs. Generally, compared with their US entrepreneurs, Chinese entrepreneurs place more emphasis on resource acquisition and dealing with uncertainty in the early stages of entrepreneurship. Exploring the activity sequence of Chinese entrepreneurs and comparing it with that of Western entrepreneurs from the cultural and institutional perspectives is another promising avenue of exploration. Future research could also investigate the question of whether the tendency toward risk avoidance among Chinese people (Hofstede 1993) prevents the transformation of potential ideas into new ventures, and could try to identify the logical actions and milestone events in the different contexts of market economies and emerging economies. Exploring these issues could provide value-added knowledge to entrepreneurship research in general, and would deepen our understanding of how new ventures come into being.

The findings suggest the importance of team building. Chinese entrepreneurs may hesitate to build a team to exploit an entrepreneurial opportunity, especially in high-technology sectors, because they are afraid of treachery, which is a fallout of the imperfect legal system and the general lack of trust (Tan et al. 2009). In the early stages of business start-up, social similarity is more important for entrepreneurial success than team diversity (Liao et al. 2009), and it is thus important for Chinese NEs to build a team in a "socially logical" way, that is, to assemble a team

with the same demographics from their personal networks. Another implication for business founders is that industry selection is key when launching a new business. As related industrial experience seems to be a significant predictor of entrepreneurial success, selecting an industry that is related to one's current job will improve the possibility of entrepreneurial success. It is essential that NEs in China consider this factor in making entrepreneurial decisions due to the potential cost of failure and the imperfect social security system.

The findings may also have implications for policy makers in China. The essential element required to promote entrepreneurship is the development of strategic factors, such as venture capital, professional management, and angel investment, as their deficiency prevents NEs from embarking on business endeavors. However, new venture creation is a process, not an event, and NEs need to conduct many activities completely on their own to create their companies. It is thus necessary to invest more money and resources in entrepreneurial and business skill training. Such training would help NEs to understand what entrepreneurship is and what they should do in the different stages of the entrepreneurial process, thereby improving the likelihood of entrepreneurial success.

There are three main limitations to this assessment. The first is that the CPSED only sampled in urban areas, the cohort is based on those living in eight representative cities, and none are from rural areas. As such, the generalization of its findings to nonurban areas is limited. Second, the data was not weighted, so the patterns may not accurately represent the urban populations. The third, and final, limitation is the lack of any follow-up data; all assessments are based only on the first round of interviews. It has not been possible to complete detailed explorations on the gestation process and the outcomes for the nascent enterprises. This will not be a limitation once the second and third rounds of interviews are completed.

References

Ahlstrom D, Bruton GD (2006) Venture capital in emerging economies: networks and institutional change. Entrepreneurship Theory Pract 30:299–320

Ardichvili A, Cardozo R, Ray S (2003) A theory of entrepreneurial opportunity identification and development. J Bus Venturing 18:105–123

Au K, Kwan HK (2009) Start-up capital and Chinese entrepreneurs: the role of family. Entrepreneurship Theory Pract 33:889–908

Audretsch D, Thurik R (2004) A model of the entrepreneurial economy. Papers on entrepreneurship, growth and public policy, 2004–12, Max Planck Institute of Economics, Jena, Entrepreneurship, Growth and Public Policy Group

Barringer BR, Jones FF, Neubaum DA (2005) Quantitative content analysis of the characteristics of rapid growth firms and their founders. J Bus Venturing 20:663–687

Batjargal B, Liu M (2004) Entrepreneurs' access to private equity in China: the role of social capital. Organ Sci 15:159–172

Bian Y (1997) Bringing strong ties back in: indirect ties, network bridges, and job searches in China. Am Soc Rev 62:366–385

Boisot M, Child J (1996) From fiefs to clans and network capitalism: explaining China's emerging economic order. Adm Sci Q 41:600–628

Bruton GD, Ahlstrom D (2003) An institutional view of China's venture capital industry: explaining the differences between China and the West. J Bus Venturing 18:233–259
Carter NM, Gartner WB, Reynolds PD (1996) Exploring start-up event sequences. J Bus Venturing 11:151–166
Chen GQ, Liu CH, Tjosvold D (2005) Conflict management for effective top management teams and innovation in China. J Manage Stud 42:278–300
Child J, Möllering G (2003) Contextual confidence and active trust development in the Chinese business environment. Organ Sci 14:69–80
Davidsson P (2006) Nascent entrepreneurship: empirical studies and developments, Foundation and Trends in Entrepreneurship, vol 2. Now Publishers, Hanover
Davidsson, P., Steffens, PR, Gordon, SR, Reynolds, P. (2008) Anatomy of New Business Activity in Australia: Some Early Observations from the CAUSEE Project Technical Report, School of Management, Faculty of Business, QUT
Delmar F, Shane S (2006) Does experience matter? The effect of founding team experience on the survival and sales of newly founded ventures. Strateg Organ 4:215–243
Ensley MD, Pearson AW, Amason AC (2002) Understanding the dynamics of new venture top management teams: cohesion, conflict, and new venture performance. J Bus Venturing 17:365–386
Farh JL, Tsui AS, Xin KR et al (1998) The influence of relational demography and Guanxi: the Chinese case. Organ Sci 9:471–487
Fiet J (2008) Entrepreneurial discovery as constrained, systematic search. Small Bus Econ 30:215–229
Gao J et al (2006) Global entrepreneurship monitor China: 2005 summary report (In Chinese), Qsinghua University Press, Beijing, China
Gao J, Chen Y et al (2008) Global entrepreneurship monitor China 2007: entrepreneurial transition and employment effects (In Chinese), Qsinghua University Press, Beijing, China
Gartner WB, Shaver KG, Carter NM, Reynolds PD (2004) Handbook of entrepreneurial dynamics: the process of business creation. Sage, Thousand Oaks
Here, Gao et al.(2005, 2007) should be revised to Gao et al. (2006, 2008)
Hofstede G (1993) Cultural constraints in management theories. Acad Manage Exec 7:81–94
Kirzner IM (1997) Entrepreneurial discovery and the competitive market process: an Austrian approach. J Econ Lit 35:60–85
Lechler T (2001) Social interaction: a determinant of entrepreneurial team venture success. Small Bus Econ 16:263–278
Lu YY, Zhang HJ (2009) Review on Chinese entrepreneurship research (In Chinese). Manage World 6:151–163
Lumpkin GT, Dess GG (1996) Clarifying the entrepreneurial orientation construct and linking it to performance. Acad Manage Rev 21:135–172
Lundstrom, A, Stevenson, L (2005) Entrepreneurship Policy: Theory and Practice International Studies in Entrepreneurship Series, Vol. 9, New York: Springer
Luo YD (2003) Industrial dynamics and managerial networking in an emerging market: the case of China. Strateg Manage J 24:1315–1327
Park SH, Luo YD (2001) Guanxi and organizational dynamics: organizational networking in Chinese firms. Strateg Manage J 22:455–477
Peng MW (2001) How entrepreneurs create wealth in transition economies. Acad Manage Exec 15:24–38
Peng MW (2003) Institutional transitions and strategic choices. Acad Manage Rev 28:275–293
Peng MW (2004) Outside directors and firm performance during institutional transitions. Strateg Manage J 25:453–471
Peng MW, Health PS (1996) The growth of the firm in planned economies in transition: institutions, organizations, and strategic choice. Acad Manage Rev 21:492–528
Reynolds PD (2007) New firm creation in the United States: a PSED I overview, foundation and trends in entrepreneurship, vol 3. Now Publishers, Hanover
Reynolds PD, Curtin RT (2008) Business creation in the United States: panel study of entrepreneurial dynamics II initial assessment, foundations and trends in entrepreneurship, vol 4. Now Publishers, Hanover

Reynolds PD, Bygrave WD, Autio E et al (2004) Global entrepreneurship monitor: 2003 summary report. Babson College, Babson Park

Shane S (2000) Prior knowledge and the discovery of entrepreneurial opportunities. Organ Sci 11:448–469

Shane SA, Venkataraman S (2000) The promise of entrepreneurship as a field of research. Acad Manage Rev 25:217–226

Tan J (2007) Phase transitions and emergence of entrepreneurship: the transformation of Chinese SOEs over time. J Bus Venturing 22:77–96

Tan J, Litschert RJ (1994) Environment-strategy relationship and its performance implications: an empirical study of the Chinese electronics industry. Strateg Manage J 15:1–20

Tan J, Tan D (2005) Environment –strategy co-evolution and co-alignment: a stage model of Chinese SOEs under transition. Strateg Manage J 26:141–157

Tan J, Zeng Y (2009) A stage-dependent model of resource utilization, strategic flexibility, and implications for performance over time: empirical evidence from a transitional environment. Asian Pacific J Manage 26:563–588

Tan J, Zhang W, Xia J (2008) Managing startup risk and performance in a transitional environment: an exploratory study of Chinese domestic and overseas-based venture capital firm. J Small Bus Manage 46:263–285

Tan J, Yang J, Veliyath R (2009) Particularistic and system trust among small and medium enterprises: a comparative study in China's transition economy. J Bus Venturing 24:544–557

Tse DK, Francis J, Walls J (1994) Cultural differences in conducting intra- and inter-cultural negotiations: a Sino-Canadian comparison. J Int Bus Stud 24:537–555

Tsui AS, Farh JL (1997) Where guanxi matters: relational demography and Guanxi in Chinese context. Work Occup 24:56–79

Tsui AS, Schoonhoven CB, Meyer MW et al (2004) Organization and management in the midst of societal transformation: the People's Republic of China. Organ Sci 15:133–144

Ucbasaran D, Westhead P, Wright M (2009) The extent and nature of opportunity identification by experienced entrepreneurs. J Bus Venturing 24:99–115

Westhead P, Ucbasaran D, Wright M (2003) Differences between private firms owned by novice, serial and portfolio entrepreneurs: implications for policy-makers and practitioners. Reg Stud 37:187–200

Xin KR, Pearce JL (1996) Guanxi: Connections as substitutes for formal institutional support. Acad Manage J 39:1641–1658

Yang JY, Li JT (2008) The development of entrepreneurship in China. Asia Pacific J Manage 25:335–359

Chapter 5
German Panel of Nascent Entrepreneurs

Udo Brixy and Rolf Sternberg

5.1 Introduction

The overall objective of the German Panel of Nascent Entrepreneurs (GEPANE) is to identify those determinants that either turn nascent entrepreneurs into actual entrepreneurs (owner managers of new firms or "young entrepreneurs") or lead to a discontinuation of the original start-up idea. These factors may be broken down into person-related determinants, environmental determinants, and organizational determinants. As such, the project covers more or less three partly overlapping areas that capture most of the recent research on nascent entrepreneurs and related panels: characteristics of nascent entrepreneurs, antecedents, and characteristics of the new venture creation process; and explaining new venture creation process outcomes (see Davidsson and Gordon 2009).

5.2 Project Development

The German Panel of Nascent Entrepreneurs (GEPANE) is an offspring of the Global Entrepreneurship Monitor (GEM) consortium. The idea for this nascent panel was born of discussions on the occasion of the annual GEM Organizational Meeting at Babson College in January 2006. Based on preparatory work performed by the Singapore GEM team headed by Poh Kam Wong and Lena Lee and a presentation on the subject at the meeting, a plan was developed to carry out regular follow-up studies in certain GEM member countries of nascents that were identified as nascents (in line with the GEM definition, see below) in the annual GEM adult population surveys. Over the years that followed, a group of four GEM member countries emerged (Germany, Belgium, Denmark, and the Netherlands) with the

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shared intention of working together as a loose research network to set up a nascent panel based on comparable criteria.

GEPANE is financed and supported in terms of staffing by funds from the Institute for Employment Research (IAB), Nuremberg/Germany and the Institute of Economic and Cultural Geography, University of Hanover. The very time- and cost-intensive follow-up interviews of the nascent entrepreneurs in particular would not have been possible without the staffing support of the IAB. In addition to the authors of this chapter, the German research team consists of Christian Hundt (University of Hanover) and Heiko Stüber (IAB and University of Hanover).[1]

5.3 Intellectual Background and Framework

The data collecting and evaluation methods allow a link to be established between features of the pre-entry phase and the likelihood of a start-up actually being launched. If the data available allows, a link could also be established to the success of the start-up in the post-entry phase. Gartner (1985) provides a workable conceptual framework. He proposes a model with four dimensions: individual, environment, organization, and process (see Figure 5.1).

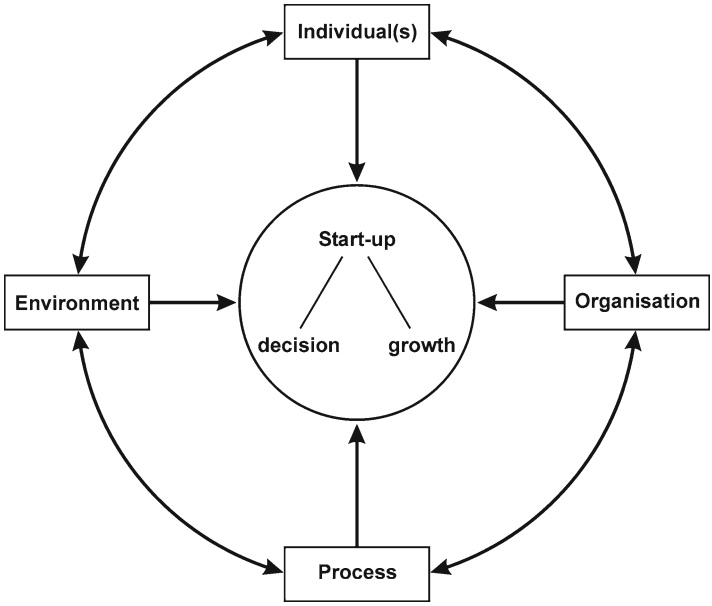

Fig. 5.1 Conceptual framework for describing the entrepreneurial process (Based on Gartner (1985), heavily modified)

[1]The authors would like to thank the "Pro-IAB employees" responsible, specifically Mr. Steinmeister and Mr. Daumann, for their hard work in connection with the follow-up interviews.

The most important influential factors can be assigned to these four dimensions. The first, or person-related determinants, encompasses those that describe the human capital (education, experience, etc.) and those that are borne of the personality (risk behavior, motivation, etc.). These explicitly also include those determinants of entrepreneurial propensity that are based on the perception of one's own entrepreneurial skills – which of course correspond to a greater or lesser extent to the actual skills. The GEM member countries differ significantly in terms of the accuracy of judgments about one's own entrepreneurial skills (Koellinger et al. 2007).

The "process" dimension, as the second dimension, focuses on the dynamic perspective of entrepreneurship and is reflected in the duration of the start-up phases. The length of these phases has a significant influence on the realization ratios and the prospects of success for young firms. To date, it is largely unknown how the duration distribution of the various phases looks and what factors determine their length. In the first US Panel Study of Entrepreneurial Dynamics (US-PSED I) project, around one-third of those who were classified as "entrepreneurs-to-be" in the screening survey did not discontinue their plans in the subsequent years, but also made little progress in creating a new firm, described as "hobby nascents" (Reynolds 2007). Even if these low-activity nascent entrepreneurs are ignored, it is plausible that there may be an inverse relationship between the duration of the planning phase and the probability that a start-up is actually launched. As the duration lengthens, the probability of a disengagement or reduction in activity by hobby nascent may increase. On the other hand, it is plausible to assume that careful and detailed – and therefore time-consuming – planning increases the chances of later success with the start-up.

The third dimension represents the planned activity itself – the *organization*. Factors recorded under this dimension include the target industry of the planned start-up, the intended firm size, or the innovation intensity of the products. Changes in these various organizational attributes can be identified in the follow-up interviews. If fundamental organizational changes occur relative to the information given in the initial screening interview, this may be considered a discontinuation of the original entrepreneurial intention. Continuation of follow-up interviews with these initiatives would provide information on the nascent entrepreneur's career trajectory.

The data for the three dimensions "individual factors," "process," and "organization" is primarily gathered during the follow-up interviews with the cohort of nascent entrepreneurs. On the other hand, information on the fourth dimension, "environment," cannot be gathered empirically by a standardized telephone interview. An attempt was made using special questions provided to all participants during the GEM interviews. A representative sample of the adult population was asked to evaluate statements such as "In the next 6 months there will be good opportunities for starting a business in the area where you live." But this does not provide details about the basis for these judgments. This is a particular issue for those nascent entrepreneurs that have not pursued their entrepreneurial plans. More information about their distinctive situation can be obtained with unstructured face-to-face interviews. This would provide data on the reasons for their judgments and decisions with regard to business creation. There are plans to complete face-to-face interviews with

up to 20 active nascent entrepreneurs as well as those nascent entrepreneurs that have disengaged from the start-up process in each of the 2009 and 2010 cohorts. Qualitative data gathering and evaluation methods are planned for these face-to-face interviews which take into consideration the specific circumstances of the interview and the sensitivity of the topic. Efforts will be made to avoid embarrassing the ex-nascent entrepreneur for having given up the entrepreneurial idea.

In addition to the scholarly research objectives, analysis of the German panel data is expected to contribute to the development of public policy. Based on the analysis of the panel data, specific measures are to be recommended for federal, regional, and local entrepreneurial support policies. This will emphasize the conversion of latent nascent entrepreneurs into active nascent entrepreneurs, and perhaps, increase the proportions that are able to create an operational new firm.

Government programs and entrepreneurship support policies consistently receive very positive evaluations in the annual GEM expert interviews in Germany (see the most recent GEM country report on Germany, Brixy et al. 2010). In spite of these assessments, the GEM index of entrepreneurial activity, the total early-stage entrepreneurial activity (TEA), for Germany is among the lowest of all countries with innovation-driven economies (Porter and Schwab 2008). Consequently, there continues to be strong interest among federal, regional, and local Germany governments for academic, empirically based research on the entrepreneurial process. The authors have tried to satisfy this demand in recent years with various entrepreneurial policy advisory projects, such as with the supplementary scientific research for the entrepreneurship support program "Junge Innovatoren" (Young Innovators) run by the Baden-Württemberg Ministry of Science, Research and Art (1998–2004, and again from 2007 to 2012, see Sternberg et al. 2010) and "PFAU" run by the North Rhine-Westphalia Ministry of Innovation, Science, Research and Technology (2001 and 2006; see Sternberg and Klose 2001; Sternberg and Wohlfart 2006).

5.4 Conceptual and Operational Definitions of Critical Events

The definition of the phases of the entrepreneurial process is based upon the criteria developed within the GEM (see Reynolds et al. 2005). GEPANE covers the time period between two statuses known from GEM: the nascent entrepreneur and the young entrepreneur. A "nascent entrepreneur" is an individual (between 18 and 64 years of age) that during the 12 months prior to the interview has (1) taken action to start a new business, such as looking for equipment or a location, organizing a start-up team, working on a business plan, beginning to save money, or any other activity that would help launch a business, (2) will personally own all or part of this business, and (3) whose start-up venture has not paid any salaries, wages, or payments in kind, including his/her own, for more than 3 months.[2]

[2]Different from the GEM definition of nascent entrepreneurs, however, the GEPANE procedure counts only those individuals as nascent entrepreneurs who have not yet founded the firm.

The payment of any wages for more than 3 months to anybody, including the owners, is considered to be the "birth event" of actual businesses. Thus, the distinction between nascent entrepreneurs and new business owners ("young entrepreneurs") depends on their stage in the firm life course. Businesses that have paid salaries and wages for more than 3 months and less than 42 months may be considered a new firm. A young entrepreneur is an individual that has been identified as a nascent entrepreneur during the screening and that, based on information in a follow-up interview, appears to have a going business that is active in a market and providing some level of profitability.

The GEPANE procedure classifies individual respondents into one of five categories; all are considered nascent entrepreneurs during the screening phase, but they differ in terms of involvement in the start-up process:

- Category 1: Individuals who have not yet launched their firm in a previous wave after the screening but still have the intention to do so (they are still nascent entrepreneurs)
- Category 2: Individuals who launched a firm after the initial interview but have since given up the business and those who are no longer involved although others are continuing the business
- Category 3: Individuals who were still trying to launch a start-up or whose launch was postponed
- Category 4: Individuals whose business is now operational and up and running (now called young entrepreneurs)
- Category 5: Individuals identified as nascent entrepreneurs in the screening but who never put their intention to launch a firm into practice and have totally given up their intention.

There is no independent verification of the information supplied by the respondents during the interview. As an attempt to locate gross inaccuracies, questions are included in the interview schedule to facilitate a plausibility check for many of the answers. Secondary data sources, such as public or semi-public firm registers, are not used to verify the information provided by the respondents; such efforts would not be consistent with German data privacy regulations.

The screening of nascent entrepreneurs is carried out as part of the annual GEM adult population surveys and, consequently, reflects the definitions and standard questionnaire modules used in the harmonized cross-national assessments. Information on the transition from nascent entrepreneur to young entrepreneur (new firm owner) is obtained during a separate phone interview with the German nascent entrepreneur panel. It is unrelated to the GEM research activity. These follow-up surveys are performed in a 6-month cycle. The follow-up of the first screening survey in 2006 was completed after 12 months. For all subsequent years (2007–2010), the follow-up interviews begin after 6 months.

To summarize: In terms of timing, new firm birth is defined as the start of business operations between the time of the previous interview with the nascent entrepreneur (either as part of screening or in a prior wave of follow-up interviews) and the time of the current follow-up interview (there are 6 months in between). The criterion for

differentiating between the status of a nascent entrepreneur and the status of a young entrepreneur is the statement by the individual that the firm has started business operations (within the past 6 months).

5.5 Methodological Overview

The screening interviews were carried out by telephone (CATI), on the basis of the GEM questionnaires, by well-known market research institutes. The random samples are based on a selection of fixed-network telephone numbers supplemented by telephone numbers generated in a "random-route" procedure. As a great many people who use cell phones only have a special kind of contract ("home-zone" contracts) with which they are assigned a second telephone number which is the equivalent of a fixed-network number, the rapidly growing significance of mobile telephones in Germany does not pose any threat to the representativeness of the results. In 2006 4,049 screening interviews were completed and 93 nascent entrepreneurs identified; in 2007 13,000 screening interviews identified 147 nascents[3]; in 2008 4,751 screening interviews identified 114 with nascents, and in 2009 6,032 screening interviews identified 138 nascents. To date, there have been no research objectives or hypotheses to justify oversampling of unique individuals or firms.

The follow-up interviews for all waves and all cohorts are performed under the direction of the two research institutes involved (Institute of Employment Research (IAB), Nuremberg; Institute of Economic and Cultural Geography, University of Hanover) and are carried out by specially trained employees of the IAB.

The follow-up interviews start 6 months after the first interview (except for the 12 month follow-ups for the 2006 cohort) and continue for a total of four waves per cohort (see Table 5.1). This schedule represents a compromise between, on the one hand, continuous monitoring of the nascent entrepreneurs, who they may not find acceptable, and, on the other hand, gathering information on important developments as they occur. As there is no reliable empirical information on the panel mortality of nascent entrepreneurs in Germany, the sample sizes of the various waves cannot be reliably estimated at this time. A fifth and final follow-up then follows 1 year after the fourth, this is 3½ years or 42 months after the initial screening. The key issues are, therefore, is whether the new firms are still commercially active, which nascent entrepreneurs have withdrawn from the start-up process, and what proportion as still in the start-up process.

[3] In 2007 Germany was not taking part in the GEM. Instead, a survey was conducted with the goal to only identify nascent entrepreneurs for the purpose of the panel. We tried to modify as little as possible in the wording of the interviews. Nevertheless, the screening interviews were much shorter than in GEM (because we just asked the questions necessary to identify nascent entrepreneurs. It might be that these very short screening interviews lead to fewer people realizing that they are in fact nascent entrepreneurs and therefore not taking part. However, even though we yielded fewer nascents than expected, those that we did find are definitely nascent entrepreneurs.

Table 5.1 Cohorts and waves in the German Panel of Nascent Entrepreneurs (GEPANE)

Year/month		Screening of nascent cohorts 2006–2010	First wave	Second wave	Third wave	Fourth wave	Fifth wave
2006	March	Cohort 2006					
2007	March	Cohort 2007	Cohort 2006				
	September		Cohort 2007	Cohort 2006			
2008	March	Cohort 2008		Cohort 2007	Cohort 2006		
	September		Cohort 2008		Cohort 2007	Cohort 2006	
2009	March	Cohort 2009		Cohort 2008		Cohort 2007	
	September		Cohort 2009		Cohort 2008		Cohort 2006
2010	March			Cohort 2009		Cohort 2008	Cohort 2007
	September				Cohort 2009		
2011	March					Cohort 2009	Cohort 2008
	September						
2012	March						Cohort 2009

Individuals who have either disengaged from the start-up process or report that an operating firm has been discontinued are not interviewed in subsequent follow-ups. As a result, each successive follow-up interview is confined to respondents still in the start-up process or managing an active new firm. The questionnaires and the length of the interviews can vary considerably depending on the actual status of the entrepreneur.

When structuring the content of the questionnaire, the GEPANE benefited from a prior interview of nascent entrepreneurs in 2005, which was also based on a GEM screening survey and in which 85 nascents expressed their willingness to provide both their private telephone numbers and their addresses for the purpose of a future panel interview. Of these, 76 actually took part in a follow-up interview 12 months later as part of a pilot phase. The initial results of these follow-up surveys were included as a focal point in the 2006 GEM country report Germany.

In the final stage, the GEPANE will consist of four screening waves (2006–2009) and a maximum of five follow-up interviews each (not including the screening, see Table 5.1). Table 5.2 gives a detailed overview on the number of individuals screened and interviewed.

The questions of the panel survey are closely oriented towards the wording of the US-PSED. They were developed in cooperation with the GEM teams from Belgium, Denmark, and the Netherlands. The questionnaire consists of five sections, one each for the five categories described above.

Section 1 contains questions for all nascent respondents, i.e., individuals who were identified as nascent entrepreneurs in one of the annual GEM adult population surveys:

- Identifying the status of business
- Activities during the firm's development
- Individual experience and knowledge
- Firm's strategy and environment
- Network support
- Problems encountered during start-up.

Section 2 is aimed at all those individuals who report a firm birth in a follow-up interview but have since reported that either the firm has been discontinued or that they are not longer part of the management team.

- When was the firm launched and when was it given up?
- Are the former nascents expecting to start a new business within the next 3 years?
- What were the reasons for giving up the company?
- How much money did the entrepreneur personally invest in launching the firm?
- How many employees did the firm have?
- How many owners did the firm have?
- What activities had the nascent undertaken to launch the firm?
- Did the nascent (successfully?) attempt to obtain state support?
- Did the nascent seek advice, including from a former employer?

Table 5.2 Total number of interviews in each wave of the German Panel of Nascent Entrepreneurs (GEPANE)

	Screening			Wave 1		
Time lag	0 Months	0 Months	0 Months	6 Months		
Year of screening	Screening Interviews	Nascent Entrepreneurs (total)	Agreeing to participate in panel	Refused or not reached	Interviewed	Given up or closed
2006	4,049	93	52	–	–	–
2007	13,000	147	86	18	**68**	23
2008	4,751	114	71	22	**49**	10
2009	6,032	138	[a]	[a]	[a]	[a]
	Wave 2			Wave 3		
Time lag	12 Months			18 Months		
Year of screening	Refused or not reached	Interviewed	Given up or closed	Refused or not reached	Interviewed	Given up or closed
2006	13	**39**	7	0	**32**	1
2007	1	**44**	7	4	**33**	3
2008	2	**37**	6	[a]	[a]	[a]
2009	[a]	[a]	[a]	[a]	[a]	[a]
	Wave 4			Wave 5		
Time lag	24 Months			36 Months		
Year of screening	Refused or not reached	Interviewed	Given up or closed	Refused or not reached	Interviewed	
2006	1	**31**	6	3	**22**	
2007	[a]	[a]	[a]	[a]	[a]	
2008	[a]	[a]	[a]	[a]	[a]	
2009	[a]	[a]	[a]	[a]	[a]	

[a]Interviews not yet finished or not yet conducted

- How much professional experience, and of what kind, did the entrepreneur have, and how much within the same industry as the planned start-up?
- Did the nascent or his/her parents have experience of self-employment prior to the start-up?
- What business strategies did the entrepreneur use to beat the competition?
- What was the nascent's employment situation prior to the start-up, how large and old was the firm he/she worked for?
- What was the nature and industry of the start-up?
- Did the former employer provide any support for the start-up?

Section 3 need only be answered by those individuals who were still trying to launch a start-up or whose launch was postponed. The questions address the following aspects:

- Why the business is not yet operational: lack of time, new technology not yet usable, lack of capital, waiting for licenses or approval, lack of qualified labor, other reasons?
- When do they expect the business to be operational? (months after interview)
- How many owners is the firm to have?
- What activities have already been undertaken to launch the firm?
- Has the nascent (successfully?) attempted to obtain state support?
- Did the nascent seek advice, including from a former employer?
- How much professional experience, and of what kind, does the entrepreneur have, and how much within the same industry as the planned start-up?
- Did the nascent or his/her parents have experience of self-employment prior to the planned start-up?
- What business strategies does the nascent intend to use to beat the competition?
- What is the nascent's employment situation prior to the start-up, how large and old was/is the firm he/she works/worked for?
- What would be the nature and industry of the start-up?
- Is the former employer providing any support for the start-up?

Section 4 is aimed at individuals whose business is operational and up and running. Questions include:

- When did the business become operational?
- Have there been any changes to the business?
- Total financing received by the business?
- How many people are owners?
- How many people does the firm currently employ and how many employees does the entrepreneur expect to have in 5 years?
- How much money has the entrepreneur personally invested in launching the firm?
- How many owners does the firm have?
- Has the entrepreneur (successfully?) attempted to obtain state support?
- Did the entrepreneur seek advice, including from a former employer?

- How much professional experience, and of what kind, does the entrepreneur have, and how much within the same industry as the start-up?
- Did the entrepreneur or his/her parents have experience of self-employment prior to the start-up?
- What business strategies is the entrepreneur using to beat the competition?
- What was the entrepreneur's employment situation prior to the start-up, how large and old was the firm he/she worked for?
- What is the nature (handicraft business yes–no) and industry (11 options) of the start-up?
- Did the former employer provide/is the former employer providing any support for the start-up?

Section 5 addresses all the former nascent entrepreneurs who never put their intention to launch a firm into practice and have totally given up their intention.

- What form was the firm intended to take?
- How many owners was the firm to have?
- What activities had the nascent already undertaken to launch the firm when the intention was given up?
- Had the nascent (successfully?) attempted to obtain state support?
- Did the former nascent seek advice, including from his/her former employer?
- How much professional experience, and of what kind, does the former nascent have, and how much within the same industry as the planned start-up?
- Did the former nascent or his/her parents have experience of self-employment prior to the planned start-up?
- What business strategies did the entrepreneur plan to use to beat the competition?
- What was the former nascent's employment situation prior to the planned start-up, how large and old was the firm he/she worked for?
- What was the nature and industry of the start-up the former nascent was planning to launch?
- What were the key reasons for giving up the intention?

5.6 Entrepreneurs: How Many and What They Are Like?

Germany has one of the lowest levels of entrepreneurial activity. Compared with other developed economies, it has consistently been in one of the lowest positions since the Global Entrepreneurship Monitor surveys began in 1999. The prevalence of nascent entrepreneurs among the 18–64-year old has been slightly over 2 per 100 in recent years and the TEA (Total Early-Stage Entrepreneurial Activity) prevalence rate at about 4 per 100. As Table 5.3 based on 2009 GEM data shows, Germany's nascent entrepreneurship prevalence rate belongs to the lowest among the Western European countries while the opportunity nascent rate is the second lowest.

Table 5.3 Prevalence rates for nascent entrepreneurship of selected Western European Countries (% of 18–64-year old) (GEM Adult Population Surveys 2009)

Country	Nascent entrepreneurs	Opportunity nascent entrepreneurs	Necessity nascent entrepreneurs
Belgium	1.96	1.54	0.20
Denmark	1.65	1.31	0.17
Finland	2.92	2.22	0.63
France	3.12	2.46	0.33
Germany	2.23	1.40	0.65
Italy	1.83	1.53	0.20
Netherlands	3.13	2.12	0.35
Norway	5.04	4.66	0.27
Spain	2.32	1.81	0.39
Switzerland	4.29	3.66	0.42
UK	2.68	2.03	0.43

The full GEM data collection protocol involves face-to-face interviews and completion of a standardized questionnaire by a convenience sample of national experts on entrepreneurship. The German experts are unanimous regarding the disjuncture between the low level of entrepreneurial activity and the well-developed infrastructure promoting the creation of new firms. This low prevalence rate of German entrepreneurial activity should not be overemphasized, however, as the difference compared to other Western European countries is not very large and, in some cases, not even statistically significant. The propensity to launch one's own firm is not much higher in Belgium, Denmark, Italy, France, or the Netherlands. Even given the low prevalence rate, in 2009 about 1.1 million Germans between 18 and 64 years old are actively involved in the entrepreneurial process.

A distinctive German characteristic is the high proportion of "necessity entrepreneurs," those participating in firm creation in reaction to a lack of suitable employment opportunities. For many years, approximately one in three German nascent entrepreneurs has belonged to this group. This is an unusually high figure, much higher than in comparable European countries.

It would appear that the fear of unemployment drives these people to overcome the fear of failing with their own firm. The fear of failure is widespread in Germany, as is the predominantly negative perception of future business opportunities for new firms. Young entrepreneurs who nevertheless dare take what the majority of people consider to be the courageous step toward self-employment therefore earn a great deal of respect About 80% of the population believe entrepreneurs enjoy respect and a very positive image. This positive image of the achievements of young entrepreneurs may, however, also be one of the reasons for people's unfavorable perception of their own entrepreneurial skills in comparison with other countries. Only one in three of those surveyed believes he/she has adequate skills to launch a firm.

It should be added, however, that becoming self-employed is tightly regulated in broad areas of business in Germany. In many trades, for example, time-consuming and expensive examinations have to be passed to demonstrate one's capability to run

one's own business (Wien 2009). Other professional areas, such as pharmacy or medical practice, are also not freely accessible. These barriers no doubt go some way toward explaining Germany's conspicuously poor position on this issue.

As in many other countries, the desire to be self-employed is much stronger among the well-qualified (see Table 5.4). For a long time, women were underrepresented among entrepreneurs in Germany, too. Since 2008, however, there has been an – admittedly one-sided – approximation, as the proportion of entrepreneurs among men decreased while the proportion among women remained stable. This makes Germany the only country participating in the GEM without significant differences between the genders among young entrepreneurs (TEA).

Women, however, are older than men when trying to become self-employed. They are even slightly older than the population average, whereas men are younger than the average (see Table 5.5). Additionally, the businesses founded by women differ in many ways. More women than men intend to start their firm in the consumer services and fewer in the business service sector (see Table 5.6). A striking difference concerns the motivation, why someone intends to start a firm. As shown in Table 5.7, women more frequently start a firm because of a lack of alternative options than men. It could be stated that "necessity entrepreneurship" is "female" and "opportunity entrepreneurship" is male. A possible reason could be that female nascent entrepreneurs might be older than male nascent entrepreneurs, and this may have reduced their opportunities for

Table 5.4 Qualification of nascent entrepreneurs (%) (GEM Adult Population Surveys 2009)

Qualification[a]	Non-Nascent	Nascent
Low	16.1	11.3
Medium	66.9	65.1
High	17.0	23.6
Total	100.0	100.0

[a]Low qualified: without high-school degree and no vocational training, medium qualified: with vocational training and/or high school degree, highly qualified: university degree

Table 5.5 Mean age by sex of nascent entrepreneurs (GEM Adult Population Surveys 2009)

	Men	Women
Non-Nascent	40.6	41.9
Nascent	37.8	42.5

Table 5.6 Planned enterprises by industry sector (%) (GEM Adult Population Surveys 2009)

Industry sector	All	Men	Women
Extractive	4.4	1.8	6.9
Transforming	11.1	13.5	8.9
Business service	33.7	42.6	25.2
Consumer service	45.2	32.0	57.7
Missing	5.6	10.0	1.3
Total	100.0	100.0	100.0

Table 5.7 Motivation for starting a firm by sex (%) (GEM Adult Population Surveys 2009)

Motivation	Male	Female	Total
Take advantage of business opportunity	69.9	30.2	100.0
No better choices for work	23.0	77.0	100.0
Combination of both of the above	40.7	59.4	100.0
Other	41.1	58.9	100.0

Table 5.8 Mean age by sex and motivation of nascent entrepreneurs (GEM Adult Population Surveys 2009)

	Men	Women
Take advantage of business opportunity	36.3	42.5
No better choices for work	43.0	39.3
Combination of both of the above	42.0	38.2
Other	33.5	38.8

employment. However, Table 5.8 reveals that the opposite is the case: women when starting a business for opportunity reasons are older than those becoming involved as "necessity entrepreneurs." With men, it is the opposite, younger men are more likely to be opportunity nascent entrepreneurs.

There are no big gender differences concerning the average household size and the number of small children in the households.

5.7 The Start-up Process

The German Panel of Nascent Entrepreneurs (GEPANE) uses the screening surveys of the GEM from 2006 to 2009[4] to ask nascent entrepreneurs about the progress of their plans at 6 month[5] intervals. A 6-month follow-up schedule facilitates making contact with the highly mobile nascent entrepreneurs. In order to comply with data privacy requirements, all those individuals who were identified as nascent entrepreneurs in the screening interviews were first asked for their permission for them to be included in the follow-up interviews. About 62% of all those surveyed agreed, meaning a total of 207 interview partners were available between 2006 and 2008. Of that number, 53 (25%) either could not be reached or changed their mind and refused to take part in the first follow-up interview. As such, the panel (to date: screening from 2006 to 2008) started out with 154 individuals.[6] At least two

[4]No results for the follow-up interviews are currently available from the 2009 screening. This screening will therefore be ignored for the remainder of this chapter.

[5]Unfortunately there was an exception to this rule in 2006: the first follow-up interview was only held after 12 months.

[6]These are those individuals of Table 5.2 that are either interviewed in the second wave (12 month: 39 + 44 + 37) or in the first wave only because they then already gave up their intention or closed down the already founded firm (23 + 10).

follow-up interviews were performed in the screening years 2006–2008. That means that so far all of these nascents have been interviewed 1 year after initial screening. It was found that after this first year, 42% of those surveyed had already launched the firm. Another 31% no longer intend to launch a firm and 26% still intend to launch a firm, but haven't done so yet.

The results of other studies carried out in the USA, Canada, and the Netherlands found that the proportion of nascent entrepreneurs who have launched their firm after 1 year varies considerably between the individual surveys (Table 5.9). The results of the Dutch study (Van Gelderen et al. 2001) show the greatest commonalities with those of the German panel. The proportion of individuals who have not yet launched a firm is almost the same in the two studies. The proportion of those who have launched a firm after 1 year is 5 percentage points higher in the Netherlands than in the German panel, however, and the proportion of those who have given up is 5 percentage points lower than in Germany. If we discount the study performed by Carter et al. (1996), which was based on only 71 interviews, the proportion of individuals who have launched a firm after 1 year appears to be considerably lower in North America (Parker and Belghitar 2006 and Diochon et al. 2003). By the same token, the proportion of those who have not yet launched a firm is correspondingly higher. This may be an indication of greater dynamism in European countries. It could also reflect cultural differences in answering the questions, however, leading North Americans to be more likely to declare an intention to launch a firm than Europeans.

Some analyses (such as those utilizing the US-PSED I, II data) have made an effort to identify the date when someone starts being a nascent entrepreneur. So, the interviewees were questioned regarding when they first began serious work on the new venture, first thought about becoming self-employed, etc. All these questions share the fundamental idea that a certain point in time is assumed that can be remembered by most of the interviewees as the beginning of the process. We doubt that this is the case; "serious work" for example can be understood very different. Therefore, we refrained from asking such a question and instead take the time span between one interview and the next as a proxy for the (maximum) mean duration of the process. The real duration may be shorter as a wide range of cross-sectional data will reflect an overrepresentation of long-lasting nascent entrepreneurs. This is

Table 5.9 Status of nascent entrepreneurs after 1 year (%) (Parker and Belghitar (2006) supplemented and amended)

Outcome Country	German Panel of Nascent Entrepreneurs Germany	Parker and Belghitar (2006) USA	Diochon et al. (2003) Canada	Van Gelderen et al. (2001) The Netherlands	Carter et al. (1996) USA
Still Nascent	26%	47%	39%	27%	30%
Operating	42	33	34	47	48
Gave Up	31	20	27	26	22
Total	100%	100%	100%	100%	100%
Sample size	156	340	132	330	71

because the probability of being selected for an interview is proportional to the duration of the individual process. To give an example: someone who needs 6 months to start a firm is twice as likely to be covered by a screening interview as someone who needs only 3 months.

As Table 5.10 shows, the greatest proportion of the dynamism in Germany is in the initial months. Over 80% of start-ups are launched within the first 6 months between initial screening and the first follow-up interview. And two-thirds of those who decide to give up their plans to launch a firm do so in the first 6 months.

Table 5.10 Point in time of a nascent entrepreneur's decision to launch a firm or to give up the start-up intention (German Panel of Nascent Entrepreneurs [GEPANE])

Decision made until … month	Screening[a]	Decision to start the firm	Decision to give up the start-up intention
6th	*2007, 2008*	81.4%	61.7%
7th to 12th	*2007, 2008*	9.3%	27.7%
12th to 18th	*2006, 2007*	9.3%	6.4%
19th to 24th	*2006*	0.0%	4.3%
25th to 30th	*2006*	0.0%	0.0%
Total		100.0%	100.0%

[a] Screening years upon which the data is based

There are also conspicuous differences between nascent entrepreneurs with differing qualifications. Those with a low level[7] of qualification in particular tend not to put their plans into practice. After 1 year, 58% have decided not to launch their own firm. Among those with medium or higher level qualifications, around 30% or 26% have disengaged from the start-up process (see Table 5.11). So here the selection process continues: Individuals with a low level of education less frequently decide to launch their own company from the start; and those that enter the start-up process are less likely to report a new firm birth.

That raises the question, however, of the extent to which this selection process prevents firms from being launched which would have had poor chances of survival in the market. Individuals with low levels of qualification in particular often do not

Table 5.11 Status and qualification 1 year after initial screening (German Panel of Nascent Entrepreneurs [GEPANE])

	Qualification			
Outcome	Low	Medium	High	Total
Founded	16.7%	45.4%	40.4%	41.7%
Postponed	16.7%	23.7%	31.9%	25.6%
Given up	58.3%	29.9%	25.5%	30.8%
Refused	8.3%	1.0%	2.1%	1.9%
Total	100.0%	100.0%	100.0%	100.0%

[7] Qualification is ranked into three classes: low qualified are those without high-school degree and no vocational training, medium qualified are those with vocational training and/or high school degree, and highly qualified are those holding a university degree.

have adequate financial resources of their own and are exposed to a considerable risk of poverty should their firm become insolvent, since in Germany the owner of a firm is generally personally liable with his/her entire assets.

The age differences between entrepreneurs and non-entrepreneurs are slight and not statistically significant. Those who have decided against launching a firm are on average 2 years younger than those who do launch a firm (40.5 against 42.5 years old, see Table 5.12). There are slight differences to be seen between the genders, but these are not significant (see Table 5.13). Women who have decided to launch a firm succeed no less frequently than men.

Table 5.12 Status and age 1 year after initial screening (German Panel of Nascent Entrepreneurs [GEPANE])

Outcome	Age (mean)	Stand. Dev.
Founded	42.5	9.3
Postponed	41.8	9.3
Given up	40.5	11.7

Table 5.13 Status and sex 1 year after initial screening

	Sex		
	Men	Women	Total
Founded	46.1%	35.8%	41.7%
Postponed	24.7%	26.9%	25.6%
Given up	28.1%	34.3%	30.8%
Refused	1.1%	3.0%	1.9%
Total	100.0%	100.0%	100.0%

There are, however, considerable differences in the motivation behind the wish to launch a firm (see Table 5.14). Necessity nascent entrepreneurs are far less likely to start the business during the first year. It is also noticeable that individuals who want to launch a firm with "traditional" entrepreneurial motivation and a lack of prospects for suitable employment account for the largest proportion of start-ups launched within 1 year. So, if both motivating factors to become self-employed take effect at the same time, meaning there is both push motivation (lack of alternative) and pull motivation (presence of business opportunities), then the intention to launch a firm is particularly likely to be put into practice. Promotion opportunities,

Table 5.14 Status and motivation 1 year after initial screening (German Panel of Nascent Entrepreneurs [GEPANE])

Outcome	To benefit from a business idea	No better employment alternative	Combination of both	Other
Founded	41.3%	28.1%	46.7%	35.3%
Postponed	21.7%	28.1%	26.7%	41.2%
Given up	31.5%	37.5%	26.7%	17.6%
Closed	3.3%	6.3%	0.0%	0.0%
Refused	2.2%	0.0%	0.0%	5.9%
Total	100.0%	100.0%	100.0%	100.0%

which would then be ideal, could then play a role, as both generally accessible promotion programs and those specifically aimed at the unemployed would then be relevant. The high proportion of nascent entrepreneurs in Germany who want to become self-employed for lack of alternative prospects is therefore only a disadvantage if there are not other "traditional" entrepreneurial expectations also in play. So, if "push" entrepreneurs could be given the right entrepreneurial motivation, the disadvantage could be turned into an advantage.

5.8 Conclusions

A GEM team has been working in Germany since 1999, meaning information on the prevalence rate of nascent entrepreneurs has been available for 10 years. In 2006, these annual assessments were supplemented by a tracking cohort of nascent entrepreneurs. By 2008, over 150 nascent entrepreneurs completed one or more follow-up interviews. The results are consistent with those of comparable studies in other countries. Nevertheless, there are differences between the entrepreneurial behavior of nascent entrepreneurs in North American and European panel studies; a greater proportion of European nascent entrepreneurs report the birth of a new firm.

The German Panel of Nascent Entrepreneurs (GEPANE) performs its follow-up surveys at half-yearly intervals. This makes it possible to demonstrate that a substantial proportion of nascent entrepreneurs are able to create a new firm or disengage from the process soon after being identified in the screening interview. This indicates that the time between identification in the screening and an outcome is, on the whole, very short. Obviously, those intending to launch a firm are quickly able to gather the information they need to be able to decide whether their plans can be realized as they wish. The relatively high proportion of those who then decide to launch a firm speaks for the good entrepreneurial climate in Germany.

The proportion of actual entrepreneurs is lower among those with a low level of qualification than among those with medium-level or higher qualifications. This is the continuation of a selection process that begins in the pre-entry phase and leads to people with low-level school or professional qualifications being less likely from the start to plan to become self-employed. In view of the low chances of survival these firms have, this selection process might be efficient. There is no (further) discrimination between the sexes – once women have decided to launch a firm, they put this intention into practice just as frequently as men. By contrast, the motivation behind the intention to launch a firm has a marked influence on the probability that this intention will actually be put into practice. If a difference is made between pull and push motivations, it can be seen that individuals who combine both push and pull motivations are particularly likely to launch a firm, while start-ups based primarily on a lack of alternative employment prospects are far less likely to be realized.

Two additional follow-up surveys will be carried out in the 6- and 12-month waves of the 2009 screening by mid-2010. It can be assumed that data will then be available from over 200 nascent entrepreneurs, covering at least 1 complete year

since screening. A methodically sophisticated and solid basis of data will be available as the foundation for a range of analyses. The results will not only be of scientific interest; they will also be significant for economic policy, particularly for the promotion of young firms that is so comprehensive in Germany. The aim is to find out which individuals give up their entrepreneurial intentions and for what reasons. That then makes it possible to determine the extent to which such discontinuation is preferable, as the planned firm would have had no real chance in the market, or whether there are shortcomings that could be overcome in the advice given to those looking to launch a firm.

References

Brixy U, Hundt C, Sternberg R (2010) Global Entrepreneurship Monitor (GEM). Country Report Germany 2009 (in German). Hannover: Institut für Wirtschafts- und Kulturgeographie, Universität Hannover, Nürnberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit (IAB)

Carter NM, Gartner WB, Reynolds PD (1996) Exploring start-up event sequences. J Bus Ventur 11(3):151–166

Davidsson P, Gordon, SR (2009) Nascent entrepreneur(ship) research: a review. Mimeo

Diochon M, Menzies TV, Gasse Y (2003) Insight into the dynamics of Canadian nascent entrepreneurs' start-up effort and the role individual factors play in the process, Proceedings of the 20th CCSBE/CCPME Conference, Victoria British Columbia, 11, November 6–8 (cited after Parker/Belghitar 2006)

Gartner WB (1985) A framework for describing and classifying the phenomenon of new venture creation. Acad Manag Rev 10(4):696–706

Koellinger P, Minniti M, Schade C (2007) I Think I Can I Think I Can: A study of entrepreneurial behavior. J Econ Psychol 28(3):502–527

Parker SC, Belghitar Y (2006) What happens to nascent entrepreneurs? An econometric analysis of the PSED. Small Bus Econ 27(1):81–101

Porter ME, Schwab K (2008) The global competitiveness report 2008–2009. World Economic Forum, Geneva, Switzerland

Reynolds PD (2007) New firm creation in the United States: A PSED I overview. Found Trends Entrep 3:1–149

Reynolds PD, Bosma N, Autio E, Hunt S, De Bono N, Servais I, Lopez-Garcia P, Chin N (2005) global entrepreneurship monitor: data collection and implementation 1998–2003. Small Bus Econ 24:205–231

Sternberg R, Klose B (2001) Evaluation of the "Programme to financially support spin-offs from universities of Northrhine Westphalia" (PFAU). Final Report, 8 October 2001. Köln, Universität zu Köln, Wirtschafts- und Sozialgeographisches Institut (www.wigeo.uni-hannover.de) (in German)

Sternberg R, Wohlfart F (2006) Evaluation of the "Programme to financially support spin-offs from universities of Northrhine Westphalia" (PFAU). Final Report, 15 May 2006. Hannover, Leibniz Universität Hannover, Institut für Wirtschafts- und Kulturgeographie (www.wigeo.uni-hannover.de) (in German)

Sternberg R, Hundt C, Stockinger D (2010) Scientific assessment of the programme "Junge Innovatoren" (Young Innovators) of the Ministry of Science, Research and Art of Baden-Württemberg. Final Report, 28 February 2010. Hannover, Leibniz Universität Hannover, Institute of Economic and Cultural Geography (in German)

Van Gelderen M, Bosma N, Thurik R (2001) Setting up a business in the Netherlands. Working Paper: ERIM Report Series Reference No. ERS-2001-15-STR, http://ssrn.com/abstract = 370874

Wien A (2009) Existenzgründung. München, Oldenbourg

Chapter 6
Latvia: Panel Study of Entrepreneurial Dynamics Overview

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6.1 Introduction

The Latvian Panel Study of Entrepreneurial Dynamics (LV-PSED) is designed to gain an understanding of the factors leading to successful business creation as well as of those factors leading to the failure of the start-up. The focus on the causes of success and failure distinguishes LV-PSED from most other surveys of businesses in Latvia which have focussed on barriers confronted by existing firms. Very little is known about business start-up efforts in Latvia, as well as their outcomes in terms of new firm creation or disengagement.

To ensure comparability with the results of other PSED initiatives, LV-PSED is broadly similar to the US-PSED II research protocol. The procedures for screening nascent entrepreneurs and determining their status are identical. There are, however, unique features introduced in LV-PSED. In particular, an interview module that gathers information about the nascent entrepreneurs' knowledge and understanding of the tax system and its consequences for the new businesses was included. Although there is a substantial volume of research on the relationship between taxes and entrepreneurial activity, very little data has been gathered on the individual entrepreneur's understanding and knowledge of the tax system and its implications for the new business venture. By addressing this neglected issue, the findings of the LV-PSED indicate that this plays a statistically significant role when it comes to understanding the success or failure of a nascent entrepreneur.

The LV-PSED was launched in the late fall of 2006 with a screening for nascent entrepreneurs. The first stage was finished in August 2007; screening of 9,000 adults lead to the identification of 400 nascent entrepreneurs. Immediately following the screening interview, the initial detailed LV-PSED interviews were completed. A summary of the major results from the first wave of the LV-PSED are presented in detail in Baltrusaityte-Axelson et al. (2008) The second wave, or the first follow-up interview, took place in August 2008. Out of the initial cohort of

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400 nascent entrepreneurs, 261 completed the first follow-up. The remaining members of the initial cohort either refused or could not be contacted. The third wave is scheduled to take place in early 2010.

This chapter is organized as follows. The background and sponsorship for the project is discussed in Sect. 6.2. Section 6.3 presents the design of the LV-PSED and discusses various methodological considerations. It is followed by Sect. 6.4 examining the prevalence of nascent entrepreneurship in Latvia. The characteristics of the nascent entrepreneurs are compared with those of the non-entrepreneurs in order to identify those factors affecting the propensity to engage in entrepreneurship. The nascent business ventures are discussed in Sect. 6.4; this includes a discussion of the impact of the severely overheated Latvian economy on the findings. Section 6.5 is devoted to the start-up process. After a discussion of opportunity recognition, the choice of organizational form and financing of the venture, there follows a discussion of the activities associated with establishing a new venture. Section 6.6 presents the outcomes based on the first wave of follow-up interviews, i.e., LV-PSED Wave 2. At the heart of the discussion are a number of probit regressions analyses exploring the determinants of business survival. Furthermore, the section contains a comparison of the findings for Latvia with those of other PSED countries. The conclusion is presented in Sect. 6.7 along with suggestions for future research.

6.2 Project Development and Research Team

LV-PSED was initiated in 2006 by researchers at the TeliaSonera Institute at the Stockholm School of Economics in Riga. The TeliaSonera Institute founded in 2004 and funded by the Swedish–Finnish telecom operator, TeliaSonera, has in terms of research two focus areas: entrepreneurship and telecommunication. The entrepreneurship research team comprises five researchers with backgrounds ranging from economics and econometrics to business and entrepreneurship. All of them have been involved in developing the LV-PSED. Financial support for LV-PSED comes entirely from TeliaSonera.

The Latvian PSED is only one of the data collection initiatives undertaken at the TeliaSonera Institute. The two other major undertakings are the Global Entrepreneurship Monitor (GEM) and the Survey of Innovative Business in Latvia (SIBiL). The TeliaSonera Institute has been responsible for Latvia's participation in GEM since Latvia first entered the GEM consortium in 2005, and in the current chapter PSED data will be supplemented by data from the Latvian GEM surveys. The second initiative, SIBiL, originates from the observation that very few Latvian firms are active in knowledge-intensive areas. The SIBiL survey instrument employed addresses issues related to the driving forces behind business innovation. The SIBil survey instrument is based on and consistent with the European Union Community Innovation Survey (CIS). The SIBiL survey instrument is in terms of questions, however, much larger than the CIS. This allows for an inclusion of a

number of important questions from other well-established surveys, such as US-PSED II and the US Survey of Small Business Finance.

6.3 Methodological Overview

In this section, we describe survey design of the PSED Latvia. We start by discussing the strategic considerations which guided our particular adaptation of the PSED project and then proceed by describing our sampling strategies for each major stage of the survey. We also briefly describe the questionnaires used and their correspondence with the standard US-PSED II survey instrument.[1]

The design of the Latvian PSED study proceeded with four objectives in mind. These were deemed crucial to the eventual success of our endeavor. First, we believed it was important to achieve maximum compatibility with the US-PSED II, which would likely imply that our study is comparable to similar studies in other countries. Second, our major research focus was on understanding the variation in the outcomes of the business creation process, and the study was to provide appropriate data for this analysis. Third, we had to obtain a sufficiently large initial sample of nascent entrepreneurs in order to enable a meaningful statistical analysis of the business creation outcomes. Fourth, we had to control the costs to fit into a prespecified research budget. The design of the LV-PSED project reflects various trade-offs between these four objectives. Ensuring compatibility with other PSED initiatives was very important, especially at the initial stages. As a result, the LV-PSED is broadly similar to the US-PSED II, with procedures for screening nascent entrepreneurs and determining their status being fully identical. In line with our research agenda, the plan was to have a relatively large, 40 min long face-to-face interview, and then two smaller follow-up CATI interviews, after 12 and 24 months after the initial interview. *Latvian Facts,* one of Latvia's premier survey firms, completed all the interviews for LV-PSED.

6.3.1 Screening and Wave 1

The target for the initial cohort was 400 nascent entrepreneurs. As in all PSED studies, the biggest cost hurdle is the screening stage. According to a number of Global Entrepreneurship Monitor (GEM) surveys conducted in Latvia (Dombrovsky et al. 2006, 2007), the prevalence rate of nascent entrepreneurs in 2005–2006 was about 4 per 100 in the adult population. Assuming a 75% response rate, this implied the need to screen 3,334 adults to obtain a sample of 100. To minimize potentially very large screening costs, time was purchased on an omnibus (multipurpose)

[1] The Latvian questionnaire is presented in Baltrusaityte-Axelson et al. (2008).

face-to-face commercial survey. *Latvian Facts* conducts monthly omnibus surveys with about 1,000 adults. The sampling methodology is standardized, with households chosen using *random route* method and adults chosen within household using the *last birthday* method. The questionnaire used for screening was fully identical to the US-PSED II, consisting of eight questions. Thus, at a screening stage, we identified all individuals who (1) "alone or with others [are] currently trying to start a business…"; (2) "currently trying to start a new business or a new venture for your employer…"; or (3) "currently the owners of a business you help manage…," as long as revenues did not exceed costs for the last 6 months, including salaries paid to owners. Those who were identified as nascent entrepreneurs were invited to take part in the survey.

The screening stage commenced in November 2006 and was finished in August 2007, taking about 9 months and recruiting 400 nascent entrepreneurs from 9,000 individuals, even though the process was not without some ambiguities.[2]

The first wave detailed interviews were completed soon after a nascent was identified in the screening interview and were also conducted face to face; this is often considered a more reliable interview procedure, the average interview lasted 40 min. The major modules are summarized in Table 6.1. The major drawback of using face-to-face interviews was that only a subset of the US-PSED II questions could be utilized. We tried to adopt the core questions from the U.S. questionnaire, but choices had to be made. There were three priorities for the LV-PSED interview. First, our interest in determinants of venture outcomes implied the need to include comprehensive measures of entrepreneurs' human capital, professional work history, and demographic background. Second, we also included a large number of questions focusing on financing of the new venture, which is widely believed to be one of the major obstacles to new business creation. Third, we made a comprehensive attempt to measure attitudes of entrepreneurs. Panel A at the top of Table 6.1. summarizes the main modules of the Wave 1 questionnaire in the first column and briefly described them in the second column. The third column shows the source modules of US-PSED II (Wave A) questionnaire. The last column of Table 6.1 indicates the number of questions in each module.

It should be noted that we also included a substantial number of new questions, which were not part of the US-PSED II instrument. For example, we have a number of more detailed questions focusing on aspects of nascent entrepreneur's human capital and professional experience. Specifically, we asked about knowledge of foreign languages, educational specialization, parents' educational achievement, etc. Most notably, we included two new modules. One, section J consists of six

[2] Here, it should be mentioned that, because of brief misunderstanding with the survey vendor, 100 nascent entrepreneurs (out of 400) were drawn from the official announcements on registrations of new firms. However, the vendor also properly screened all individuals involved with new registrations, implying that this subsample complied with selection criteria for nascent entrepreneurs. Strictly speaking, therefore, only 300 nascent entrepreneurs from the sample were screened from the total population of all adults, with 100 nascent entrepreneurs screened from the population of individuals registering new firms.

Table 6.1 Questionnaire modules in Waves 1 and 2

Section	Description	Adapted from US-PSED II sections	Number of questions
Panel A: Wave 1			
A. Type of a new business	Industry classification, legal form, origin, business idea.	A, B, C	9
B. Start-up activities	How ready product/service is for the market, its innovativeness, state of business readiness	D	11
C. Market and competition	Product's novelty to buyers, international orientation	S	7
D. Owners and start-up finances	Other owners, source of financing from owner(s)	G, E, Q	14
E. Future expectations and motivation	Future growth expectations, motivation to start a business	T, W	6
F. Attitudes toward competition and community resources	Competitive strategy, attitudes to social norms	F, P	12
G. Owner's demographics	Age, gender, ethnicity, family status, religion, knowledge of languages	H	11
H. Owner's human capital and professional experience	Educational attainment and field of studies, managerial training, professional and entrepreneurial experience	H	13
I. Family background	Parents education, well-being, involvement with entrepreneurship	Z	10
J. Attitudes	Opinions on factors that help or hinder to start businesses, importance of various factors to entrepreneurship	–	6
N. Taxes	Knowledge and basic understanding of the tax system	–	5
Panel B: Wave 2 (Follow-up questionnaire)			
A. Type of a new business	Verification of industry classification	A	3
B. Business status	Determine whether new firm, active start-up, or termination	A	15
C. Legal form of business	Determine whether legally registered	C	3

(continued)

Table 6.1 (continued)

Section	Description	Adapted from US-PSED II sections	Number of questions
D. Start-up activities	Measure progress in business start-up activities	D	11
E. Termination	Reasons for termination, further plans	E	4
F. Active start-ups	Reasons for not graduating to new firm	–	1
G. Start-up finances, investments, debts	Clarify start-up financing	–	9
H. Financing	Experience with loan applications	–	7
I. Motivation	Motivation and future plans	–	3

questions (and a large number of sub-questions) that measure attitudes to factors that are crucial to successful entrepreneurship, obstacles to entrepreneurship, as well as attitudes to society and overall business environment. The second new module, section N, consists of a series of questions designed to measure respondents' understanding of the tax system. By this, we explore a very specific element of NE's human capital.

Why are we interested in whether entrepreneurs understand the tax system? Clearly, success of a venture, at least partly, is a function of a multitude of decisions about allocations of resources made by an entrepreneur. In every business decision, an entrepreneur weighs the expected benefits of certain actions against expected costs. Taxes transform the costs of activities in ways which may not always be straightforward. Thus, it is plausible that better understanding of the tax system may result in more "correct" decisions made by an entrepreneur, and, therefore, greater likelihood of venture's survival at early stages.

For example, consider a simple business decision such as whether to buy a personal computer. Clearly, the cost of the computer to the entrepreneur is less than its over-the-counter price because it can be considered a business expense and reduce any tax liability. Thus, elementary understanding of the tax system as well as the concept of accounting is required for an accurate assessment of the effect of such a purchase on the firm's cash flow. Our approach was to subject the respondents to a simple tax test, designed to measure the understanding of such elementary concepts.

Knowledge and understanding of the tax system and its implications are also of interest from a policy perspective. In the literature, much attention has been devoted to the link between taxes and entrepreneurial activity; see Schuetze and Bruce (2004) for an overview of the vast literature. However, very little, if any, attention has been devoted to whether the individual entrepreneur actually understands the implications of the tax regime. This might be somewhat surprising since many measures undertaken to support and stimulate entrepreneurship take the form of adjustments to the tax regulations.

6.3.2 Wave 2 and Future Plans

The first follow-up survey (Wave 2) of the same 400 NEs was conducted roughly 12 months after the initial interviews in August 2008, using computer-assisted telephone interviews (CATI). Panel B in Table 6.1 summarizes the main modules of this follow-up survey. Largely because of budgetary constraints, the follow-up questionnaire was substantially smaller as compared with either our Wave 1 questionnaire, or with the US-PSED II follow-up interviews (Wave B, C, D, E, and F). The design of the questionnaire reflected the following priorities. First, in line with our research agenda, we were very careful in measuring the status of nascent entrepreneurs, and making sure it is comparable to PSED studies in other countries. Thus, the *Business Status* section is fully identical to the corresponding section in the US-PSED II follow-up schedules in classifying nascent entrepreneurs as succeding in creating a *new firm*, still persisisting with an *active start-up*, or *quitting*, i.e., abandoning the new venture. We also made sure we have traced the progress of entrepreneurs, and probed for reasons for quitting or failing to graduate to a new firm. Second, we also investigated enterpreneurs' experience with obtaining bank loans. To this purpose, we included a series of questions from U.S. Federal Reserve Survey of Small Business Finance. Specifically, we asked about most recent loan applications, whether they were approved or denied, and also probed for likely reasons of denials.

An important challenge in follow-up interviews was relatively large attrition due to refusals and failure to reach the respondents. By the end of the follow-up survey in August 2008, the vendor could not contact 93 respondents, in spite of repeated attempts. In 40% of the cases, the main reason was that the phone number was wrong, or that the nascent entrepreneur no longer lived at this address. In an attempt to reduce sample attrition due to failure to reestablish contact, in January 2009 the survey vendor made a series of repeated attempts to reach missing entrepreneurs, but only succeeded in interviewing ten more respondents. Thus, our attempts to reinterview initial 400 survey participants resulted in 261 completed interviews with the rest either refusing further participation or could not be contacted. The main results are summarized in Table 6.2. According to PSED methodology, 71 NEs were classified as having succeeded in establishing a *new firm*, with monthly revenue exceeding monthly expenses for the last 6 months, including salaries paid to the owners. One hundred and forty-three NEs were classified as persisting with their business start-up, and 47 NEs were classified as having disengaged from the business creation process.

Unfortunately, our options for the second follow-up interview (Wave 3) are seriously limited because of budgetary reasons.[3] Our present plan is to have a very short

[3] In 2006–2008, Latvia went through a period of rapid overheating of its economy, accompanied by high growth of wages. As a result, survey costs nearly doubled by the time we had to conduct the first follow-up interviews. This seriously stretched our initial budget and left little resources for Wave 3.

Table 6.2 Review of outcomes after 12 months

Outcome in Wave 2	N	Percent of all in Wave 1 (%)	Percent of total less refusals (%)	Percent of total less refusals and noncontacted (%)
Total attempted interviews	400	100	–	–
New firm established	71	17.8	20.6	27.2
Persisting at starting up a business	143	35.8	41.6	54.8
Terminated business start-up	47	11.8	13.7	18.0
Refusal to participate in follow-up interview	56	14.0	–	–
Could not be contacted	83	20.8	24.1	
Total attempted less refusals and noncontacted	261	–	–	100.0
Total attempted less refusals	344	–	100.0	–

Latvian PSED data, authors' calculations

CATI interviews in January 2010 (28 months after initial interviews) designed to establish the status of the venture. Another option is to conduct the survey using web-based or e-mailed questionnaires, which could be substantially longer. To this purpose, we have also asked about entrepreneurs' e-mail addresses during Wave 2 interviews. However, only 147 respondents provided their e-mails. Clearly, use of only a web-based follow-up interview would result in substantial additional sample attrition.

6.4 Characteristics of Nascent Entrepreneurs and their Business Ventures

This section has three aims. First, it presents evidence on the prevalence of nascent entrepreneurship in Latvia using Global Entrepreneurship Monitor data. Second, it examines the personal backgrounds of individual entrepreneurs who are at the center stage of the venture creation process. The main aim here is to compare nascent entrepreneurs with non-entrepreneurs to shed light on the factors that affect propensity to engage in entrepreneurship. Third, it describes the nascent business ventures.

6.4.1 Prevalence of Nascent Entrepreneurs

According to Global Entrepreneurship Monitor (GEM) data, at a time when screening for LV-PSED survey was conducted, the prevalence rate of nascent entrepreneurship in Latvia was 2.2 per 100 adults. This means that only about 2 out of 100 adults were involved in the creation of new businesses. However, as shown by the GEM survey results in Table 6.3, there has been substantial variation in the rates of nascent entrepreneurship in 2005–2009. The prevalence rate was in the order of 4.0 per 100 in 2005–2006, dropped to 2.2 per 100 in 2007, and then sharply increased

Table 6.3 Nascent entrepreneurship rates and macroeconomic conditions, 2005–2009

Year	Real GDP growth (%)	Unemployment rate (LFS) (%)	Prevalence of nascent entrepreneurs in the adult population (%)
2005	10.6	8.9	4.2
2006	12.2	6.8	4.0
2007	10.0	6.0	2.2
2008	−4.8	7.5	3.9
2009	−18 (*f*)	15.7 (*f*)	5.5

(*f*) forecasts
European commission, GEM 2005–2009

to 5.5 per 100 in 2009. We believe that the main reason for such huge variation was macroeconomic cycle and the resulting situation in the labor market.

As shown in the second and third columns of Table 6.3, in 2005–2009 Latvian economy went from real GDP annual growth rates above 10% to a (forecasted) *decline* of 18%. Following its accession to the European Union in 2004, the Latvian economy experienced rapid growth to a large extent thanks to availability of cheap credit. However, there were several negative side effects accompanying this strong economic growth including an excessive of consumer demand, a real estate bubble, excessive wage growth, and current account deficits reaching 25% of GDP. The global financial crisis and ensuing recession exacerbated these domestic imbalances and resulted in one of the deepest economic recession in the European Union. Naturally, this recession was accompanied by a rapidly rising unemployment rate, which has reached 20% by the end of 2009. Such worsening of the labor market conditions had the effect of pushing people into entrepreneurship, resulting in a sharp increase in the observed prevalence of nascent entrepreneurship.

Thus, Latvian experience shows that the macroeconomic conditions have substantial effects on entrepreneurial activity, which largely operates through the labor market. Latvian entrepreneurship seems to be counter-cyclical, absorbing some of the labor that is shed by the firms during the economic downturn. Hence, the Latvian findings seem to support what in the literature is labeled the "refugee effect" (Carree and Thurik 2003) or what Parker (1996) calls the "push effect." This observation also entails an important lesson for the design of PSED studies. Samples obtained in "good" years are likely to have larger share of entrepreneurs who are motivated by business opportunity, whereas samples generated in "bad" years are likely to have larger share of necessity entrepreneurs motivated by the adverse conditions in the labor market. Also, in such years entrepreneurs are more likely to start their ventures in specific sectors, such as real estate and construction.

6.4.2 Who Becomes Engaged in Nascent Entrepreneurship?

Entrepreneurship is influenced by a variety of factors ranging from environmental and institutional to individual's human capital and resource endowments, such as access to financial capital. In this section, we examine the differences in human capital and other demographic factors between entrepreneurs and non-entrepreneurs. Although the research design of the LV-PSED did not include a comparison group of non-entrepreneurs, we can compare nascent entrepreneurs to general population using a number of Latvian GEM surveys, which often included questions identical to those asked in US-PSED II. Since PSED was conducted in a somewhat unusual year characterized by an overheated Latvian economy, we also use GEM surveys for different years, comparing nascent entrepreneurs identified in these studies with working non-entrepreneurs. Such approach also has the advantage of checking whether the observed differences between entrepreneurs and non-entrepreneurs persist over time. The results are summarized in Table 6.4.

Table 6.4 Differences between nascent entrepreneurs and working non-entrepreneurs, 2007–2009

	LV-PSED, GEM 2007			GEM 2008			GEM 2009		
	NE	GP	Difference in means	NE	GP	Difference ir. means	NE	GP	Difference in means
Number of observations	400	1,298		77	1,311		102	1,016	
Gender									
Female, share	0.382	0.498	***	0.260	0.485	***	0.324	0.526	***
Age									
18–24, share	0.128	0.118		0.255	0.116	***	0.222	0.118	***
25–34, share	0.367	0.232	***	0.408	0.220	***	0.384	0.239	***
35–44, share	0.299	0.267		0.202	0.258		0.203	0.243	
45–54, share	0.166	0.253	***	0.102	0.269	***	0.164	0.262	***
55–64, share	0.040	0.130	***	0.033	0.137	***	0.027	0.139	***
Mean age, years	35.8	40.1	***	31.8	40.4	***	33.6	41.1	***
Median age, years	35	41		28	41		31	41	
Ethnicity									
Ethnic minority, share	0.374	0.422	*	0.350	0.443		0.438	0.430	
Education									
Higher education, share	0.379	0.306	***	0.464	0.286	***	0.356	0.382	
Education in business, share	0.499	n/a		0.664	0.263	***			
Experience In Business									
Serial entrepreneurs, share	0.213	0.062	***	0.254	0.036	***			
Family									
Self-employed parents, share	0.168	0.081	***	0.327	0.063	***			
Worked in parents' business, share	0.083	0.032	***						

GP general population, encompasses working non-entrepreneurs*, **, *** pertain to the two-sided *t*-test that the difference in means between nascent entrepreneurs and working non-entrepreneurs is zero and indicate significance at 10%, 5%, and 1% level, respectively

The second column of Table 6.4 presents summary statistics for 400 nascent entrepreneurs in the LV-PSED sample, whereas the third column presents summary statistics for a sample of 1,298 working non-entrepreneurs from GEM 2007 survey, which is the closest available comparison group. The fourth column shows whether the difference in means between entrepreneurs and non-entrepreneurs is statistically significant. In Latvia, women are less active in entrepreneurship than they are in the labor market. Thus, 38.2% of nascent entrepreneurs are women, compared with 49.8% among non-entrepreneurs. This in spite of the fact that Latvian women have high labor force participation rates (70.6%) and Latvia has one of the highest percentages of women in managerial positions in the European Union.[4] Interestingly, GEM surveys show that women had substantially smaller rates of engagement in nascent entrepreneurship in 2008 and 2009; in these years, only 26.0% and 32.4%, respectively, of all entrepreneurs were women. In all years, the differences between female participation rates in entrepreneurship and the labor force were highly statistically significant.

As in many other studies, we find that age has a very large impact on the propensity for nascent entrepreneurship. Young people have the highest propensity to be engaged in entrepreneurship. Thus, the proportion of people aged 25–34 among entrepreneurs is nearly twice as high as compared with working non-entrepreneurs. However, the propensity to engage in entrepreneurship declines for those who are 45 years old or above. Only 16.6% of entrepreneurs are 45–54 years old, as compared with 25.3% of non-entrepreneurs being in this age group. Those aged 55–64 are least likely to be entrepreneurs. The proportion of people in this age group among entrepreneurs is less than one-third the proportion of this age group among non-entrepreneurs. This is likely to be explained by the Soviet legacy: older generations, who grew up in the centrally planned economy may find it difficult to adapt to a market economy.

It should also be noted that 2007 was unusual in that the very young (18–24 years old) showed relatively low levels of entrepreneurial activity. Only 12.8% of all LV-PSED NEs are in these age group. In comparison, 25.5 and 22.2% of all nascent entrepreneurs in 2008 and 2009 GEM surveys were aged 18–24 years. Again, a likely explanation is extremely favorable situation in the labor market at that time. Overall, nascent entrepreneurs, on average, are very young compared to non-entrepreneurs. The median age of an entrepreneur in the LV-PSED sample is 35 years. The median ages of entrepreneurs in GEM 2008 and GEM 2009 sample are 28 and 31 years, respectively. In contrast, the median age of a working non-entrepreneur is 41 years. The difference between means is highly statistically significant.

Entrepreneurship in Latvia does not have an ethnic dimension. Latvia is a multiethnic country with a substantial proportion of the population being Russian-speaking. According to the Central Statistical Bureau, Russian speakers comprised 38% of the Latvian population in 2008. In turn, 37.4% of NEs in PSED sample reported themselves belong to the Russian-speaking ethnic minority. This is somewhat less than the proportion of Russian speakers among working non-entrepreneurs (42.2%), but broadly in agreement with the size of ethnic minority in general population.

[4]European Foundation for the Improvement of Living and Working Conditions (2009).

Further, nascent entrepreneurs appear to be well educated, compared to their peers in regular employment; 37.9% of entrepreneurs in the LV-PSED sample report having higher education, as compared with 30.6% among working non-entrepreneurs. The difference is statistically significant at the 1% level. This is consistent with the findings from other countries, which show entrepreneurs to have higher levels of education (Davidsson and Gordon 2009). Interestingly, GEM surveys for later years indicate even higher levels of entrepreneurial involvement for individuals with higher education. Also, nearly half of all nascent entrepreneurs in the PSED sample reported having managerial education. A comparison with non-entrepreneurs using GEM 2008 data suggests that managerial education is much more prevalent among entrepreneurs. Only 26.3 of the working non-entrepreneurs reported having managerial education.

Another factor associated with greater propensity to become nascent entrepreneur is previous entrepreneurial experience. About 21.3% of all entrepreneurs in the LV-PSED cohort reported previous experience in starting and managing a business. In contrast, only 6.2% of non-entrepreneurs in GEM 2007 reported having such experience. A strong and statistically significant positive association between serial entrepreneurship and propensity to engage in new business creation is also observed in GEM 2008 data. Clearly, having entrepreneurial experience is helpful to starting new ventures. Of course, it is an open question whether this represents a causal effect or reflects the effect of other factors that affected propensity to get involved in the first start-up effort.

Finally, in line with the literature (e.g., Dunn and Holtz-Eakin 2000), we find that entrepreneurs are much more likely to have self-employed parents, i.e., with entrepreneurial experience, as compared with non-entrepreneurs. Having self-employed parents was reported by 16.8% of PSED entrepreneurs, but only 8.1% non-entrepreneurs. The difference is even larger in GEM 2008 data, with 32.7% of NEs reporting having self-employed parents. The discrepancy between the years might be explained by low representation of young people among nascent entrepreneurs in 2007. Further, about 8% of nascent entrepreneurs in LV-PSED worked in parents' businesses while only about 3% of non-entrepreneurs had a similar experience. Entrepreneurial family background is said to transport knowledge, skills, self-confidence, and also positive attitudes toward new venture creation, thus facilitating entry of their children into entrepreneurship. Dombrovsky and Welter (2006) used GEM data to show that presence of entrepreneurial relatives, either in the Soviet times or after independence, is significantly correlated with the respondent's participation in entrepreneurship. Many other studies for other countries report similar findings. For example, Davidsson (1995) found that 40% of small business owners in Sweden had a self-employed parent, and only 15% of other vocational groups did.

To summarize, the propensity to engage in nascent entrepreneurship is positively correlated with age, gender, educational attainment (especially having managerial education), entrepreneurial experience, and having self-employed parents. Dombrovsky and Welter (2006) report similar findings using GEM 2005 data. A "typical" Latvian nascent entrepreneur has the following characteristics.

- 38.5% are females.
- On average, 36 years old; only about 1 in 20 is 55 or older.
- Thirty-seven percent belong to a Russian-speaking minority.
- Sixty-two percent are married, and 70% are married or living with a partner.
- Nearly 20% live in households with at least one child under 3 years of age; 42% live in households with at least one child who is between 4 and 18 years of age.
- Nearly one in two have not gone beyond secondary education; nearly one in three has a bachelor's degree, and nearly one in ten has a master's degree or higher.
- A majority, 70%, reports a full-time or a part-time job; 24% reports self-employment.
- A majority, 55%, report they are responding to a business opportunity to develop a promising idea, the remainder are involved because of lack of better career options.

6.4.3 Nascent Enterprise Profile

What kind of businesses are these nascent entrepreneurs creating? We start with distribution of nascent businesses by economic activity, presented in the third column of Table 6.5. The fourth column summarizes distribution of the population of 58,910 active commercial firms in Latvia, based on Central Statistical Bureau

Table 6.5 Nascent enterprises: economic sector and national comparisons in 2007 (%)

NACE Rev.2	Industry	LV-PSED	Commercial firms*
	Number of cases	400	58,910
	Total	100.0%	100.0%
A	Agriculture, forestry, and fishing	1.0%	2.7%
B	Mining and quarrying	0.3%	0.2%
C	Manufacturing	3.5%	9.9%
D, E	Utilities	1.3%	0.9%
F	Construction	18.8%	10.6%
G	Wholesale and retail trade	17.0%	31.4%
H	Transport and storage	9.8%	6.8%
I	Accommodation and food service activities	5.3%	4.1%
J	Information and communication technologies	3.8%	3.4%
K	Financial and insurance activities	0.8%	1.4%
L	Real estate activities	4.5%	7.4%
M, S	Business and private services	20.3%	13.7%
…	Other	14.9%	7.5%

*Central Statistical Bureau

data. According to this table, nascent enterprises are highly overrepresented in business and private services (20.3%) and construction (18.8%). There are two likely explanations for this trend. First, given that most firms are financed with their owners' money, nascent ventures are likely to be more active in industries with low-entry barriers, including capital requirements. Second, entrepreneurs are attracted by high-profit opportunities. As it was mentioned earlier, 2007 was the year of substantial expansion of the economy and a real estate bubble. The construction sector was at the epicenter of this excessive demand, having increased its employment by some 40% in 2004–2007. Naturally, many nascent entrepreneurs were drawn by substantial profit opportunities in the construction sector. Finally, it should be noted that in spite of substantial concentration in these two sectors, nascent entrepreneurs are represented in virtually all sectors of economic activity.

In terms of type of legal entity, 63.5% of the nascent entrepreneurs reported having established or planning to establish a limited liability company (LLC), whereas 28.5% reported having or planning to have sole proprietorship. Moreover, most entrepreneurs (90.2%) reported already registering their firm in the Business Registry. Interestingly, 91% of those who registered their ventures did so already in 2006, i.e., less than a year before the first wave interview. However, this need not suggest that most entrepreneurs are at very late stages of their business creation process. A distinguishing feature of Latvia is extremely low incorporation costs, with most firms registering as LLCs. The minimum equity capital requirement is mere 2,000 LVL (about €2,800). Moreover, massive anecdotal evidence suggests that, because of loopholes in legislation, LLCs are commonly established for less than 300 LVL. Thus, the ease of registering LLC companies is likely to explain why so many nascent ventures appear to be already registered.

Latvia is a small country, implying that international orientation is more important to the survival of new businesses than it is in larger countries. This is also reflected in the expected proportion of their customers from outside Latvia within the first 2–3 years of operation. Only 55% reported expecting all of their customers to be in Latvia. About 10% reported expecting half or more of their customers being outside Latvia, and 1% (four entrepreneurs) expected all of their customers to be international.

Very few nascent entrepreneurs plan to create truly high-tech businesses. We look at three variables to gauge the degree of nascent enterprises' technological focus: (1) novelty of the product or service; (2) use of new technologies; and (3) application for patent, trademark, or author copyright. As regards product novelty, only 10% of entrepreneurs reported that all customers would find their product to be new and unfamiliar. Further, only 5% reported there were no other businesses in Latvia that offered the same product or service. We see similar picture with the use of new technologies. About 10% of entrepreneurs reported planning to use production technologies that were not available more than a year ago, and about 17% planned to use technologies that were less than 5 years old. A tiny minority, 3.5%, reported such high-tech activity as registering a patent. Interestingly, however, nearly half of all entrepreneurs regarded their businesses to be "hi-tech." Also, nearly 32% of all nascent entrepreneurs reported that spending on research and development (R&D) would be a major priority for their new business.

Table 6.6 Nascent enterprise size expectations (%)

Jobs anticipated	First year (%)	Fifth year (%)
None	2.6	0.0
1–5 jobs	69.7	28.0
6–10 jobs	17.5	28.3
11–25 jobs	6.5	23.5
25–50 jobs	2.1	11.6
More than 50 jobs	1.6	8.6

Latvian PSED data, authors' calculations

Most nascent entrepreneurs were relatively modest regarding their future growth expectations, which we measured by asking about anticipated number of jobs after the first and fifth year of operation. The results are summarized in Table 6.6. Median expectation is three jobs after the first year and ten jobs after the fifth year of operation. Nearly 70% of all entrepreneurs did not expect to create more than five jobs after first year of operation. Only about 10% could be termed as "high growth expectations," i.e., planning to create more than ten jobs after 1 year in business. Similarly, a majority of entrepreneurs (56%) expected to create no more than ten jobs after 5 years of operation. Moreover, 29% expected to provide five or less jobs after 5 years. Only about 9% had high growth expectations, expecting to create more than 50 jobs after this time period.

Finally, nascent businesses with many owners are a minority. A majority (58%) of entrepreneurs expected to be sole owners of their business, and married couples expect to own 11% of ventures. Overall, 88% of all ventures would be owned by three or less owners. Only 3.5% of business would be owned by five or more owners.

6.5 The Start-up Process

This section presents various findings with respect to the start-up process, ranging from the idea to set up a new venture to the financing and planned ownership of the start-up. Most of the findings presented rely on data from the first wave of the Latvian PSED study. Several parts of the current section are based on the analysis presented in Baltrusaityte-Axelson et al. (2008).

The business start-up process can be characterized by the events, behaviors, and accomplishments of individuals that eventually might lead to the emergence of a new business. The start-up process is, as discussed in Lichtenstein (2000), usually nonlinear. Despite the wide variety in the nature and sequence of start-up activities pursued by different nascent entrepreneurs all of them have been through the process of opportunity recognition. The opportunity recognition process is a key element of the start-up process and can, as in Timmons et al. (1987), be seen as the heart of the entrepreneurship process. Following the distinction introduced by Bhave (1994), we will distinguish between externally and internally stimulated

opportunity recognition. Externally stimulated nascent entrepreneur decided to start a business after he or she got the business idea; those internally stimulated first decided to become an entrepreneur and only then started searching for a business idea. The findings reveal that around 45% of the nascent entrepreneurs report that they were externally stimulated in their decision to become an entrepreneur, whereas close to 20% were internally stimulated. The other one-third reported that the business idea came at the same time as the decision to start a business.

Having found the stimulus that triggered the decision to become an entrepreneur, the next issue to be considered is the source of the business idea. As seen in Table 6.7, a majority of the respondents report that the business idea either emerged from their current or previous employment. Furthermore, more than three-quarters of the respondents report that the idea either originated from employment or from a separate business they currently owned and managed. In other words, experience from a particular industry or market seems to play an important role in terms of generating business ideas. It is also worth noting that very few business ideas seem to be research-based, the latter being in line with the findings of the previous section and presented in Table 6.7, showing that very few nascent entrepreneurs plan to create high-tech ventures.

Irrespective of the stimulus triggering the decision to establish a new business or of the source of the business idea, the prospective entrepreneur spends time thinking about entering entrepreneurship. Table 6.8 presents the years that have passed since the nascent entrepreneur first started thinking about starting up a new business.

Around 45% of the nascent entrepreneurs report that less than a year has passed since they first thought of starting up a new business. Furthermore, for

Table 6.7 Sources of a business idea ($N=400$)

Source of idea	Percent (%)
Current work	19.3
Previous work	38.5
Other business, which is managed now	17.8
Hobby	6.5
Academic work or applied research	0.5
Your or other idea	16.8
Don't know/Refusal	0.8

Latvian PSED data, authors' calculations

Table 6.8 "In which year have you started thinking about starting a new business?" ($N=382$) (%)

Year	Percent (%)
Up to 1 year	45.8
1–2 years	18.6
2–3 years	12.6
3–4 years	5.5
4–5 years	3.4
More than 5 years	14.1

Latvian PSED data, authors' calculations

almost three-quarters of the nascent entrepreneurs less than 3 years have passed since the first thought of establishing a new venture. On the other end, somewhat more than 5% of the respondents have been harboring the idea of starting a new business for over a decade and should probably be labeled "hobbyists."

The start-up process also involves decisions related to the legal form of the new organization; organizational form; and ownership structure. The choice of legal form of organization was discussed in the previous section where it was shown that a majority of the nascent entrepreneurs (almost two-thirds) were having or are planning to establish a limited liability company, whereas somewhat more than a quarter have or plan to have sole proprietorship. It was also mentioned that the large number of nascent entrepreneurs that an early stage in the start-up process have registered a company could at least partly be explained by the low incorporation costs in Latvia. In addition, as discussed in the Latvian GEM 2007, an international comparison of the financial requirements for starting up a business reveals that the Latvian financial requirements are very low. In 2007, approximately 40% of the nascent entrepreneurs needed less than €10,000 (on average, these 40% needed €4,700) to start a new business. The administrative work load associated with registering a business in Latvia is not particularly onerous, a convenience for nascent entrepreneurs. According to the 2008 World Bank Doing Business Report, five procedures were required and it was estimated to take 16 days to start a business (World Bank, 2008).

Closely related to the cost of establishing a business is financing the start-up. The Latvian PSED contains a number of questions related to financing of the new venture. Unfortunately, the response rate to most of them is very low, in several cases below 5%, which in turn means that the data collected is far from being representative and will hence not be discussed.[5] There is however one question where the response rate was high enough to justify its inclusion in the discussion: "How much of the money provided by you/other owners came from personal savings (in percent)?" Table 6.9 presents the findings and reveals that close to half (49%) of the nascent entrepreneurs have managed to entirely fund their start-up efforts with their own savings. Furthermore, around 70% of the nascent entrepreneurs manage to finance at least 50% of the start-up costs. These findings are in line with those of Smallbone and Welter (2008) who also analyzed nascent entrepreneurship in a transition context.

The financing of the start-up was followed up in Wave 2 of the Latvian PSED with questions on, inter alia, bank loans. Some of the findings from these questions are reported in Tables 6.10 and 6.11.

There are a couple of interesting findings. First, the degree of self-financing remains high even in Wave 2; only around 23% of the new firms having applied for a loan at least once, 77% have never applied for a bank loan. The numbers for the active start-ups and those that quit are 29% and 19%, respectively. Hence, the new firms and those that quit are surprisingly similar with respect to applying for a bank

[5]This is a pattern not only observed in the Latvian PSED but in other Latvian studies as well; Latvian respondents seem to be extremely unwilling to reveal any type of financial information.

Table 6.9 "How much of the money provided by you/other owners came from personal savings in percent?" ($N=400$, %)

Percentage of funding from personal savings (%)	Percent (%)
0	1.0
1–24	6.3
25–49	7.3
50–74	17.5
75–99	2.8
100	49.0
Do not know or N/A	16.3

Latvian PSED data, authors' calculations

Table 6.10 "Did you apply for new [bank] loans?" ($N=261$), percent by venture status in Wave 2

	Venture status		
	Active start-up (%)	New firm (%)	Quit (%)
Once	18.9	15.5	12.8
More than once	10.5	7.0	6.4
Not at all	69.2	77.5	80.9
Don't know	1.4	0.0	0.0
Total	100.0	100.0	100.0

Latvian PSED data, authors' calculations

Table 6.11 "Was this [most] recent [loan] application approved or denied?" ($N=69$), percent by venture status in Wave 2

	Venture status		
	Active start-up (%)	New firm (%)	Quit (%)
Approved	77.3	87.5	77.8
Denied	15.9	12.5	22.2
Don't know	6.8	0.0	0.0
Total	100.0	100.0	100.0

Latvian PSED data, authors' calculations

loan. Secondly, out of those that applied for a bank loan, a vast majority got their application approved. The loan approval rates range from 77% for both active start-ups and those that quit to almost 88% for the new firms. Again approval rates for those that "quit" is not very different from those of the other two groups. At least once special situation may have affected this high rate of loan approval; until early 2008, Latvian banks were very eager to lend money.

When it comes to the organizational form, i.e., the type of business start-up, a vast majority (almost 85%) of the nascent entrepreneurs have an independent new business entity in mind. Somewhat more than 10% are considering or have already purchased an existing business. The remaining 5% are either considering a franchise or a new venture sponsored by an existing business.

When asked about the ownership structure, close to 60% of the nascent entrepreneurs were planning to own the new business solely by themselves. Somewhat more than 10% will share the ownership with their spouses, whereas the remaining

30% plan to share the ownership with others. In this context, it seems reasonable to believe that the high proportion of sole ownership partly reflects the relatively low costs associated with setting up a business, partly the fact (discussed in the previous section) that a large proportion of the nascent entrepreneurs focus on sectors which do not require high investments. Once the business is fully operational, a mere 4% of the nascent entrepreneurs plan on retaining full ownership. The largest proportion, 47%, plan on owning half of the company and almost a third expect to own 45% or less of the new venture.

During the start-up process, the nascent entrepreneur is involved in a number of activities related to the creation of the new venture. To get a better understanding of how far the nascent entrepreneur is in the start-up process, the PSED questionnaire therefore contains questions related to various activities associated with the creation of a new venture. In total, 14 different gestation activities were listed in the questionnaire. The average number of activities reported by the nascent entrepreneurs was 7.7 and all nascent entrepreneurs in the sample have reported at least one activity. As seen from Table 6.12, the most common activity is "legal form of business registered" (reported by 90%),[6, 7] followed by "actually invested own money in the start-up" (83%). These two observations more or less confirm what was said above about the relatively low work load when it comes to establishing a business and that the capital requirements are low as well.

When it comes to the other gestation activities, the emphasis ranges from 74% reporting "began to collect information on competitors" to 3% reporting "initiated patent, copyright, trademark protection," the latter to a large extent reflecting the sectoral composition of the nascent entrepreneurs' business ideas as well as the source of the business idea (very few being research-based). An observation worth a note is the high number of nascent entrepreneurs who have hired an accountant (60%). Unlike several of the other high-ranked gestation activities which are easy to undertake (e.g., "began to collect information on competitors) this manifests the seriousness of the nascent entrepreneur and also indicates a high likelihood of some cash flow.

The observation that nascent entrepreneurs of the sample have undertaken on average 7.7 out of the 14 activities (i.e., more than half of the activities) raises the question whether they are "too advanced" to be considered nascent entrepreneurs. As discussed in Davidsson (2006), like there is a minimum requirement in terms of activities undertaken to be considered a nascent entrepreneur, there are also a maximum number of activities in order to ensure that it is an ongoing start-up and not

[6] As mentioned in the methodology section of this chapter, due to a misunderstanding, 100 out of the 400 nascent entrepreneurs were from a sample of already registered firms. Given the high proportion of nascent entrepreneurs who have registered their venture among the other 300 sampled nascent entrepreneurs, it is reasonable to assume that the percentage of nascent entrepreneurs who have registered their venture is still close to 90%.

[7] The high number of nascent entrepreneurs who have registered their business suggests that in terms of sampling, a less expensive way to reach out to the nascent entrepreneurs would be to use the Latvian company register. The price to be paid is, however, that around 10% of the nascent entrepreneurs are excluded from the sample.

Table 6.12 Nascent enterprise: start-up activities initiated (%)

Start-up activity	2007 (%)
Legal form of business registered	90.5
Actually invested own money in the start-up	82.8
Began to collect information on competitors	74.3
Determined regulatory requirements	70.8
Model, prototype of product, service ready for sale or delivery	69.0
Determined financial projections	64.5
Began defining market for product, service	64.3
Purchased materials, supplies, inventory, components	62.3
Hired an accountant	60.3
Received first outside funding	47.4
Sought external funding for the start-up	33.8
Began development of model, prototype of product, service	28.8
Proprietary technology fully developed	14.5
Initiated patent, copyright, trademark protection	3.5

Latvian PSED data, authors' calculations

an established business. Naturally, there is no uniform "maximum criterion" and different authors have applied different criteria. Delmar and Davidsson (2001) suggest that a venture is already started if (1) money has been invested; (2) income had been made; and (3) the firm was already a legal entity. Were we to apply the same criteria to the Latvian PSED, we have data (although not perfect) on (1) and (3) indicating that more than 80% of the respondents satisfy both criteria (2) and (3). Criterion (2) is more troublesome since there is not any question addressing the issue of income. Hence, we have a rather large share of what we label nascent entrepreneurs who at least fulfill two out of these three criteria for a business birth. Most likely, some of these also fulfill the criterion (2) and would, in a Delmar and Davidsson setting be considered already started and the respondents would not qualify as nascent entrepreneurs.

There are, however, many other criteria trying to draw a line between nascent entrepreneurship and an ongoing start-up.[8] The Delmar and Davidsson criteria might be too strict, particularly in the Latvian context where it is relatively easy and inexpensive to set up a business. Nevertheless, the findings on the gestation activities undertaken by the nascent entrepreneurs in the sample indicate that they have been quite active during the start-up process. There are at least two possible explanations. Either the Latvian nascent entrepreneurs are very serious about their business plans or this reflects a favorable institution framework facing a Latvian nascent entrepreneur. In Latvia, it is relatively simple and low cost to incorporate or register a new firm.

[8] See Shaver et al. (2001) for a discussion of the problem of determining who is to be considered a nascent entrepreneur within the PSED context.

Finally, at least one caveat is necessary when discussing the findings of Delmar and Davidsson. Our survey instrument provides no information about when these start-up activities took place. Hence, for some nascent enterprises, many of the activities could have been undertaken several years ago before screening selection for the nascent cohort; there may not have been much recent efforts.

6.6 Outcome Overview

The percentage of terminated start-ups after 12 months, especially as compared with other countries, is of major policy interest. Unfortunately, answering this question is difficult because of large sample attrition. As shown earlier, 11.8% of Wave 2 participants terminated start-up activities. However, whether it is an unbiased estimate of the likelihood of termination after 12 months depends on our assumptions about the joint probability distribution of response, contactability, and termination. The likelihood of terminating a start-up may be substantially higher among those who could not be contacted, and possibly, is also positively correlated with nonresponse. If we assume that all missing entrepreneurs terminated their business ventures, the proportion of "terminations" raises to 38%. Thus, for our estimations, we use a sample of 344 nascent entrepreneurs.

How do these results compare to other countries? Parker and Belghitar (2006) report business creation outcomes after 1 year across four studies for USA, Canada, and the Netherlands. Interestingly, they report 33–48% of nascent entrepreneurs being operational, i.e., established a *new firm*, within 1 year, with 20–27% giving up. In their review of PSED studies, Davidsson and Gordon (2009) suggest that, as a rule of thumb, it is reasonable to conclude that somewhere between one-third and half nascent entrepreneurs reach operational status. This is in contrast to Latvia where the proportion of operational nascent entrepreneurs is substantially smaller, and percentage of terminated nascent entrepreneurs is potentially higher, depending on our assumptions on what happened to missing entrepreneurs.

Obviously, much of the value of PSED data stems from their ability to shed light on the determinants of outcomes of the business creation process, which is subject of large literature overviewed by Davidsson and Gordon (2009). In what follows, we demonstrate some main results of this type of analyses using Latvian data. Focusing on the effects of various aspects of human capital is a natural point of departure and also has the benefit of having been studied extensively using comparable datasets for other countries. This should allow for some cross-country comparison of the results. Our main innovation is in including the measure of knowledge of the tax system, which can be viewed as a rather specific form of human capital.

Following Liao and Gartner (2006), we create a dichotomized measure of business creation outcome by distinguishing between "termination" (1) versus "still trying" or "new firm," which we code as "persisting" (0). There is a wide range of performance indicators used in the literature and each has its advantages and disadvantages (see the discussion in Davidsson and Gordon). For example, one weakness

of our measure of "persistence" is that it does not capture terminations of start-ups after more than 12 months. In some situations, early terminations might be less wasteful than spending resources on an unviable business. However, "failure" (after 12 months) is still a popular indicator of entrepreneurial outcome that is easy to interpret. Furthermore, we associate all missing entrepreneurs with terminations of their start-up efforts. This is a plausible presumption because of extraordinary investment of time and resources by the survey vendor to contact missing nascent entrepreneurs.[9]

We focus on several groups of potential determinants of business outcomes: (1) knowledge of the tax system; (2) human capital; (3) professional experience; (4) social capital; and (5) demographic characteristics. We attempt to measure entrepreneurs' understanding of the tax system via a simple test consisting of six questions. Essentially, we ask how two common actions (1) hiring an employee, and (2) purchasing a fixed asset (computer) affect venture's tax liability, i.e., costs. *Tax knowledge* is a continuous variable measuring the number of correct answers to these questions, i.e., we weigh all answers equally. There is substantial variation in *tax knowledge*, with about 19% of the nascent entrepreneurs not being able to answer any question correctly, a median nascent entrepreneurs managed to answer two questions correctly, and just a few (1%) were able to answer all six questions correctly.

Further, broadly in line with the literature, we measure the nascent entrepreneur's human capital with three variables. *Higher education* is a binary variable that equals 1 if entrepreneur has a bachelor's degree or higher. *Start-up team* is binary variable taking the value of 1 if entrepreneur established her business together with other individuals or institutions. This implies that the nascent entrepreneur can draw on the human capital of her partners in business creation.[10] About 32% of the nascent entrepreneurs in the sample ($N=344$) reported starting their businesses in a team. Finally, *managerial education* takes the value of 1 if entrepreneur reported receiving managerial education or training in the first round of the interviews. Almost half (49%) of all nascent in our sample reported having such training. Obviously, our hypothesis is that higher measures of human capital have a negative effect on the likelihood of termination after 12 months.

Various aspects of professional experience are measured with four variables. First, *years of experience* is a continuous variable measuring the number of years of professional experience that the nascent entrepreneur has had in the area of her business start-up. An average nascent entrepreneur in our estimation sample has had 6.6 years of professional experience. Second, *jack-of-all-trades* measures how many different activities an entrepreneur performed in the labor market.[11] For

[9]Numerous attempts to contact nascent entrepreneurs were made in the August of 2008 and a few months later – in January 2009. In about 40% of cases, there was a wrong number or a different person answering the phone, indicating that nascent entrepreneur moved or left the country. The survey firm also went at great length in trying by calling the neighbors of missing entrepreneurs.

[10]Some studies group this variable under "social capital."

[11]This variable is constructed from the question taken from the entrepreneurship survey conducted by Djankov et al. (2005).

example, an accountant and sales executive would count as two different activities. Lazear (2004) holds the view that entrepreneurs are generalists, as opposed to specialists, that is, they are jacks-of-all-trades to some extent. As he puts it (p. 208): "although they need not be expert in any single skill, they must be sufficiently good at a wide variety to make sure that the business does not fail." A median nascent entrepreneur has had two professional activities, with a few (1%) reporting having had as many as ten. Third, *parallel business* is a binary variable taking value of 1 if the entrepreneur reported is involved with one or more other businesses. That was the case for 22% of NEs in our sample. Fourth, *serial entrepreneur* is a binary variable measuring whether entrepreneur was involved in business creation in the past. Nearly 23% of NEs in our sample qualify for serial entrepreneurs. It is usually hypothesized that all four of the variables measuring professional experience have a negative effect on the likelihood of termination, i.e., a positive effect on start-up persistence.

Finally, we measure "social capital" with only one binary variable, *self-employed parents*, which takes the value of 1 if NE reported having at least one self-employed parent. This was the case for 14% of NEs in our sample. It is commonly argued that this form of social capital could provide an entrepreneurship-specific learning experience, as well as social role models. Using Latvian Global Entrepreneurship Monitor data, Dombrovsky and Welter (2006) found that family background (in e.g., entrepreneurship) is an important factor influencing entry into entrepreneurship. We also include fairly standard demographic controls, such as age and its squared term, a dummy variable for being a female, and dummy variables for belonging to a (Russian-speaking) ethnic minority.

We use a fairly basic methodology to model determinants of entrepreneurial persistence by estimating a probit model with a dependent variable, *termination*, taking the value of 1 if the entrepreneur reported abandoning new venture after 12 months, or was missing. In Table 6.13, we report estimation results from a number of specifications in which we include the variables that are plausibly exogenous to business creation outcomes. The reported coefficients are marginal effects, estimated at the means of explanatory variables. For binary variables, "marginal" effect is for a discrete change from 0 to 1. Robust standard errors are reported in parentheses.

A starting point for our model specification is to examine the effect of a single explanatory variable of *tax knowledge* in Regression (1), with estimation results reported in the second column of Table 6.13. In Regression (2), we add controls for age, age squared, being a female, and belonging to an ethnic minority. Next, in Regressions (3) and (4) we turn our attention to conventional measures of human capital, using *higher education*, *start-up team,* and *managerial education* variables. Demographic controls are omitted from Regression (3) but included in Regression (4). In Regression (5), we turn to nascent entrepreneurs' professional experience, whereas in Regression (6) we focus on the effect of social capital (having self-employed parents), with demographic characteristics included in both specifications. In Regression (7), we include measures of tax knowledge, human capital, and demographic controls. Finally, Regressions (8) and (9) feature more complete

sets of variables, the major difference being that the latter specification excludes *jack-of-all-trades* variable, which is not statistically significant, but entails a substantial cost in terms of loss of observations due to nonresponse.

The effect of tax knowledge on disengagement is statistically significant at the 10% level after human capital measures are controlled for in Regressions (7). Inclusion of *jack-of-all-trades* variable in Regression (8) results in a somewhat smaller magnitude of the estimated coefficient and loss of statistical significance, possibly because of reduction in the number of observations used in the estimation. In Regression (9), the estimated coefficient is –0.034, implying that answering one more question correctly reduces the likelihood of termination by 3.4% points.

Generally, very few variables are found to have a robust and statistically significant effect on the business creation outcomes. Thus, the only measure of human capital that is statistically significant across all specifications is the *higher education* dummy. Having a higher education has a large and negative estimated effect on the likelihood of termination, which is consistent with our prior hypotheses. The effects of *start-up team* and *managerial education* are not statistically significant in any of the specifications. Further, the only dimension of professional experience that is consistently statistically significant across all specifications is the number of *years of experience* in the industry. The estimated effect is negative, which, again, is consistent with our prior hypotheses. Being the *jack-of-all-trades* (i.e., diversity of experience), a *serial entrepreneur* and running *parallel business* have no statistically significant effect on the likelihood of termination in any of the specifications. The effect of having *self-employed parents* is also not statistically significant. Interestingly, only some of the demographic controls are sporadically (weakly) statistically significant in some of the regression specifications. We find no robust evidence that age, gender, and belonging to an ethnic minority have a significant effect on the likelihood of disengagement.

We also perform two major robustness checks, but do not report their specific estimation results here. First, we reestimate all regressions in using a stricter definition of our dependent variable by excluding all missing entrepreneurs. This results in substantially smaller sample of only 261 observations. Most of the estimated coefficients are qualitatively similar. Moreover, the estimated effects of having higher education and number of years of industry experience are still statistically significant at 5% level in all specifications. Interestingly, coefficient estimates for *self-employed parents* and *managerial education* become statistically significant (the p levels are $p < 0.10$ and $p > 0.05$, respectively). However, managerial education appears to have a *positive* effect on the likelihood of termination, with the estimated magnitude being similar to that of having higher education. Further, the effect of tax knowledge is not statistically significant in any of the specifications. Second, we reestimate Regression (8) using a subsample of solo nascent entrepreneurs, i.e., those who do not have start-up teams. This is done because of disputable meaningfulness of estimating models with venture-level outcomes on the left-hand side and individual nascent entrepreneur characteristics on the right-hand side (Davidsson and Wiklund, 2001). The problem is that survey participants might be less important members of entrepreneurial start-up teams. Of course, focusing on solo start-ups

Table 6.13 Determinants of business survival. Probit regressions, marginal effects

Dependent variable: start-up terminated or missing after 12 months (=1)									
Regression model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Tax knowledge	−0.0265	−0.0284					−0.0342*	−0.0323	−0.034*
	(0.0185)	(0.0186)					(0.0191)	(0.02)	(0.0194)
Human capital									
Higher education (=1)			−0.1198**	−0.1247**			−0.1254**	−0.1219**	−0.1141**
			(0.0538)	(0.0549)			(0.0549)	(0.057)	(0.0558)
Start-up team (=1)			−0.0655	−0.0463			−0.0445	−0.0473	−0.0509
			(0.0564)	(0.0581)			(0.0581)	(0.06)	(0.00582)
Managerial education (=1)			0.0213	0.0152			0.0196	0.0361	0.0153
			(0.0536)	(0.0544)			(0.0543)	(0.0565)	(0.055)
Professional experience									
Years of experience					−0.0114**			−0.011**	−0.0114**
					(0.0047)			(0.0049)	(0.0432)
Jack-of-all-trades					−0.005			−0.0064	
					(0.0149)			(0.0153)	
Parallel business(es) (=1)					0.0233			0.0444	0.0432
					(0.0834)			(0.0851)	(0.0432)
Serial entrepreneur (=1)					0.0814			0.0702	0.041
					(0.0876)			(0.0874)	(0.0845)
Social Capital									
Self-employed parents (=1)						−0.0555		0.0308	−0.04
						(0.0755)		(0.082)	(0.0804)

Demographics									
Age		−0.0262*		−0.0174	−0.025	−0.0288	−0.0166	−0.0166	−0.0171
		(0.0152)		(0.0157)	(0.0159)	(0.0155)	(0.0157)	(0.0166)	(0.0163)
Age squared		0.0003*		0.0002	0.0004*	0.0004*	0.0002	0.0003	0.0003
		(0.0002)		(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Ethnic minority (=1)		0.0268		0.0273	0.055	0.0288	0.023	0.041	0.0281
		(0.055)		(0.0561)	(0.0564)	(0.0549)	(0.0563)	(0.058)	(0.0567)
Female (=1)		0.0862		0.0922	0.0754	0.0732	0.1057*	0.0881	0.094
		(0.0554)		(0.0576)	(0.0588)	(0.055)	(0.582)	(0.0622)	(0.06)
(Pseudo-)R^2	0.004	0.016	0.014	0.024	0.016	0.013	0.031	0.051	0.049
N	344	344	336	336	336	336	336	319	333

Note: *-significant at 0.10 level, ** significant at 0.05 level.

results in substantial reduction of the sample size to only 218 observations. The *higher education* dummy and *industry experience* are still strongly statistically significant. Strikingly, the coefficient estimate of *higher education* is much larger in magnitude, implying a difference in survival probabilities of 17.8% points and underscoring the importance of educational attainment for business creation outcomes.

All in all, how do we interpret our findings? Clearly, the most robust and strong effect on business outcome comes from having higher education and industry experience. Using Regression (8), the estimated difference in survival probabilities after 12 months between two observationally equivalent NEs with and without higher education is 12.19% points. This is a very large effect, given that unconditional likelihood of termination in our sample is 37.79%. The effect of industry experience is also quite large. Consider two nascent entrepreneurs who are both male, nonethnic minority, 36 years old without higher education, median number of professional activities (2), and tax knowledge score (2), but one with 1 year of industry experience and the other with 9 years of experience, the difference equal to interquartile range. The estimated difference in termination probabilities is 9.4% points. We believe our most interesting finding pertains to the effect of tax knowledge. The difference between termination probabilities between two aforementioned individuals, one having a score of 1 on the tax knowledge questions, and the other a score of 3 (the difference being interquartile range for *tax knowledge*) is 6.7%points. This effect is more than half the estimated effect of having higher education and is of substantial policy significance. For example, this may suggest that policies that introduce much simplified taxation systems for early-stage entrepreneurs may result in substantial improvement in the business creation process.

How do these results compare with research findings for other countries that also used comparable PSED datasets? For this purpose, we draw on the survey of PSED studies done by Davidsson and Gordon (2009), specifically their summary of more than 50 studies using U.S., Canadian, Dutch, Norwegian, and Swedish PSED data. Interestingly, the results of our analysis are quite similar to what has been found for these countries, although there are some important differences.

We begin with the uncovered similarities in the impact of various characteristics of human capital on business creation outcomes. First, just like the majority of other studies, we do not find any statistically significant and robust evidence that age, gender, or ethnicity have an effect on business creation outcome. Second, we find that being a team rather than solo start-up has no statistically significant effect on the outcome. Third, we find no evidence that management training matters to the survival of nascent businesses. Fourth, similar to other studies, we find no significant effect from the presence of self-employed parents.

There are also a number of important differences with research findings for other countries. We find that having higher education has a very large and robust effect on the likelihood of abandoning business start-up. In contrast, Davidsson and Gordon report that out of 43 relevant studies only five find positive and statistically significant effect on business outcomes. Our findings regarding importance of industry experience is also unusual. According to Davidsson and Gordon, only

4 out of 30 studies show industry experience to have a positive and significant effect.[12] Also, we find no evidence of start-up experience, as measured by being a serial entrepreneur, or having parallel businesses, to have any effect – even though Davidsson and Gordon conclude that "a positive effect of previous start-up experience gains reasonably strong support" (ibid., p. 19).

To summarize, we find robust statistical evidence that having higher education, industry experience, and better knowledge of the tax system have substantial positive effects on business persistence. However, it is hard not to notice that, overall, the regressions explain extremely little of variation in business creation outcomes. The explained variance, estimated by the Pseudo-R-squared, never rises above 5.1% for any of the models in Table 6.13. In contrast, similar sets of variables explain substantially higher share of variation in individual labor markets outcomes. We have to conclude that there is very little that we know of what explains business creation outcomes of individual nascent entrepreneurs. This posits an important challenge to the entrepreneurship research agenda.

6.7 Conclusion

The Latvian PSED was designed to create a national sample of nascent entrepreneurs whose progress could be followed longitudinally to get an understanding and description of the process of venture creation and its outcome. A total of 400 nascent entrepreneurs were identified in late 2006 and early 2007. The findings show that the propensity to engage in nascent entrepreneurship is positively correlated with gender (male), educational attainment (in particular managerial education), entrepreneurial experience, and having self-employed parents. When it comes to age, young people have the highest propensity to engage in entrepreneurship; in particular, the group aged 25–34 stand out among the nascent entrepreneurs. On the other hand, there are relatively few entrepreneurs aged 45 and above. The latter could probably be explained by Latvia's Soviet heritage. Those being 45 or older grew up and were educated in the centrally planned pre-1991 Soviet system and probably find it more difficult to adapt and perceive entrepreneurial opportunities that come with the market economy.

The two main sectors in which the nascent entrepreneurs are active are business and private services and construction. Each of these sectors has attracted around 20% of the nascent entrepreneurs surveyed. Compared with the Latvian economy as whole, these two sectors are highly overrepresented in the sample. One possible explanation for this finding is to be found in the unprecedented credit-driven consumption boom and real-estate bubble that the Latvian economy was experiencing and which reached its peak during the sampling period. Hence, it seems that the

[12] Also, no studies cited by Davidsson and Gordon find "work experience" to have a significant positive effect.

decision to go into these two sectors was influenced by an overall positive sentiment and expectations of a continuing booming economy, in particular with respect to these two sectors. Were this the case, one would expect many of the surveyed nascent entrepreneurs to terminate their start-up ventures given the current harsh economic circumstances. In terms of future research with the PSED protocol, this suggests that the links between the macroeconomic development and the scope and size of nascent entrepreneurship should be investigated further.

The analysis of the start-up process revealed that a large fraction of the nascent entrepreneurs finance the start-up entirely by themselves. Something that is made possible by the relatively low costs associated with setting up, registering, and incorporating a new business. These institutional factors also seem to play an important role when the activities undertaken by nascent entrepreneurs during the start-up process were analyzed. Out of 14 activities listed in the PSED questionnaire, the average nascent entrepreneur had already undertaken more than half of them. For example, around 90% had registered the business and more than 80% had invested their own money in the start-up. However, using this activity-based metric might present an overoptimistic image of the Latvian nascent entrepreneurs; several country-specific institutional factors may contribute to this high level of activity. This may reflect the low costs associated with a start-up, the large proportion of entrepreneurs of nascent entrepreneurs planning to set up a venture in the service sector, and the small proportion going into the more complicated, high technology sectors.

The second wave of LV-PSED took place about 1 year after the first when the first signs of an economic downturn were evident. The follow-up of the nascent entrepreneurs from the first wave showed that the percentage of operational entrepreneurs is around 20%. This is by international standards fairly low. One explanation might be the slower economic growth that the Latvian economy experienced between the first interview and the follow up 12 months later. Furthermore, the low proportion of operational entrepreneurs might be contrasted with the findings discussed above on activities undertaken in the start-up process. Many of the "serious" activities listed in PSED questionnaire, such as registering the business and hiring an account, had already been undertaken at the time of the first interview. Given the high activity level in the start-up process, the low percentage of operation entrepreneurs is surprising. These findings further emphasize the need for a better understanding of the roles of macroeconomic environment and institutional factors in the PSED framework.

Assessment of the outcomes in second wave of the LV-PSED found robust statistical support for the substantial positive effects of higher education, industry experience, and better knowledge of the tax system on business persistence. Some analyses with data from other countries have not found education and experience to have a positive effect. Furthermore, unlike some other studies, there was no statistical evidence that start-up experience or having a parallel business has a positive impact on business persistence.

Findings regarding the positive effect of knowledge of the tax system deserves special attention. The variable may be unique to the LV-PSED interview schedule.

Our findings suggest that the tax system plays a role bigger than just creating incentives (or disincentives) for entrepreneurial activity. Knowledge of the tax system and its implications for the venture seem (at least in a Latvian context) to play an important role in terms of explaining business survival. This may suggest a greater role for tax policy in entrepreneurship policy making. On the other hand, the role of the nascent entrepreneur's understanding of the tax system in terms of explaining business persistence deserves further investigation.

References

Audretsch DB, Caree, MA, Thurik AR (2001) Does entrepreneurship reduce unemployment?, Tinbergen Institute Discusssion Paper, TI 2001–074/3

Baltrusaityte-Axelson J, Sauka A, Welter F (2008) Nascent entrepreneurship in Latvia: evidence from the panel study of entrepreneurial dynamics, 1st wave, the TeliaSonera Institute at the Stockholm School of Economics in Riga

Bhave M (1994) A process model of entrepreneurial venture creation. J Bus Venturing 9:223–242

Carree MA, Thurik AR (2003) The impact of entrepreneurship on economic growth. In: Acs ZJ, Audretsch DB (eds) Handbook of entrepreneurship research. Kluwer, Dordrecht

Davidsson, P (1995) Culture, structure and regional levels of entrepreneurship, Entrepreneurship and Regional Development 7:41-62

Davidsson P, Gordon SR (2009) Nascent entrepreneurship research: a review, QUT working paper. Available at http://eprints.qut.edu.au/19622/

Davidsson P, Wiklund J (2001) Levels of analysis in entrepreneurship research: current practice and suggestions for the future. Entrepreneurship Theory Pract 25(4):81–99

Davidsson, P (2006) Nascent Entrepreneurship: Empirical Studies and Developments Foundations and Trends in Entrepreneurship Research 2(1):1-76

Delmar F, Davidsson P (2001) Where do they come from? Prevalence and characteristics of nascent entrepreneurs. Entrepreneurship Reg Dev 12:1–23

Djankov S, Miguel E, Qian Y, Roland G, Zhuravskaya E (2005) Who are Russia's entrepreneurs? J Eur Econ Assoc 3(2–3):587–597

Dombrovsky V, Chandler M, Kreslins K (2006) Global entrepreneurship monitor 2005 Latvia report, The TeliaSonera Insitute at the Stockholm School of Economics in Riga

Dombrovsky V, Rastrigina O, Jakobsons A (2007) Global entrepreneurship monitor 2006 Latvia report, The TeliaSonera Institute at the Stockholm School of Economics in Riga

Dombrovsky V, Welter F (2006) The role of personal and family background in making entrepreneurs in post-socialist environment, mimeo, Stockholm School of Economics in Riga

Dunn, Thomas & Holtz-Eakin, Douglas 2000 "Financial Capital, and the Transition to Self-Employment: Evidence from Intergenerational Links". Journal of Labor Economics, University of Chicago Press vol. 18(2):282-305

Lazear EP (2004) Balanced skills and entrepreneurship. Am Econ Rev 94(2):208–211

Liao J, Gartner W (2006) The effects of pre-venture plan timing and perceived environmental uncertainty on the persistence of emerging firms. Small Bus Econ 27(1):23–40

Lichtenstein B (2000) Emergence as a process of self-organizing – new assumptions and insights from the study of non-linear dynamic systems. J Organ Change Manage 13:526–544

Parker SC (1996) A time series model of self-employment under uncertainty. Economica 63:459–475

Parker SC, Belghitar Y (2006) What happens to nascent entrepreneurs? An econometric analysis of the PSED. Small Bus Econ 27(1):81–101

Schuetze HJ, Bruce D (2004) Tax policy and entrepreneurship. Swed Econ Policy Rev 11:233–265

Shaver KG, Carter NM, Gartner WB, Reynolds PD (2001) Who is a nascent entrepreneur? Decision rules for idnetifying and selecting entrepreneurs in the panel study of entrepreneurial dynamics (PSED). In: Bygrave WD, Autio E, Brush CG, Davidsson P, Green PG, Reynolds PD, Sapienza HJ (eds) Frontiers of entrepreneurship research 2001. Babson College, Wellesley

Smallbone D, Welter F (2008) Entrepreneurship and small business development in post Socialist economies, Routledge studies in small business. Routledge, London

Timmons JA, Muzyka DF, Stevenson HH, Bygrave WD (1987) Opportunity recognition: the core of entrepreneurship. In: Churchill NC, Hornaday JA, Kirchhoff BA, Krasner OJ, Vesper KH (eds) Frontiers of entrepreneurship research 1987. Babson College, Wellesley

World Bank (2008) Doing business 2008. World Bank, Washington

Chapter 7
New Business Creation in the Netherlands*

Jolanda Hessels and Marco van Gelderen

7.1 Introduction

This chapter is concerned with new business creation in the Netherlands. New business creation starts with the actions of nascent entrepreneurs: individuals who are in the process of setting up a firm. Over the past years, several research initiatives in the Netherlands followed the progress of nascent entrepreneurs by means of telephone surveys. The purpose was to gain insight into start-up processes and outcomes. One major objective was to determine which nascent entrepreneurs succeed in setting up a firm, what barriers they encounter during the start-up process, what skills and experiences they possess and which major sources of advice they use.

This chapter provides details about the data collection processes in the Netherlands. It starts with a description of the definitions and methods that were used to identify nascent entrepreneurs. Attention is then given to the prevalence of nascent entrepreneurs in the Netherlands as well as to how their start-up process proceeds. Characteristics of the businesses that nascent entrepreneurs in the Netherlands intend to set up and their personal human capital characteristics are described. Furthermore, the two Dutch research projects that focused on explaining start-up success are summarized and compared. The chapter ends with a discussion of the main findings and some suggestions for future research.

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7.2 Program Development and Background

Data collection for the first Netherlands initiative started in the fall of 1998 (the 1998 NL cohort). A Dutch team had become a member of the Entrepreneurship Research Consortium (ERC), and used the ERC research design (Gartner et al. 2004). In the United States and Sweden, these studies are referred to as Panel Study of Entrepreneurial Dynamics (PSED). Screening interviews with 21,393 Dutch adults led to a cohort of 526 nascent entrepreneurs. Subsequent follow-up interviews took place at a 6 month, 1 year, 2 year, and 3 year interval.

The second Netherlands initiative (the Dutch GEM cohorts) has been completing 1-year follow-up interviews with nascent entrepreneurs identified as part of the Global Entrepreneurship Monitor (GEM) annual assessment. A Dutch team has participated in the GEM program since 2001. As part of the GEM annual surveys, nascent entrepreneurs are identified in a survey of the adult population. The follow-up interviews take place about 1 year after the nascent entrepreneurs are identified. There is, however, no further contact with these nascents after the single follow-up interview.

Both initiatives provide estimates of the prevalence of nascent entrepreneurs in the Netherlands, their business and human capital characteristics, and the evolution of the start-up initiatives. Analysis has focused on explaining start-up success, comparing the background and actions of those that create new firms with those that abandon the start-up initiative, as determined in the follow-up interviews (van Gelderen et al. 2005; Brixy and Hessels 2010). Analysis of the 1998 NL cohort (the Dutch ERC study) suggested that the perceived risk of the market was a major factor in explaining start-up success (van Gelderen et al. 2005). For the more detailed assessment of GEM-based nascent entrepreneurs, the 2006 and 2007 GEM cohorts from the Netherlands and Germany were provided with harmonized follow-up interviews; this provided a larger sample for analysis. Analysis was a joint effort of the German and Netherlands GEM teams (Brixy and Hessels 2010). One of the main findings from the analysis of the second initiative (the 2006–2007 GE-NL cohorts) is that several sources of human capital are important for the start-up success although the results are not always in the expected direction.

All initiatives conducted in the Netherlands were part of EIM's program on SMEs and entrepreneurship that is being financed by the Dutch Ministry of Economic Affairs, the ministry responsible for entrepreneurship policy in the Netherlands.

7.3 Operational Definitions and Methodology

To create the 1998 NL cohort (the Dutch ERC study), households for interviews where nascent entrepreneurs would reside were contacted by randomly calling phone numbers. A random sample of 49,936 phone numbers were dialed in the fall of 1998

and screening interviews were completed with 21,393 persons 18–65 years old. Based on these screening interviews, 527 nascent entrepreneurs were identified.

Nascent entrepreneurs were identified by asking all respondents taking part in the telephone interviews: are you currently, alone or with others, setting up a business? In case a person answered affirmative to this question, he was considered a nascent entrepreneur. In addition, it was assessed whether the person had an active and manifest desire to set up a business and was not only thinking about it. It was also determined whether the business was not yet operational (in case the business would already be operational, the person should be considered an entrepreneur and not a nascent entrepreneur).

In the follow-up interviews, the nascent entrepreneurs reported on the status of the start-up initiative, whether the business was already started, whether they were still in the process of setting up a firm or whether the start-up effort was abandoned. The 1998 NL project (the Dutch ERC study) was similar to the PSED studies in the United States and Sweden in terms of basic design and the size of the nascent cohort. For budgetary reasons, however, the Dutch research uses only a small portion of the PSED phone and interview questions. Amongst others, most questions on start-up activities and their timing are left out. On the other hand, the "Dutch PSED" includes a range of policy-relevant questions not covered by other PSED research. Sections of the questionnaire were directly commissioned by the Ministry of Economic Affairs and focused on problems in getting finance, regulatory burdens, and the effectiveness of guidance and advice facilities. Some of the items included in the 1998 NL project are listed in Table 7.1.

Follow-up interviews with the nascent entrepreneurs identified in the GEM assessments began in 2001 and take place approximately 1 year after an individual has been identified and interviewed as a nascent entrepreneur. The procedure for identifying nascent entrepreneurs in the GEM interviews is as follows. First, it is determined whether the respondent is (1) currently trying to start a new business, whether alone or with others, including any self-employment or selling any goods or services to others or (2) start a new business or a new venture for their employer as part of their normal work. In order to establish whether individuals answering affirmatively are truly actively involved in setting up a business, they are asked if, in the past 12 months, they have done anything to help start a new business, such as looking for equipment or a location, organizing a start-up team, working on a business plan, beginning to save money, or any other activity that would help launch a business. It is also ascertained whether they will personally own at least part of the business they are trying to set up and that they have not paid salaries, wages, or any other payments to the owners for more than 3 months. The initial interviews for nascent entrepreneurs are based on the standard GEM questionnaires; no additional questions are added to this standard GEM screening procedure.

To assess the length of time in which the entrepreneurs entered the start-up process, they are asked how many months they have been involved in this start-up effort.

Table 7.1 Items included in 1998 NL project (the Dutch ERC study) (Based on van Gelderen et al. 2005)

Status of the firm: business founded, still in the process of setting up the firm, start-up attempt abandoned
Individual demographics: gender, age, income
Human capital variables: education, work experience, management experience, industry experience, prior start-up experience
Motivation: push motivation, ambition to become rich
Process: business plan, information and guidance, getting registered, hiring personel, first sales
Financial: third party money, amount of start-up capital
Market environment: risk of the market
Intended organization: ambition to grow large, start out part-time or full-time, techno nascent, solo or team, industry type, intended turnover, intended number of employees
Reasons for abandonment, reasons for delays, problems encountered
Policy issues: problems in getting finance, regulatory burdens, and the effectiveness of guidance and advice facilities

Based on the GEM screening procedure, nascent entrepreneurs are defined as individuals aged between 18 and 64 who are actively involved in setting up a business they will own or co-own; this business has not paid salaries, wages, or any other payments to the owners for more than 3 months. As in the 1998 NL panel study, all information reflects self-assessments by the respondent.

One advantage of the GEM-based approach is that the nascent entrepreneurs are already identified through the GEM screening process, so there are no additional costs involved in locating nascent entrepreneurs. On the other hand, because of the low prevalence rates in the Netherlands, the samples of nascent entrepreneurs identified in the annual samples of 2,000–3,000 respondents are rather small.

Analysis in this chapter focuses on the cohorts identified in GEM surveys in mid-2006 and mid-2007, each nascent entrepreneur identified in these surveys received one follow-up interview in mid-2007 or mid-2008. An extended follow-up interview schedule, developed with the German GEM team,[1] was developed with a focus on human capital variables. This questionnaire is based on the US-PSED II interview schedules and a review of the literature on human capital and entrepreneurship. The items that are included in this questionnaire are summarized in the Table 7.2. A total of 163 people were identified as nascent entrepreneurs in the Netherlands GEM adult population surveys mid 2006 and mid 2007. Of this group, 122 (75%) agreed to being contacted for follow-up interviews. When follow-up surveys were implemented in mid-2007 and mid-2008, it was not possible to reach all these individuals, for example because individuals refused to cooperate, or the contact details were no longer accurate. Eventually follow-up interviews were completed with 62 of the 163 nascent entrepreneurs.

[1] The GEM teams of Belgium and Denmark also cooperated in developing the questionnaire

Table 7.2 Items included in 2006–2007 NL GEM-based cohorts follow-up interviews (Brixy and Hessels 2010)

Status of the firm: business founded, still in the process of setting up the firm, start-up attempt abandoned
Human capital variables: general human capital (education, work experience, recent employment experience), specific human capital (industry experience, self-assessed entrepreneurship specific knowledge/skills/experience, knowing an entrepreneur, use of resources of former employer, number of sources of advice, prior start-up experience, parent(s) self-employed or not), broadness of human capital (number of fields of expertise, all-rounder versus specialist, solo or team start-up)
Firm-specific variables: growth aspiration, intended investments, newness of technology, newness of product/service, extent of competition
Personal dispositions: sought public funding or not, motivation (opportunity, necessity or mixed), start-up opportunities in next 6 months
Other controls: gender, age, industry, number of constraints encountered, number of start-up activities completed, nation, year of screening

7.4 Nascent Entrepreneurs in the Netherlands

The 1998 NL project (the Dutch ERC study) found that 2.5 per 100 Netherlands adults were nascent entrepreneurs. Since 2001, estimates of the prevalence of nascent entrepreneurs have been based on the annual GEM surveys. The prevalence rates from both sources are summarized in Table 7.3. Over the years, the nascent entrepreneurship rate has varied between 1.7% and 3.6%. The prevalence of nascent entrepreneurs in the Netherlands is rather low as compared to other high-income countries (see, for example Hessels et al. 2009).

As part of the 1998 NL initiative (the Dutch ERC study), nascent entrepreneurs were compared with a control group ($n = 586$) selected from the 21,393 respondents who did not qualify as nascent entrepreneurs. Compared to this control group, nascent entrepreneurs are more often male, young, and highly educated (van Gelderen et al. 2005). Studies for the United States and Sweden found similar results (Reynolds 1997; Davidsson and Honig 2003; Reynolds et al. 2004).

As indicated, longitudinal studies of nascent entrepreneurs intend to provide insight into issues such as the status of the business nascent entrepreneurs intend to set up, the kind of preparatory activities they undertook or intend to undertake, and the type of barriers that needed to be overcome in order to be able to start the firm. The next sections describe such characteristics for nascent entrepreneurs in the Netherlands. Subsequently, attention is paid to the business characteristics and human capital characteristics of nascent entrepreneurs. The results are based on follow-up surveys that were held in mid-2007 and mid-2008 with individuals 1 year after they were identified as nascent entrepreneurs in the GEM Adult Population Surveys mid-2006 and mid-2007 (mid-2007 follow-up interviews were held with the nascents identified mid-2006; mid-2008 follow-up interviews were held with the nascents identified mid 2007). If relevant, data from the 1998 NL project (the Dutch ERC study) are also presented.

Table 7.3 Prevalence of nascent entrepreneurs in the Netherlands 1998–2009, percentage of the adult population (18–64 years of age) (EIM/GEM van Gelderen et al. 2009)

Study	Year	No. of cases in initial screening	No. of nascents	Nascent entrepreneurial prevalence (#/100)	No. of NEs in follow ups
ERC	1998	21,393	527 586 comparison group	2.5	414
GEM	2001	2,013	37	2.3[a]	29
	2002	3,510	74	2.6[a]	29
	2003	3,505	52	1.7[a]	51
	2004	3,507	88	3.0[a]	58
	2005	3,582	71	2.5[a]	55
	2006	3,535	93	3.6[a]	33
	2007	3,539	77	2.7[a]	29
	2008	3,508	67	2.1[a]	69
	2009	3,003	75	3.1[a]	–

[a] Based on weighted data (using gender, education, and age)

7.4.1 Start-up Process

7.4.1.1 Development of the Firm

Not all people actively involved in a start-up business end up launching an operational new firm. Table 7.4 shows the development status of the firm for the 62 nascent entrepreneurs that participated in the follow-up interviews of the 2006–2007 NL cohorts. Sixty-three percent of them indicated that their business was already up and running. This is remarkably high but in line with other Dutch findings. Follow-up surveys completed with the initial GEM-identified nascent entrepreneurs found that about half of the nascents reported they had operating businesses 1 year after initial screening (Hessels and Suddle 2006).

Similarly, the 1998 NL project (the Dutch ERC study) found that Dutch nascent entrepreneurs reach a conclusion to the start-up phase rather quickly. Of those contacted half a year after the initial measure, 35% had started a business and 11% had disengaged from the process. In the fourth follow-up, 3 years after the initial interview, not a single nascent entrepreneur reported they were still working on the start-up or expected to reactivate a dormant start-up initiative. For the entire initial sample in this project, a minimum of 36% started and a minimum of 22% disengaged from the start-up effort during the 3-year period under study. Of the remaining 42 %, no data are available about their eventual start-up status (van Gelderen et al. 2005). Furthermore, it was asked how long the nascent entrepreneurs had been involved in setting up the business at the time of the initial screening. The majority (about 70%) were involved for less than 1 year at the time of the initial screening.

Table 7.4 Development status of the firm, percentage of nascent entrepreneurs

Status business	Percent
The business is now up and running	63
Founding postponed/still working on putting the business in place	21
No intention to set up the business anymore	11
Don't know/no answer	5
Total	100

EIM, follow up surveys held in 2007 and 2008 among individuals identified as nascent entrepreneurs in GEM 2006 and 2007

Over the years only about 10% of the nascent entrepreneurs report they have been working for more than 2 years on starting the new business.

There is a risk that results of follow-up surveys are impacted by a nonresponse bias; it is possible that those not participating in the follow-up survey have abandoned their attempts to start a business. Overall, however, it seems that Dutch nascent entrepreneurs have a high success rate. It may be that Dutch people only become nascent entrepreneurs when they are well prepared and very serious about setting up a firm.

7.4.1.2 Gestation Activities

As discussed above, one criterion for classification as a nascent entrepreneur is that the person is not just dreaming about becoming an entrepreneur but is actively involved in setting up a business. It is possible to chart the start-up process by making a distinction between several gestation activities, such as developing a business plan, searching for financial support, and deciding on a location for the business. The 1998 NL project (the Dutch ERC study) gathered only limited information on gestation activities and their timing. But in the 2006–2007 GE-NL follow up surveys, nascent entrepreneurs were asked to indicate whether a large number of start-up activities had already taken place (been carried out either by themselves or by their business partner(s)). The results are presented in Figure 7.1. The figure reveals that a relatively high share of the respondents had already made financial projections, prepared a business plan, invested their own money in the business, and developed a product or service.

7.4.1.3 Start-up Constraints

It is possible that entrepreneurs experience various constraints while attempting to start a business; such constraints may affect the outcome of the start-up process. Lack of funding, for example, might be a reason for nascent entrepreneurs to abandon the start-up attempt (Blanchflower and Oswald 1998). Table 7.5 presents an overview of the extent to which the nascent entrepreneurs interviewed in the 2006–2007 NL follow-ups encountered various constraints. A relatively high share

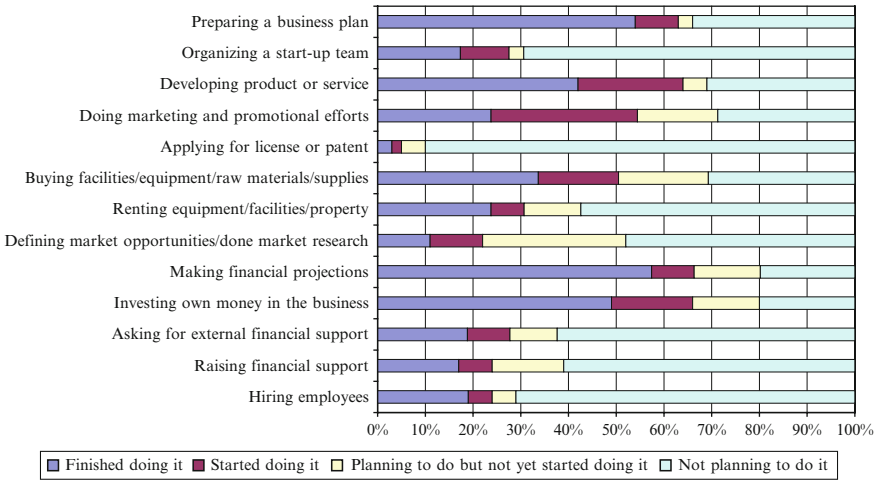

Fig. 7.1 Extent to which various start-up activities have been carried out (EIM, follow-up surveys held in 2007 and 2008 among individuals identified as nascent entrepreneurs in GEM 2006 and 2007)

Table 7.5 Extent to which various constraints are encountered during start-up process, percentage of nascent entrepreneurs indicating that they experienced "(very) many" constraints

Constraint	Percent
Work-life balance constraints	35
Financial constraints	28
Time-related constraints	28
Constraints related to market/customers (e.g., reaching customers,finding markets)	25
Constraints related to law and regulation	25
Informational/resource related constraints (e.g., difficult to find necessary information and/or resources)	19
Constraints related to getting along with external partners (customers, suppliers etc.)	0

EIM, follow-up surveys held in 2007 and 2008 among individuals identified as nascent entrepreneurs in GEM 2006 and 2007

of respondents indicated having encountered constraints relating to work-life balance. Other frequently encountered constraints were related to finance, time allocations, regulations, as well as markets and customers.

The 1998 NL project (the Dutch ERC study) also had extensive questions about problems encountered during the start-up process. Problems with governmental regulation occurred most often (22%), followed by organizational problems (18%) and problems related to finance (15%) (van Gelderen et al. 2009). About half of the sample did not encounter any problems. Surprisingly, it was found that starters did not substantially differ from quitters in number and type of problems encountered, and that problems encountered did not seem to affect the outcome status (van Gelderen et al. 2009).

7.4.2 Business Characteristics

7.4.2.1 Industry Characteristics

Table 7.6 provides an overview of the sectors in which the respondents in the 2006–2007 NL cohorts attempted to start their businesses. The table reveals that half of the nascents attempted to start their business in consumer-oriented sectors, and more than one-third tried to start a firm in the business services sector. Comparable figures were found in the 1998 NL project (the Dutch ERC study).

In addition, respondents were also asked how they would categorize the growth of the industry in which they attempted to start their business. A little less than half of the respondents (46%) indicates the growth of this industry to be better than the average growth in the economy, while 35% starts a business in an industry of which the growth is the same as the growth in the economy (average growth industry). Only a minority (12%) was starting up a business in a low-growth industry and 7% does not know how the growth of their industry relates to overall growth in the economy. It would appear that Dutch nascent entrepreneurs tend to select sectors with average to higher than average growth rates to implement their start-ups.

7.4.2.2 Competitive Strategy

Participants in the 2006–2007 NL follow-up interviews were asked to assess the type of competitive strategy that was most important if they were to be an effective competitor. The results are displayed in Table 7.7. Among a range of various strategies, it is most common for Dutch nascent entrepreneurs to compete on the "quality of products/services" (49% indicated this as being the most important strategy).

Table 7.6 Sectors in which respondents attempt(ed) to start their business, percentage of nascent entrepreneurs

Industry	Percent
Extraction: agriculture, forestry, fishing, and mining (i.e., extraction of products from the natural environment)	2
Transformation: construction, manufacturing, transportation, and wholesale distribution (physical transformation or relocation of goods and people)	12
Business services: the primary customer is another business	36
Consumer-oriented services: the primary customer is a physical person (e.g., retail, restaurants and bars, lodging, health, education, social services, recreation)	50
Total	100

EIM, follow-up surveys held in 2007 and 2008 among individuals identified as nascent entrepreneurs in GEM 2006 and 2007

Table 7.7 Most important strategy for nascent business to be an effective competitor, percentage of nascent entrepreneurs

Competitive strategy	Percent
Quality of products/services	49
Lower prices	14
Serving those missed by others	7
More contemporary, attractive products	7
Technical expertise (developing new or advanced product technology or process technology for creating goods and services)	4
Being the first to market new products/services	7
Better marketing/promotion	2
Superior location and customer convenience	2
Other	9
Total	100

EIM, follow-up surveys held in 2007 and 2008 among individuals identified as nascent entrepreneurs in GEM 2006 and 2007

7.4.3 Human Capital Characteristics

Human capital describes an individual's investment in skills and knowledge (Becker 1964). Human capital relates to the intrinsic qualities of individuals and is considered to have a positive influence on the success of starting a business. Human capital includes knowledge, education, skills, and experience (Deakins and Whittam 2000), and these aspects are likely to influence the development of a business idea and the organization of resources. Based on a literature survey, various indicators for human capital were included in the follow-up interviews with the 2006–2007 NL cohorts. These are divided into three groups of indicators: general human capital, specific human capital, and broadness of human capital. Table 7.8 shows the specific variables that were included for each of these three groups of human capital indicators and their mean value. Findings from the 1998 NL project (the Dutch ERC study) can be found in van Gelderen et al. (2005).

7.4.3.1 General Human Capital

General human capital relates to knowledge, skills, and experience that individuals have acquired in their life, perhaps through formal education or work experience. Three indicators for general human capital were used in the survey. These are level of education, previous employment experience, and number of years of overall work experience.

It appears that slightly less than half of the nascent entrepreneurs have a medium level of education, whereas about 30% are highly educated, and a quarter has a low level of education. A large majority of the nascent entrepreneurs that participated in the GEM follow-up surveys has more than 10 years of work experience (about

Table 7.8 Human capital variables

Human capital	Mean
General human capital	
Level of education:	
– High	0.29
– Medium	0.47
– Low	0.24
Number of years of overall work experience	22.74
Recent employment experience (yes/no)	0.90
Specific human capital	
Number of years of same industry experience	8.93
Has knowledge, skills, experience required to set up a business (yes/no)	0.89
Knows someone who started an own business in the past 2 years (yes/no)	0.65
Makes use of resources of a former employer (yes/no)	0.10
Number of sources of advice	2.09
Prior start-up experience (yes/no)	0.40
At least one parents self-employed (yes/no)	0.42
Broadness of human capital	
Number of fields of expertise	2.65
All-rounder versus generalist	0.53
Partner (yes/no)	0.42

EIM, follow-up surveys held in 2007 and 2008 among individuals identified as nascent entrepreneurs in GEM 2006 and 2007

80%). The average number of years of overall work experience is 23 years. Furthermore, a large majority (90%) of the nascent entrepreneurs that participated in the GEM follow-up survey was employed (either in self-employment or paid employment) just before or during their start-up attempt.

7.4.3.2 Specific Human Capital

Individuals may also possess specific human capital, directly relevant for the business they are setting up, such as prior experience within the same industry or prior start-up experience (Table 7.8). The average number of years of same industry experience is 9 years; about 13% have no experience in the industry in which they are starting a firm. Perhaps, not surprisingly, a large majority of the nascent entrepreneurs (89%) indicated they have the skills, knowledge, and experience required to set up a business. Furthermore, about two-thirds indicated they knew someone who recently set up a firm.

Nascent entrepreneurs often need various resources to set up a firm, such as finance and human capital. One possibility is to get help from a (former) employer to set up a firm. It appears that only a minority (10%) of the respondents taking part in the follow-up survey had used resources from a current or former employer (e.g., equipment and/or accommodation, capital, or assistance as a customer).

People can get advice on starting a business from various types of people and organizations. On average, the nascent entrepreneurs have actively sought advice from two sources. Friends were the most important sources of advice. Other

sources of advice that were frequently mentioned are bank advisors/lawyers/accountants, family, and previous colleagues.

The importance of previous start-up experience and having self-employed parents for individual's choices to become self-employed is well established in the literature (Shapero and Sokol 1982; Gimeno et al. 1997; Shane 2003; Davidsson 2006). Forty percent of the respondents in the Dutch follow-up surveys indicate having prior experience in starting a business. In addition, 42% report that one or more of their parents had been self-employed (Table 7.8).

7.4.3.3 Broadness of Human Capital

Lazear (2004) argues that entrepreneurs are generalists given the variety of skills that may be useful for setting up a firm. Entrepreneurs need to perform a variety of tasks, such as obtaining finance, finding customers, and choosing a location. In the GEM-based follow-up surveys, the nascent entrepreneurs were asked to indicate whether they had expertise in eight areas: R&D/design/engineering, production, marketing, finance/accounting, law/judicial, human resources, general management, and consultancy. The average number of fields of expertise was 2.65 (Table 7.8). The fields of expertise that were most common among the respondents were general management, production, and marketing. When respondents were asked if they would consider themselves a generalist or as a specialist, there was no dominant pattern. Fifty-three percent of the respondents describe themselves more as a generalist than a specialist. Overall, the results do not indicate that nascent entrepreneurs are necessarily generalists or specialists.

Finally, the amount of human capital available to a business is also reflected in the number of partners involved in the business. A little less than half (42%) of the respondents indicated in the follow-up survey that they plan to set up the business together with one or more partners (Table 7.8). For the majority (65%), this involved only one partner. This is in line with Aldrich et al. (2004) who note that most start-up teams consist of only two members.

7.5 Outcome Overview

One of the aims of nascent entrepreneurship research is to compare aborted venture attempts with successful transitions to actual start-ups (Johnson et al. 2006; Davidsson 2006; Davidsson and Gordon 2009). We will now describe and compare the results of two econometric studies that were conducted specifically focusing on explaining start-up success (van Gelderen et al. 2005; Brixy and Hessels 2010). Both studies were concerned with answering the following question: Which factors contribute to success in starting a business among individuals actively involved in setting up a business? In both studies, the outcome is based on the assessments of the nascent entrepreneur. In the analysis of the 1998 NL project (the Dutch ERC

study), those who succeeded in starting a business are compared with those who abandoned the start-up effort. Those who postponed the start-up attempt were excluded from the analysis. In the analysis of outcomes from the 2006–2007 GE-NL project, those reporting an active new firm were compared to all others, including those that had disengaged or were still active in the start-up process.

7.5.1 The 1998 NL Project (the Dutch ERC Study) Outcome Assessment

The first project (van Gelderen et al. 2005) was initiated when nascent entrepreneurs were identified in 1998. Independent variables included individual demographics, human capital variables, motivational variables, process variables (i.e., having developed a business plan and making use of information and guidance), and environmental variables (e.g., on financing/start-up capital, perceived risk of the market and type of industry).

Logistic regression analysis was used to investigate factors that determine start-up success. The analysis was based on a sample of 271 individuals identified as nascent entrepreneurs in the initial screening in 1998; follow-up interviews took place after 6 months, 1 year, 2 years, and 3 years. It was found that 174 (64%) had started a new firm and 97 (36%) had abandoned the initiative.

Interestingly, most of the independent variables included in this study turned out not to be statistically significant in explaining start-up success. Only four indicators were found to be significantly related to start-up success. The first factor was perceived risk of the market. When nascent entrepreneurs perceive the market as more risky, this decreases start-up success. Furthermore, it was found that when nascent entrepreneurs have a higher amount of start-up capital, this decreases start-up success. It seems more likely to succeed with a small amount of start-up capital, which probably reflects that it is easier to get smaller companies started. The results also illustrate that working full time on the business increases start-up success (which gives an indication of the amount of energy devoted to starting up the firm) and that people in manufacturing tend to be successful in getting their business operational. The study also included a number of human capital variables: education, work experience, management experience, and experience in firm founding. Those indicators were found to be insignificant in explaining start-up success.

As stated above, it was also assessed whether encountered problems influenced outcome status. Surprisingly, it was found that starters did not substantially differ from quitters in number and type of problems encountered, and that problems encountered generally did not affect outcome status (van Gelderen et al. 2009). They interpret this finding as an indication that many quitters do not so much "fail" because of "problems," but rather investigate an opportunity and make a no-go decision because of insufficient prospects or excessive risks.

In addition to estimating results for the full sample, two analyses were conducted distinguishing between those with limited and substantial experience; and between

those with limited and high ambition. Some interesting differences appeared between those groups. It was found that whereas start-up experience is statistically unrelated to getting started in the entire sample, it may help those who have limited experience otherwise. Using information and guidance turns out to have significant positive effects only for the inexperienced group. Older nascent entrepreneurs with limited ambition are less likely to succeed in setting up the business. Preparation of a business plan is positive for those with limited ambition, but is associated with abandonment for those with high ambition. Management experience is useful for those with high ambitions. A push motivation combined with high ambition leads to a lower likelihood to get the business started. It appeared that risk of the market is negatively related to start-up success for all the groups. In sum, the most robust finding from the assessment of the 1998 NL project (the Dutch ERC study) is that perceived risk of the market negatively affects start-up success.

7.5.2 The 2006–2007 GE-NL Project Outcome Assessment

One of the puzzling findings in the assessment of the 1998 NL cohort (the Dutch ERC study) was that human capital variables were not statistically significant in explaining start-up success. This topic was further explored in the second analysis of the 2006–2007 GE-NL combined cohorts (Brixy and Hessels 2010). As part of this second assessment, additional indicators of human capital were added to the follow-up interview schedule. As tests for linearity indicated a quadratic relationship between same industry and overall work experience and start-up success, an additional squared term for these two factors were included in the regression models. This would reflect an assumption that after a minimum number of years, additional experience has a limited impact.

Based on a literature review, three different types of human capital were incorporated into the 2006–2007 GE-NL cohort data collection: general human capital, specific human capital, and broadness of human capital (see also Sect. 7.4.3). The first group, *general* human capital, includes level of education, number of years of overall work experience, and whether someone has been employed before starting the firm or not. The second group, *specific* human capital, includes whether someone has same industry experience (number of years of work experience in the industry of the planned business), whether someone has entrepreneurship-specific knowledge or skills ("I have the knowledge, skill, and experience required to start a new business"), whether someone personally knows an entrepreneur ("I know someone personally who started a business in the past 2 years"), whether someone uses/used resources of a former employer for setting up the firm, whether someone uses/used external advice for setting up the business (number of sources of external advice), whether someone has prior start-up experience, and whether someone has self-employed parents. Finally, the third group of human capital is *broadness* of human capital. This includes whether someone is a generalist or a specialist, the number of fields (e.g., R&D,

marketing, finance) in which the nascent entrepreneur has experience and whether or not the start-up is a team effort.

To test whether human capital aspects affect start-up success, while taking account of several control variables, multinomial probit estimations were used. Marginal effects were calculated for the probability of succeeding in setting up the firm, for the probability of still being in the process of setting up a firm, and for the probability of abandoning the start-up attempt. The analysis was based on data collected as part of a survey among nascent entrepreneurs in Germany and the Netherlands. The nascents were identified from the adult population survey of the Global Entrepreneurship Monitor (GEM) in 2006 and 2007 in Germany and the Netherlands. A follow-up survey was held among these nascents approximately 1 year after the adult population survey. The final sample used in the analysis consisted of 189 nascent entrepreneurs.

Although most previous studies have found that more general forms of human capital do not influence the outcome of business start-up attempts (Davidsson and Gordon 2009), the results of this study underline the importance of *general* human capital for start-up success in several respects. First, it was found that education relates to start-up success. However, the sign was opposite to previous expectations since it was found that nascent entrepreneurs with a medium level of education were more likely to succeed in setting up the firm and less likely to postpone setting up the firm than nascent entrepreneurs with university education or higher. This finding possibly reflects that higher educated people have more alternative employment options and therefore they face higher opportunity costs for setting up a firm. Second, it was found that when someone was employed just before or during the process of starting the firm, this increases start-up success and decreases the likelihood of continuing in the start-up process.

Furthermore, the results revealed that most indicators of *specific* human capital do not have a statistically significant relationship to start-up success. However, nascent entrepreneurs making use of a higher number of sources of advice are less likely to succeed and more likely to postpone the start-up attempt. Furthermore, using resources from a former employer was found to decrease start-up success. One possible explanation for these findings may be that the use of resources and advice from others requires extensive coordination with external partners, which may subsequently hinder the start-up process. It may also be the case that more complex or difficult start-up attempts need resources and advice from others. With respect to specific human capital, some support was found for the role model effect; when a nascent entrepreneur knows another who recently started a firm, this increases start-up success and decreases the likelihood that someone is still in the process of setting up a firm. However, in line with previous results for Sweden (Davidsson and Honig 2003) and the United States (Parker and Belgithar 2006), no indications were found for a role model effect of self-employed parents.

Regarding the relevance of *broadness* of human capital, the results are contrary to what was expected beforehand. For example, it was found that when nascent entrepreneurs see themselves as generalists (as opposed to specialists), they are less likely to succeed in starting the firm and more likely remain in the

start-up process. Furthermore, the results also give some support that having at least one partner negatively relates to start-up success. Previous studies did not find any consistent effect for being a team versus a solo start-up (Davidsson and Gordon 2009).

The study also included some indicators reflecting perception of risk in the market: opportunity perception (whether there are good opportunities for starting up a business in the area where the nascent entrepreneur lives in the next 6 months) and perceived number of competitors. While no significant effect was found for the perceived number of competitors on start-up success, it was found that opportunity perception positively affects start-up success and decreases the probability that someone postpones the start-up attempt. This confirms results of the analysis with the 1998 NL data (the Dutch ERC study) indicating that perceived market conditions are important for explaining start-up success.

The study also paid attention to motivations. In addition to distinguishing between pull (opportunity) and push (necessity) motivation, the study also included mixed motivation, i.e., when individuals attempt to start a firm out of a combination of pull and push motivations. The results in particular point at the importance of mixed motivation for increasing start-up success. Here, both opportunity and necessity are at play: so they can act upon an opportunity they see in the market, but they also have a need to start a firm (e.g., because they have no better choices for work).

7.5.3 Comparing the Two Projects

There are some similarities between the two studies. First, it is consistently found that gender and overall work experience are not relevant for explaining start-up success. The lack of an effect of gender is broadly confirmed in previous studies for other countries (Davidsson and Gordon 2009). Thus, whereas women are less likely to become entrepreneurs, once in the start-up process they are as likely as men to succeed. Furthermore, both studies point at the importance of perception of conditions in the market.

The main difference between the results of the two studies is that a number of indicators included only in the second project turn out to have a statistically significantly relationship to start up success. The findings from the analysis of the 2006–2007 GE-NL project indicate that several aspects of human capital are related to start up success and that starting out of mixed (i.e., a combination of push and pull) motivations increases start-up success. Another difference is that analysis of the 1998 NL project data found that start-up capital decreases start-up success, while this was not confirmed in the analysis of the 2006–2007 GE-NL data. The role of financial resources in explaining start-up outcomes has not yet received a lot of attention in previous studies and so far only few studies report any effect on the outcomes from such indicators (Davidsson and Gordon 2009).

It should be noted that the results of the two studies are not fully comparable. The 1998 NL project involved a 3-year follow-up period for nascent entrepreneurs identified in a single year; the 2006–2007 GE-NL data reflects a single 1-year follow-up on two cohorts of nascent entrepreneurs identified in 2006 and 2007. Furthermore, not all variables included are (fully) identical. Some variables that were included in the first study were not incorporated in the second project and vice versa. Also, the first project left out of the analysis the category of individuals who were still in the process of setting up a firm, while this group was taken into account in the second project. Finally, the 1998 NL project (the Dutch ERC study) focused only on the Netherlands, while the 2006–2007 GE-NL project combined data from both Germany and the Netherlands.

7.6 Discussion and Conclusion

This chapter has described data collection initiatives in the Netherlands that have provided insight into the prevalence of nascent entrepreneurs, their characteristics, and the start-up process. It appears that the prevalence of nascent entrepreneurs in the Netherlands is rather low in comparison to other Western economies. However, when looking at outcomes of the start-up process, the success rate of Dutch nascent entrepreneurs seems to be rather high. Perhaps, Dutch individuals are really serious and committed when they actually decide to actively set up a business. The most common constraint that Dutch nascent entrepreneurs encounter is related to balancing their private and working life.

When looking at characteristics of the ventures that nascent entrepreneurs (attempt to) start up, it is most common for Dutch nascents to enter into the service sectors (consumer and business oriented services), or a sector with an average or higher than average growth rate. They most commonly expect to compete on quality of products or services.

With respect to human capital characteristics, Dutch nascent entrepreneurs tend to have a high level of overall work experience, are very positive about their start-up related skills, do not often make use of resources of (former) employers, and are not necessarily generalists or specialists.

The Netherlands has been involved in two projects investigating factors explaining start-up success of nascent entrepreneurs. The 1998 NL project, undertaken as part of the ERC, emphasized the importance of perceived risk of the market. While the 2006–2007 GE-NL project, which is built upon GEM-based follow-up surveys, confirms that perception of market conditions is important, it also illustrates that various human capital factors affect entry into entrepreneurship and that starting out of a combination of pull and push motivations are positively related to start-up success.

So far only one initiative in the Netherlands (i.e., the 1998 NL or Dutch ERC initiative) has conducted follow-up interviews more than once. Furthermore, based on the GEM screenings only small samples of nascent entrepreneurs are identified

every year. Screening costs remain an issue. Apart from the Dutch ERC initiative, Dutch researchers are limited to using the GEM surveys. This is a challenge, since the number of nascent entrepreneurs identified in 1 year through GEM is too small to provide a sound basis for longitudinal follow-up surveys.

Since the full set of factors that affect start-up success is not yet uncovered, future attempts in the Netherlands will possibly concentrate on further unraveling such factors. Also, future initiatives are likely to further explore the role of entrepreneurial motivation and the role of public funding and other financing issues in explaining start-up success. In addition, the Dutch team plans to follow up both currently active nascent entrepreneurs and those who intend to set up a business in the near future but who are not yet actively involved, referred to as *intentional entrepreneurs*. The main question for that study will be: what determines whether intentional entrepreneurs succeed in becoming active nascent entrepreneurs?

References

Aldrich HE, Carter NM, Ruef M (2004) Teams. In: Gartner WB, Shaver KG, Carter NM, Reynolds PD (eds) Handbook of entrepreneurial dynamics: the process of business creation. Sage, Thousand Oaks, pp 299–310

Becker GS (1964) Human capital. University of Chicago Press, Chicago

Blanchflower D, Oswald A (1998) What makes an entrepreneur? J Labor Econ 16:26–60

Brixy U, Hessels J (2010) Human capital and start-up success of nascent entrepreneurs. EIM Research Report H201013, EIM, Zoetermeer

Davidsson P (2006) Nascent entrepreneurship: empirical studies and developments. Found Trends Entrepreneurship 2(1):1–76

Davidsson P, Gordon SR (2009) Nascent entrepreneur(ship) research: a review, QUT Digital Repository. Queensland University of Technology, Brisbane

Davidsson P, Honig B (2003) The role of social and human capital among nascent entrepreneurs. J Bus Ventur 18(3):301–331

Deakins D, Whittam G (2000) Business start-up: theory, practice and policy. In: Carter S, Jones-Evans D (eds) Enterprise and small business. Pearson, Essex

Gartner WB, Shaver KG, Carter NM, Reynolds PD (eds) (2004) Handbook of entrepreneurial dynamics: the process of business creation. Sage, Thousand Oaks

Gimeno J, Folta TB, Cooper AC, Woo CY (1997) Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms. Adm Sci Q 42(4):750–783

Hessels J, Suddle S (2006) Global entrepreneurship monitor 2005. EIM Report A200609, EIM, Zoetermeer

Hessels J, Hartog C, Wennekers S (2009) Global entrepreneurship monitor 2008 The Netherlands. The hidden entrepreneurial forces of the Dutch economy. EIM Report A200914, EIM, Zoetermeer

Johnson PS, Parker SC, Wijbenga F (2006) Nascent entrepreneurship research: achievements and opportunities. Small Bus Econ 27:1–4

Lazear E (2004) Balanced skills and entrepreneurship. Am Econ Rev 94(2):208–211

Parker SC, Belgithar Y (2006) What happens to nascent entrepreneurs? An econometric analysis of the PSED. Small Bus Econ 27(1):81–101

Reynolds PD (1997) Who starts new firms? – preliminary explorations of firms-in-gestation. Small Bus Econ 9(5):449–462

Reynolds PD, Cartner NM, Gartner WB, Greene PG (2004) The prevalence of nascent entrepreneurs in the united states: evidence from the panel study of entrepreneurial dynamics. Small Bus Econ 23(4):263–284

Shane S (2003) A general theory of entrepreneurship: the individual-opportunity nexus. Edward Elgar, Cheltenham

Shapero A, Sokol L (1982) The social dimensions of entrepreneurship. In: Kent C, Sexton D, Vesper KH (eds) The encyclopedia of entrepreneurship. Englewood Cliffs, Prentice-Hall, pp 72–90

van Gelderen M, Thurik AR, Bosma N (2005) Success and risk factors in the pre-startup phase. Small Bus Econ 24:365–380

van Gelderen M, Patel PC, Thurik R (forthcoming). Encountered problems and outcome status in nascent entrepreneurship. J Small Bus Manage

Chapter 8
Business Start-up Processes in Norway

Gry Agnete Alsos and Lars Kolvereid

8.1 Introduction

The Norwegian PSED (NO-PSED) was designed to explore the prevalence and characteristics of potential and actual business founders in Norway, as well as attitudes towards entrepreneurs in the Norwegian context. The focus emphasized business-gestation activities, their sequences and frequencies, and how they are related to the propensity of actually starting a new business. The original objective was to examine the relationships between activities in the start-up process and performance of new businesses in terms of profitability and growth. For reasons to be explained later, these issues received limited attention.

The screening interviews were conducted over a 10-week period early in 1996 to locate Norwegian nascent entrepreneurs. The respondents then received detailed interviews immediately after being identified in the screening, and follow-up interviews in 1997 (after 1 year) and in 1999 (after 3 years). The aim was to develop longitudinal data from a representative sample of Norwegian nascent entrepreneurs. No oversampling or special samples were created. Since the main purpose of the NO-PSED project was to test hypotheses rather than describing the prevalence of entrepreneurial activities in Norway, no weights were assigned to the screening sample or the nascent entrepreneur cohort.

The NO-PSED team has particularly focused on the following issues:

1. Business-gestation activities and start-up propensity
2. Entrepreneurial experience: Novice, serial, and portfolio business founders
3. Gender differences in the business start-up process
4. Human capital and regional factors affecting the outcome of business start-up process

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8.2 Project Development

The Norwegian team took part in the PSED project from the beginning and was the first team to collect data except for the pilot studies conducted in Wisconsin (Reynolds and White 1997). The project was funded by the Research Council of Norway through the Small Enterprise Research Program and The Ministry of Regional Affairs through the Regional Enterprise Research Program. In the NO-PSED project, researchers from Bodø Graduate School of Business and Nordland Research Institute cooperated.

Since the funding was in place quite early, the team was ready to start data collection in 1996. This was before the questionnaire for the US-PSED I project was finalized by the Entrepreneurial Research Consortium (ERC, Gartner et al. 2004). As the funds were to be utilized during 1995–1997, the Norwegian team chose to start data collection based on the questionnaire used in the pilot study in Wisconsin (Reynolds and White 1997). Based on suggestions in Reynolds and Miller (1992), a general purpose survey was used to identify new firms at conception. A professional survey institute was engaged to interview a large, representative sample of the Norwegian population. The questionnaire was slightly modified based on the further development by the international ERC team developing the US-PSED I interview schedule, but it was still an early and less comprehensive version compared to the questionnaire eventually implemented in the United States, Sweden, and other countries. In this sense, the Norwegian study became a second pilot for the first wave of panel study projects.

8.3 Conceptual and Operational Definitions of Critical Events

A key issue was to identify aspiring entrepreneurs, nascent entrepreneurs, and business founders. A model suggested by Katz (1990) was used. This model includes three hurdles to self-employment: aspiring, preparing, and entering. The model argues that each hurdle lead some potential entrepreneurs to give up their striving towards self-employment. Those who have intentions to start a new business and become self-employed are defined as aspiring entrepreneurs. Those who are in the process of preparing a business start-up are defined as nascent entrepreneurs, while those who have passed the last hurdle, entering, are business founders. Both new businesses founded from scratch as well as newly acquired businesses were included. In the analyses, however, these two entry modes to business ownership were separated to see if there were differences between the two groups.

Aspiring entrepreneurs were defined as individuals preferring to be self-employed rather than employed. Those who did not know or had not decided what they preferred, were not included as aspiring entrepreneurs. *Nascent entrepreneurs* were defined from the following two questions:

1. Are you today, alone or together with someone else, trying to start or acquire a new business?
2. Have you, alone or together with someone else, started or acquired a business during the last year?

If respondents answered yes to either one or both of these two questions, they were identified as potential nascent entrepreneurs. Respondents were then asked to report on the status of their start-up process using an extended version of the three categories used by Carter et al. (1996). The respondents were given six options to evaluate the status of their business start-up process: (1) The business is established and still running; (2) The business was established but has later been sold/merged; (3) The business was established but was later closed down; (4) The business has yet not been established, but still trying; (5) The business has yet not been established and the business plan is sold; and (6) the business plan is abandoned. Only those individuals reporting option 4 were regarded as nascent entrepreneurs. Those reporting option 1, 2, or 3 were considered as *business founders*, that is, they have come one milestone further in the business start-up process. Those reporting option 5 or 6 have previously been nascent entrepreneurs, but have now become discouraged entrepreneurs (see Table 8.1).

The self-reported measure including these six options was used in the follow-up study to identify what happened to the business plans of nascent entrepreneurs. Respondents were also asked what activities they had initiated or completed using a list of 20 gestation activities (Reynolds and White 1997; Carter et al. 1996). Rotefoss (2001) used these activities and self-reported measures to define nascent entrepreneurs and business founders. She defined business founders as respondents who had (1) invested their own money in the business, (2) received first payment, and (3) registered the business as a legal entity.[1] Nascent entrepreneurs were defined as respondents who had initiated two or more gestation activities, except

Table 8.1 Questions concerning screening and business status

Screening questions
1. Are you today, alone or together with someone else, trying to start or acquire a business?
2. Have you, alone or together with someone else, started or acquired a business during 1995 or so far in 1996?
The status of the business
1. The business is established and still running.
2. The business was established, but was later sold or merged.
3. The business was established, but was later shut down, went bankrupt, or is dormant.
4. The respondent is still working on the business start-up.
5. The business plan was sold.
6. The business plan was abandoned.
Notes
1. Two-hundred and five out of 9,533 respondents (2.2%) said "yes" to question 1
2. One-hundred and forty-four out of 9,533 respondents (1.5%) said "yes" to question 2
3. Twenty-nine respondents answered "yes" to both questions
4. A total of 322 answered "yes" to one or both questions 1 or 2 and were considered nascent entrepreneurs

[1] In Norway, all new businesses, regardless of their legal status, will have to register the business as a legal entity to be able to trade legally in the market or hire employees.

those three gestation activities used to identify business founders. Respondents who reported they had abandoned their business plan were not included.

Other analyses used the self-reported measure alone (e.g., Alsos and Kolvereid 1998; Alsos and Ljunggren 1998). The choice of measure for nascent entrepreneurs and business founder did not significantly influence the results.

8.4 Methodological Overview

8.4.1 Sample

The initial data collection for the Norwegian PSED survey was carried out early in 1996 by MMI, a professional Norwegian survey vendor. In their weekly OMNIBUS survey, they interviewed 1,000 persons who were at least 15 years old. The PSED questions were included in the OMNIBUS for 10 subsequent weeks early in 1996 (week 2–11). In 1996, approximately 95% of all Norwegian households had telephones, and there were no significant difference in the telephone coverage between different regions. To ensure a representative sample, the data collection was stratified by Norwegian county, and within each county, households were selected randomly. When a household was contacted, the member of the household who was over 15 years and had most recently celebrated his/her birthday, was asked to reply. If the person in question was not present, up to five call-backs were made to contact this individual. The number of completed interviews in each stratum was predetermined, so that the number of interviews actually carried out in each county was proportional to the number of inhabitants in that county. The interviewing in each stratum was completed when the predetermined number of respondents had been interviewed each week. To achieve 10,000 interviews, 23,201 households were telephoned.

To be consistent with previous research (Reynolds and White 1997; Carter et al. 1996) and the other PSED teams, only respondents who were 18 years or more of age were included in the analysis. The number of initial contacts with 23,201 was reduced to 9,533 cases as follows. A total of 6,311 refused to participate, 5,264 did not reply, 965 were not in the target group, and 1,128 were under 18 years of age. Among the 9,533 respondents, 322 reported that they were now trying to start a business or had started a business during the last year. These were identified as potential nascent entrepreneurs (see Table 8.2).

The 322 potential nascent entrepreneurs identified were asked to provide their name and telephone number for further contact. Of the 322, 67 (20.8%) refused to participate in any further interviews. The name and the telephone numbers of the remaining 255 potential nascent entrepreneurs were purchased from MMI and immediately contacted. Eighteen people were inaccessible (seven because they had submitted telephone numbers that did not exist). Twenty-eight respondents did not qualify as nascent entrepreneurs after all. Six additional individuals refused to participate. In total, 203 completed detailed interviews regarding their proposed business start-up as well as the current status of their business. A response bias test comparing these 203 respondents with the individuals identified as nascent

Table 8.2 Attrition from screening sample to the final cohort

1996	
No. of phone calls made	23,201
No. of respondents	10,000
No. of adult respondents	9,533
No. of nascent entrepreneurs	322
No. of respondents in first follow-up	203
1997	
No. of respondents in second follow-up	188
1999	
No. of respondents in third follow-up	145

entrepreneurs but not interviewed this time, revealed no statistically significant differences when it comes to personal characteristics such as age, gender, ethnic background, education, or entrepreneurial experience (Rotefoss 2001).

One year later, in February 1997, the 203 participants were contacted again. Fifteen of the 203 persons could not be contacted; 12 month follow-up data were collected from 188% or 93% of the respondents. The third follow-up interviews were conducted early in 1999. One hundred and forty-five of the respondents (71% of the original cohort) were contacted and interviewed for the 36 month follow-up; the remaining 43 individuals could not be located. Master students at Bodø Graduate School of Business carried out the follow-up interviews using a structured questionnaire after having received thorough training by faculty.

The problem with repeated follow-ups is that some respondents are lost for each new data collection. This is clearly illustrated by this study, where only 145 valid responses could be obtained in 1999. Due to the reduced sample, no later follow-ups were conducted on this sample. As a result, the potential to investigate the start-up process's impact on future performance and business growth were limited. An important learning from this project is then that the initial sample has to be even larger than 10,000 to be able to collect follow-up data over a longer time span. This learning was informative to the Swedish and US teams who chose to invest in even larger initial screening samples. However, even though the samples are large enough, the large dropouts from the sample may be a source of bias. One can expect that discouraged entrepreneurs to a larger extent drop out because they refuse to participate or since they become more difficult to reach because they move, change their phone number, and so forth. The result may be an oversampling of successful entrepreneurs.

8.4.2 Classification of Nascent Entrepreneurs and Business Founders

The classifications of nascent entrepreneurs and business founders in the Norwegian data set and how it develops from initial screening to the last follow-up is summarized in Fig. 8.1. The diagram includes the 203 respondents answering the first follow-up

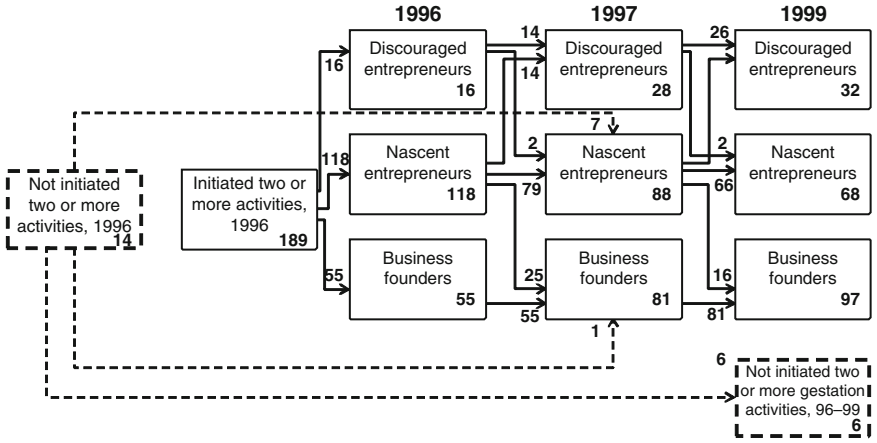

Fig. 8.1 Classifying nascent entrepreneurs and business founders in the Norwegian PSED (Rotefoss 2001)

in 1996. Among these, 189 respondents reported to be actively trying to start a business and to have initiated two or more activities when interviewed in 1996. Among these, 118 were identified as nascent entrepreneurs, 16 were identified as discouraged entrepreneurs, and 55 were identified as business founders.

One year later, 79 of the 118 nascent entrepreneurs were still in the process of starting a new business, 25 had managed to found the business, and 14 had become discouraged entrepreneurs. However, also two of the respondents previously identified as discouraged entrepreneurs were now identified as in the process of starting a new business, that is, nascent entrepreneurs. Moreover, seven persons previously identified as trying to start a new business but who had not initiated two activities in 1996, were now identified as nascent entrepreneurs, while one was identified as a business founder.

In 1999, 3 years after the initial screening, only six of the respondents who in 1996 reported to be trying to start a business, had not initiated two or more gestation activities. This represents the potential bias from not including the "two activities-criteria" when identifying nascent entrepreneurs. Further, the diagram shows that a significant proportion of initially identified nascent entrepreneurs, are still in the process 3 years after. Moreover, even now two discouraged entrepreneurs have decided to continue the process and are again defined as nascent entrepreneurs. This illustrates the complex pattern of the business-formation process.

8.4.3 Business-Gestation Activities

The list of gestation activities presented to the respondents fell into three categories: (1) business planning (preparing business plan, organizing start-up team, looking for or acquiring facilities, equipment, etc.); (2) financing the new firm (save and

invest own money, apply and receive bank funding, apply and receive government funding); and (3) interaction with the external environment (apply for license, patent, hire employees, sales promotion, business registration, first sale, etc.). For each activity, respondents indicated whether the activity was (a) not yet initiated, (b) not relevant, (c) initiated, or (d) completed. If an activity had been initiated or completed, respondents were asked to specify the month and year of initiation. Respondents were asked to report the status on each of the 20 gestation activities in 1996, 1997, and 1999. These data were used to study sequences of activities and duration of the business start-up process. The process was defined as started in the month of initiation of the earliest reported activity. The time span from the initial activity to the initiation of each of the other activities could then be calculated, and the typical sequence of activities could then be determined. The percentage of nascent entrepreneurs who initiate the various business-gestation activities and the typical sequence of these activities are summarized in Table 8.3.

As shown in Table 8.3, about 50% of Norwegian nascent entrepreneurs reported to have a written business plan, and 62% reported that they attempt to start the new business with one or more partner. It is somewhat surprising that it is more common to buy equipment, premises, and land than to rent them. This finding does not indicate that entrepreneurs are very parsimonious, but it is possible that buying equipment in some cases is cheaper than renting. For example, entrepreneurs may have

Table 8.3 Initiated gestation activities 1996–1999 and the typical sequence of activities (Based on Rotefoss 2001; Kolvereid and Thune-Holm 1999)

Gestation activities	Initiated by (%)	Typical sequence
Business planning		
Organized start-up team	62.6	2
Looked for facilities/equipment/property	59.6	6
Bought facilities/equipment/property	54.2	12
Prepared a business plan	50.7	7
Devoted full time to business	41.9	10
Conducted marketing research	37.9	3
Developed product/service	30.5	4
Rented/leased facilities/equipment/property	30.5	14
Financing the new firm		
Invested own money in the firm	68.5	8
Saved money to invest in the firm	53.7	1
Received private funding	49.8	15
Asked for private funding	47.8	16
Asked for government funding	39.9	17
Received government funding	23.2	20
Interaction with the environment		
Formed legal entity	68.0	9
Received first payment	64.0	11
Sales promotion activities	63.5	5
Positive net income	52.4	13
Hired employee(s)	24.1	18
Applied for license, patent, etc.	15.8	19

purchased second-hand equipment. The rental market may also be limited for some types of equipment. Only slightly more than 40% of the nascent entrepreneurs reported working full time in the business. Many new businesses are part-time activities, and need to grow before they can provide full-time employment for the founder. While almost 50% of the entrepreneurs had received private funding, less than a quarter of them have received government funding.

Only two activities are typically carried out during the first half year: starting to save money to invest in the business and searching for business partners. During the second half year, the entrepreneur undertakes a number of different activities. New products and services are developed and marketing research is carried out. Activities directed at obtaining customers are initiated, and the search for equipment and premises starts. The writing of the business plan is initiated and own money is invested in the project. Papers are sent for legal registration of the business, and the entrepreneurs start working for the business on a full-time basis.

About 1 year after the initiation of the start-up process, an average entrepreneur receives payment for the first sale. One month after the first sale has taken place, an average entrepreneur reports that the monthly income is higher than the monthly costs. At about the same time, equipment, premises, and property is purchased or rented – and the business applies for external finance, and receives private finance.

The last activities that occur during the gestation process are hiring of the first employees, applications for licenses, patents, and permits. Reception of public finance is the last of all events. It is interesting to note that it is much faster to obtain finance from private sources than from government sources. Private funding probably includes personal bank loans and credit cards, which are used by the start-up team before the firm is a legal entity that can borrow funds on its own account.

8.5 Entrepreneurs: How Many Are They and What Are They Like?

Building on the model of Katz (1992), *aspiring entrepreneurs* are defined as individuals who prefer to be self-employed, *nascent entrepreneurs* are individuals stating that they, at the time of the interview, were actively trying to start a new business, and *business founders* are individuals who had succeeded in founding a new business. Among the 9,533 respondents participating in the screening interviews, 24.2% were defined as aspiring entrepreneurs, while 3.4% (322 respondents) were identified as nascent entrepreneurs. Follow-up interviews were conducted for the nascent entrepreneurs. Among these 203 respondents, 72.3% were able to found a new business during the time period 1996–1999.

Age, gender, education, and entrepreneurial experience among aspiring entrepreneurs, nascent entrepreneurs, and business founders is summarized in Table 8.4. The screening sample of 9,533 respondents is used to measure the prevalence of aspiring and nascent entrepreneurs. The prevalence of business founders is measured as the share of nascent entrepreneurs who manage to establish their business

Table 8.4 Percentages of aspiring entrepreneurs, nascent entrepreneurs, and business founders (Built on Alsos et al. 2000)

	Aspiring entrepreneurs	Nascent entrepreneurs	Business founders
All	24.2%	3.4%	72.3%
Age			
18–24 years	34.1%	3.3%	68.2%
25–44 years	25.8%	5.2%	74.1%
45 years or older	20.5%	1.6%	68.3%
Chi-square	91.611*	83.754*	0.740 ns
Gender			
Women	18.7%	1.6%	72.7%
Men	30.4%	5.3%	72.3%
Chi-square	175.895*	100.887*	0.003 ns
Education			
Low	24.1%	2.9%	73.4%
High	24.7%	4.5%	70.5%
Chi-square	0.509 ns	13.650*	0.197 ns
Entrepreneurial experience			
Portfolio entrepreneurs	64.0%	14.8%	87.4%
Serial entrepreneurs	30.7%	4.6%	66.7%
Novice entrepreneurial	19.8%	2.2%	55.1%
Chi-square	675.962*	302.213*	21.668*
N	9,533	9,533	203

Statistical diagnostics: * indicates $p < 0.001$, ns indicates not significant ($p > 0.05$)

before the final screening in 1999 (3 years after initial screening). The sample is here the 203 nascent entrepreneurs who responded to the first follow-up in 1996. Among these, 72.3% were identified as a business founder in at least one of the follow-up interviews in 1996, 1997, or 1999.

Regarding age, aspiring for entrepreneurship was found to be most usual among young adults (18–24 years). However, persons between 25 and 44 years were the most active in starting a business-formation process and becoming nascent entrepreneurs. The reason may be that resources needed to go into the business start-up process such as experience, education, and financial resources are accumulated during these years. Young adults therefore probably wait some years before their intentions are transformed into action. Thus, these results indicate that a person can have the intention to start a business for several years before he/she starts actively to prepare a business start-up. There are no age differences regarding the proportion of nascent entrepreneurs who starts the business and become business founders.

The findings indicated that fewer women than men have entrepreneurial intentions and thus can be identified as aspiring entrepreneurs. There are also significantly fewer women than men who become nascent entrepreneurs. In fact, the difference between the genders is larger among nascent than aspiring entrepreneurs, indicating that fewer women go from intention to action when it comes to starting a business. Nevertheless, among those who try to start a business, there are

no differences between the genders when it comes to founding the business. Thus, if women start to prepare a business start-up, they succeed to the same extent as men. Consequently, the reason for the low business-formation rates among women in Norway seems to be related to the lack of entrepreneurial intentions among women, particularly to the fact that women who show an interest in entrepreneurship are less likely than men to get involved in business creation.

The level of education was found to have no significant impact on whether a person aspires to become an entrepreneur. In this analysis, high education was measured as participation in university programs. Despite there being no differences in aspiration, respondents with university-level education were more likely to be nascent entrepreneurs. This difference may be explained with highly educated persons' presumable better access to resources such as personal networks, funding, know-how, as well as exploitable business ideas. However, among nascent entrepreneurs, level of education showed no significant impact on the propensity to actually start a business.

Entrepreneurial experience was assumed to be related to the business-formation process since those with previous experience from business ownership can be expected to have relevant knowledge, an established network, and access to resources as well as a positive attitude towards entrepreneurship (Alsos and Kolvereid 1998; Alsos 2007). Among experienced entrepreneurs, that is, those who have established at least one previous business, we divided between those who still own at least one of their previous businesses (portfolio entrepreneurs) and those who have sold or closed down all their previous businesses (serial entrepreneurs). Persons with no previous start-up experience are termed novice entrepreneurs. As Table 8.4 illustrates, potential portfolio entrepreneurs were more likely to aspire to additional entrepreneurship, were more often identified as nascent entrepreneurs, and, compared to potential serial and novice entrepreneurs, were more often successful in completing the start-up process with a new firm. Consequently, an existing business seems to be an important resource base when trying to set-up a new firm. Potential serial entrepreneurs had a higher possibility for becoming aspiring and nascent entrepreneurs compared to those without entrepreneurial experience. However, there was no significant difference between serial and novice nascent entrepreneurs in the propensity to actually start a business. These results show the value of distinguishing between current and previous entrepreneurs when studying the effects of entrepreneurial experience. This issue is discussed in more detail later in the chapter.

8.6 The Start-up Process and Outcome Overview

This section reviews the main analyses carried out using the NO-PSED data set. This includes Magnussen's (1997) licentiate theses, which focused on business-gestation activities and the outcomes of the business start-up process. Second is Alsos and Kolvereid's (1998) assessment of the differences in the business-gestation process

between novice, serial, and portfolio business founders, followed up by a more detailed analysis in Alsos' (2007) doctoral dissertation. The third analysis is represented by the works of Alsos and associates on gender differences in the business start-up process (Alsos and Ljunggren 1998; Alsos et al. 2000). Finally, there is Rotefoss' (2001) doctoral dissertation and the article (Rotefoss and Kolvereid 2005), on the effects of human capital and context on reaching the different milestones in the business-gestation process.

8.6.1 Business-Gestation Activities and Start-up Propensity[2]

The relationship between initiating business-gestation activities and the probability to actually start a business was the focus of the first examination of the Norwegian data set. Magnussen (1997) investigated whether nascent entrepreneurs who initiated more business start-up activities, specifically more aggressive and visible start-up activities, showed a higher probability of actually starting a business. He also examined differences in business start-up propensity between types of nascent entrepreneurs.

Magnussen (1997) analyzed the data from the initial data collection and the first two follow-up surveys. He removed 28 respondents who had purchased or inherited their businesses, as well as 13 respondents who had not carried out any gestation activities. In order to avoid influence from different economic conditions over time, 16 respondents who initiated their gestation process prior to January 1, 1993 were also removed. Therefore, his final sample consisted of 131 nascent entrepreneurs and their business-gestation activities during the period January 1, 1993 to December 31, 1996.

In this sample of 131 nascent entrepreneurs, 8.4% had given up, 42.0% were still trying, and 49.6% reported starting a business in the 1997 follow-up.[3] These groups initiated an average of 3.9, 5.1, and 9.7 gestation activities (from a list of 20 such activities). Magnussen divided the business-gestation activities in seven visible activities (activities that could easily be observed by other people), and 13 other activities. He also divided the gestation activities into four different phases of the gestation process: (1) Resource acquisition, (2) idea development, (3) commercialization, and (4) business registration and vitalization. Based on theory and previous empirical findings, Magnussen developed ten hypotheses that were tested using *t*-tests, Cox regression, and logistic regression. Six of his hypotheses were supported in the analysis. These hypotheses, which concern the relationship between business start-up activities, selected entrepreneurial characteristics, and process outcomes are summarized in Table 8.5.

[2] Based on Magnussen (1997).

[3] As reported previously, the number of processes resulting in business start-ups was higher in 1999 (76%), 3 years after initial screening, as could be expected.

Table 8.5 Hypotheses about the relationship between business start-up activities and process outcomes

Hypothesis	Test used	Finding
H1.1. Nascent entrepreneurs who initiate more stages in the business-gestation process than others are more likely to succeed in starting up a business.	*t*-tests	Supported
H1.2. Nascent entrepreneurs who start the business-gestation process with aggressive, visible gestation activities, such as commercial activities and business registration, are more likely to succeed in starting up a business.	*t*-tests	Supported
H1.3. Nascent entrepreneurs who start the business-gestation process with aggressive, visible gestation activities, such as commercial activities and business registration, will start their business faster than others.	Cox regression	Supported
H1.4. Nascent entrepreneurs who initiate a high number of visible business-gestation activities are more likely to succeed in starting up a business.	Logistic regression	Supported
H1.5. Nascent entrepreneurs who initiate a high number of visible gestation activities will start their business faster than others.	Cox regression	Supported
H2.1. Women nascent entrepreneurs are as likely as their male counterparts to start a business	*t*-tests	Supported
H2.2. The probability of business start-up increases with the entrepreneur's age.	*t*-tests	Not supported
H2.3. There is a positive relationship between education and business start- up.	*t*-tests	Not supported, except for the construction industry, where a positive relationship was found
H2.4. Nascent entrepreneurs with previous experience as business angel are more likely to succeed in starting up a business.	*t*-tests and Cox regression	Not supported
H2.5. Nascent entrepreneurs with previous self-employment experience are more likely to succeed in starting up a business.	*t*-tests and Cox regression	Not supported

Magnussen (1997) failed to find any significant relationship between characteristics of the founder such as age, gender, education, investor experience, and former self-employment experience, and the probability of completing the new business-gestation process and the actual start-up of a new business. However, this investigation showed a significant relationship between the nascent entrepreneurs' behavior during the process and its outcome. Nascent entrepreneurs had a larger chance of reaching the third milestone and actually starting a business if they carried out many gestation activities, especially activities that are visible to others. The sequence of activities is also important. Thus, nascent entrepreneurs seem to benefit from starting the process with business registration or commercial activities.

8.6.2 Entrepreneurial Experience: Novice, Serial, and Portfolio Business Founders[4]

The NO-PSED design provided a unique opportunity to investigate the extent to which entrepreneurs learn from experience. The issue of entrepreneurial experience was actualized by MacMillan's (1986) request to study habitual entrepreneurs and by the studies of multiple business ownership (Birley and Westhead 1993; Scott and Rosa 1996). If entrepreneurs learn from previous business start-up processes, experienced entrepreneurs would be expected to undertake somewhat different start-up processes on the second or subsequent initiatives and achieve a higher probability of succeeding in setting up a business.

To explore this issue, Alsos and Kolvereid (1998) focused on the activities carried out during the business-gestation process of three types of entrepreneurs: novice founders, serial founders (i.e., those individuals who have previously owned a business, but sold it or closed it down and then try to start a new business) and portfolio founders (i.e., those individuals who own at least one business while trying to start another). Starr and Bygrave (1992) suggested that experienced founders are likely to meet developmental milestones and to establish new businesses more effectively than novice founders. MacMillan (1986) argued that experienced entrepreneurs learn from their earlier entrepreneurial experiences and build an experience curve of entrepreneurship. They have the opportunity to analyze what went wrong and what went right, and eventually "adopt the technology of entrepreneurship." If an experience curve for entrepreneurship really exists, it could be reasonably assumed that serial and portfolio entrepreneurs undertake a somewhat different, and supposedly more efficient, business start-up process than founders who do not have any prior entrepreneurial experience. Based on the knowledge learned from previous experience and possibly also other resources transferred from current or previous ventures, experienced

[4]Based on Alsos and Kolvereid (1998) and Alsos (2007).

nascent entrepreneurs could also be assumed to be more likely to succeed in setting up a new business.

The following research questions were investigated:

1. How do the business-gestation processes reported by novice, serial, and parallel business founders differ with regard to (a) the start-up activities they carry out during the process, (b) the number of such start-up activities cited, (c) the timing of start-up activities, and (d) the sequence of the start-up activities?
2. Do serial and parallel founders have a higher probability of actually starting new businesses than novice founders?

To investigate these questions, analyses were conducted based on the 159 respondents who submitted complete data sets in the initial and follow-up surveys (1997) and were starting a new independent business from scratch. Those who acquired or inherited a business were not included. Among the 159 respondents, 64% were identified as novice nascent entrepreneurs, 20% were serial nascent entrepreneurs and 16% were portfolio nascent entrepreneurs.

To investigate the differences in business-gestation processes, the measures on gestation activities and the timing of their initiation were used. The activities studied were classified into three different groups: (1) business planning, (2) financing the new firm, and (3) interaction with the external environment. The number of months from the earliest reported activity to the initiation of each subsequent activity was calculated, including the number of moths from the first to the last start-up activity initiated. Further, measures were calculated regarding the number of initiated or completed activities for each of the three categories of activities, as well as the total number of activities initiated/completed. Finally, the mean number of months between the initiations of each activity was calculated. During the follow-up survey in 1997, the respondents were also asked to report on the current status of their start-up effort; if the business was started, if they were still trying to start it, or if they had given up the start-up effort. Thus, the self-reported measure was used in the analysis.

The study investigated the proportion of each type of nascent entrepreneurs who had initiated each of the start-up activities (Fig. 8.2). Further, differences between novice, serial, and portfolio nascent entrepreneurs with regard to the number of start-up activities initiated, in total and for each category, the time period between the first and last activity initiated, as well as the average time period between start-up activities, were examined. Moreover, the sequences of start-up activities were compared. Finally, the outcomes of the start-up process for novice, serial, and portfolio entrepreneurs were evaluated.

The share of nascent entrepreneurs who have initiated each of the examined start-up activities within 1 year after screening is presented in Fig. 8.2. The results indicated that the three types of founders developed their business ideas in a similar way. However, there were significant differences with respect to seven activities. Serial and portfolio founders were found to be more likely than novice founders to devote themselves full time to the business and to hire employees, indicating that they start larger businesses. In addition, portfolio founders were found to be more likely than novice and serial founders to have organized a start-up team, received government funding, and carried out sales promotion activities. Compared to

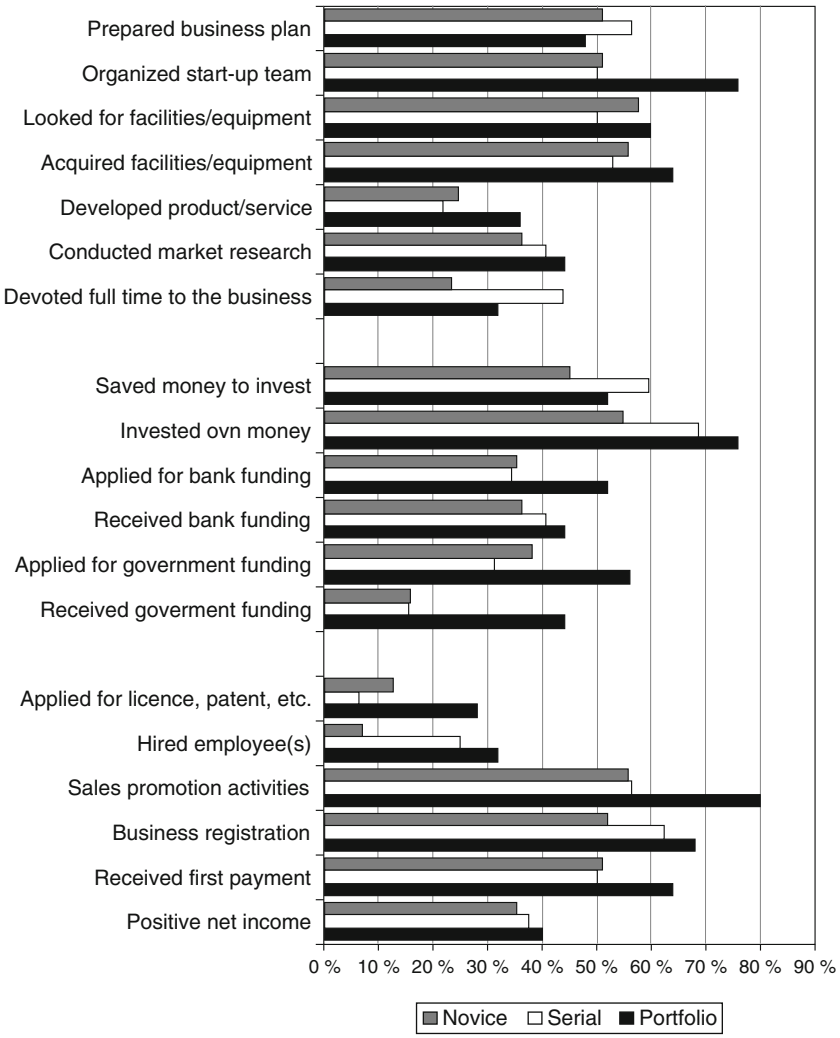

Fig. 8.2 Start-up activities reported by novice, serial, and portfolio business founders (Based on Alsos and Kolvereid 1998)

novice founders, portfolio founders were also found to be more likely to have invested own money in their new venture.

Further examination of the timing and sequences of start-up activities revealed similar sequences between the three types of founders. Over the first 3 months, they organized a team, saved money, and prepared a business plan. Serial founders, however, were found to be more likely from the outset to devote themselves on a full-time basis to their ventures. In contrast, novice founders generally delay until the second quarter before they devote themselves full time to their ventures. Portfolio founders generally do not engage themselves full time to their ventures

until the second year of the gestation process. Serial founders were found to be under stronger time pressure than the other two groups. Most notably, serial founders conducted a large number of activities in the second quarter. They generally register their firm and receive payments from first sale relatively early in the start-up process. Novice founders generally proceed more slowly and postpone many activities to the fourth quarter.

Portfolio founders were found to be even slower than novice founders in implementing many activities, despite the finding that they generally receive their first payments much earlier than novice founders. Many portfolio founders were delaying initiating several business development activities until the second year. Since their existing business may require their attention, they may not have sufficient time to develop their new business.

The findings showed that portfolio nascent entrepreneurs carry out more activities in their business start-up process than other nascent entrepreneurs. However, they do not hurry. Rather, they seem to take one step at a time and they wait until the last part of the process before they undertake costly activities such as buying equipment, hiring employees, and devoting themselves full time to the business. They invest their own money into the business at a relatively early stage, but wait until the last part before they acquire external funding. Compared to novice and serial nascent entrepreneurs, portfolio nascent entrepreneurs are more likely to organize a start-up team, invest their own money in the venture, initiate sales promotion, and hire one or more employees.

Serial nascent entrepreneurs carry out more start-up activities in the earlier phases of the business start-up process than portfolio nascent entrepreneurs. Moreover, they often devote themselves full time to the business start-up effort from the beginning of the process. Further, they are less likely to receive external funding, particularly government support, than portfolio nascent entrepreneurs. Novice nascent entrepreneurs undertake their business start-up process much in the same way as serial nascent entrepreneurs. However, they take their time during the first phases of the process, and then increase their effort during the last quarter of the first year when they carry out most of the remaining start-up activities then. In marked contrast to serial and portfolio nascent entrepreneurs, novice nascent entrepreneurs rarely hire employees, and if they do, they wait until the very end of the business start-up process.

When comparing the outcomes of the start-up efforts of the three types of nascent entrepreneurs, portfolio nascent entrepreneurs were found to be significantly more likely to actually start a business, and equally less likely to give up their start-up efforts than both novice and serial nascent entrepreneurs. Serial nascent entrepreneurs were found to be more likely to give up their start-up efforts than both novice and portfolio nascent entrepreneurs (see Table 8.6).

In conclusion, the empirical evidence suggests that there are differences in the business founding processes reported by novice, serial, and portfolio nascent entrepreneurs. The findings support the need to distinguish between different types of experienced entrepreneurs. Compared to serial nascent entrepreneurs, portfolio nascent entrepreneurs seem to build an experience curve of entrepreneurship; this

Table 8.6 Business-gestation process outcomes of novice, serial, and portfolio founders

	Novice founders		Serial founders		Portfolio founders		Chi-Square
Outcomes	No.	%	No.	%	No.	%	Statistic
Started a business	39	41.5	12	41.4	17	68.0	
Still trying	25	26.6	5	17.2	7	28.0	11.25
Gave up	30	31.9	12	41.4	1	4.0	$p < .024$
	94	63.5	29	19.6	25	16.9	

leads to a somewhat different business start-up process and a higher probability of actually starting a subsequent business. Serial nascent entrepreneurs on the other hand, seem to be no better than novice nascent entrepreneurs at reaching milestones in the business start-up process.

The distinction between portfolio and serial entrepreneurs is linked to the question of learning from past experiences. Portfolio entrepreneurs may have a richer and fresher experience base with which to work, while serial entrepreneurs may be laboring under the biases inherent in selective recall and oversampling of success (see Sitkin 1992). In other words, portfolio nascent entrepreneurs can iterate back and forth between experiences, while serial entrepreneurs may only operate from what is remembered about the previous experience. The findings from this study may illustrate the value of fresh and ongoing experience from other entrepreneurial activities when initiating new business start-up processes.

Moreover, Alsos (2007) argued that the current businesses owned and managed by portfolio entrepreneurs may imply access to viable resources. For instance, one reason why portfolio nascent entrepreneurs are able to invest their own money early in the process and apply later for external funding may be that access to funding and other resources are made available through their existing business(es). Moreover, utilization of spare resources in their existing business(es) may allow portfolio entrepreneurs to postpone costly activities such as investments and employment until the new business can operate independently. The transfer of knowledge as well as other resources may not only increase the likelihood that the start-up efforts of portfolio nascent entrepreneurs actually lead to a new business, it may also increase this business chance of success by reducing its start-up costs and/or providing valuable resources.

8.6.3 Gender Differences in the Business Start-up Process[5]

At the time the Norwegian PSED was carried out, there was an increasing interest in the gender divide in entrepreneurship. More men than women start businesses and become self-employed. Approximately one fourth of new business founders

[5]Based on Alsos and Ljunggren (1998) and Alsos and Ljunggren (2002).

were women at the time (SSB 1996). Assuming that entrepreneurial abilities are evenly distributed by gender, it was argued that the low share of women entrepreneurs indicated an under-utilized potential for new business start-ups. This potential was a significant policy issue both at the regional and national levels and various efforts were made to promote entrepreneurial activities among women. Alsos and Ljunggren (1998) argued that the rationale behind projects encouraging female entrepreneurship was that women encounter particular problems during the business start-up process, and that they have less knowledge or less developed business networks than men. As a result, the typical initiatives put forward were entrepreneurial training for women, business counseling agencies for women, and women network programs. The NO-PSED data gave the opportunity to investigate whether the assumed gender differences in knowledge and networks relevant to entrepreneurship lead women nascent entrepreneurs to act differently than men in the start-up process and thereby achieve lower start-up probability.

Alsos and Ljunggren (1998) investigated the business start-up process of male and female nascent entrepreneurs using the data from the initial data collection and the first two follow-up surveys. Only new autonomous start-ups were included in the analyses. As a result, longitudinal data from 149 nascent entrepreneurs were used, of which 76.5% were men and 23.5% women. Male and female nascent entrepreneurs were compared regarding the activities undertaken, the duration of the start-up process and timing of activities, as well as the outcome of the business start-up process.

Similar to other studies on gender and entrepreneurship (Ahl 2002; Brush 1992), results from this study showed that there are more similarities than differences between male and female nascent entrepreneurs when it comes to the activities undertaken in a business start-up process (Fig. 8.3). A similar share of female and male nascent entrepreneurs organized start-up teams, looked for and acquired facilities and equipment, developed products, conducted market research, saved and invested own money, applied for and received bank funding and interacted with the external environment through sales promotion activities, business registration, etc. There were also major similarities related to the timing of these activities as well as the duration of the business start-up process. However, it has to be noted that similarities here mean that the differences within the groups were larger than the differences between groups, and that there were still large variations in the sample. Nevertheless, some differences did exist related to the business start-up process.

In particular, fewer female than male nascent entrepreneurs were found to write business plans, and when they did, they postponed this activity until relatively late in the process. This might reflect different attitudes towards business plans or that women had less knowledge in this area. However, as business plans can be regarded as a mechanism to achieve legitimacy for the business, particularly related to external funding, this might have suggested that women more seldom contact external sources of funding. Results also indicated that a larger extent of women than men applied for financial support from governmental support schemes (57% vs 38%). The share applying for and receiving bank

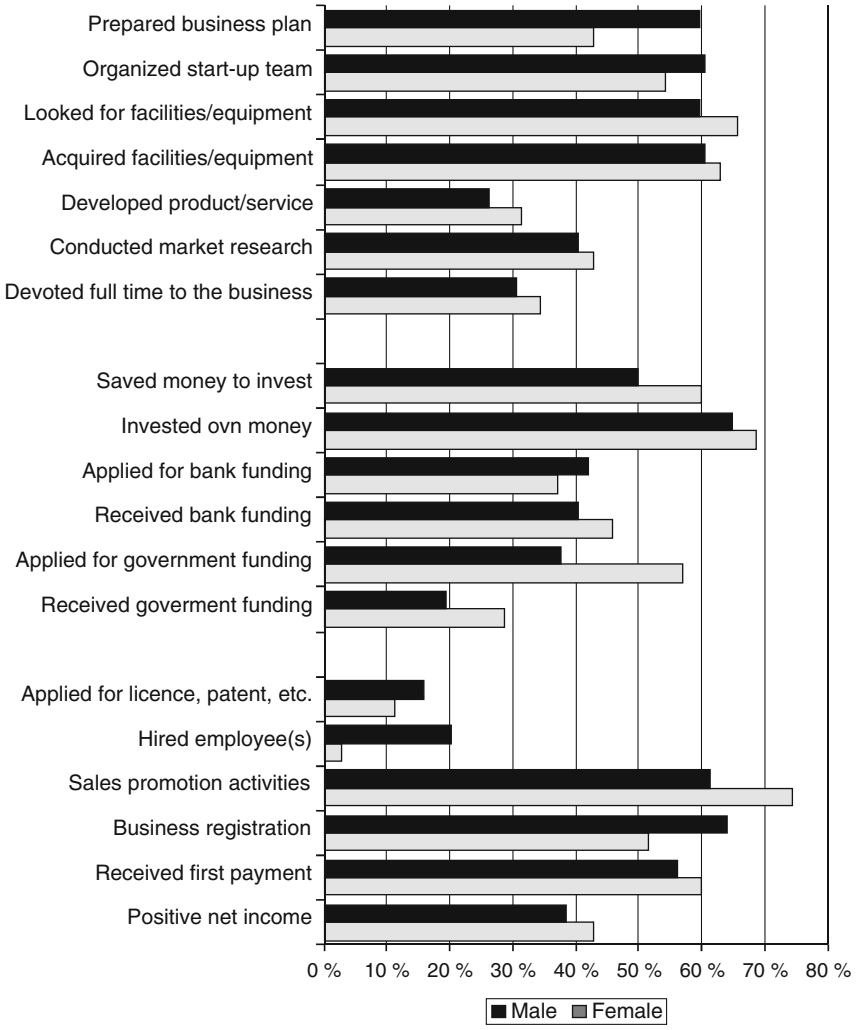

Fig. 8.3 Start-up activities reported by male and female nascent entrepreneurs (Based on Alsos and Ljunggren 1998)

funding were similar among women and men (about 40%), but among those who did apply for bank funding, women did this earlier in the process than men. Consequently, the lack of need for external funding does not seem to be the reason for the lower proportion of business plans among women nascent entrepreneurs.

A later study from the Norwegian context indicates that there are little gender differences in the perceived need for funding at the time of business registration (Alsos et al. 2006). Still, 18 months after registration, women business owners

have, on average, obtained less funding for their businesses than male business owners. This lack of funding was also found to partly explain the lower average early growth rate among women-owned businesses. Thus, there seems to be an issue regarding gender and new business financing in Norway, which need further examination. The relationships are complex and more detailed studies are called for. These analyses should take into account that there are gender differences in industry sectors chosen for new businesses, and that the process of financing a new firm is influenced by a number of interrelated factors as well as by characteristics of the entrepreneur and the firm.

Regardless of the gender differences in preparing a business plan and financing the business, the outcome of the business start-up process did not differ by gender. Rather, the share of nascent entrepreneurs who started a business, who gave up the start-up efforts and who reported to be still trying at the second follow-up 1 year after initial screening, were almost identical for male and female nascent entrepreneurs. About 46% of both males and females reported they have started a business while 25% of men and 26% or women were still in the start-up process and 29% of both reported disengagement from the start-up efforts. These results are similar to later results in other countries (Delmar and Shane 2004; Menzies et al. 2006; Parker and Belghitar 2006). Consequently, it seems to be quite well documented that there are no significant gender differences in start-up propensity among nascent entrepreneurs once they enter the process and are working on a nascent venture. The lack of knowledge about how to start a business or the lack of relevant network does not seem to hinder female nascent entrepreneurs more than male nascent entrepreneurs. The reason why women are underrepresented among entrepreneurs in almost every country (Minniti et al. 2004; Allen et al. 2007) is related to the propensity to enter the process and become a nascent entrepreneur.

Data from the initial household screening showed that women were much less likely to have entrepreneurial intentions than men. About 19% of adult women reported that they preferred self-employment to employment compared to 30% of the men. Differences in perceptions, attitudes, and intentions do seem to play an important role (Langowitz and Minniti 2007; Minniti and Nardone 2007; Wagner 2007). Consequently, nearly 40% of aspiring entrepreneurs were women (Fig. 8.4). Among nascent entrepreneurs and business founders, nearly 25% were women. Data from the initial screening of the NO-PSED sample indicted that 1.6 per 100 adult women as compared to 5.3 per 100 adult men were considered to be nascent entrepreneurs at the time of the interview. These results indicated that the really big issue related to the gender gap in entrepreneurship is why women with start-up intentions are less likely than men to actually try to start a business, that is, "going from words to deeds" (Alsos and Ljunggren 2002; Alsos et al. 2000). Using GEM data, some researchers have tried to dig into this issue by looking at perceptions and cognitive processes (Langowitz and Minniti 2007; Minniti and Nardone 2007). However, to be able to investigate the process from intention to action, longitudinal data are needed. This may thus be an issue for the next set of PSED projects.

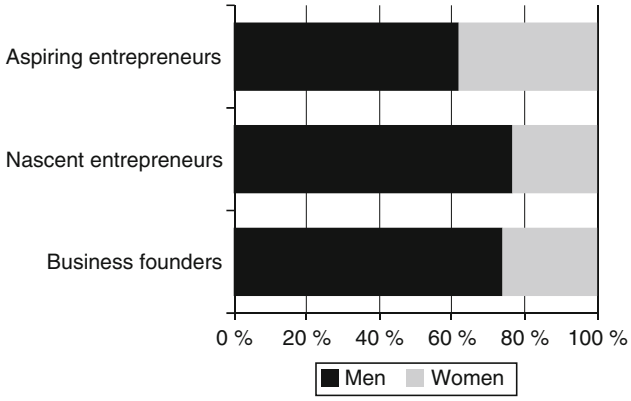

Fig. 8.4 Gender among aspiring entrepreneurs, nascent entrepreneurs, and business founders (Based on Alsos and Ljunggren 2002)

8.6.4 Resources of Nascent Entrepreneurs[6]

One important research question of the Norwegian PSED project was identifying factors affecting the outcomes of the business start-up process. To partly answer this question, Rotefoss (2001) and Rotefoss and Kolvereid (2005) investigated the impact of human capital and regional factors on the ability to reach the milestones of the business start-up process: aspiring, preparing, and entering.

The first milestone, becoming an aspiring entrepreneur, is measured as a preference for self-employment over organizational employment. The second milestone is preparing for an entrepreneurial career. These are individuals who are nascent entrepreneurs, that is, people who are trying to start a new business. The third milestone is a new-firm birth. Businesses were regarded as started (or born) when the following activities had been initiated: (1) invested own money in the business, (2) received first payment, and (3) registered the business as a legal entity. This definition of business birth is different from the one used by Magnussen (1997) and Alsos and Kolvereid (1998), who used self-reported measures of business birth.

Rotefoss investigated the effect of both individual and regional factors. Previous studies of the business start-up process have tended to use either the individual or the region as the unit of analysis. Hypotheses were derived from resource-based theory and are summarized in Table 8.7. These hypotheses specify how human and environmental resources will affect the odds of reaching the three different milestones in the business-gestation process. Respondents were classified as nascent entrepreneurs or business founders based on the most recent information available.

The results indicate that human resources are the main predictors of the outcome of the business start-up process. Particularly, different kinds of entrepreneurial

[6]Based on Rotefoss (2001) and Rotefoss and Kolvereid (2005)

Table 8.7 Hypotheses regarding human capital and context

Hypothesis	Test used	Aspiring entrepreneurs	Nascent entrepreneurs	Business Founders
H1. Highly educated individuals are more likely to become (a) aspiring entrepreneurs, (b) nascent entrepreneurs, and (c) business founders.	Logistic regression	Supported	Strongly Supported	Not supported
H2. Individuals with entrepreneurial experience are more likely to become (a) aspiring entrepreneurs, (b) nascent entrepreneurs, and (c) business founders.	Logistic regression	Strongly supported	Strongly supported	Strongly supported
H3. Individuals living in urban environments are more likely to become (a) aspiring entrepreneurs, (b) nascent entrepreneurs, and (c) business founders.	Logistic regression	Supported	Not Supported	Not Supported
H4. Individuals living in regions experiencing high unemployment are more likely to become (a) aspiring entrepreneurs, (b) nascent entrepreneurs, and (c) business founders.	t-tests and chi-square tests	Not supported	Not Supported	Not supported
H5. Individuals living in regions experiencing unemployment increase are more likely to become (a) aspiring entrepreneurs, (b) nascent entrepreneurs, and (c) business founders.	Logistic regression	Not supported	Not Supported	Supported
H6. Individuals living in regions where financial resources are generously available are more likely to become (a) aspiring entrepreneurs, (b) nascent entrepreneurs, and (c) business founders.	Logistic regression	Not supported	Not Supported	Not Supported
H7. Individuals living in regions with a low proportion of socialist representatives are more likely to become (a) aspiring entrepreneurs, (b) nascent entrepreneurs, and (c) business founders.	Logistic regression	Not supported	Supported	Not Supported

H8. Individuals living in regions experiencing flexible specialization are more likely to become (a) aspiring entrepreneurs, (b) nascent entrepreneurs, and (c) business founders.	Logistic regression	Strongly supported	Not supported	Not supported
H9. Human resources are better predictors than environmental resources for the odds of becoming (a) aspiring entrepreneurs, (b) nascent entrepreneurs, and (c) business founders.	Logistic regression	Strongly supported	Strongly Supported	Strongly supported

experience are the key variables explaining differences in the abilities to reach the different milestones of the start-up process. The pool of available environmental resources seems to be of less importance for individuals in this process. However, the results are not the same for the different milestones. Instead, which resources are the most important varies between the milestones. The odds of reaching the first milestone are strongly and positively influenced by current and previous entrepreneurial experience; unsuccessful business start-up attempts in the past; living in municipalities with high unemployment growth and industrial specialization; as well as being young, male, and of non-Norwegian ethnic background.

Regarding the second, or preparing, milestone, all aspects of the human resources included in this study strongly and positively influence the odds of becoming a nascent entrepreneur. Further, living in municipalities with high unemployment growth is positively associated with reaching the preparing milestone, while a high proportion of socialist representatives on the municipal council, as well as industrial specialization, are municipal characteristics negatively influencing the odds of reaching this milestone. Being young and male is positively associated with the odds of becoming a nascent entrepreneur, but at this milestone, being of non-Norwegian ethnic background no longer influences the outcome.

Finally, the odds of reaching the third milestone, a new-firm birth, are strongly and positively affected by having current and previous entrepreneurial experience, while living in municipalities with high unemployment growth and high net wealth per capita is strongly and negatively associated with the odds of reaching the entering milestone.

While having entrepreneurial experience positively influences all milestones, being male and young influences both the aspiring and preparing milestone, but not the entering milestone. This confirms Alsos and Ljunggren's (1998) finding that women are as likely to start businesses as men, as long as they first reach the preparing milestone. Further, the results indicate that an increase in the unemployment rate is associated with an increase in the desire to become self-employed, an increase in start-up efforts, and a decrease in the proportion of nascent entrepreneurs who actually start-up a business. "The explanation may be that an increase in the unemployment rate leads to a higher number of nascent entrepreneurs with lower entrepreneurial qualifications" (Rotefoss and Kolvereid 2005, p. 120). The same pattern holds for those of non-Norwegian backgrounds, indicating that this group of nascent entrepreneurs meets tougher challenges in the business start-up process, which lead to termination of the process before start-up.

8.7 Conclusions

It is now 10 years since the Norwegian team finished the data collection on the Norwegian PSED. As the first country to begin collecting data after the Wisconsin pilot study, we gathered much experience and learning from the project. This was the first effort of investigating a representative sample of people involved in new

business start-ups in Norway and provided relevant and interesting findings about this activity in the Norwegian context. Not surprisingly, the study showed that the extent of people involved in entrepreneurial processes were lower in Norway than in the United States. More detailed analyses provided useful results about differences between groups of entrepreneurs, as well as knowledge about activities in the start-up process and how they contributed to the outcomes of these processes.

In this chapter we have summarized major results from the analyses of the NO-PSED data set. In total, the project has given insight into the complexities of the business start-up process. The data showed that the types of activities included and their sequences can vary extensively between different start-up efforts. There are many ways to create a new firm. However, there also seem to be some paths that may be more effective than others. Those involve activities making the business visible to others and activities more aggressively pushing the process forward. The Norwegian results also indicated that access to human capital and other resources strongly influence the propensity to enter the business-formation process as well as the probability that the outcome will be a new business. In particular, prior entrepreneurial experience seems to be important, even more if the nascent entrepreneur has other business responsibilities while trying to start an additional business.

The most surprising finding from the study is probably the large number of business start-up processes that do not lead to new businesses – at least not in 3 years. Consequently, there is a substantially larger group of people involved in entrepreneurial activities than one can observe from the number of businesses registered in the Norwegian firm register. Moreover, the failure rate of entrepreneurial efforts seems to be far higher than the rate of newly established firm closures indicate. A large share of these efforts fail even before the new business is started.

Results from early in the decade may not be applicable in the current economic climate. The Norwegian GEM studies have identified nascent entrepreneurs annually for the past decade. There has been little change in the prevalence of nascent entrepreneurs in Norway. The share of women has increased slightly and the prevalence of nascent entrepreneurs varies somewhat with economic conditions (e.g., Kolvereid et al. 2007), but the overall pattern has been relatively constant.

8.7.1 Policy Implications

Analysis of NO-PSED data provided analysis that has affected Norwegian policy development. First, the analysis on gender and business start-ups gave new information on why there still is an entrepreneurship gender gap in Norway. The results showed that gender differences appear very early in the process, in that women less often have entrepreneurial intentions than men, but particularly that women less often go from having intentions to actually try to start a new business. However, if they do, they seem to succeed in setting up the business at the same rate as men. Consequently, efforts aimed at increasing women's participation in entrepreneurial activities should address the factors influencing on intentions and on the process

from thought to action. The Norwegian government has since taken some steps to try to address these early phases. Entrepreneurship education programs throughout primary and secondary school, as well as college and university level have been introduced to create familiarity with and knowledge about entrepreneurship and self-employment as a career option. These initiatives include young enterprise concepts where pupils and students are starting their own businesses during school hours. Some of these initiatives have had a particular gender focus assuming that girls may be less exposed for knowledge about entrepreneurship in other contexts.

Second, NO-PSED analyses gave quite strong results on the value of prior start-up experience. In particular, those who retain their prior business while aiming at starting a new one seem to have the resources and experience needed to succeed in new business start-ups to a larger extent than others. Thus, it is important that policy acknowledge the significance of current business owners as starters of new businesses. Policy should accommodate the start-up of business owners' second or subsequent businesses start-ups. Moreover, novice nascent entrepreneurs should be able to learn from their more experienced counterparts. Support agencies for new businesses could arrange for such knowledge transfer.

Third, results from NO-PSED have given insights into the processes of business start-ups. These processes may take a variety of forms and benefit from a variety of resources. There are such large variations that it has not been possible to identify the optimal start-up process. Nevertheless, the findings indicate that activities making the business visible are important to be able to establish a business. Further, human predictors seem to be more important for the result of the process than environmental resources. These findings give some important insights to entrepreneurship training programs and others who support entrepreneurs in Norway.

8.7.2 Concluding Remarks

Being the first country to implement a PSED research protocol provided benefits but also involved significant challenges. Fortunately, the Norwegian team was able to learn from the Wisconsin studies and from our participation in the Entrepreneurial Research Consortium (ERC) as it designed the US-PSED I project. In retrospect, we have some reflections on the data collection process, particularly related to the challenges of longitudinal studies. While the goal is to create longitudinal data sets with many measurement points over a relatively long period of time, the starting point should be as close as possible to the initiation of the start-up process. To be able to do this, at least the following is crucial: (1) very large initial data samples are needed; (2) to avoid a biased cohort, efforts should be taken to lose as few respondents as possible throughout the process; (3) to isolate the effect of differential time in the start-up process, it is necessary to examine differences between those nascent entrepreneurs who very recently initiated the start-up process and those who had initiated the process some time before the first interview; (4) nascent entrepreneurs who disengage from the start-up process should receive follow-up

interviews; and (5) it may be necessary to follow both the entrepreneur and the new start-up effort in those cases where the original respondent has disengaged and other on the team continue to manage the new firm. Some of these issues have been taken into account in some of the second wave of PSED studies included in this book. These projects are, however, very challenging, not least because they require very long-term funding and long-term commitments from the research team.

The PSED research program has provided much new insight and contributed a lot to the knowledge about entrepreneurship and business creation. We believe that there are many more interesting questions to be examined using this methodology. Many of the interesting issues are probably to be found examining subgroups of the larger sample. Moreover, following individuals regardless of the outcomes of the start-up effort may give important findings on the effects of learning from experience, success, as well as failure. To what extent do these individuals become engaged in new entrepreneurial processes and how are prior and new start-up processes interrelated?

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References

Ahl, H. J. (2002). The making of the female entrepreneur: A discourse analysis of research texts on women's entrepreneurship (JIBS Dissertation Series No. 015). Jönköping, Sweden: Jönköping Universityo. Document Number)

Allen IE, Elam A, Langowitz N, Dean M (2007) Global entrepreneurship monitor. 2007 Report on Women and Entrepreneurship. Babson College, Wellesley

Alsos GA (2007) Portfolio entrepreneurship – general and agricultural examples. PhD thesis, Bodø Graduate School of Business, Bodø

Alsos, G. A., Isaksen, E. J., & Ljunggren, E. (2006). New Venture Financing and Subsequent Business Growth in Men- and Women-Led Businesses. Entrepreneurship Theory and Practice, 30(5), 667–686

Alsos G, Ljunggren E (1998) Does the business start-up process differ by gender? A longitudinal study of nascent entrepreneurs. Frontiers of Entrepreneurship Research, Babson College, Wellesley

Alsos G, Ljunggren E (2002) Betydningen av kjønn i etableringsprosessen. In Berg NG, Foss L. Entreprenørskap: Kjønn, livsløp og sted. Oslo: Abstrakt (The impact of gender in the business start-up process. In Norwegian)

Alsos GA, Ljunggren E, Rotefoss B (2000) Who makes it through the business formation process? A longitudinal study. Paper presented at Babson Kauffman conference of entrepreneurship research, Boston, 8–10 June 2000

Alsos G, Kolvereid L (1998) The business gestation process of novice, serial and parallel business founders. Entrepreneurship Theory Pract 22(4):101–114

Birley S, Westhead P (1993) A comparison of new businesses established by "novice" and "habitual" founders in Great Britain. Int Small Bus J 12(1):38–60

Brush, C. G. (1992). Research on women business owners: Past trends, a new perspective and future directions. Entrepreneurship Theory and Practice, 16(4), 5–30

Carter NM, Gartner WB, Reynolds PD (1996) Exploring start-up event sequences. J Bus Venturing 11(3):151–166

Delmar F, Shane S (2004) Legitimating first: organizing activities and the survival of new ventures. J Bus Venturing 19:385–410
Gartner WB, Shaver KG, Carter NM, Reynolds PD (eds) (2004) Handbook of entrepreneurial dynamics: The process of business creation. Sage, Thousand Oaks
Katz, J. A. (1990). Longitudinal analysis of self-employment follow-through. Entrepreneurship & Regional Development, 2(1), 15–25
Katz JA (1992) A psychological cognitive model of employment status choice. Entrepreneurship Theory Pract 20(3):23–31
Kolvereid, L., Bullvåg, E., & Åmo, B. W. (2007). Entreprenørskap i Norge. Global Entrepreneurship Monitor. Bodø: Bodø Graduate School of Businesso. Document Number
Langowitz N, Minniti M (2007) The entrepreneurial propensity of women. Entrepreneurship Theory Pract 31:341–364
MacMillan IC (1986) To really learn about entrepreneurship, let's study habitual entrepreneurs. J Bus Venturing 1:241–243
Magnussen RÅ (1997) Etableringssuksess: En funksjon av etablereren eller etableringsprosessen? Hovedfagsoppgave, Bodø Graduate School of Business. (Business start-up success: a function of the founder or the business gestation process? In Norwegian. Unpublished licentiate theses)
Menzies T, Diochon M, Gasse Y, Elgie S (2006) A longitudinal study of the characteristics, business creation process and outcome differences of Canadian female vs male nascent entrepreneurs. Int Entrepreneurship Manag J 2(4):441–453
Minniti M, Arenius P, Langowitz N (2004) Global entrepreneurship monitor. 2004 Report on Women and Entrepreneurship. Babson College, Wellesley
Minniti M, Nardone C (2007) Being in someone else's shoe: the role of gender in nascent entrepreneurship. Small Bus Econ 28:223–238
Parker SC, Belghitar Y (2006) What happens to nascent entrepreneurs? An econometric analysis of the PSED. Small Bus Econ 27(1):81–101
Reynolds PD, Miller B (1992) New firm gestation: conception, birth, and implications for research. J Bus Venturing 7:405–417
Reynolds PD, White SB (1997) The entrepreneurial process: economic growth, women, and minorities. Greenwood, Westport
Rotefoss B (2001) A resource-based approach to the business start-up process. A longitudinal investigation. Unpublished Ph.D. dissertation, Henley Management College, Brunel University, Uxbridge. Reprinted in HBO-report nr. 22/2001, Bodø
Rotefoss B, Kolvereid L (2005) Aspiring, nascent and fledging entrepreneurs: an investigation of the new business start-up process. Entrepreneurship Reg Dev 17(2):109–127
Scott M, Rosa P (1996) Opinion: Has firm level analysis reached its limits? Time for rethink. Int Small Bus J 14(4):81–89
Sitkin SB (1992) Learning through failure: the strategy of small losses. In: Staw BM, Cummings LL (eds) Research in organizational behavior. JAI Press, Greenwich, pp 231–266
Starr JA, Bygrave WD (1992) The second time around: The outcomes, assets and liabilities of prior start-up experience. In: Birley S, MacMillan IC (eds) International perspectives on entrepreneurship research. Elsevier, Amsterdam, pp 340–363
SSB (1996) Self-employment by gender. Employment statistics. Statistics Norway, Oslo, Norway.
Wagner J (2007) What a difference a Y makes – female and male nascent entrepreneurs in Germany. Small Bus Econ 28:1–21

Chapter 9
The Swedish PSED: Performance in the Nascent Venturing Process and Beyond

Mikael Samuelsson

9.1 Introduction

The Swedish version of the Panel Study of Entrepreneurial Dynamics (SE-PSED) was initiated in collaboration with the Entrepreneurship Research Consortium (ERC) sponsored the first US Panel Study of Entrepreneurial Dynamics (US-PSED I). The projects were initiated to address a major hiatus in contemporary entrepreneurship theory and research. Compared to more developed areas of inquiry, there was a lack of reliable descriptions of the basic phenomena, the entrepreneurial or business creation process, and many of the research procedures utilized by entrepreneurial scholars were not based on representative samples (cf. Chandler and Lyon 2001; Davidsson and Wiklund 2001). Much of the theory about entrepreneurship implied complex, multifaceted processes were affecting the outcomes but there were no existing data sets appropriate for testing these theories. Most analysis was cross-sectional; there was no capacity for testing ideas about processes that may take several years to reach fruition. The primary objective for the SE-PSED was to develop systematic descriptions about the nascent venturing process and consequences for the new firms that would be created. At that time, there was very little information about the early stages of the firm life course.

The SE-PSED had two technical objectives. The first was to develop a representative sample of nascent entrepreneurs drawn from the adult population in Sweden. Such a sample allows inferences to be made about the entire population of Swedish nascent entrepreneurs. The second purpose was to follow a cohort of nascent ventures from initiation, through the start-up phase, and, for some to a wealth creating new firm (For a conceptual and technical background see Gartner et al. 2004; Reynolds and White 1993; Reynolds 1997, 2000; Shaver et al. 2001). A longitudinal design involves data collection as the entrepreneurial process develops and facilitates assessment of three important stages in the early life of a new venture: (1) venture opportunity variation, (2) variation in the nascent venturing process,

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and (3) subsequent venture-level performance. This improvement in data collection allows inferences about causality and descriptions of critical stages in the life of new ventures (cf. Davidsson and Wiklund 2001; Eckhardt and Shane 2003; Reynolds 2000). Such longitudinal research designs with representative samples will provide the potential for assessing research findings based on cross-sectional analysis and tests of process theories about the entrepreneurial process (Aldrich and Baker 1997).

9.2 Project Development and Background

The Swedish panel study was initiated and led by Per Davidsson and Frédéric Delmar; the first pilot study was completed in 1997. The subsequent research can be described as an iterative process of analysis and interpretation. The research design reflected the accumulated wisdom in the field and the resulting data set is a unique complex longitudinal data set; appropriate analysis requires a thorough understanding of entrepreneurship theory and how empirical indicators are to be interpreted. A number of scholars were invited to participate in analysis and interpretation, including Benson Honig, Thomas Karlsson, Scott Shane, and Jon Eckhardt; all have created published works based on the SE-PSED. The author joined the research group in 1999 and was granted full access to all data in 2000 for completion of his dissertation (Samuelsson 2004); he was not involved in the overall design or development of empirical indicators of the core constructs.

The Swedish study has been financed by Knut & Alice Wallenberg's Foundation, the Swedish Foundation for Small Business Research, and the Swedish National Board for Industrial and Technical Development. The research design reflects major contributions from participation in the Entrepreneurial Research Consortium (ERC) and especially to its initiator and coordinator, Professor Paul D. Reynolds. The ERC was a temporary, voluntary association of some 34 US and non-US research institutions which have sponsored more than 120 researchers who have taken part in the design and realization of the project (Gartner et al. 2004).

9.3 Conceptual and Operational Definitions and Critical Events

The SE-PSED was designed so that analysis could be based on either the nascent venture or the nascent entrepreneur and the start-up team. The ability to use the nascent venture for analysis is consistent with a definition of entrepreneurship as the creation of new economic activity (cf. Davidsson et al. 2001; Shane and Venkataraman 2000; Ucbasaran et al. 2001). A control group was identified to facilitate tests for differences between nascent entrepreneurs and the general population. Both samples,

however, are drawn from the adult population and information on the nascent venture is obtained from a venture champion, a nascent entrepreneur representing the start-up team. A venture champion, or nascent entrepreneur, was someone who had initiated or completed two of the gestation behaviors listed in Table 9.1.

A distinction is also made between independent start-ups initiated by nascent entrepreneurs and corporate sponsored ventures initiated by nascent intrapreneurs. Nascent entrepreneurs are assumed to be exploiting opportunities with independent new firms created for that specific purpose and nascent intrepreneurs are engaged in similar activities on behalf of existing firms (Schumpeter 1942). Venkataraman (1997) argues that the choice of which entity will be used to commercialize a new

Table 9.1 Gestation activities capturing the nascent venturing process

Gestation behaviors
1. Product/service idea or concept
2. Product/services initial development
3. Information of competition/opportunity
4. Saving money to invest
5. Team in process
6. Team complete
7. Business plan in process
8. Business plan completed
9. Projected financial statement
10. Application for funding
11. Received funding successfully
12. Unsuccessful search for funding completed
13. Purchased raw materials, supplies, inventories, etc.
14. Started investing own money
15. Established credit with a supplier
16. Purchased major item
17. Marketing or promotion started
18. Own phone line
19. Permits and licenses in process
20. Permits and licenses granted
21. Registered at PRV[a]
22. Received tax licenses[b]
23. Application for patent, copyright, trademark in process
24. Application for patent, copyright, trademark granted
25. Product/services tested on customers
26. Business received income
27. Product/services ready for sale
28. Devoted full time to the business
29. First hire
30. Revenues exceeded expenses

[a] PRV (Patent och registreringsverket) is the Swedish authority that enforces registration of all new firms regardless of mode of organization
[b] In Sweden, firms may apply for a tax license. This license ensures that they paid their taxes in advance and are following Swedish tax and VAT regulations

venture opportunity depends largely on which organizational form will generate the highest expected value of entrepreneurial profit and which organizational form that will be best for appropriating that value (cf. Arrow 1974). The SE-PSED collected data both from independent start-ups as well as intrapreneurship start-ups.

9.4 Method

The research project started with an initial screening interview between the summer of 1998 and the year 2000. Considerable effort was made to ensure the quality of the data. Scandinavian Opinion AB (SKOP), a professional opinion research agency, was responsible for the screening interview, the initial detailed telephone interviews, and mail surveys. A team of trained interviewers conducted all follow-up following telephone interviews under the supervision of a full-time data manager. This design and data collection method facilitated a high-quality longitudinal database; the response rates were well above those in most panel studies.

Each of the respondents completed an initial screening phone interview to identify nascent entrepreneurs and a control group. A randomly chosen 4 per 100 of the screening sample were selected for the control group. Those identified were then asked if they were willing to participate in a longer telephone interview; volunteers were invited to complete a more detailed 60-minutes phone interview and complete a 10-page mail questionnaire about their efforts to start a new business.

To locate nascent entrepreneurs in the screening sample, each respondent was asked the following question: "Have you, alone or with others, started a new firm during the last 2 years?" (cf. Reynolds 1997, 2000; Reynolds et al. 2002; Shaver et al. 2001). Those that said yes were then asked additional questions to determine if they had been actively pursuing business creation. Those that reported recent start-up activity or gestation behaviors such as income or sales, market research, or saving money to start a business (see Table 9.1 for a comprehensive list) were invited to participate in the longer phone interview.

The eligible respondents received a more extensive phone interview to identify those currently active but not yet managing an operating new firm. Respondents were systematically asked if they had "initiated" or "completed" any of an inventory of gestation behaviors. For each that had been initiated, they were asked the month and year of initiation or completion. Based on suggestions from previous studies (Reynolds 1997, 2000), those that reported two or more firm gestation behaviors were considered "nascent entrepreneurs." This was the lower bound or minimum requirement. The upper bound is concerned with completion of the start-up process with an operational new firm. The start-up process was considered as completed when the following criteria were fulfilled. A business is regarded as operational if (a) money has been invested, (b) income has been made, and (c) the firm is already a legal entity (cf. Carter et al. 1996). Those managing an operational new firm were no longer considered nascent entrepreneurs.

Table 9.2 The sample developmental process

Category	Total	Percent (a)	Percent (b)	Percent (c)
(a) Individuals randomly sampled	49,979	100.0		
Individuals with identifiable phone number	35,971	72.0		
(b) Individuals screened	30,427		85.0	
(c) No. of "Yes" answer to nascent entrepreneur or nascent intrapreneur item	961		3.2	
Refused to volunteer	−53			5.5
Not enough knowledge of Swedish	−6			0.6
No contact, not clear if start-up	−147			15.3
Started, but did not complete interview, because they were no longer starting a business (misunderstanding, changed situation, etc.)	−132			13.8
No. who accepted invitation to volunteer and completed longer interview	623		2.0[a]	

[a]2.0% of the 30,427 initially screened

Because it was assumed that nascent entrepreneurs would constitute a relatively small proportion of adults, the sampling strategy was to start with a large initial sample. Data was collected from two samples of 49,979 individuals living in Sweden in 1998. The first sample consists of those between 16 and 70 years of age; the second sample was restricted to those between 25 and 44 years old. The purpose of the first sample, as in the original US-PSED I design, was to get a representative sample of nascents from the Swedish adult population; this would allow inferences about the total population. The second sample was implemented to increase the size of the nascent entrepreneur cohort with reduced screening costs; the prevalence of nascent entrepreneurs was known to be highest among those 25–44 years old.

Of the 49,979 individuals randomly selected from the registry of all those in Sweden with a mailing address, it was possible to obtain a telephone number for 35,971 (71.9%). The remaining 28.1% did not have a listed phone number ($n=13{,}338$), had severe disabilities ($n=381$), or had moved abroad ($n=289$). Of those contacted by telephone, 30,427 individuals (84.6%) agreed to participate in the screening interview. Out of this group, 961 respondents qualified for and agreed to the longer interview in the screening interview. It was not possible to locate 147 respondents for the longer interview. Another 132 individuals were removed from the cohort after determining, in the longer interview, that they did not qualify. The final cohort had 623 individuals that qualified as nascent entrepreneurs and had completed the longer interview (see Table 9.2).

9.5 The Longitudinal Study

The second purpose with the PSED effort was to systematically follow a large number of ventures during the nascent venturing process. The follow-up interviews began with the 623 nascent entrepreneurs identified in 1998 to the final phone

Table 9.3 The sampling procedure and response rates across time

Date	Phone	Mail	Response rate (%)	Valid interviews
Aug-98	X		100.0	623
Nov-98		X	90.5	563
Mar-99	X		91.9	401
Aug-99	X		98.5	330
Nov-99		X	88.7	293
Mar-00	X		86.0	230
Aug-00	X		48.0	299
Oct-04	X		69.0	277
June-10	Planned			

Percent of eligible cases; computed from valid interviews of ventures that were not abandoned during an earlier round of the study

interview completed in the year 2000. Table 9.3 describes the sampling procedure and response rates across time.

As can be seen in Table 9.3, after the detailed initial interview in August 1998, seven additional follow-ups have been completed. From August 1998 through August 2000, interviews were completed about every 6 months, with a 4 years gap before the October 2004 follow-up. An eighth interview is planned for August 2010; 12 years after the nascent respondents were first interviewed.

The initial detailed interview in August 1998 provided information about start-up activities up to the date of this interview as well as the current status of the venture. This is referred to as the initial status. This information provides the capacity to determine the date and activities reflecting the first efforts to implement the new venture as well as its status at the initial interview.

The follow-up interviews collected data on the progress of implementing the new venture as well as performance for those that became operating new firms. The longitudinal design facilitates models of both the initial status as well as progress in the creating the new venture. It is possible to use both time invariant as well as time-varying independent variables in these models.

Response rates for each round of data collection, based on those eligible for additional interviews at the completion of each wave of interviews, are presented in Table 9.3. They range from 48% for August 2000 to 98% for August 1999 and five of seven are above 85%. This is a high level of cooperation and reflects two features of this situation. First, Sweden is a country where people traditionally answer surveys regarding their business ventures, especially telephone surveys (cf. Davidsson 1989). Most businesses need to answer mandatory surveys from the government from time to time and the Swedish tolerance for surveys has not been destroyed by overuse of telemarketing. Second, the SE-PSED procedure employed a full-time data manger and highly skilled interviewers that were tenacious, as many as 40 calls spread over all days of the week and times of day were made to contact respondents. Persistence pays off.

Table 9.4 summarizes the main topics in the interview schedules. Data was collected on both the initial status and progress in implementing the start-up.

Table 9.4 Range of questions used in the study

Background education	Gestation workforce
Background parents	Gestation workforce, work full-time self
Background residence	Gestation workforce nonowners hired
Background startups	Gestation workforce, nonowners hired
Background work	Gestation workforce, number of full-time employees
Contact with support organizations	Gestation workforce, number of part-time employees
Future general	Gestation start thinking of business
Gestation behavior	Household general
Gestation ask for finance	Investments equity
Gestation business plan	Investments loans
Gestation contact information	Market competition
Gestation contact information (own phone)	Market general
Gestation contact information (own mailing address)	Market strategy
Gestation contact information (own visiting address)	Network complete
Gestation contact information (own fax number)	Network reduced version
Gestation contact information (mobile phone)	Performance expected
Gestation contact information (own email address)	Performance general
Gestation contact information (own web site)	Performance intentions
Gestation development of product/service	Performance profit
Gestation equipment	Performance turnover
Gestation finance (budget)	Performance workforce
Gestation finance (invested own money)	Status abandoned by all
Gestation gathered information	Status business
Gestation gathered information (discussed product/service w pot customers)	Status change of business
Gestation household help	Status inactive start (dormant)
Gestation income, received any	Status employer
Gestation income exceeding costs	Status (legal) form
Gestation income, owners salaries counted	Status general
Gestation income, contact w first customers	Status business idea
Gestation income, customers helped finance startup	Status new company
Gestation income, knows who will be first customer	Status operating business
Gestation credit w supplier	Status resting (pause)
Gestation marketing	Status run by someone else
Gestation marketing, time spent	Status active start-up
Gestation marketing, money spent	Status team
Gestation marketing, type	Screening interview
Gestation networking	Team complete version
Gestation obtained licenses/permits	Team, extended version
Gestation patent, copyright	Team reduced version
Gestation national questions,	Team solo
Gestation national questions,	Gestation raw material
Gestation national questions,	Gestation saved money
Gestation education	Gestation start-up team

Information on age, income, and education were collected during the first interview. Progress and outcome-related activities as well as adjustments to strategy and focus, reflecting learning, were collected in all follow-up interviews. When start-up or gestation behaviors were reported, the year and month when they were initiated was obtained. The SE-PSED data set is quite comprehensive and includes measures of many of the factors considered to explain entrepreneurial behavior and new firm performance.

9.6 "Swedish" Entrepreneurs

Based on the SE-PSED data and consistent with the results of the Swedish Global Entrepreneurship Monitor (GEM) assessments about 2 per 100 Swedish adults are engaged in business creation at any given time. There has been little change in these prevalence rates over the past decade. The stability of this figure increases confidence in the current relevance of the SE-PSED data. As there were 5,500,000 Swedish adults in 1998, the SE-PSED cohort represents the business creation activity of approximately 110,000 individuals.

Two main factors, gender and age, have a strong relationship to participation in venture creation as a nascent entrepreneur. Figure 9.1 shows the age and gender distribution in the Swedish sample. There is approximately one female for every two-and-a-half male nascent entrepreneurs (71% men and 29% women); their average age is 40 years old. There is a concentration of both male and female nascent entrepreneurs between the age of 25 and 44. The Swedish sample is representative of those 18–65 years of age; 65 was the retirement age at the time of the screening interviews. Annual Swedish GEM surveys confirmed the stability of the overall distribution as well as gender distribution between 1998 and 2007.

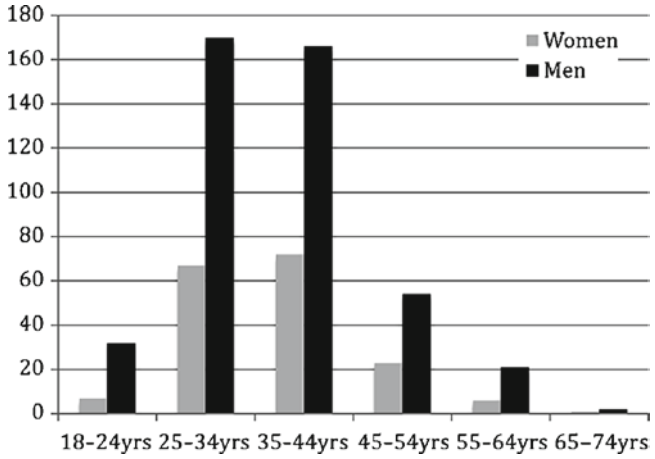

Fig. 9.1 Nascent entrepreneur counts, by gender and age, 1998 in Sweden

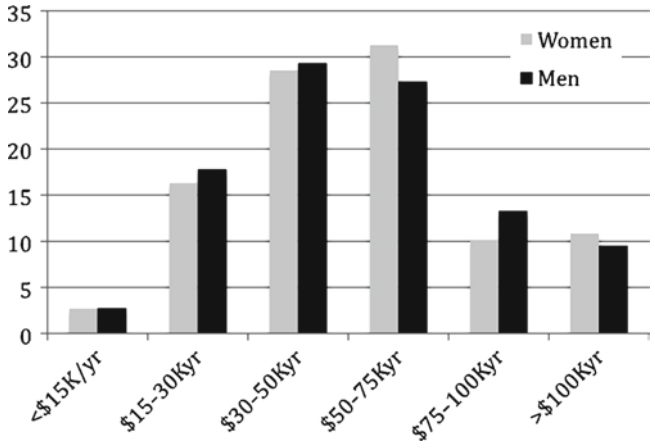

Fig. 9.2 Nascent entrepreneur counts, by household income and gender, 1998 in Sweden

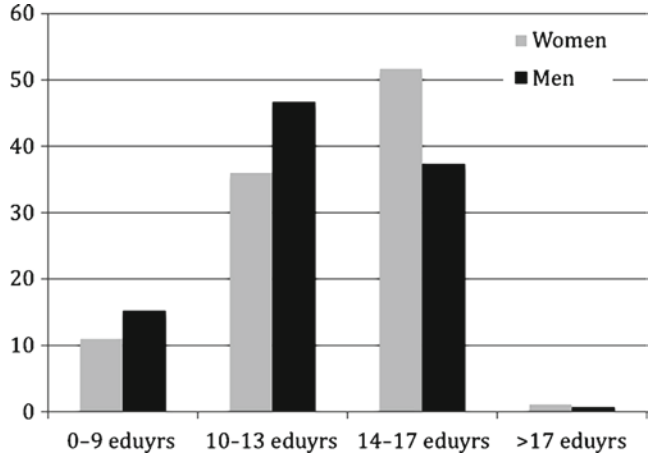

Fig. 9.3 Nascent entrepreneur counts, by education and gender, 1998 in Sweden

Swedish nascent entrepreneurs are mostly native-born Swedes, 89% of the cohort was born in Sweden. Approximately, 37.0% claim that they are solo start-ups, 16.5% are start-ups consisting of a pair of spouses, and 40.2% are a team effort without family ties. As shown in Figure 9.2, household income is evenly spread across gender and is normally distributed in this sample.

Educational attainment, presented in Figure 9.3, is evenly spread among the Swedish entrepreneurs. About 41.0% of the sample has college education or higher and 1.6% of the sample has a Ph.D. Women are overrepresented among those with 14–17 or more years of education and underrepresented in the groups with less education.

9.7 Who Becomes a Nascent Entrepreneur in Sweden?

While many factors are associated with a greater tendency to become involved in the firm creation process, comparing the relative importance of the different variables helps to provide a more precise portrait of nascent entrepreneurs. As with the US-PSED I, the SE-PSED included a comparison group of a representative sample of the Swedish adults and a sample of those not involved in starting a business at the time of the survey.

A comparison of the nascent entrepreneurs with the non-entrepreneurs is provided in Table 9.5. Univariate comparisons on 14 different characteristics are presented in Table 9.5; those features on which there is a statistically significant difference are indicated in the right column of the table.

Table 9.5 Differences between nascent entrepreneurs and control group

Variables	Sample	% Yes	% No	Chi square
Working for others	cg	75.25	24.75	18.26
	ne	39.55	60.45	**
Smallbus owner/self employ	cg	26.14	63.56	160.55
	ne	54.94	45.06	**
Managed a bus. owned by other	cg	5.94	94.06	18.26
	ne	13.13	86.87	**
Student	cg	91.58	8.42	0.49
	ne	90.44	9.56	
Homemaker	cg	18.87	81.13	7.51
	ne	13.13	86.87	**
Retired	cg	7.43	92.57	25.79
	ne	1.46	98.54	**
Unemployed	cg	8.77	91.23	0.91
	ne	7.29	92.71	
Working more than 35 hours	cg	80.84	19.16	0.23
	ne	79.50	20.50	
Owner/part owner of business	cg	13.49	86.51	40.56
	ne	27.80	71.87	**
Tried start-up and quit	cg	6.09	93.91	11.61
	ne	11.62	87.37	**
Owner of discontinued business	cg	11.35	88.49	47.72
	ne	26.77	72.90	**
	ne	38.65	60.39	**
Parents business owners	cg	37.29	61.72	17.11
	ne	47.02	52.98	**
Swedish citizen	cg	96.53	3.47	5.89
	ne	94.04	5.48	
		Women	Men	
Gender	cg	50.49	49.51	61.93
	ne	28.57	71.43	**

Cg control group, *ne* nascent entreprenur
** Asymp. Sig. (2-sided) less than .001

The following characteristics seem to distinguish nascent entrepreneurs from our control group. Nascent entrepreneurs in Sweden are more likely to:

- Be self-employed or a small business owner
- Have previous management experience
- Be active in the workforce
- Be the owner or part owner of a business
- Have start-up experience
- Have parents with entrepreneurial experience
- Be male

Many of these patterns have been found in other PSED studies, some reported in this book.

Table 9.6 presents differences between nascent entrepreneurs and the control group on 13 additional characteristics; the level of statistical significance is again

Table 9.6 Differences between nascent entrepreneurs and control group cont

Variables		N	Mean	Std. D.	Sig.<.05
Highest level of education completed	cg	606	5.09	12.12	*
	ne	621	4.87	7.88	
Total years of full-time work experience in any field	cg	601	15.80	11.32	*
	ne	613	14.89	9.75	
Years with managerial, supervisory, or administrative responsibilities	cg	601	3.86	6.53	
	ne	617	5.71	6.73	
Largest number of people responsible for	cg	599	10.91	60.97	*
	ne	613	106.68	1,498.97	
Other relatives or kin own their own business	cg	606	3.62	0.74	*
Four graded scale from 1 = most to 4 = none	ne	621	3.45	0.87	
Close friends and neighbors own their own business	cg	606	3.21	1.16	*
Four graded scale from 1 = most to 4 = none	ne	621	2.82	0.99	
Observing family, kin, and close friends with business- your impression	cg	606	2.84	1.50	
Four graded scale from 1 = most to 4 = none	ne	621	2.40	1.36	
Number of people in the household	cg	606	3.03	1.38	
	ne	618	3.05	1.45	
Number of children	cg	606	1.22	1.19	
	ne	618	1.21	1.23	
House income per month in $K*	cg	608	4.57	8.64	*
	ne	597	5.49	8.90	
Estimate of household's saving $K	cg	477	23.35	141.23	*
	ne	458	128.46	1,266.29	
Estimates of household's debts $K	cg	501	19.12	34.06	*
	ne	541	25.88	61.59	
Current net worth of the household $K	cg	430	75.36	90.84	
	ne	393	100.26	88.07	

1$ = 8 SEK, computed using 1998 values
Cg control group, *ne* nascent entrepreneur
*$p < 0.05$

provided in the right column. These comparisons suggest that when compared to non-entrepreneurial Swedes, the nascent entrepreneurs are more likely to have:

- Lower levels of formal education
- Fewer years of total work experience
- Much more experience as managers and responsible for more persons in such positions
- Close friends and relatives with their own businesses
- Larger monthly household income
- Have both larger household savings and more debts

Again, many of these patterns have been found in other national studies.

In summary, those involved in starting a business are more likely to have start-up and management experience and a social context that involves others, such as friends and family that ha ve start-up experience. Nascent entrepreneurs in Sweden also seem to earn more and have more savings and debts than the average person. These results suggest that nascent entrepreneurs share the following key characteristics:

- They are more exposed to an entrepreneurial context that would include relatives, friends, and parents with entrepreneurial experience.
- On an individual level, they have more start-up experience, access to more financial resources, and more management experience.

None of these factors, however, are related to the quality of the ventures being created. In addition, while some individuals are more likely to become involved in business creation, all segments of society – all categories of individuals – are represented among nascent entrepreneurs in Sweden.

9.8 Gender Differences

Selected differences between women and men in the nascent entrepreneur population are presented in Table 9.7. Compared to women nascent entrepreneurs, male nascent entrepreneurs have more overall work, management, and same economic sector experience. On the other hand, there is no gender difference in age, start-up experiences, growth expectations, educational attainment, or parents with small business experience.

Intrinsic personal motivations were measures with 12 items in the interview schedule; they can be consolidated into four indices. The four indices, with the number of items and the Chronbach's Alpha measure of reliability in parentheses, are as follows:

- *Autonomy*, reflecting the desire for freedom to adopt work activities and for flexibility in personal and family life (two items, Alpha = 0.72).
- *Wealth*, reflecting the importance of larger personal income, financial security, and greater wealth (three items, Alpha = 0.75).

Table 9.7 Gender differences

Variables	Significant difference
Work experience in years in opportunity industry	Yes
Overall work experience	Yes
Management experience	Yes
Age	No
Start-up experience	No
Highest number of employees	No
Educational level	No
How many firms have parents started and owned	No

- *Achievement*, reflecting the importance of higher status, recognition, development of new business ideas, fulfilling a personal vision, and an ability to influence an organization (three items, Alpha = 0.61).
- *Respect*, reflecting the importance of following the family tradition, following the example of admired persons, respect from friends, and a business for one's children (four items, Alpha = 0.73).

Both the items and the outcome of analysis to form indices were the same for the SE-PSED and the US-PSED I cohorts.

The relative importance of these four dimensions of intrinsic motivation for men and women nascent entrepreneurs is presented in Figure 9.4. As with any index, the actual numerical values are arbitrary, but the comparisons do make clear the relative importance assigned to each. The rank order is similar for both women and men but with a small difference. Women are more likely to emphasize autonomy and achievement first, while men are more likely to emphasize wealth as the second most important reason to start their new venture.

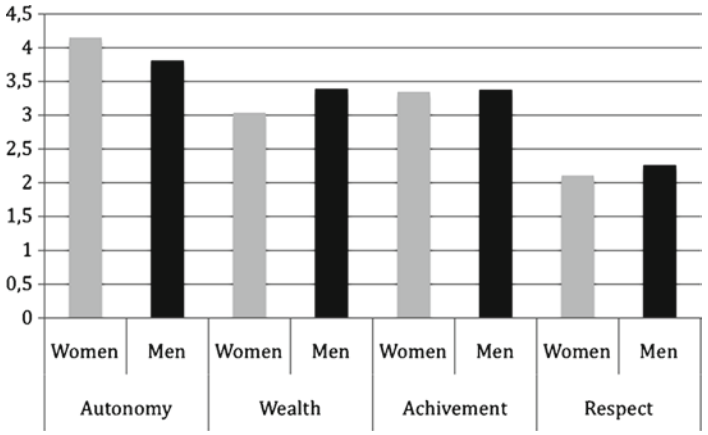

Fig. 9.4 Personal aspirations: women and men nascent entrepreneurs in Sweden

In summary, the approximately 110,000 nascent entrepreneurs in Sweden reflect a number of salient characteristics. Figure 9.5 summarize key distinguishing characteristics among Swedish nascent entrepreneurs. Analysis of the SE-PSED cohort suggests three domains which nascent entrepreneurs are distinctive: (1) Entrepreneurial experience, (2) entrepreneurial exposure, and (3) resources. Entrepreneurial experience includes personal entrepreneurship experience such as self-employment, previous start-ups, and management experience. Entrepreneurial exposure includes an entrepreneurial context where people around the nascent entrepreneur have entrepreneurship experience such as self-employed parents, friends, and relatives with own firms. The final area is resources; nascent entrepreneurs seem to have more savings and reside in higher income households. Despite these tendencies, nascent entrepreneurs are well distributed across all groups.

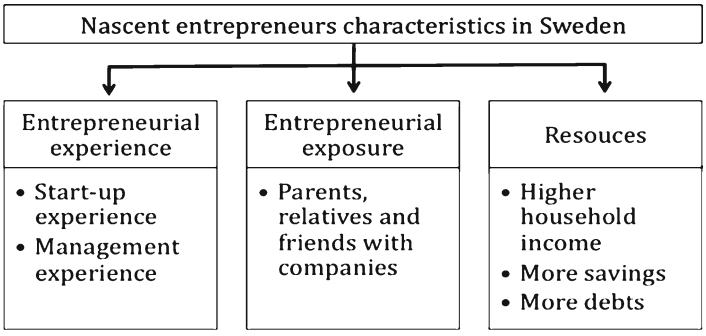

Fig. 9.5 Key characteristics of Swedish nascent entrepreneurs

9.9 Nascent Enterprise Profile

The distribution of Swedish nascent ventures represents the wide range of activity found in the economy. The SE-PSED sample is similar to the distribution of business firms reported by Statistics Sweden. A third of nascent ventures are in services, making it the dominant sector. These are, however, self-reported descriptions of nascent ventures and may not conform to established industry classification schemes (Table 9.8).

Table 9.9 reports that a majority of all new ventures (73%) are organized as an independent start- up. Approximately 15% are sponsored by an established organization, representing an intrapreneurship project. Another 9% are the purchase or takeover of an existing business; 1% of nascent ventures are franchises.

Most new firms in Sweden are legally registered as a corporation with limited personal liability or as a sole proprietorship with personal liability. Approximately

Table 9.8 Nascent ventures and industry types

Industry	Frequency	Percent
Refused	52	8.00
Agriculture	14	2.25
Production	49	7.87
Building/construction	27	4.34
Retail, hotel, travel	91	14.63
Transport	16	2.57
Other services	222	35.69
Culture	18	2.89
Multiple business	3	0.48
IT	72	11.57
Total	563	90.51
Missing	59	9.48
	623	100.00

Table 9.9 Organizational context and legal form

	Percent
Independent start-up	73.0
Purchase or takeover of existing business	9.0
Franchise	1.0
Business sponsored start-up	14.8
Other	1.0
Don't know	1.1
Total	99.8
System	0.2
Legal form	100.0
Not yet determined	9.1
Sole proprietorship	35.5
Partnership general	13.0
Partnership limited	0.6
Corporation Limited liability -C corp.	37.7
Other	3.0
Refused	0.8
Total	99.8
System	0.2
	100.0

60% of all nascent ventures are registered as legal entities with personal responsibility rather than nonpersonal.

There is considerable variation in the nature of the customer base. As a group, nascent ventures expect 56% of their customers to be local, 39% regional, located within a hundred miles of their location, and the remaining 5% national or international. A small proportion (13%) expects to focus only on a local market and 27% only on national markets.

A three items index was used to identify firms expecting to have an innovative impact on the markets; innovative impact firms were 12% of the cohort and the remaining 88% expected to be replications of established businesses.

Three variables – related to current technology, spending on research and development, and the owner's judgment about the technological focus – are used to create a technology focus index. About one in ten might be considered high technology; little more than 40% have no focus of any kind on new techniques or products. The remaining half has a slight emphasis on new technology.

Nascent entrepreneurs have plans for the future of the ventures; a summary is provided in Table 9.10. Approximately 28% report that they will hire someone for their new venture. About 18% report that they want their ventures to grow as large as possible, while 74% prefer a size that is comfortable to manage. Approximately 5% start in order to sell the firm, hoping to benefit from their sweat equity investment. There are few gender differences in growth aspiration.

Table 9.10 Future expansion of the nascent venture

	Percent
Will anyone be hired	27.5
Likelihood of business operating 5 years from now. Average percent	82.6
Likelihood of business becoming the primary source of family income. Average percent	66.3
Growth motivation	
Grow as large as possible	17.5
Prefer self-manageable size	73.8
Start and sell	4.8
Don't know	3.2
Total	99.4

There is, as is to be expected, substantial diversity among the nascent enterprises in terms of growth aspiration, summarized in Table 9.11. While in the first year only 40% expect to create any jobs, about 62% expect to create jobs by the fifth year. The

Table 9.11 Nascent enterprise size expectations and anticipated growth rates (percent except as noted)

Jobs anticipated	First year	Fifth year	Annual sales anticipated	First year	Fifth Year
Average number of jobs	3.18	8.59	Average (in $1,000)	92.00	388.00
	Percent	Percent		Percent	Percent
None	60.37	36.35	0–50	36.35	63.26
1–5 Jobs	28.60	40.47	50–100	40.47	11.40
6–10 Jobs	5.52	9.63	100–500	9.63	16.05
11–25 Jobs	3.85	8.45	500–1,000	8.45	3.49
26–100 Jobs	1.34	4.13	1,000–5,000	4.13	4.42
100 Jobs and up	0.33	0.98	5,000 and up	0.98	1.40
Total	100.00	100.00		100.00	100.00

average annual sales expected in the first year is US$92, 000 rising to US$ 388,000 in the fifth year.

The nature of the firm ownership structure and the size of the social support networks are summarized in Table 9.12. Approximately 40% of the firms will be owned by a team, 38% will be owned by a single nascent entrepreneur, for approximately 16% they will be owned by the nascent entrepreneur and their spouse; and 5% have yet to determine the ownership structure. For those nascent ventures where an ownership structure has been established, there is a range of ownership team sizes, from 44% to be owned by a single individual to 4% to be owned by six persons.

Table 9.12 Nascent enterprise, size, and composition of the startup teams

Ownership structure	Percent
Respondent only	37.9
Respondent and spouse only	16.4
Respondent and others	40.2
Don't know	5.3
Refuse	0.2
Total	100.0
Number of owners	
1 Person	43.5
2 Person	9.1
3 Person	26.5
4 Person	10.0
5 Person	6.7
6 Person	4.2
Total	100.0
Social network with support	
0 Persons	73.4
1 Persons	8.7
2 Persons	6.6
3 Persons	11.4
Total	100.0

Many start-up efforts are social enterprises with the nascent entrepreneur receiving help from a variety of family, friends, and colleagues. As shown in Table 9.12, almost three-fourths (73%) report no social support network but one in ten (11%) report support from three or more persons. But 25% of the nascent entrepreneurs report that, in addition to their start-up team, they receive significant help from other people. Assuming the SE-PSED sample is representative of the population Swedish start-ups, this suggests that approximately 200,000 persons are helping nascent ventures in Sweden. Business creation is a significant social activity in Sweden.

The composition of the start-up team is similar to the overall distribution of nascent entrepreneurs. While the majority of team members are men, between 20% and 30% are women.

The nascent entrepreneur and the start-up team may also be embedded in a social context or social networks. As seven of ten report no social support network,

it appears that most nascent ventures start without getting input and resources from persons outside the start-up team.

The gender breakdown of the members of the start-up team and social support networks, where they are present, is presented in Table 9.13. Approximately seven out of ten persons are men. This is close to the gender distribution of nascent entrepreneurs in society.

Table 9.13 The composition of the social network support

Gender in social network	Women%	Men%
Respondent	28.6	71.4
Person A	24.7	75.3
Person B	22.7	77.3
Person C	14.6	85.4
Person D	22.1	77.9
Person E	26.9	73.1
Person F	19.3	80.7
Person G	20.5	79.5
Person H	16.9	83.1

As might be expected from a sample of start-up efforts in a diverse and developed economy, there is great variety among Swedish nascent ventures. Some features, however, are more salient that others.

- The largest proportion of nascent ventures is in service sectors.
- A large majority of all new ventures are organized as an independent start-up.
- Sole proprietorship is the most common legal form.
- One out of ten new ventures could be considered as innovative, the rest replicate existing business activity.
- One out of four expects to hire someone in the first year.
- Less than one in five is growth oriented, the vast majority want a firm that is easy to manage.
- Four in ten will be owned by one person, two in ten by a married pair, and four in ten a team with no family or marriage relationships.
- Men are about three-fourths of those involved as members of start-up teams or support networks.

Similar patterns have been found in cohorts of nascent entrepreneurs in other countries.

9.10 The Start-up Process

The conceptual development of entrepreneurship has led to a growing body of research devoted to the initial stages of the entrepreneurial process (cf. Aldrich and Martinez 2001; Bhave 1994; Carter et al. 1996; Davidson and Honig 2003;

Gatewood et al. 1995; Reynolds 1997). The nascent venturing process, as initially described in Part 1, captures processes involving the events and activities that lead to and influence the creation of a new venture.

In the early part of this process, the milestones that nascent entrepreneurs seek are not traditional performance measures like sales, profit or return on investment. Instead, nascent entrepreneurs seek to conceptualize and define the business opportunity and perform those behaviors needed to assemble and organize resources in implementing a new firm, a firm that can take advantage of the business opportunity (Katz and Gartner 1988). The start-up process is not a single event; it is to be viewed as a process reflected in the accumulation of relevant gestation behaviors. Despite the allocation of time and resources during the early stages of the start-up process, few attempts have been made to describe these early stage activities. There is a lack of consensus about those behaviors that would best capture the nascent venturing process (cf. Eckhardt and Shane 2003).

A literature review indicated that most research concerning the nascent venturing process draw on, or are predecessors to, the emerging property framework proposed by Katz and Gartner (1988). Two main aspects are central to this discussion: first, the issue of sequences in the nascent venturing process, and second, the empirically based discussion about different gestation behaviors and how they could capture the nascent venturing process (e.g., Alsos and Kolvereid 1998; Bhave 1994; Carter et al. 1996; Duchesneau and Gartner 1992; Fiet and Samuelsson 2000; Gartner 1988; Gartner and Starr 1993; Gatewood et al. 1995; Reynolds and Miller 1992; Reynolds and White 1993; Reynolds 1994; Stevenson et al. 1994; Timmons 1990; Van de Ven et al. 1989; Vesper 1990). Gestation or start-up behaviors are observable activities executed by individuals in the start-up process designed to exploit the business opportunity with a new venture (cf. Reynolds 1997; Shaver et al. 2001). Behaviors perceived to be essential to a venture launch include the first sale and receipt of income from customers (Gatewood et al. 1995), investing money in the nascent venture, registering the firm as a legal entity, hiring employees, working full time on the start-up, purchase of materials or equipment, obtaining firm-specific telephone or fax numbers, obtaining relevant licenses or patents, official registration or the firm, and payment of firm tax liabilities (Carter et al. 1996). Collectively, these start-up behaviors capture much of the activity in the nascent venturing process. Table 9.14 classifies specific gestation behaviors in relation to the framework proposed by Katz and Gartner (1988).

The process starts with intentionality when one or more nascent entrepreneurs collaborate in efforts to locate and define a promising business opportunity. Typical gestation behaviors connected to intentionality are defining a product or service idea, saving money to invest, and developing a business plan (cf. Carter et al. 1996; Katz and Gartner 1988). Intentions can also be seen as a screening process in which nascent entrepreneurs conceptually develop and assess their venture opportunities prior to any major commitment of resources.

A major threshold for the start-up venture is when the nascent entrepreneur team begins to commit resources to the initiative. Gestation behaviors reflecting the commitment of resources include the search for funds, purchase of materials and supplies, and obtaining supplier credit.

Table 9.14 Gestation activities capturing the nascent venturing process

Properties	Gestation activities
Intentionality	Product/service idea or concept, Product/services initial development, Information of competition/opportunity, Saving money to invest, Team in process, Team complete, Business plan in process, Business plan completed, Projected financial statement
Resources	Application for funding, Received funding successfully, Unsuccessful search for funding completed, Purchased raw materials, supplies, inventories etc., Started investing own money, Established credit with a supplier, Purchased major item
Boundaries	Marketing or promotion started, Own phone line, Permits and licenses in process, Permits and licenses granted, Registered at PRV, Received tax licenses, Application for patent, copyright, trademark in process, Application for patent, copyright, trademark granted
Exchange	Product/services tested on customers, Business received income, Product/services ready for sale, Devoted full time to the business, First hire, Revenues exceeded expenses

Boundaries are related to the attempts by the nascent entrepreneur team to create a unique identification for the nascent venture and may include establishing intellectual property rights for the nascent venture. Relevant activities would include marketing, obtaining permits and licenses, and applications for patents, copyrights, and trademarks. As these activities are oriented toward a specific external target, they are different from intentionality behaviors.

The final stage, exchange, is also related to external audiences, such as hiring employees, sales to customers, and nascent entrepreneurs disengaging from other work and devoting full time to the nascent venture.

The methodology for gathering information about the gestation process in the SE-PSED is the same as in the US-PSED I. The nascent entrepreneur would be asked if a given activity – such as developing a legal form or seeking external financial support – had been implemented. If they said it had, they were asked the month and year the effort began. The SE-PSED respondents were only included in the cohort if they had completed at least two behaviors of 30 behaviors on the inventory. In this part of the study, we rely on the most important gestation behaviors, which means that the range for any single case would be from 2 to 22 behaviors. While the average number of gestation behaviors at the time for the first interview was 9 and median range was 8. The proportion that reported initiating start-up activities in the first detailed interview is presented in Table 9.15; the activities are rank ordered by the earliest average date of initiation, presented in the far right column. [The top row data is presented as 11 hundredths of the year 1994, or 94.11.]. There was considerable variation in the cohort in reports of progress toward creating a new firm in the first interview. The attempt to capture only new ventures as the very earliest stage of the start-up process was only partially successful.

The most common start-up activities, reported by over 60% percent of the cohort are developing a business plan 94%, projected financial statements 68%, and information about competitors and market 61%. It is evident that starting a business

Table 9.15 Gestation activities capturing the nascent venturing process, sequence, and percentage

Gestation behavior at time 0	N	%	Mean
Taken classes	191	31	94.11
Product and development	356	57	94.97
Saving money to invest	266	43	95.73
Application for IPR	96	15	95.92
Information about competitors and market	379	61	95.96
Permits and licenses	140	22	96.17
Purchased raw materials	260	42	96.52
Invested your own money	289	46	96.66
Registered	274	44	96.73
Separate phone line	193	31	96.75
Anyone hired	122	20	96.80
Purchased major item	300	48	96.84
Established credit	151	24	96.87
Business plan	586	94	97.01
Revenues exceed expenses	161	26	97.02
Marketing or promotion	235	38	97.03
Start-up team	326	52	97.05
Business received income	259	42	97.05
Owner salaries included	97	16	97.10
Fulltime devoted	179	29	97.16
Projected financial statements	421	68	97.20
Asked other for funds	173	28	97.38

is at least to some extent a planned behavior as most of the sample start the process with information gathering and business planning. At the other extreme, only 15% reported that they applied for intellectual property rights and 16% reported revenues exceeding costs with owner salaries included. In the follow-up interview, the nascent entrepreneur is asked to update this profile of activities; any activity not reported as initiated in a prior interview is once again presented for an assessment. This provides a comprehensive overview of both the start-up activities initiated and the sequence in which they are pursued.

The presentation of start-up activities by order of occurrence in Table 9.15 provides information on the sequence of initiation. The overall sequence has similarities with the one suggested by Katz and Gartner (1988). Earliest behaviors tend to be taking classes on business creation, saving money to invest, applying for intellectual property rights (IPR), and product development. Later in the sequence are performance-related behaviors such as full time devoted to the business, business received income, and asking others for funds.

Table 9.16 compares the sequence of initiating start-up activities for women and men. The sequences of activities appear to be broadly similar. The proportion emphasizing different start-up activities is also similar. For example, few men and women report applications for intellectual property rights (IPR) but a large proportion of both report developing business plans.

Table 9.16 Gestation behaviors and sequence at the time for the first interview: gender comparisons

Women	N	Mean	Men	N	Mean
Taken classes	76	95.12	Taken classes	115	93.44
Product and development	97	96.05	Product and development	259	94.57
Separate phone line year	51	96.24	Saving money to invest	195	95.29
Information about competitors/market	106	96.72	Application for IPR	78	95.63
Invested your own money	78	96.72	Information about competitors/market	273	95.67
Permits and licenses	44	96.84	Permits and licenses	96	95.86
Anyone hired	30	96.87	Purchased raw materials	185	96.31
Saving money to invest	71	96.94	Registered	196	96.59
Owner salaries included	27	97.00	Invested your own money	211	96.64
Purchased raw materials	75	97.03	Purchased major item	215	96.73
Registered	78	97.09	Anyone hired	92	96.78
Established credit	37	97.11	Established credit	114	96.79
Purchased major item	85	97.13	Revenues exceed expenses	116	96.91
Business plan	167	97.14	Business received income	185	96.92
Start-up team	84	97.14	Marketing or promotion	162	96.93
Application for IPR	18	97.17	Separate phone line	142	96.93
Marketing or promotion	73	97.25	Business plan	419	96.96
Fulltime devoted	45	97.31	Start-up team	242	97.02
Revenues exceed expenses	45	97.31	Fulltime devoted	134	97.11
Asked other for funds	52	97.35	Projected financial statements	304	97.13
Business received income	74	97.36	Owner salaries included	70	97.14
Projected financial statements	117	97.37	Asked other for funds	121	97.39

It is common to assume that new ventures are relatively stable during the start-up process. Based on the SE-PSED, however, it would appear that changes are a natural aspect of the entrepreneurial process. In each follow-up interview, there were questions about significant changes in the business idea and whether there were changes in the structure of the start-up team. As shown in Table 9.17, during the first 6 years, 27.8% make significant changes to the business idea and 17.3% report a change in the lead (or champion) nascent entrepreneur. They most important change agents are customers and partners.

Table 9.17 Change in the nascent venturing process and beyond idea and person

Type of change*	Mar-99	Aug-99	Mar-00	Aug-00	Dec-05	Total
Change in idea (%)	8.0	5.6	5.3	3.8	4.9	27.8
Change in person (%)	4.3	4.5	2.7	1.3	4.5	17.3

Number of respondents that changed idea and/or person in each follow-up
*$p < 0.05$

New business creation is neither quick nor cheap; start-ups teams invest substantial time and money during the start-up process. A preliminary estimate of time and money invested in the nascent ventures by the team of nascent entrepreneurs is provided in Table 9.18. It is based on reports of contributions from all team members from the initiation of the nascent venture to the follow-up completed 75 months after the initial interview. The number of hours devoted to the nascent venture was converted into months of full-time work, assuming 160 hours equals 1 month of work. Variation in these sweat equity investments reflects, in part, the considerable range in time between conception of the business start-up and the first detailed interview. The range in time from entry into the start-up process and the first detailed interview is from less than 1 month to 114 months, almost 10 years; the average is 18 months and the median of 12 months. The average time spent on starting the venture by the lead nascent entrepreneur (or the venture champion) is 4.8 months; for all team members the average is 4.2 months. By the time of the first detailed interview, the start-up teams have spent an average of 9 months of full-time work on the nascent venture.

The amount of financial investments in the nascent venture over this 75 month period is summarized at the bottom of Table 9.18. At the first detailed interview, 27% of the cohort report that they had not invested any money into their start-up and approximately 80 report no loans in all of the follow-up interviews. The average level of equity ranges from US$28,750 at the time of the first interview and to US$52,875 at the 75-month follow-up. There is a peak in equity during the second year of operation where the average equity reported is US$329,750, which reflects a number of large investments for some nascent ventures in the cohort during that period. Loans follow the same pattern with an average loan of US$8,875 at the time of the first interview and with a peak at US$203,000 at the 75 month follow-up. The average start-up cost is estimated to be US$10,875.

When men and women are compared with regards to investments in the nascent ventures, it appears that there are no differences in time spent during the start-up

Table 9.18 Nascent enterprise team: initial investments in time and money

Costs in the nascent venturing process in months and $1,000[a]					
	0 months	6 months	12 months	24 months	75 months
Average months at the time for the first interview	4.8				
Median	2.5				
Average months at the time for the first interview team	4.2				
Median	1.9				
Team start-up time	9.0				
Median	4.0				
Percentage without investment in money	27%				
Money average spent on starting	10,875				
Median	2,500				
No loans	80%	76%	72%	70%	80%
Average loans in the start-up	8,875	19,125	46,250	67,875	203,000
No investment	27%	21%	22%	19%	50%
Equity	28,750	59,500	158,625	329,750	52,875
Median	6,250	7,500	12,500	12,500	1,875

[a] 1$ = 8 SEK

process. Men, however, appear to contribute, on average, more of their own money and attract a larger amount of external investments.

To summarize, the process of starting a business in Sweden has a number of salient characteristics:

- Nine out of ten nascent entrepreneurs do business planning.
- The sequence of start-up activities is similar for men and women.
- The sequence of start-up activities reflects attention to various issues in the order of intentions, resources, boundaries, and exchange.
- The lead entrepreneur is changed during the start-up process for two of ten nascent ventures.
- There are adjustments to the business idea for three out of ten nascent ventures during the first 2 years.
- The lead nascent entrepreneur devotes 4.8 months of work to the nascent venture; the average for the start team is 4.2 months. Each team spends an average of 9.0 months of work time on each nascent venture.
- Three out of ten nascent entrepreneurs report that there is no financial investment in the nascent venture; eight of ten new firms are initiated without any formal loans.
- The average start-up cost from conception through the gestation process is estimated to be US$10,875.

It is interesting to see that entrepreneurship is truly an important part of our daily lives. The amount of time and money contributed to Swedish nascent ventures is substantial.

9.11 Outcomes from the Nascent Venturing Process and Beyond

Firm performance is a simple yet illusive concept. It may be traced back to Taylor and Weber, where the classical notion of performance is closely related to efficiency and productivity in relation to resource utilization. In later management literature, the discussion typically evolved around benefits to "stakeholders" and "multiple constituents." Organizational efficiency was reflected in the question "For whom are we measuring and evaluating organizational performance?" But this involves two different issues. The first involves who stands to benefit, and performance may be measured differently for each group affected by the organization (Connoly et al. 1980; Zammuto 1984). The second, of course, involves determining which aspects of the firm operation will be considered a measure of performance.

The idea of the firm as a coalition of interests has a long tradition in management (Cyert and March 1963) and taking a stakeholder view requires assessing benefits to consumers, co-workers, executives, owners, and the community at large. The classical owner's perspective, however, represents a reasonable indicator as an overall measure of organizational performance. The different inputs used in a firm are often priced on factor markets; there are labor markets, capital markets, markets for equipment, and raw materials. Assuming efficient markets, factors of production will be "paid" their current market value and estimate of their economic "worth." For the typical firm, the residual – the difference between revenue from sales of outputs and the total factor costs – is thus an adequate overall measure of organizational performance. In practice, this would be the firm's gross profit and should be similar to the firms' added value (revenue minus cost of production).

A similar reasoning applies to survival as a measure of organizational performance. What keeps a firm together (or an individual going) is whether the benefits of interacting within the boundaries of the firm are larger than the disadvantages. The fact that a particular firm is a going concern means that a particular constellation of productive resources and market opportunity is optimal (or at least worthwhile) for *that* constellation. The idea that a business idea is "dead" is rarely based on zero benefit to society from the firm output, but the fact that there are more worthwhile uses for the resources required to produce the goods or services in question.

The SE-PSED initiative has the advantage of tracking nascent ventures and new firms for more than 6 years. This facilitates assessment of performance beyond the gestation period based on data provided by the nascent entrepreneur in the follow-up interviews. Six performance measures have been developed for this assessment.

The first performance variable is survival. In each follow-up interview, it is determined whether or not all start-up team members have abandoned the firm. If so, it is assumed that no individuals are working on this business idea. Those ventures that were abandoned were coded as "0" and those still receiving attention coded as "1."

The second performance measure is the total number of start-up behaviors that have been initiated. At each follow-up, we asked whether the respondent had initiated any of 22 gestation behaviors displayed in Table 9.15. The assumption is that progress in the nascent venturing process is captured through the accumulation of gestation behaviors across time; this total count is considered a performance measure.

The third performance variable reflects the value creation process. It consists of total sales across time. Parts of each follow-up interview included questions about the previous year's total sales. The accumulation of sales for the entire period is used as a measure of performance.

The fourth performance variable also reflects the value creation process. Questions in the follow-up interviews about profits were measured at years 1, 2, and 6. As this variable has a highly skewed distribution with a few extreme outliers, the log of this measure provided a more normal distribution and was used as the dependent variable in the analysis.

The fifth performance measure was an estimate of return on total investment. Total sales was divided by the total of all financial investments, both equity and loans, in years 1, 2, and 6.

The sixth performance variable was job creation. Data from the follow-up interviews provided estimates of the number of full-time jobs at years 1, 2, and 6. As with the measure of profit, the distribution of jobs created is highly skewed, the log of this measure was used as a dependent variable.

These six performance measures capture the process of creation, survival, and growth, as with the other dependent variables our measure is the accumulated result for the entire period. The status of the SE-PSED cohort on these indicators is summarized in Table 9.19.

As shown in the top section of Table 9.19, nascent ventures eventually initiate most of the start-up activities, at least those that become operating businesses. In the SE-PSED cohort, the average number of executed gestation behaviors after 6 years is 18.

Other performance measures reveal that there is a large variation in how well nascent entrepreneurs and their ventures perform. Approximately 34% of the sample reports an operating business after 1 year and 18% after 6 years. This change reflects the discontinuation of operations by many nascent ventures that fail to become new firms.

Sales of less than US$125,000 per year are reported for about 60% of the cohort in year 1 and 80% in year 6. In Sweden, it is assumed that annual firm sales of at least US$125,000 are required to support one person. Many of the firms responding in year 6 may not be full-time endeavors for the owners.

Average sales for the SE-PSED cohort is about US$112,000 in year 1 and US$600,000 in year 6. However, as seen in Table 9.19, the median sales are much lower; about US$18,750 in year 1 and US$62,500 in year 6. This suggests that a small number of high-performing ventures increase the average while most new ventures have limited annual sales. The same result is evident regard profitability. Only 19% of the start-ups report having a profit after year 1 and it declines to 16% in year 6. The average profit in year 1 is US$20,402 and US$62,500 in year 6.

Table 9.19 Performance across time in the Swedish PSED 1–6 year

Performance	Year 1	Year 2	Year 6
Gestation Behaviors			
Firm formation, average no. of gestation behaviors	14.1	17.0	18.0
Survival			
Operating business	34%	29%	18%
Sales			
Percentage start-ups with less than $125,000 in sales/year	60%	74%	80%
Average sales in US$	118,963	214,250	600,250
Median sales in US$	18,750	50,000	62,500
Profitability			
Percentage start-ups with profit	19%	15%	16%
Average profit in US$	20,402	25,036	62,500
Median profit in US$	6,875	6,250	12,500
Return on investment			
Average equity in US$	158,625	329,750	52,875
Median equity in US$	12,500	12,500	1,875
Return on investment	68%	81%	96%
Job creation			
Hired someone	20%	25%	34%
Owner works full time	40%	49%	44%
Number of full time among owners (average)	0.84	0.89	0.88
Number of part time among owners (average)	0.63	0.67	0.56
Number of full time employees (average)	27	9	42
Number of full time employees (median)	2	3	3
Number of part time employees (average)	1	2	2
Number of part time employees (median)	0	1	1

The average equity as shown in Table 9.19 is approximately US$158,625 in year 1 and declines to US$52,875 in year 6. Once again, this seems to reflect changes in the composition of the firm cohorts for these different follow-up interviews. As shown above, the pattern is the same as before with a few outliers pushing the mean value while the median value shows that most new ventures equity level is low.

The average return on investment appears to be positive when computed for all follow-up interviews. However, the small amounts of equity associated with most nascent ventures indicate the amount of the returns would be rather small.

The final performance measure is job creation. As shown in the bottom section of Table 9.19, only 20% of all nascent ventures hired someone during the first year of operation. This increased to 34% in year 6. The owner works full time in 40% or more of the firms at all follow-up intervals. The average number of full-time employees after 1 year is about 27 and after 6 years it is 42 persons. However, again we can see that the median value is much lower compared to the average ranging from two in year 1 to three in year 6.

The final issue is understanding why some nascent ventures and operating new firms are abandoned. All who disengaged were asked about this in a follow-up

interview. The responses, summarized in Table 9.20 suggest there are two main categories, nonbusiness or personal issues and those related to the business activity. Employment opportunities are reported as the most frequent reason, reported by 35%. Other nonbusiness reasons are lack of time (14%), health and personal problems (4%), and finally that they think they are working too hard (2%). On the other hand, the major business reason is to pursue another and different new venture (16%). Other issues include a flawed business model, no market, no suppliers, or combination of problems in supply and demand reported by 12%, problems within the start-up team by 12%, a lack of financial support by 4%, and only 1% report complications related to rules and regulations.

Table 9.20 Reasons for abandonment in the nascent venturing process and beyond

Reasons for abandonment in the nascent venturing process	
Non-business reasons	
Employment	35%
Lack of time	14%
Health/personal problems	4%
To hard	2%
Sub total	55%
Business reasons	
New start-up	16%
Flawed business model	12%
Team/partner problem	12%
Lack of money	4%
Hard to follow rules and regulations	1%
Sub total	45%
Total	100%

A review of the outcomes of participating in new venture creation makes clear that the majority of all start-ups do not survive or create value or wealth during the initial 6 years. There seem to be modest benefits to many nascent entrepreneurs after making major commitments of time and resources to business creation. The analysis in the section suggests that:

- One out of five nascent ventures are profitable business operation 6 years after initiation.
- After 6 years, eight out of ten start-ups do not generate more than US$125,000 in annual sales.
- The average profit after 6 years is approximately US$62,500.
- One-third of all start-ups hire someone.
- Nascent ventures in operation after 6 years have created an average of 42 full time jobs; the medium number of employees is six.
- The major reason for disengaging from the nascent venture is another job opportunity, not problems with financing or rules and regulations.

In summary, many get involved and a few report dramatic success.

9.12 Conclusions from the Swedish PSED

The Swedish Panel Study of Entrepreneurial Dynamics (SE-PSED) provides a comprehensive description of new venture creation in Sweden. The SE-PSED involved identifying a representative sample nascent ventures and tracking their progress from conception, through gestation, and across various transitions to their final disposition. The design of the SE-PSED provides the first, and so far only, longitudinal study of Swedish business creation. The wide use of the PSED research design facilitates comparisons of the business creation process across cultural and geographical borders.

The biggest surprise for those involved in these projects has been the complexity involved in starting a new venture. There are a wide range of factors having an effect and there is no single path to implementing a new firm. The major project objectives were to determine who becomes an entrepreneur, why do some succeed and others fail, and the impact of contextual factors on these processes. The short answer is that anyone can, and does, become a nascent entrepreneur. By that we mean that anyone can actively pursue the creation of a new firm. The long answer is that completing the start-up process with a new firm with good prospects for survival may be one of the most challenging career choices.

This may be reflected in some of the following results from the Se-PSED.

- Approximately 200,000 Swedes are involved in start-ups in one form or another.
- The full spectrum of persons, venture opportunities, growth opportunities, resources combinations, and contextual factors are associated with nascent ventures.
- Seven to eight out of ten nascent entrepreneurs abandon their venture within 6 years
- Two out of ten ventures generate profit after 6 years; however the typical level of both profit and sales may not be adequate to support a single person.
- After 6 years, one out of ten start-ups generates sales that would support a single person.
- After 6 years, 1 in 100 nascent ventures generate sales above US$1 million.

In summary, many are called but few are chosen.

For the development of useful, relevant knowledge about business creation, the PSED research design may be a critical asset. If entrepreneurship is defined as the creation of a new economic activity, then large-scale longitudinal research is the only way of gathering systematic information about the entrepreneurial process. Two main challenges lie ahead: (1) developing funding for large samples of nascent ventures and (2) follow cohorts of nascent ventures over extensive periods in time. The Swedish sample consisted of 623 ventures in 1998 and by 2010 there are approximately 118 that are still in the start-up process or operational business firms. While some descriptive information can be developed from small samples, it is difficult to complete useful multivariate analysis. Time is also an issue. The process

of developing and implementing a new firm takes time; a precise description of the process requires frequent follow-ups over long periods of time. The process is dynamic and different factors affect the different transitions leading to a new firm (Samuelsson and Davidsson 2009).

A final note about theory. It appears that there is a major disconnect between the theoretical conceptualizations developed in the research community and the major empirical patterns. This is especially evident when we seek to explain performance beyond survival of new ventures. At this stage, no single theory is suitable to explain new venture profitability. Theoretical development to explain why some ventures succeed and others do not would be a major contribution.

References

Aldrich H, Baker T (1997) Blinded by the cites? Has there been progress in the entrepreneurship field? In: Sexton D, Smilor R (eds) Entrepreneurship 2000. Upstart Publishing Company, Chicago

Aldrich H, Martinez ME (2001) Many are called but few are chosen: an evolutionary perspective for the study of entrepreneurship. Enterpren Theor Pract 25:41–56

Alsos GA, Kolvereid L (1998) The business gestation process of novice, serial and parallel business founders. Enterpren Theor Pract 22(4):101–114

Arrow K (1974) The limits of organizations. Norton, New York

Bhave MB (1994) A process model of entrepreneurial venture creation. J Bus Venturing 9:223–242

Carter N, Gartner W, Reynolds P (1996) Exploring start-up event sequences. J Bus Venturing 11(3):151–166

Chandler GN, Lyon DW (2001) Methodological issues in entrepreneurship research: the past decade. Enterpren Theor Pract 25(4, Summer):101–113

Connoly T, Conclon E, Deutsch SJ (1980) Organizational effectiveness: a multiple-constituency approach. Acad Manage Rev 5(2):211–217

Cyert R, March J (1963) A behavioral theory of the firm. Prentice Hall, Englewood Cliffs

Davidson P, Honig B (2003) The role of social and human capital among nascent entrepreneurs. J Bus Venturing 18(3):301–331

Davidsson P, Wiklund J (2001) Levels of analysis in entrepreneurship research: current research practice and suggestions for the future. Enterpren Theor Pract 25(4):81–99

Davidsson P, Low M, Wright M (2001) Editors introduction: low and macmillan ten years on: achievements and future directions for entrepreneurship research. Enterpren Theor Pract 25(4):5–16

Davidsson P (1989) Entrepreneurship – and after? A study of growth willingness in small firms. J Bus Venturing 4:211–226

Duchesneau DA, Gartner WB (1992) A profile of new venture success and failure in an emerging industry. J Bus Venturing 5:297–312

Eckhardt JT, Shane SA (2003) Opportunities and entrepreneurship. J Manage 29(3):333–349

Fiet JO, Samuelsson M (2000) Knowledge-based competencies as a platform for firm formation. In: Frontiers of entrepreneurship research. Babson College, Wellesley

Gartner WB (1988) Who is an entrepreneur? Is the wrong question. Am J Small Bus 12, Spring:27–38

Gartner WB, Shaver KG, Carter NM, Reynolds PD (eds) (2004) Handbook of entrepreneurial dynamics: the process of business creation. Sage, Thousand Oaks

Gartner WB, Starr JA (1993) The nature of entrepreneurial work. In: Birley S, MacMillan IC (eds) Entrepreneurship research: global perspectives. Elseveir, Amsterdam, pp 35–67

Gatewood E, Shaver KG, Gartner WB (1995) A longitudinal study of cognitive factors influencing the start-up behaviors and success at venture creation. J Bus Venturing 10:371–391
Katz J, Gartner W (1988) Properties of emerging organizations. Acad Manage Rev 13:429–441
Reynolds P, Miller B (1992) New firm gestation: conception, birth and implications for research. J Bus Venturing 7:405–417
Reynolds P, White S (1993) Wisconsin's entrepreneurial climate study, Marquette university center for the study of entrepreneurship, Milwaukee, WI
Reynolds P, Bygrave B, Autio E, Cox L, Hay M (2002) Global entrepreneurship monitor, Executive report. Kaufman Center for Entrepreneurial Leadership, Babson College, Babson Park, MA
Reynolds P (1994) Reducing barriers to understanding new firm gestation: prevalence and success of nascent entrepreneurs. Paper presented at the academy of management meetings, Dallas, TX
Reynolds P (2000) National parnel study of US business start-ups. Background and methodology. In: Katz JA (ed) Advances in entrepreneurship, firm emergence and growth, vol 4. JAI Elsevier Science, New York, pp 153–227
Reynolds P (1997) Who starts firms? Preliminary explorations of firms in gestation. Small Bus Econ 9:449–462
Samuelsson, M. (2004) New venture creation: A longitudinal investigation of the nascent venturing process. JIBS dissertation series, 1403-0470; 20
Samuelsson M, Davidsson P (2009) Does venture opportunity matter? Investigating systematic process differences between innovative and imitative new ventures. Small Bus Econ 33(2):229–255
Schumpeter J (1942) Capitalism, socialism, and democracy. Harper & brothers, London
Shane S, Venkataraman S (2000) The promise of entrepreneurship as a field of research. Acad Manage Rev 25:217–226
Shaver KG, Carter N, Gartner W, Reynolds PD (2001) Who is a nascent entrepreneur? Decision rules for identifying and selecting entrepreneurs in the panel study of entrepreneurial dynamics (PSED). Paper presented at Basbson entrepreneurship research conference, Jönköping, Sweden
Stevenson HH, Roberts MJ, Grousbeck HI (1994) New business ventures and the entrepreneur, 4th edn. Irwing Press, Burr Ridge
Timmons JA (1990) New venture creation: entrepreneurship in the 1990s. Irwin, Homewood
Ucbasaran D, Westhead P, Wright M (2001) The focus of entrepreneurship research: contextual and process issues. Enterpren Theor Pract 25(4, Summer):57–80
Van de Ven AH, Venkataraman S, Polley D, Garud D (1989) Processes of new business creation in different organizational settings. In: Van de Ven AH, Angle HL, Poole MS (eds) Research on the management of innovation. Harper & Row, New York, pp 221–297
Venkataraman S (1997) The distinctive domain of entrepreneurship research. In: Katz J (ed) Advances in entrepreneurship, firm emergence and, growth. Jai Press, Greenwich
Vesper KH (1990) New venture mechanics. Prentice Hall, Englewood Cliffs
Zammuto R (1984) A comparison of multiple constituency models of organizational effectiveness. Acad Manage Rev 9:606–616

Chapter 10
United States: Panel Study of Entrepreneurial Dynamics I, II Overview

Paul D. Reynolds and Richard T. Curtin

10.1 Introduction[1]

The two United States projects, Panel Study of Entrepreneurial Dynamics [PSED] I and II, had the same primary objectives. They were designed to provide:

- A description of the business creation process based on a representative sample of nascent entrepreneurs and enterprises
- Data sets that can be used for theory development regarding the factors affecting critical aspects of the business creation process

The two national projects that are the focus of this summary differed slightly in the focus of the populations to be included in the cohorts of nascent entrepreneurs. The PSED research program reflects a conceptual framework presented in Figure 10.1.

The conceptual framework assumes the firm creation process begins when one or more individuals take action to implement a new firm. These actions may have been taken on their own behalf or as part of their job at an existing firm. The term nascent entrepreneur is used to signify an adult acting as an independent nascent entrepreneur and nascent intrapreneur as a person representing an existing business. There are two potential outcomes: a new firm is created or there is disengagement from business start-up activities. New firms may become established firms; established firms will, eventually, be terminated.

The development of this longitudinal design reflected the results of a series of analyses of regional factors affecting new firm creation (Reynolds et al. 1995, 1994). While assessments based on the characteristics of countries or regions were successful in explaining the majority of the variation in annual birth rates of new firms, it became clear that understanding the details of the start-up process would require a different

[1] A substantial portion of this material was initially published in the 2008 The Small Business Economy: A Report to the President (Reynolds and Curtin 2009). The final section on the analysis of outcomes, however, is completely new and is presented here for the first time.

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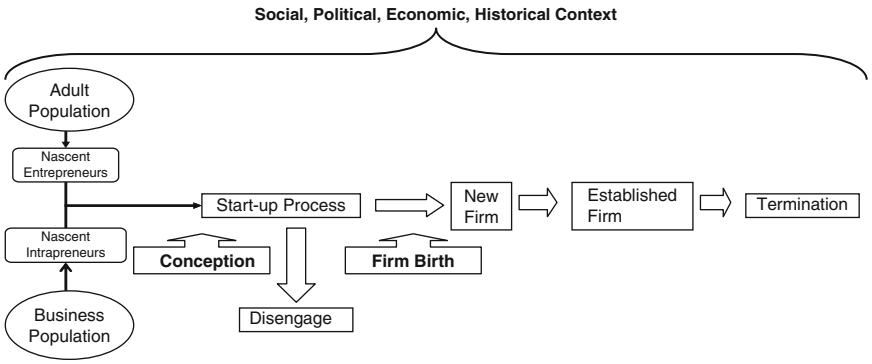

Fig. 10.1 Business life course, context, and transitions

type of information. Rather than rely on existing data sets, as was the custom in analyses of regional differences in firm birth rates, a research protocol was needed that would locate individuals active in business creation before the establishment of a new firm. Robust scientific analysis required data on both those successful and not successful in establishing new ventures. Moreover, the capacity to generalize the results to the entire nation required a representative sample of those in the start-up process.

The design that emerged involved screening a representative sample of the adult population to identify all individuals currently active as nascent entrepreneurs. Once nascent entrepreneurs were identified, they were asked detailed questions about their efforts to initiate a new business. Follow-up interviews at a later time would provide information about the success of their efforts.

10.2 Program Development and Background

Following a small pretest with 800 respondents, the first representative cohort of Wisconsin nascent entrepreneurs was developed in 1992 (Reynolds and White 1997). This was followed by a small pretest with a US national sample as part of the monthly Survey of Consumers in October and November 1993. The success of these studies led to the development of the first US Panel Study of Entrepreneurial Dynamics (PSED I) with a cohort selected in 1998 to early 2000; the second project (PSED II) involved development of cohort in late 2005 and early 2006. This overview will focus on the development of and experience with PSED I and II.

PSED I included data collection on a comparison group that would facilitate determining the unique features of nascent entrepreneurs in contrast with those not involved in the business creation process.[2] In addition, screening procedures were

[2] The initial screening for PSED I was completed by Market Facts (now Synovate) of Arlington, Il, detailed interviews and the first follow-ups were completed by the University of Wisconsin Survey Research Laboratory; the third and fourth follow-ups by the University of Michigan Institute for Social Research.

developed to create three different cohorts of nascent entrepreneurs. The initial cohort was designed to include all nascent entrepreneurs. Two supplemental oversamples were also selected to increase the numerical representation of women[3] and ethnic minorities (African-Americans and Hispanics).[4] Majority of White nascent entrepreneurs were identified in the screening but were not provided with detailed follow-up interviews. The use of appropriate case weights allows all three cohorts to be considered a representative sample of the entire US population of nascent entrepreneurs.

A distinctive feature of the detailed data collection for PSED I was the use of a combination of phone and self-completed mail questionnaires. In addition to the phone interviews, which averaged 60 minutes for nascent entrepreneurs, a self-completed mail questionnaire was provided to all respondents, nascent entrepreneurs, and members of the comparison group, and about 75% returned completed questionnaires.

Financial support for PSED I came from three sources. The project was initiated and financially supported through the first two follow-ups by the Entrepreneurial Research Consortium [ERC], a voluntary association of 34 research units that provided funding to a coordination center located at Babson College. The third and fourth follow-ups, creation of consolidated code books and data sets, and development of the project web site were sponsored by the Ewing Marion Kauffman Foundation and completed at the University of Michigan. Screening for the two oversamples, of women and minorities, was provided by two grants from the National Science Foundation.

The design of PSED II was more straightforward.[5] One screening procedure was utilized to identify a cohort representing active nascent entrepreneurs; there was no oversampling of women or minorities. As the primary focus was on the outcome of the business creation process, no data was collected from a comparison group of those not engaged in business creation. Phone interviews were completed with all respondents; there was no supplemental data collected by self-completed mail questionnaires.

Financial support for PSED II has also been provided by three sources. The initial screening, first detailed interview, and first two follow-ups were sponsored by the Ewing Marion Kauffman Foundation Grants SES-0818366 and SES-0919772. The primary sponsor of the last three follow-ups was the National Science Foundation.[6] The US Small Business Administration Office of Advocacy provided supplemental funding.

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[3] National Science Foundation Grant SBR-9809841, Dr. Nancy Carter, Principal Investigator.

[4] National Science Foundation Grant SBR-9905255, Dr. Patricia Green, Principal Investigator.

[5] The initial screening for PSED II was completed by Opinion Research Corporation of Princeton, NJ; all additional data collection were completed by the University of Michigan Institute for Social Research.

[6] National Science Foundation Grants SES-0818366 and SES-0919772

The design of both PSED I and PSED II reflected contributions from a wide range of individuals. The ERC involved over 120 scholars associated with 34 member units; the contributions to the PSED I design was monitored by an elected Executive Committee[7] and a number of teams were organized to develop different modules for the interview schedule (Gartner, et al. 2004). The design of the PSED II procedures and interview schedules reflected the contributions of a 16 person advisory committee.[8] Adjustments to the Wave E or 48 month interview schedule, administered in 2009 after the onset of a major recession, reflected contributions of an ad hoc advisory committee.[9] Many contributions of the PSED research program reflect the interests and imagination of these researchers.

10.3 Conceptual and Operational Definitions of Critical Events

The success of any longitudinal study depends on the precision of conceptual and operational definitions of the unit of analysis and critical transitions. The major transitions in the business creation process are entry into business creation, the emergence of an operational new firm, and the disengagement from the start-up process.

Perhaps most critical is the selection of a unit of analysis. While both PSED I and II collected a great deal of information from the nascent entrepreneur about their own situation, perspectives, personal background, and traits, the design also facilitates assessment of the start-up venture as the unit of analysis. Sufficient details were collected about the nature of the start-up team and the start-up venture to allow the use of either as the unit of analysis. Knowing the detailed composition of the entire start-up team permits this shift in the unit of analysis. About half of the nascent enterprise in both cohorts had just one owner. Among the half that were team efforts, the selected respondent was the primary operational manager of the new venture in two-thirds of the cases. With appropriate weights, the data sets can be used for either analysis of nascent entrepreneurs as individuals, or nascent enterprises as business ventures.

The first transition event of the business creation process starts with that moment when one or more individuals make a commitment to assemble the resources and stakeholders required to develop a viable business venture. As the screening procedure captures nascent entrepreneurs at arbitrary points in the start-up process, it was

[7] Candida Brush, Nancy M. Carter, Per Davidsson, William B. Gartner, Paul D. Reynolds, Kelly G. Shaver, and Mary Williams.

[8] Howard Aldrich, Diane Burton, Nancy Carter, Per Davidsson, William Gartner, John Haltiwanger, Benson Honig, James Johnson, Phillip Kim, Charles H. Matthews, Michael D. Meeks, Simon Parker, Martin Ruef, Claudia Bird Schoonhoven, Scott Shane, Kelly Shaver, and Per Stromberg.

[9] Denny Dennis, Phillip Kim, Ying Lowery, Thomas Nardone, and David T. Robinson.

necessary to develop other criteria for determining the date of entry into the start-up process. For the PSED I and II analyses, a procedure was developed to identify a date that represented a serious commitment to emphasize business creation. The selection was based on data collected about implementation of various start-up activities. This procedure, which was based on a detailed analysis of the data after it had been collected, is discussed in more detail below.

All those selected for the initial detailed interview were active in the start-up process. The other critical transitions – definition of a firm birth or disengagement from the start-up process – were determined in the follow-up interviews. Different questions are provided to the respondent based on reports of the status of the start-up initiative at the beginning of the interview. For this reason, the criteria for these events must be developed for implementation during the follow-up interview. These criteria are summarized in Table 10.1.

For PSED I, the reports of the nascent entrepreneur were accepted at face value for firm birth and their personal disengagement. A more precise criterion was adopted for PSED II, focusing on reports of initial profitability as criteria for firm birth and measures of reduced time commitment and reduced attention to the firm as a career option for disengagement. In PSED I, the absence of any team member contribution to the start-up effort was used as an indicator of discontinuance of the nascent enterprise.

10.4 Methodological Overview

There were three major phases in the data collection procedures. The first phase is the screening of representative samples of adults to locate active nascent entrepreneurs. The second phase is the initial detailed interviews of nascent entrepreneurs about themselves and the nascent enterprises. The third phase is the follow-up interviews, conducted annually after the initial detailed interview (Gartner et al. 2004, Reynolds 2000).

A major objective of the research program was to provide a representative sample of new business ventures. This led to extensive efforts to develop efficient and effective procedures for locating representative samples of nascent entrepreneurs/enterprises. Probability samples that gave each adult an equal chance for selection were required so the results could be extrapolation to population estimates for the entire United States. Just as important, a procedure was developed to determine where each sampled adult qualified as an active nascent entrepreneur.

While the number of active nascent entrepreneurs in the United States is considerable, in excess of 12 million, the prevalence in the population is relatively low. The cost per respondent of a screening procedure designed only to locate nascent entrepreneurs is very expensive. The purchase of time for a brief nascent entrepreneur module in omnibus surveys provided acceptable representative samples as well as substantially reduced cost. In both PSED I and II, commercial research firms completed two samples of 1,000 representative adults each week and relayed

Table 10.1 Firm birth and disengagement criteria: PSED I, II

Start-up venture transition	PSED I	PSED II
Firm birth criteria	Respondent report: (R502) Is it … now an operating business?	Respondent report: (BA30) Has this new business received any money, income or fees from the sale of goods or services for more than 6 of the past 12 months? (BA32) Has the monthly revenue been more than the monthly expenses for more than 6 of the past 12 months? (BA34) Were salaries or wages of the owners who were active in managing the business included in the monthly expenses for more than 6 of the past 12 months?
Disengagement criteria: nascent entrepreneur	Respondent report: (R535) Earlier you said you had given up on this new start-up?	Respondent report: (BA37) In the past 12 months, …, have your devoted more than 160 hours – 4 weeks of full time work – to this business start-up? (BA38) Over the next 6 months, do you expect to spend more than 80 hours – 2 weeks of full time work – on this business start-up? (BA40) Do you consider this business start-up to be a major focus of your work career over the next 12 months? (BA42) Do you consider yourself to be actively involved with the new business start-up or disengaged from it?
Discontinuance criteria: Nascent enterprise	Respondent report: (R502) Is it …no longer being worked on by anyone? Respondent report: (R553) Are others involved in this start-up effort?	No information

Item name for first follow-up indicated before each question; same questions used in subsequent follow-up interviews with a change of the first character of the item name (S, T for PSED I; C, D, E, F for PSED II)

the names and phone numbers of nascent entrepreneurs to an academic survey center for detailed initial interviews.

The specifics of the screening procedures varied slightly for PSED I and PSED II, as shown in Table 10.2. The wording of the first two screening items was slightly different for PSED II and a third item was added, reflecting experience with the

Table 10.2 Screening procedures for nascent entrepreneurs: PSED I, II

Interview items/modules	PSED I	PSED II
Are you, alone or with others, now trying to start a new business?	BSTART	
Are you, along or with others, now trying to start a new business, including any form of self-employment or selling any goods or services to others?		QFF1a
Are you, alone or with others, now trying to start a new business or new venture for your employer? An effort that is part of your job assignment.	BJOBST	
Are you, along or with others, now trying to start a new business or a new venture for your employer, an effort that is part of your normal work?		QFF1b
Are you, alone or with others, currently the owner of a business you help manage, including self-employment or selling any goods or services to others?		QFF1c
Exclude those not active in past 12 months: screening interview	SUACTS	QFF2
Exclude those not expecting to be owners: screening interview	OWNER	QFF3
Exclude those with a period of initial profits: First detailed interview	Q100–Q100c	
Exclude those with a period of initial profits: screening interview		QFF4–6

Entries in cells are the variable names in the respective data sets

GEM research protocol (Reynolds et al. 2005). The result was a more efficient procedure for locating nascent entrepreneurs in the PSED II screening. The prevalence in the population, however, was not changed when corrections were made for the item wording (Reynolds 2008b); about 6 per 100 individuals qualified as nascent entrepreneurs.

Those that answered yes to any of the screening items were asked additional items to determine if they had been active in creating the start-up in the past year, expected to own part of the new firm, and if the venture had experienced an initial period of profitability. Only those individuals that were recently active, expecting to be owners, and with ventures that had not yet been profitable were considered nascent entrepreneurs. In PSED I, the third criteria, related to initial profitability, was included as part of the initial detailed interview; in PSED II, all three items were included in the screening module.

Following the selection of the sample of nascent entrepreneurs, the respondents were provided with the opportunity to complete a detailed phone interview and, in PSED I, a self-completed mail questionnaire. A general overview of the procedure for both projects is provided in Table 10.3 including the dates of the initial screening procedures – which covered several years for PSED I as funding for special cohorts of women and minorities were received, the time lags to the follow-up interviews, the actual case counts at each stage of the process,[10] as well as the summary of the nature of the phone and mail interviews. All respondents received a payment of $25 for completing interviews, both phone and mail in PSED I. It should be noted that much of the case reduction from initial to follow-up interviews

[10] The increase for the later two PSED I follow-ups, Interviews S and T, reflects success at locating respondents not interviewed in the first follow-up.

Table 10.3 Overview of project design: PSED I, II

	PSED I	PSED II
Dates of initial screening, detailed interview 1 [Q,A][a]	July1998 to Jan 2000	Oct 2005 to Jan 2006
Time lag to		
Interview 2 [R,B]	14 months	12 months
Interview 3 [S,C]	27 months	24 months
Interview 4 [T,D]	40 months	36 months
Interview 5 [E]	None	Completion in 2010
Interview 6 [F]	None	Completion in 2011
Size of screening samples: nascent entrepreneurs only	62,612	31,845
Interview 1 [Q,A]	830	1,214
Interview 2 [R,B]	501	972
Interview 3 [S,C]	511	827
Interview 4 [T,D]	533	663
Interview 5 [E]	None	Completion in 2010
Interview 6 [F]	None	Completion in 2011
Screening interview length	2 minutes	2 minutes
Detailed interview 1, phone [Q,A]	60 minutes	60 minutes
Detailed interview 1, mail [Q]	12 pages	None
Detailed interview 2, phone [R,B]	60 minutes	28 minutes
Detailed interview 2, mail [R]	8 pages	None
Detailed interview 3, phone [S,C]	60 minutes	28 minutes
Detailed interview 3, mail [S]	8 pages	None
Detailed interview 4, phone [T,D]	60 minutes	28 minutes
Detailed interview 4, mail [T]	8 pages	None
Detailed interview 5 phone [F]	None	To be determined
Detailed interview 5 phone [F]	None	To be determined
Phone interview payments	$25	$25
Mail questionnaire payments	$25	Not applicable

[a] Letters represent wave identification in PSED I [Q,R,S,T] and PSED II [A,B,C,D,E,F,]

reflected those individuals that were not contacted after they reported they had disengaged from the process. Information on PSED II is incomplete, as the final two follow-up interviews – wave E and F at 48 and 60 months – have not been completed.

Perhaps a better indication of the value of the data sets is provided by considering information on the final outcome of the various cases. This is presented in Table 10.4; after three follow-up interviews, the final outcome status is known for 65% of the PSED I cases and 58% of the PSED II cases. There are three differences between the follow-up interviews between the two projects. First, the criteria for a firm birth were the respondents' reports in PSED I and reports of initial profitability in PSED II. Second, PSED I nascent entrepreneurs were allowed to report that they had not completely disengaged from a start-up venture, but they were not actively working on it at the time of the interview; this alternative was

Table 10.4 Case counts with known outcome status: PSED I, II

	Interview 1 [Q,A][a]	Interview 2 [R,B]	Interview 3 [S,C]	Interview 4 [T,D]
PSED I				
Reports of operational new firm		163	249	290
Respondent disengaged		89	181	239
Total final outcome		252	430	543
Active in start-up process	830	156	126	84
Inactive start-up		93	105	82
Unknown status		329	169	135
Total cases		830	830	830
Percent final outcome known		30.4%	51.8%	65.4%
Percent with known status		60.4%	79.6%	83.7%
PSED II				
Reports of initial profits		128	164	214
Respondent disengaged		231	422	490
Total final outcome		359	586	704
Active in start-up process	1,214	613	472	381
Unknown status		242	156	129
Total cases		1,214	1,214	1,214
Percent final outcome known		26.9%	48.3%	57.9%
Percent with known status		80.1%	87.2%	89.9%

[a] Letters refer to the interview waves in the two data sets, Q, R, S, & T for PSED I and A, B, C, and D for PSED II

not provided to PSED II nascent entrepreneurs. Finally, the three follow-ups for PSED I were completed over 40 months, compared to 36 months for PSED II. Even with these differences, the success of both projects at classifying the outcomes for the nascent enterprises is similar, 65% for PSED I and 58% for PSED II. The success at tracking nascent enterprises to determine any status following the initial interview was slightly higher for PSED II, at 90%, compared to PSED I, at 84%. This reflects improvements in procedures to track and obtain follow-up interviews from the nascent entrepreneurs.[11] For both projects, however, the outcome status at some point after the initial interview is known for over 80% of the nascent enterprises.

As the screening interviews locating nascent entrepreneurs are at an arbitrary point in the start-up window, the data reporting the follow-up interview outcomes cannot be used for inferences about the timing process without considerable adjustment. Such adjustments are discussed below in a review of the transitions over time following entry into the start-up process.

[11] The PSED I data collection was supervised by the University of Wisconsin Survey Research Laboratory for the first two waves, Q and R, and the project transferred to the University of Michigan Institute for Social Research for the last two waves, S and T. This change in institutional responsibilities may have contributed to the loss of follow-up information on some respondents.

10.5 Nascent Entrepreneurs: How Many and What They Are Like

At any one time, many people are actively trying to start a new business venture. These are individuals who not only express an interest, but report actual activity to start a new firm. In 1999, for each 100 persons between 18 and 74, about 5.62 qualified as nascent entrepreneurs; by 2005 this number had increased to 5.96 per 100. This represented about 10.7 million persons in 1999 and 12.1 million in 2005, an increase of 1.4 million. Based on the size of these samples, the increase was not statistically significant. Most of this increase – 55% of the total count – was attributable to an increase in the population of 25 to 44 year olds, those most likely to pursue business creation. A smaller proportion, 42%, reflected an increase in the frequency of nascent entrepreneurs, and about 3% is an interaction effect between these two influences.[12]

The most important demographic factors that affect participation in start-up activity were age and gender. The prevalence data – numbers per 100 persons – for both genders and for six age categories show overall patterns remarkably similar for the two cohorts in 1999 and 2005 (Figure 10.2).[13] Only two differences are statistically significant: the 2005 increase for men 25–34 years of age and the 2005 decrease for women 65–74 years of age. These interactions between age and gender have been evident in a number of other recent samples of US nascent entrepreneurs (Reynolds and Curtin 2008, p 174).

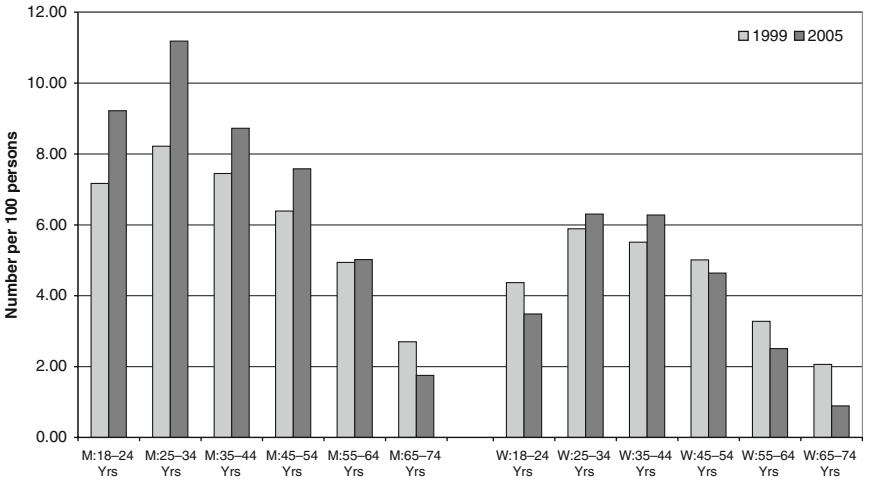

Fig. 10.2 Nascent entrepreneur prevalence, by gender and age, 1999, 2005

[12] Reynolds and Curtin 2008, 174.

[13] Because of the differences in the number and wording of the screening interview items for the 1999 and 2005 cohorts, adjustments are made to estimate the 1999 values as if the 2005 research procedures were employed. These are detailed in Reynolds 2008b.

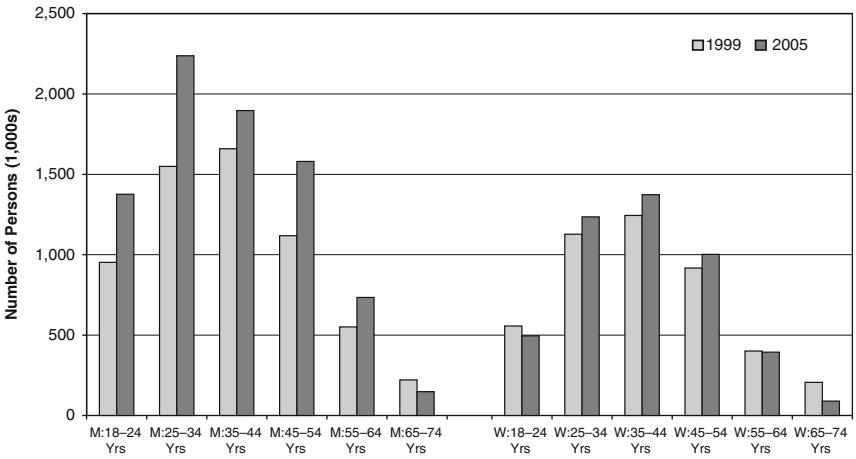

Fig. 10.3 Nascent entrepreneur counts, by gender and age, 1999, 2005

The estimate of the total number of persons is provided in Figure 10.3. The patterns are quite similar to those for prevalence rates in Figure 10.2, but the vertical bars represent the total number of individuals involved in a business start-up. The gender ratios are remarkably similar: about 6.1 million men and 4.5.million women were involved in 1999; for 2005 it was about 8.0 million men and 4.6 million women. Most of the increase in total business start-up activity is associated with greater numbers of male entrepreneurs.

Because of small sample sizes, comparisons of racial and ethnic backgrounds are restricted to Whites, African-Americans, and Hispanics. Unfortunately, a change in the procedures to determine ethnic background between 1999 and 2005 reduces the potential for analyzing Hispanic entrepreneurs.[14] The differences in the prevalence rates of nascent entrepreneurship, by gender, are presented in Figure 10.4.

In both 1999 and 2005, African-American men were more likely to be involved in business creation than White men, and the differences are statistically significant.[15] Hispanic men were intermediate between the other two categories, although the differences were not statistically significant. Both African-American and Hispanic women have similar and statistically significant higher prevalence rates than White women.

Because most of the US population is White, the estimates of the total counts of participants in Figure 10.5 had quite a different pattern. White men and women

[14] The major change, introduced in the 2000 decennial census, allowed individuals to self-identify as having a mixed or diverse ethnic background. As a consequence, the proportion of respondents in a "mixed" or "other" category substantially increased, accompanied by a reduction in the proportion in the Hispanic category and, to a lesser extent, the African-American category. There seem to be minimal effects on the proportion in the White category.

[15] Comparing the samples with a standard *t*-test and using the 0.05 level of statistical significance.

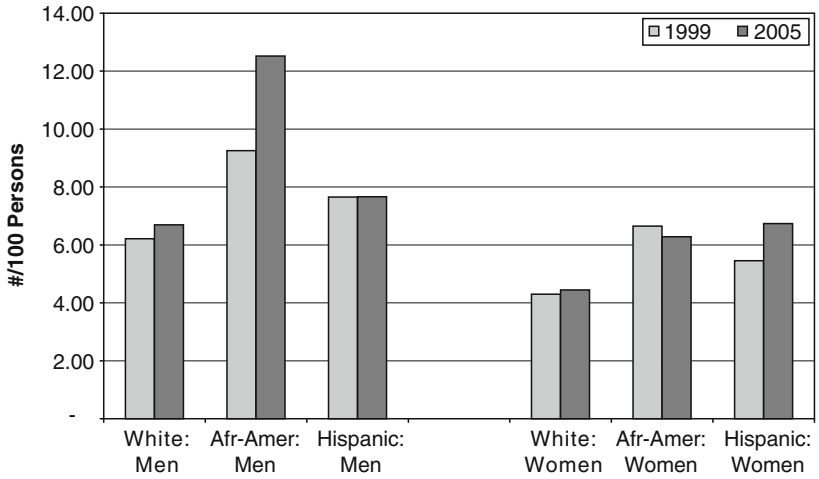

Fig. 10.4 Nascent entrepreneur prevalence, by gender and ethnicity, 1999, 2005

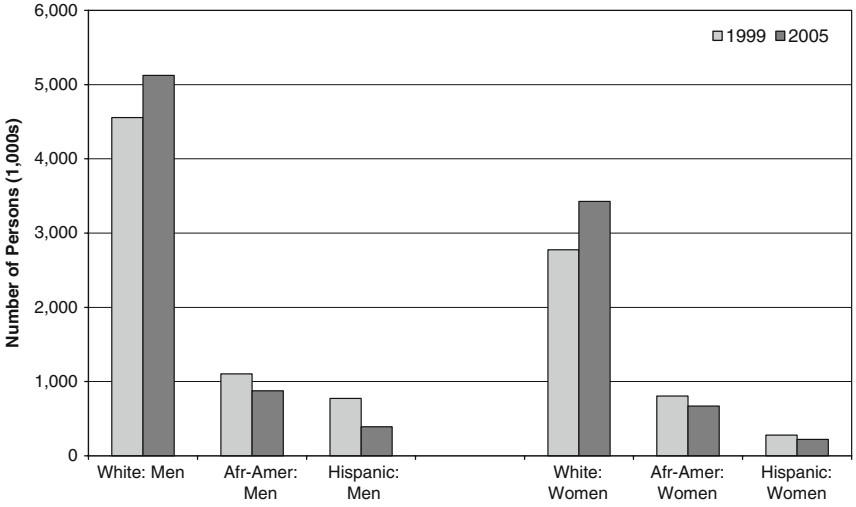

Fig. 10.5 Nascent entrepreneur counts, by gender and ethnicity, 1999, 2005

were by far the majority of those involved in nascent enterprises; 78% of the active nascent entrepreneurs in 1999 and 80% in 2005.

There has been an extended discussion of the relationship between access to capital and participation in entrepreneurship. The positive impact of greater access to financial resources, the "liquidity effect," on participation in entrepreneurship is a common theme (Dunn and Holtz-Eakin 2000; Le 1999). One indicator of access

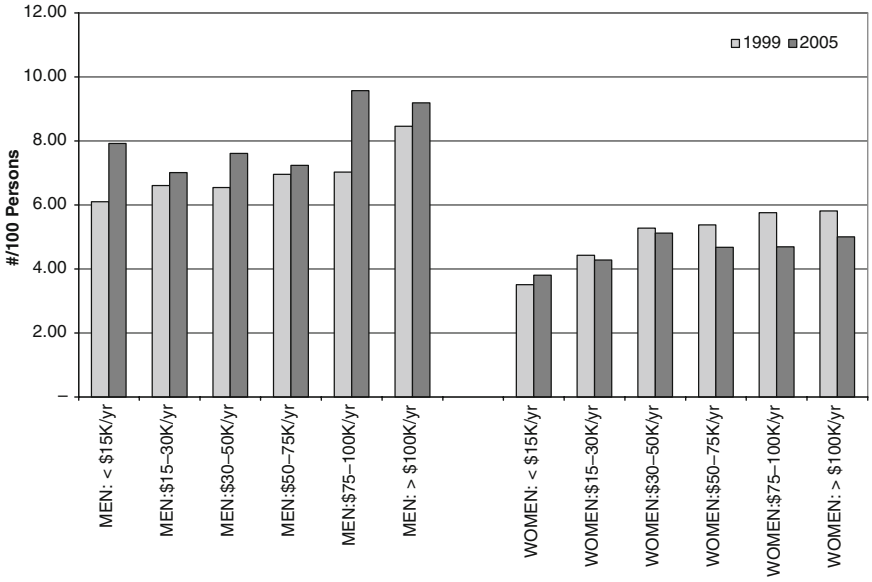

Fig. 10.6 Nascent entrepreneur prevalence, by gender and household income, 1999, 2005

to financial resources is annual household income. The relationship, for men and women, is provided in Figure 10.6. The 1999 values have been adjusted using the Consumer Price Index to match 2005 values. This comparison shows a modest impact, with men from the highest income households at a higher level of participation and women from the lowest income households with a slightly lower level of participation. When these different subsamples are compared, however, none of these differences are statistically significant.[16]

The relationship between educational attainment and participation in firm creation is presented by gender in Figure 10.7. There was little variation among men and none of the differences were statistically significant. Among the women, however, those that have a high school education or less were much less likely to participate in the start-up process; these differences were statistically significant.

The data show that when both household income and educational attainment are taken into account, women from low-income households with little education are half as likely (3 per 100) to be involved in new firm creation as other women (6 per 100). The difference was statistically significant for both the 1999 and 2005 cohorts. Women with both disadvantages were clearly not involved in the entrepreneurial process; no such interaction effect was present for men.

[16] An extensive analysis of the 1999 cohort, comparing them to a comparison group identified at the same time, found that household net worth, once a variety of other factors were taken into account, had little impact on the propensity to participate in firm creation (Kim, et al. 2006). There may be a liquidity effect, but it clearly is not a major factor affecting the decision to participate in business creation.

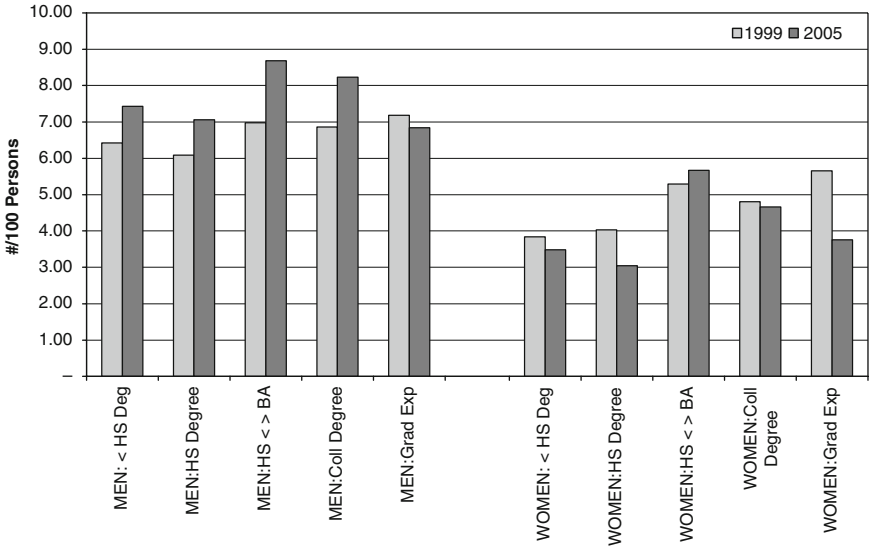

Fig. 10.7 Nascent entrepreneur prevalence, by gender and education, 1999, 2005

10.6 Who Becomes a Nascent Entrepreneur?

While many factors are associated with a greater tendency to become involved in the firm creation process, comparing the relative importance of the different variables helps to provide a more precise portrait of potential nascent entrepreneurs. The research design for the 1999 cohort included a comparison group,[17] a representative sample of US adults not involved in business creation, which allowed for two types of comparisons with nascent entrepreneurs.

The first analysis of the transition into start-up involved comparisons with the 65,000 cases in the screening sample: 11 socio-demographic characteristics and aspects of the regional socioeconomic conditions were considered in the comparisons. Another analysis involved direct contrasts with the comparison group, as both groups provided responses to the same questions in phone interviews and mail questionnaires. The common measures covered 65 variables spanning a wide range of social and economic characteristics, information about their work life, business backgrounds, as well as information about various traits, attitudes, and orientations.

Several analyses were employed in an attempt to determine the relative importance of different factors in the decision to participate in the firm creation

[17]This material is based on Reynolds 2007b, 42–54.

process. It appeared that five socio-demographic factors enhanced participation in firm creation. Active participants were more likely to be:

- 24–54 years old
- Men
- Full- or part-time workers or self-employed
- African-Americans and Hispanics
- High school graduates

A number of other factors seemed to have limited influence, depending on the situation, context, or alternatives for the person:

- Household income (above the poverty level)
- Household net worth (very low or very high)
- Recent population growth in local community (increase in demand)
- Greater management and administrative experience and training
- Positive impressions and encouragement from family and friends
- Strong expectations for and commitment to an entrepreneurial career

The assessments of a wide range of personal attributes, attitudes, and perceptions were inconclusive. None were related to a negative impact on the decision to enter the start-up process, and most had no statistically significant impact.

The life course stage, the immediate economic context, and the background of the individual affect the decision to pursue business creation. While some are more likely to become involved than others, all segments of society – all categories of individuals – are represented among nascent entrepreneurs.

10.7 Nascent Entrepreneur Profile

What are the distinctive characteristics of those actively involved in trying to start a new business venture? Detailed profiles of nascent entrepreneurs are possible from the PSED cohorts identified in 1999 and 2005.[18] These profiles represent the 10–12 million persons who were actively trying to start a business at the time the cohorts were identified. Since an extensive analysis has found very little difference between the two cohorts, the data have been combined for this presentation.[19] Table 10.5 provides basic socio-demographic data on gender, age, and ethnic background.

[18]Based on Reynolds and Curtin 2008, 181–202.

[19]The comparisons involve only those 1,972 considered confirmed active nascent entrepreneurs, 824 from the 1999 cohort and 1,148 from the 2005 cohort. This excluded those individuals completing the first detailed interview who seemed to be reactivating a former business established prior to the screening interviews (Reynolds and Curtin 2008, 169).

Table 10.5 Nascent entrepreneurs: gender, age, and ethnic background

	Percent		Percent
Men	62.1		
Women	37.9		
Total	100.0		
18–24 years old	12.2	White	69.5
25–34 years old	29.1	African-American	14.8
35–44 years old	28.0	Hispanic	7.0
45–54 years old	20.3	Mixed/other	8.6
55 or more years old	10.3		
Total	99.9	Total	99.9
Men		Men	
18–24 years old	8.8	White	42.3
25–34 years old	18.4	African-American	8.5
35–44 years old	16.3	Hispanic	4.9
45–54 years old	12.2	Mixed/other	6.3
55 or more years old	6.5		
Women		Women	
18–24 years old	3.4	White	27.2
25–34 years old	10.7	African-American	6.4
35–44 years old	11.7	Hispanic	2.2
45–54 years old	8.1	Mixed/other	2.3
55 or more years old	3.8		
Total	99.9	Total	100.1

Among active nascent entrepreneurs in the combined samples, 62% were men and 38% were women. Those aged 25–44 represent 57% of all active nascent entrepreneurs. The age pattern is similar for both men and women, with slightly fewer women under 24 or over 54 years of age. Almost seven in ten were White and about one in six were African-American; the remainder were about evenly divided between Hispanics and those with mixed or other ethnic backgrounds.

The home and family context of nascent entrepreneurs seemed quite conventional, based on the patterns in Table 10.6. More than half, 59%, were married or living with a partner. While nearly one in five men had never married, only 8% were never married women. Very few – less than 2% – were widowed, but about 14% report they were divorced or separated.

While one in five were living alone, 80% share a household with other adults. About three in five (34% men and 23% women) were in a two-adult household. Half, mostly men, had no children in their household, but 30% of the men and 20% of the women report having a household with one or more persons less than 18 years of age.

While immigrants who start new businesses are often highly visible, they are very much the minority among the nascent entrepreneurs (Table 10.7). Nascent entrepreneurs reporting that they and both parents were born within the United States accounted for 85% of the total cohorts. Just 5% report that they and both parents were born outside the United States. About 8% report they were born in the United States

Table 10.6 Nascent entrepreneurs: marital status and household structure

	Percent		Percent
Men			
Never married	18.3		
Married/living as	35.1		
Divorced/separated	8.0		
Widowed	0.9		
Women			
Never married	7.2		
Married/living as	24.3		
Divorced/separated	5.5		
Widowed	0.8		
Total	100.1		
Men		Men	
1 adult	13.5	No children	32.4
2 adults	34.0	1 child	10.8
3 adults	10.0	2 children	10.4
4–10 adults	4.6	3–8 children	7.6
Women		Women	
1 adult	7.9	No children	16.1
2 adults	22.6	1 child	7.9
3 adults	4.6	2 children	7.5
4–10 adults	2.7	3–8 children	6.3
Total	99.9	Total	99.0

and one or both parents were born outside; a very small proportion, 1%, were born outside the United States to US-born parents.

Table 10.7 Nascent entrepreneurs: family immigration and residential tenure

					Percent
Nascent and both parents US born					85.1
Nascent born in United States; one or both parents born outside					8.3
Nascent born outside United States; one or both parents US born					1.2
Nascent and both parents born outside United States					5.4
Total					100.0
Years lived in county	Percent	Years lived in state	Percent	Years lived in USA	Percent
0–1	9.8	0–1	4.7	0–1	0.5
2–9	30.4	2–9	17.3	2–9	1.7
10–29	39.8	10–29	41.5	10–29	29.6
30+	20.1	30+	36.5	30+	68.2
Total	100.1	Total	100.0	Total	100.0

Equally important, 60% have lived for 10 or more years in their county and almost 80% for more than 10 years in their state of residence. This is not a highly mobile population that moves into a community and immediately begins to launch a new firm. Most new firms are started by those well established in their communities.

The educational and financial resources of nascent entrepreneurs are presented in Table 10.8. There is a gender difference with respect to educational attainment, but none related to annual household income or net worth. Two-thirds of the nascent entrepreneurs had not completed college or participated in a graduate program. About one in four had not gone beyond high school; this group was dominated by men, reflecting the pattern discussed in the previous section. Women with little education were not likely to get involved.

Table 10.8 Nascent entrepreneurs: educational attainment, household finances

Education	Percent		Percent
Men			
Up to high school degree	16.3		
Post-high school, precollege degree	24.8		
College degree	12.6		
Graduate experience	8.5		
Women			
Up to high school degree	7.4		
Post-high school, precollege degree	16.2		
College degree	9.2		
Graduate experience	5.0		
Total	100.0		
Household yearly income		Household net worth	
0–$20,000	12.0	Negative	15.9
$21,000–$40,000	24.0	$1,000–$25,000	18.3
$41,000–$60,000	24.2	$26,000–$100,000	23.5
$61,000–$80,000	15.3	$101,000–$200,000	14.5
$81,000–$100,000	9.7	$201,000–$500,000	15.9
$101,000–$150,000	9.0	$501,000–$1 million	6.6
$151,000 or more	5.8	$1 million or more	5.3
Total	100.0	Total	100.0

The relationship of access to household financial resources is quite straightforward.[20] Those from every possible situation are well represented, except perhaps those from the very highest income levels – annual income in excess of $150,000 or household net worth of over $1 million. Remarkably, one in six of those engaged in business creation report either zero or negative household net worth.

The labor force activity of the nascent entrepreneurs is presented in the top of Table 10.9. More than seven in ten report they are working – full-time, part-time, self-employed, or managing another business – while they were involved in the start-up effort. Considerable effort was made during the interview to separate these other work activities from the efforts to create a new firm.

[20] The interviewers had considerable success in obtaining details on household finances at the end of the 60-minutes phone interviews. More than 95% were willing and able to answer questions related to annual household income or current net worth; the net worth assessment involved eight detailed questions about assets and debts. For comparisons related to household finances, changes in the Consumer Price Index (CPI) were used to adjust all 1999 values to 2005 equivalents.

Table 10.9 Nascent entrepreneurs: labor force participation and work experiences

	Percent		Percent
Men		Men	
Working	47.4	Other start-ups – none	36.1
Not working	14.6	Other start-ups – one	11.6
		Other start-ups – 2–4	12.0
		Other start-ups – 5–60	2.4
Women		Women	
Working	25.3	Other start-ups – none	22.8
Not working	12.6	Other start-ups – one	8.1
		Other start-ups – 2–4	6.3
		Other start-ups – 5–60	0.7
Total	99.9	Total	100.0
Men		Men	
No manager experience	8.6	No same industry	12.9
Managers 1–5 years	22.7	Same industry 1–5 years	18.7
Managers 6–14 years	15.6	Same industry 6–14 years	14.3
Managers 15-up years	15.1	Same industry 15-up years	16.3
Women		Women	
No manager experience	5.2	No same industry	10.8
Managers 1–5 years	15.2	Same industry 1–5 years	12.9
Managers 6–14 years	10.6	Same industry 6–14 years	7.0
Managers 15-up years	7.0	Same industry 15-up years	7.0
Total	100.0	Total	99.9

More than 85% report some managerial experience and more than 75% report work experience in the industry in which the nascent enterprise would compete. On the other hand, six in ten report this was their first start-up effort and for two in ten it was the second. About 3% report participation in more than four other start-ups. On all measures of work experience, men were more experienced than women.

A number of variables are related to the contextual motivation of the nascent entrepreneurs, as well as their objectives in pursing the new venture. When asked if they are voluntarily pursing a promising business opportunity or engaged because they have no better choices for work, men and women respond slightly differently. As indicated in Table 10.10, 86% report they were voluntarily pursuing an opportunity (84% among men and 90% among women). Among the 14% that were involved out of necessity, women were slightly less likely to be necessity entrepreneurs.

In contrast, when asked about aspirations for the growth of the new venture, 25% of the men and 17% of the women wanted to maximize growth. Three-quarters of the men and 83% of the women nascent entrepreneurs wanted a new firm of a comfortable size to manage. The large majority of both men and women preferred a firm that would be comfortable to manage.

The personal aspirations for participating in the start-up effort were assessed with a set of variables that can be organized to create four scales[21]:

[21] Factor analysis was used to develop the four dimensions. For each dimension, the number of items and the reliability as measured by Chronbach's Alpha are provided in parentheses.

Table 10.10 Nascent entrepreneurs: contextual motivation and growth aspirations

	Percent		Percent
Men		Men	
Opportunity	84.2	Growth-oriented	24.8
Necessity	15.8	Comfortable size	75.2
Total	100.0	Total	100.0
Women		Women	
Opportunity	89.6	Growth-oriented	17.4
Necessity	10.4	Comfortable size	82.6
Total	100.0	Total	100.0

- Autonomy, reflecting the desire for freedom to adopt work activities and for flexibility in personal and family life (two items, Alpha = 0.64).
- Wealth, reflecting the importance of larger personal income, financial security, and greater wealth (three items, Alpha = 0.79).
- Achievement, reflecting the importance of higher status, recognition, development of new business ideas, fulfilling a personal vision, and an ability to influence an organization (five items, Alpha = 0.76).
- Respect, reflecting the importance of following the family tradition, following the example of admired persons, respect from friends, and a business for one's children (four items, Alpha = 0.69).

The relative importance of these four dimensions of intrinsic motivation for men and women nascent entrepreneurs is presented in Figure 10.8. As with any index, the actual numerical values are arbitrary, but the comparisons do make clear the

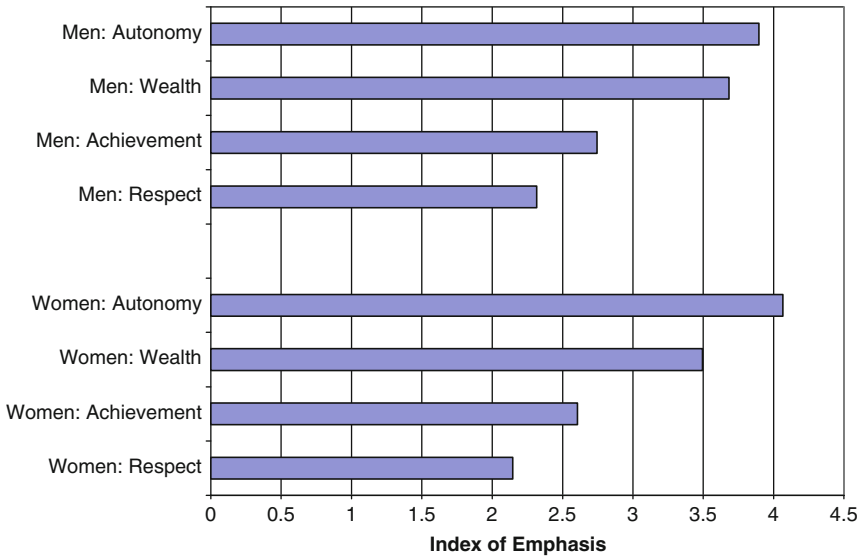

Fig. 10.8 Nascent entrepreneurs: intrinsic motivation by gender

relative importance assigned to each. The rank order is the same for both men and women, with small differences in emphasis. Generally, both men and women seem to become involved with firm creation to gain greater autonomy and wealth, with less emphasis on achievement and status or to gain the respect of family and friends. As with almost all work career choices, complex intrinsic motivations are involved in the final decisions.

In summary, the 12 million active nascent entrepreneurs in the United States in 2005 reflect a number of salient characteristics:

- Three in five were men; two in five were women.
- Three in five were between 25 and 44 years old; one in ten were 55 or older.
- Seven in ten were White; one in six African-American, and one in 14 Hispanic.
- One in five were men who have never married; three in five were currently married or with a significant other.
- Four in five were in households with one or more other adults.
- Half were in households with one or more children under 18 years of age.
- The large majority, 85%, were born in the United States of US-born parents. One in 20 were born outside the United States to parents also born outside the country.
- Nine in ten had lived in their county for more than a year; six in ten for more than 10 years.
- One in four had not gone beyond high school, two in five had gone beyond high school but did not finish college, and one in seven had some graduate experience.
- All levels of household income and household net worth are represented among active nascent entrepreneurs; one in six report zero or negative net worth.
- Three-quarters reported a full-time or part-time job, self-employment, or managing a business for another while they are involved in creating a new business venture.
- Almost nine in ten reported one or more years of managerial experience; more than three-fourths had one or more years experience in the same industry as the new venture. For three in five, this was their first start-up initiative; 3% reported experience on five or more other start-ups.
- One in five sought maximum growth for the new firm; the remainder wanted to manage a firm of comfortable size.
- Most, 85%, report they had responded to the opportunity to develop a promising business idea; the remainder were involved because of a lack of other career options.
- The primary intrinsic attraction of the new firm was the potential for work autonomy and greater wealth, followed by a potential for achievement and recognition as well as respect from family and friends.
- While in some ways women nascent entrepreneurs are distinctive – for example, a small percentage had not gone beyond high school and there was less interest in the firm's growth – for most comparisons they are very similar to male nascent entrepreneurs.

The 12 million nascent entrepreneurs had broadly diverse characteristics typical of those in the prime years of their work career. No major segments seem to be excluded; some segments – younger men – are more involved than others.

10.8 Nascent Enterprise Profile[22]

Given that 12 million nascent entrepreneurs were trying to implement 7.4 million nascent enterprises in 2005, what types of business ventures were these nascent entrepreneurs creating? Perhaps, the most fundamental question is the industry or economic sector of the nascent enterprise. The distributions of industry sectors in these representative PSED samples are compared to two national censuses of business ventures in Table 10.11.

One comparison is based on 20 million nonemployee firms – those that file a Schedule C with their annual federal tax return. The other comparison is 5.7 million employer firms – those with employees that file federal Social Security payments. Firms with multiple locations were consolidated into one enterprise for this assessment.

The most important feature of this comparison is the presence of almost every industry sector in the nascent enterprise cohorts. Only utilities, which are less than 0.1% of the two comparison groups, were not represented. The small differences in emphasis in some economic sectors – more agriculture and retail trade and fewer construction and health and social services – may reflect sampling variation or differences in emphasis among nascent entrepreneurs. There is no question that the PSED cohorts represent the wide range of economic activity found in the US economy.

Other basic features of the nascent enterprises are presented in Table 10.12. More than 80% would be considered independent start-ups, without ties to any existing businesses. A small percentage involved the takeover of an existing business, which may or may not have been profitable prior to the takeover. The development of a franchise or participation in multilevel marketing – an Amway distributor would be an example – account for less than 8%. Existing businesses sponsor a small proportion, about 6.5%, of nascent enterprises.

A variety of legal forms were represented among the nascent firms. Two in five were sole proprietorships at the time of the first interview, about 16% were some form of partnership; about one-in-five have a corporate form; and for one-quarter of the new ventures, the matter had not yet been settled.

More than half had initially established themselves in a personal residence, more than one-quarter have not progressed to the point of needing a location, and the remainder had a dedicated site or were sharing facilities with another business.

The nature of the customer base and the business activity varied considerably (Table 10.13). The new ventures collectively expect 60% of their customers to be local and 21% regional, defined as within a 100 miles of their location. A national customer base was expected by 16%, and 3% were expected to draw some customers internationally. Just seven in 2,000, however, expect all their customers to be international.

An index of market impact is based on three questions about competition, customer knowledge of their product or service, and the unique nature of the production

[22] Based on material in Reynolds and Curtin 2008, 203–221. Because of small differences between the two cohorts, data have been combined for most analyses.

Table 10.11 Nascent enterprises: economic sector and national comparisons (percent except as noted)

NAICS code		PSED	US non-employer firms[a]	US employer firms[b]
	Year data collected	1999, 2005	2004	2004
	Number of cases (weighted for PSED)	1,974	19,523,741	5,657,774
11	Agriculture, forestry, fishing, and hunting	3.5	1.2	0.4
21	Mining	0.1	0.5	0.3
22	Utilities	0.0	0.1	0.1
23	Construction	9.0	12.2	12.6
31–33	Manufacturing	5.6	1.6	4.9
42	Wholesale trade	3.9	2.0	5.7
44–45	Retail trade	19.4	9.7	12.4
48–49	Transportation and warehousing	2.1	4.7	2.8
51	Information	5.2	1.5	1.3
52	Finance and insurance	2.7	3.7	4.2
53	Real estate and rental and leasing	4.1	11.4	4.8
54	Professional, scientific, and technical services	15.7	14.0	12.4
55	Management of companies and enterprises	0.1	0.0	0.4
56	Administrative and support and waste management and remediation	1.6	6.8	5.2
61	Educational services	1.9	2.1	1.2
62	Health care and social assistance	4.7	8.2	9.9
71	Arts, entertainment, and recreation	4.0	4.7	1.9
72	Accommodation and food services	4.9	1.4	7.6
81	Consumer services	10.6	14.3	11.3
92	Public administration	0.2	0.0	0.0
99	Unclassified	0.8	0.0	0.7
	Totals	100.0	100.0	99.9

[a]US Small Business Administration (2007), 307, total count based on row count sum,
[b]US Small Business Administration (2007), 307

procedures or products.[23] The result suggests that about 1 in 20 might be expected to have a major impact on the market. Nine in ten will be replicating existing business activity. Overall, less than one in ten consider their new ventures to fill the "creative" role in the creative destruction paradigm. Although nine in ten were expected to be essentially similar to existing firms and have no net market impact, these new ventures could nonetheless have a significant impact on enhancing productivity.

[23] Based on an index developed by Samuelsson 2004; this module was included only in the 2005 interview schedule.

Table 10.12 Nascent enterprises: nature, legal form, and locations

	Percent
Nature of nascent enterprise	
Independent start-up	82.7
Purchase, takeover of an existing business	2.8
Franchise	2.3
Multilevel marketing	5.1
Sponsored by an existing business	6.5
Other	0.6
Total	100.0
Legal form (1999 expected; 2005 current)	
Sole proprietorship	42.0
Partnership: general	11.9
Partnership: limited	4.2
Corporation: limited liability	7.5
Corporation: subchapter S corporation	5.3
Corporation: C corporation	5.0
Not yet determined, other	24.1
Total	100.0
Location of nascent enterprise	
Personal residence	52.5
Existing business site	7.5
Location dedicated to this business	11.1
Not needed yet	27.7
Mixed, other	1.3
Total	100.0

Table 10.13 Nascent enterprises: customer locations, market impact, and technology

	Percent
Expected customer locations	
Local customers	60.3
Regional customers	21.1
National customers	16.1
International customers	3.1
Total	100.0
Market impact (2005 only)	
Major impact on market structure	4.7
Moderate impact on market structure	5.1
Little impact on market structure	38.1
No impact on market structure	52.0
Total	99.9
Technological emphasis	
High technology focus	5.7
Moderate technology focus	17.7
Little technology focus	30.2
No technology focus	46.4
Total	100.0

Three variables – related to current technology, spending on research and development, and the owner's judgment about the technological emphasis of the new venture – were used to create a technology focus index. About 1 in 20 might be considered high-technology ventures; almost half had no focus on new techniques or innovative products.

While all the data on the nascent enterprises were gathered during the gestation or business creation phase before the ventures had become operating firms, the nascent entrepreneurs were asked about their expectations regarding employment and sales in the first and fifth years of operation (Table 10.14).[24] The nascent entrepreneurs expect to have, on average, six employees and $300,000 in sales in the first year and 18 employees and $880,000 in sales by the fifth year.

There was, as expected, substantial diversity among the nascent enterprises. By the fifth year about a quarter of the new firms did not expect to have employees and about three in ten expected annual sales to be less than $50,000 per year. At the other extreme, by the fifth year about 1 in 40 expected to have more than 100 employees and 1 in 20 expects annual sales in excess of $5 million. The aggregate impact of these 7 million nascent enterprises will be affected in a major way by the fact that only about one-third will become operating firms.

The lower part of Table 10.14 presents the expected annual growth rates in jobs and sales. These tend to be higher for those nascent enterprises with more modest projections for the first year, as they started from a smaller base. Nonetheless, the anticipated annual growth rates were in excess of 100% per year for all firms.

The nature of the start-up teams is presented in Table 10.15, complicated by the small proportion, 3%, where a financial institution or another business – a legal entity not a natural person – will share in the ownership of the new firm. Slightly more than half will have a single person as the owner; the average size of the ownership group was about 1.7. The average distribution for all team members by gender, age, and ethnic background is also presented and was remarkably similar to that for the responding nascent entrepreneur (see Table 10.5).

The bottom of Table 10.15 indicates the extent of expected family ownership of the nascent enterprise. Half are to be owned by one person,[25] which may or may not be considered a "family initiative." Married couples expect to own 22% of the nascent enterprises; for another 7% of the firms members of the same family or kinship group will own 50% or more of the new venture. For the remaining 19%, the firm will be owned by a start-up team not dominated by a single family or kinship group.

In summary, the nascent enterprises have a number of salient features:

- The nascent enterprises represent all sectors of the economy, with a distribution similar to that of existing firms.
- The majority, more than 80%, were independent start-ups; a small proportion, 6.5%, were sponsored by existing businesses.

[24] All the sales data for 1999 have been converted, using the Consumer Price Index, to 2005 values.

[25] Some researchers assume that one-person businesses require substantial support from family members and should be considered family-based enterprises.

Table 10.14 Nascent enterprise size expectations and anticipated growth rates (percent except as noted)

Jobs anticipated	First year	Fifth year	Annual sales anticipated	First year	Fifth year
Average number of jobs	6.3	18.1	Average (thousands of dollars)	300	880
None	44.2	27.4%	Up to $50,000	56.6	29.8
1–5 Jobs	39.0	36.6%	$50,000–$100, 000	18.6	20.0
6–10 Jobs	8.8	14.2%	$100,000–$500,000	17.0	29.7
11–25 Jobs	5.6	12.5%	$500,000–$1,000,000	3.8	7.3
26–100 Jobs	1.9	6.7%	$1,000,000–$5,000,000	2.6	9.2
100 Jobs and up	0.6	2.6%	$5,000,000 and up	1.5	4.0
Total	100.0	10.0%	Total	100.0	10.0

Growth expectations: jobs in first year	Average annual growth (percent)	Average number of jobs in year 5	Growth expectations: Sales in first year	Average annual growth (percent)	Average sales in year 5 (thousands of dollars)
None	227	2.0	Up to $50,000	118	132
1–5 Jobs	57	10.2	$50,000–$100,000	71	409
6–10 Jobs	57	37.3	$100,000–$500,000	85	1,301
11–25 Jobs	46	57.6	$500,000–$1,000,000	106	4,825
26–100 Jobs	83	285.5	$1,000,000–$5,000,000	77	9,323
100 and up	27	579.2	$5,000,000 and up	14	15,565
All firms	135%	18.1	All firms	102	880

Table 10.15 Nascent enterprise: size and composition of the start-up teams

	All owners (%)	Natural persons (%)	Juristic owners (%)
Average number of owners	1.73	1.68	0.04
None	0.0	0.0	97.2
One	50.0	51.6	2.0
Two	36.1	35.8	0.4
Three	7.0	6.8	0.3
Four	4.8	4.3	0.2
Five or more	2.0	1.5	0.0
	100.0	100.0	100.1
		Average number	Percent of all
Men		1.05	62.5
Women		0.63	38.5
Total		1.68	100.0
18–24 years old		0.30	18.0
25–34 years old		0.48	28.7
35–44 years old		0.46	27.5
45–54 years old		0.34	20.3
55 or more years old		0.19	11.4
Total		1.67	100.0
White		1.18	70.7
African-American		0.24	14.4
Hispanic		0.10	6.0
Other/mixed		0.15	9.0
Total		1.67	100.1
Firm ownership structure			
Sole proprietorship			51.5
Spousal pair			22.0
Family, kin own 50% or more			7.1
Nonfamily-, nonkin-related team			19.3
Total			100.0

- The largest proportions, 42%, were sole proprietorships; 18% were corporations, and 16% were partnerships; for 24% the legal form had not been determined.
- More than half were operating out of a personal residence, 19% at a business site, and no special location was required for 28% at the first interview.
- The majority of the customers, 60%, were expected to be local; with 21% regional, 16% national, and 3% international.
- Only one in ten expected to have a moderate or major impact on the nature of the markets in which they would participate.
- About 1 in 20 had a major focus on new technology.
- The average expected size was 18 employees 5 years after the birth of the new firm; about one-fourth never expected to have employees, 3% expected to have 100 or more employees 5 years after the birth of the firm.

- Average annual sales expected in the fifth year total $880,000; three in ten expected sales to remain under $50,000 per year and 4% expected sales to exceed $5 million a year.
- The average size of the start-up team was 1.7 persons.
- About 62% of team members were men, 38% women; 56% were between 25 and 44 years old; 70% were White, 14% African-American, and 6% Hispanic.
- Half of the nascent enterprises had one owner. One in five was owned by a spousal team, 7% by a family-related team, and 19% by a team with no family relationships.

In sum, there was wide variety across the nascent enterprises, as might be expected from a sample of start-up efforts reflecting a common phenomenon in a diverse economy.

10.9 The Start-up Process

Individuals and teams working to implement a new firm do many things. Of considerable interest are the start-up activities and the amount of time and money involved in creating new ventures. The PSED project provides unique and detailed information on both.

The procedure used to capture information about these start-up activities was similar for both the 1999 and 2005 cohorts. The nascent entrepreneurs were asked if a given activity – such as registering a legal form or seeking external financial support – had been implemented. If they said it had, they were asked the month and year the effort began. The 1999 cohort was asked about 26 different activities associated with starting a new firm; a slightly different list of 34 activities was presented to the 2005 cohort. Eighteen activities were included in both lists.

The average number of activities reported in the first interview was similar for the two cohorts, 7.2 in 1999 and 8.8 in 2005 (Table 10.16). The distribution was slightly different. Despite the larger number of activities in the 2005 interview, somewhat fewer reported 9 or more activities, 32.0% versus 49.6% for the 1999 cohort.

The activities of the two cohorts given in the first detailed interview are rank-ordered by frequency of mention in Table 10.17. Perhaps it is no surprise that

Table 10.16 Nascent enterprise team: start-up activities distribution (percent except as noted)

Start-up activities	1999	2005
Total number of activities included on the interview schedule	26	34
Average number reported on the first interview	7.2	8.8
Number of activities reported		
1–4	12.5	30.0
5–8	37.9	38.0
9–10	18.3	15.1
10–20	31.3	16.9
	100.0	100.0

Table 10.17 Nascent enterprise: start-up activities initiated (percent)

Start-up activity	1999	2005	Average
Serious thought given to the start-up	100	99	100
Actually invested own money in the start-up	87	75	81
Began saving money to invest in the start-up	69	–	69
Began development of model, prototype of product, service	79	53	66
Began talking to customers	–	66	66
Began defining market for product, service	86	40	63
Organized start-up team	58	–	58
First use of physical space	–	57	57
Purchased materials, supplies, inventory, components	70	43	57
Initiated business plan	61	48	55
Began to collect information on competitors	–	49	49
Purchased or leased a capital asset	52	41	47
Began to promote the good or service	56	36	46
Received income from sales of goods or services	40	47	44
Took classes, seminars to prepare for start-up	41	–	41
Determined regulatory requirements	–	39	39
Opened a bank account for the start-up	35	29	32
Established phone book or Internet listing	17	44	31
Developed financial projections	37	25	31
Arranged for child care, household help	31	–	31
Began to devote full time to the start-up	31	29	30
Established supplier credit	34	19	27
Legal form of business registered	–	26	26
Sought external funding for the start-up	23	13	18
Hired an accountant	–	17	17
Liability insurance obtained for start-up	–	14	14
Established dedicated phone line for the business	14	–	14
Initiated patent, copyright, trademark protection	20	4	12
Hired a lawyer	–	12	12
Hired an employee	14	7	11
Received first outside funding	–	9	9
Joined a trade association	–	7	7
Proprietary technology fully developed	–	5	5
Initial positive monthly cash flow	2	3	3

"serious thought" about the start-up is the most common activity, reported by every nascent entrepreneur in 1999 and all but a dozen (1%) in 2005. The emphasis on the other activities ranges from 81% reporting they had "invested their own money in the start-up" to 3% reporting "positive monthly cash flow, but for less than 3 months." Other activities of note are work on a business plan, reported by 55%, and "devoting full time to the start-up," reported by 30%.[26]

In the follow-up interview, the nascent entrepreneurs were asked to update this profile of activities; any activity not reported as initiated in a prior interview was

[26] An extensive analysis of business plan preparation, based on the data from the 1999 cohort, was provided in *The Small Business Economy: A Report to the President* 2007 (Gartner and Liao 2007).

once again presented for an assessment. This provides a comprehensive overview of both the start-up activities initiated and the sequence in which they were pursued.

Information from the first detailed interview on the inclusion of these nascent enterprises in established registries is shown for four registration activities for the 1999 cohort and six for 2005 (Table 10.18). Some registrations occur more frequently than others. Acquiring a federal Employer Identification Number (EIN) costs nothing and requires no major commitment; it was reported by 18%. An initial federal income tax return is reported by 15%; this could be a profit or loss. Registration of a fictitious or "doing business as" (DBA) name and the initial federal Social Security payment have about the same prevalence (11%) which was twice as often as initial payment of state unemployment insurance.[27]

Table 10.18 Nascent enterprise: inclusion in business registries (percent)

Business registration activity	1999	2005	Average
Acquired federal employer identification number (EIN)	–	18	18
Filed initial federal tax return	17	12	15
Filed for fictitious name (DBA)	–	11	11
Paid initial federal social security payment	13	9	11
Paid initial state unemployment insurance payment	8	4	6
Know that Dun and Bradstreet established listing	3	3	3

Since the month and year that these various events occurred were obtained in the interview, the dates were used to explore the sequence of activity. The diversity is striking: virtually every activity is reported as occurring first in the sequence by at least one nascent entrepreneur.

How much time and money do the start-up teams invest in the nascent enterprises? A preliminary estimate of hours and funds is based on reports of contributions from all team members from the initiation of the start-up to the first detailed interview (Table 10.19).[28]

The variation in these sweat equity investments reflects, in part, the considerable range in time between conception of the business start-up and the first detailed interview. The range is from less than 1 month to 114 months, almost 10 years, with an average of 18 months and a median of 12 months.

Even so, the amount of time committed to start-up investments is of interest: the average time was about 1,471 hours, or about 37 weeks of work at 40 hours a week. One in five nascent enterprises had absorbed more than 2,000 hours of contributions, a full year of 40-hours work weeks. The financial support from the start-up team was even more varied: while the average was a little over $10,000 and the

[27] Knowledge of inclusion in the last registry, the Dun and Bradstreet credit rating files, is complicated by procedures Dun & Bradstreet (D&B) has developed to include a new listing without the awareness of the principals. The level of inclusion in D&B files may be greater than the 3% reflected here, but that cannot be determined from interviews with the nascent enterprise start-up team.

[28] The 1999 amounts have been converted to 2005 dollars using the Consumer Price Index to adjust for inflation.

Table 10.19 Nascent enterprise team: initial investments in time and money (percent except as noted)

Total team time	Hours	Total team money	Money
Average number of hours	1,471	Average amount (dollars)	10,734
Median number of hours	400	Median amount (dollars)	2,930
Hours	Percent	Amounts	Percent
Up to 50	19.1	Nothing	19.2
51–250	23.7	Up to $1,000	17.1
251–500	12.9	$1,001–$2,500	13.1
501–1,000	13.6	$2,501–$10,000	23.5
1,001–2,000	11.3	$10,001–$20,000	8.9
2,001 or more	19.5	$20,001–$50,000	8.7
		$50,001–$100,000	4.3
		$100,001 or more	5.3
Total	100.0	Total	100.0

Data for period from conception to completion of first detailed interview

median was about $3,000, for 1 in 20 it was over $100,000. At the opposite extreme, one in five nascent enterprises had – at the time of the first interview – received no financial contributions from the start-up team.

The diversity in the start-up activities, the personal time contributed to the start-up, and the personal financial investment make clear that a cross-sectional sample of nascent enterprises captures initiatives at many different stages of the entrepreneurial process. Some are just beginning and others have been working on the new venture for years. It is not a surprise to discover considerable variation in the number and nature of start-up activities reported in the first interview or the amounts of time and money contributed to the nascent enterprises by the start-up teams.

10.10 Outcome Overview

A primary objective of the PSED research program was not only to describe the creation of new firms but to determine the outcome of the start-up process. There are two possible outcomes, either an operational new firm has been created or the process has been abandoned. It would appear, however, that it takes quite a while to reach a final resolution. A substantial proportion of start-up efforts continue for a number of years, with some start-up ventures having been in gestation for more than 20 years.

Precision in determining the outcome is substantially complicated by a lack of agreement, both conceptually and operationally, on what constitutes a new firm birth. Three perspectives are common in the research community. Those focusing on industrial organization dynamics tend to emphasize the presence of a new entity, that is, by buying or selling goods or services. Those assessing organizational populations tend to emphasize the appearance of a new organization in any public record or registry. Those concerned with labor force activity tend to emphasize personal efforts to create a new business venture (Fairlie, 2006). None of these conceptual definitions, however,

have any relationship – theoretical or operational – to the creation of profits that could sustain survival of the new venture. This fourth approach, the initial presence of profits, was reflected in the operational procedures developed for the PSED research program.

For the PSED I cohort, nascent entrepreneurs were asked for their own assessment of when their new venture had become "an operating business." Additional items were included to determine if and when the new venture had achieved positive monthly cash flow, that is when monthly revenue covered all expenses including the salaries of the owner-managers. The initial date when this occurred has been used for the presence of initial profits.

For the PSED II cohort, the follow-up interviews explicitly asked about the occurrence of positive monthly cash flow covering expenses and owner-manager salaries for six of the past 12 months. This was a more stringent measure of the occurrence of initial profitability.

In addition to the profit criteria, both PSED I and PSED II interview schedules included measures of the alternative conceptions of new firm births. A detailed analysis of the impact of these alternative definitions was based on the interview items, as shown in Table 10.20 (Schoonhoven et al. 2009). There were 10 unique items available from the PSED II interview schedule and six from the PSED I interview schedule. In the following analyses, the first occurrence of any of these indicators is considered the "other firm birth date" reflecting these alternative conceptions of a firm birth.

In contrast to the lack of consensus on what constitutes a firm birth, disengagement from the start-up process is relatively straightforward. The same conceptualization was used in both PSED I and PSED II, although the operational criteria, as summarized in Table 10.1, were more precise in PSED II.

The transitions over time for the nascent enterprises in PSED I and PSED II are presented in Figures 10.9 and 10.10.[29] The start-up window was initialized at time zero when the new venture began to receive significant attention by the nascent entrepreneur(s). All activity involved in the start-up venture commenced at time zero, and the window

Table 10.20 Indicators of alternative firm birth definitions

Industrial organization	Population ecology	Labor market participation
Initial sales*	Phone book/internet listing*	Owners full time* commitment
Initial hires*	Trade association membership	Initial hires*
Initial Federal Social Security Payments (FICA)*	Filing for rights to fictitious business (DBA) name	
Initial State Unemployment Insurance Payments*	Registration of legal form	
Financial Support Received		

All ten items in PSED II; those with * provided in PSED I

[29]The number of cases is reduced by several selection criteria. First, only those cases with at least one follow-up interview are included. Second, those reporting a period of profitability prior to the screening interview, which can be considered a re-activation of an existing business, are excluded. Third, conception is defined as the first of two start-up activities that occurred within a 12 months period, which requires reports of at least two start-up activities and some level of intensity in a short period of time. Following this, weights were re-centered based on the weights in the initial detailed interview. These

extended to a maximum of 6 years. Four outcomes are tracked in Figures 10.9 and 10.10: reports of initial profits, reports of activities that would be considered a new firm birth without initial profits, active participation in the start-up without any indication of a new firm birth, and disengagement from all start-up activities. The presentation covers the first 72 months in 3 month increments, except for the very first month.

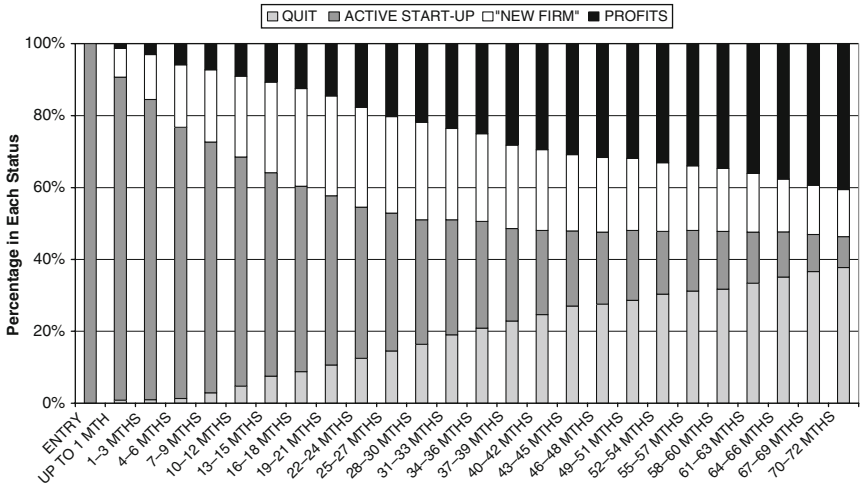

Fig. 10.9 Transitions over the start-up window: PSED I

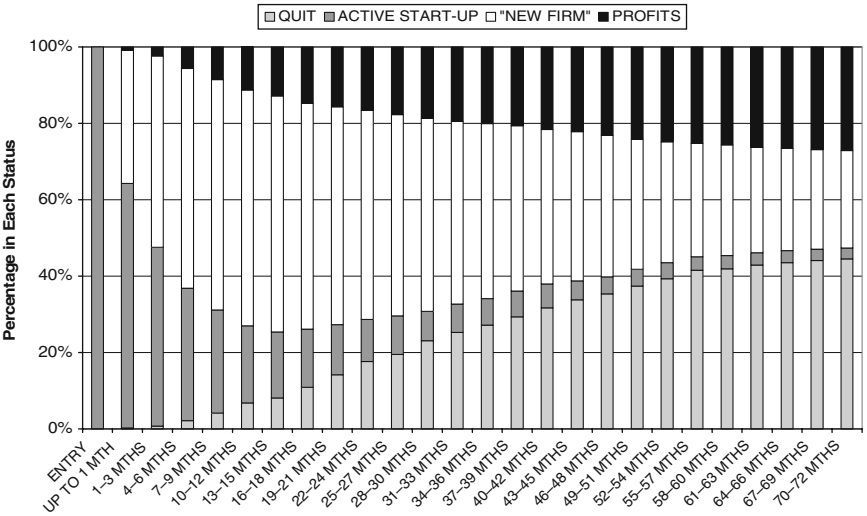

Fig. 10.10 Transitions over the start-up window: PSED II

criteria reduce the sample to 648 for PSED I and 1,027 for PSED II. At the 36 month assessment, the number of missing cases is less than 3% for PSED I and less than 1% for PSED II; at 72 months it is less than 17% for PSED I and less than 18% for PSED II. For this assessment, once a case is classified as a new firm with initial profits or a disengagement, that status is constant for all following periods. The data sets include those new firms with initial profits that later reported losses.

The figures clearly indicate that two outcomes – initial profits or disengagement – gradually increase over time. Differences in how profitability was defined meant that more firms reported initial profits in PSED I than PSED II, and more ventures qualified as "new firms" under the alternative measures in PSED II than PSED I. Despite these differences, the overall pattern of transitions is quite comparable.

The time required to achieve a transition, for those reporting initial profits or disengagement by 72 months, is presented graphically in Figures. 10.11 and 10.12. The results for both cohorts indicated that disengagement takes slightly longer than reporting initial profits for the new firm.

The outcomes at 72 months as well as the median times for the outcomes are summarized for the two projects in Table 10.21.

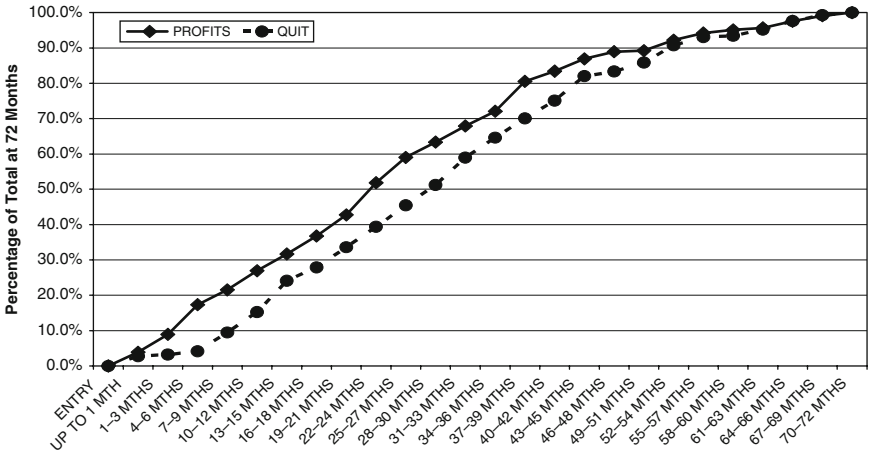

Fig. 10.11 Time to outcome transitions: PSED I

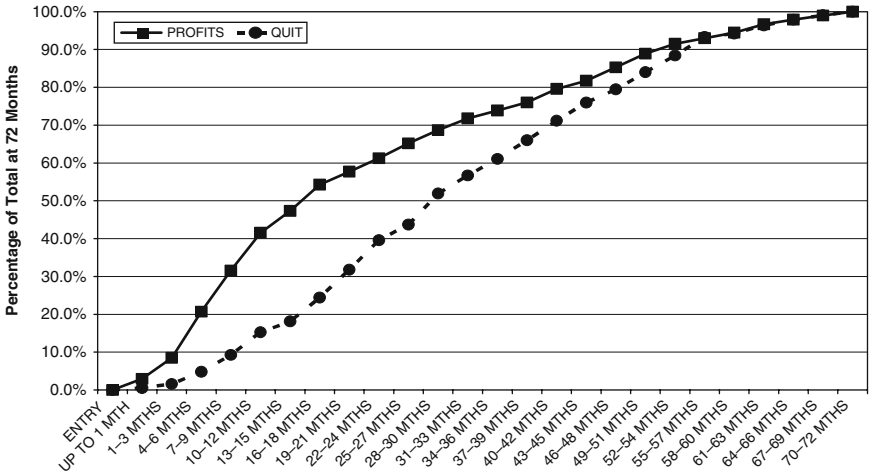

Fig. 10.12 Time to outcome transitions: PSED II

The results were similar, although the different definitions of initial profits had the expected impact on the results: In the PSED I cohort, 41% reported profits for at least 3 months while 27% of the PSED II cohort reported profits for more than 6 of 12 months. With the addition of cases meeting other conceptions of a firm birth, the total number of cases reflect a new firm birth is about the same, 55% for the PSED I cohort and 53% for the PSED II cohort. A somewhat higher proportion is classified as disengaged at 72 months in the PSED II cohort, 44% compared to 36% for PSED I. This may reflect the difference in the operational definitions or a slight increase in the tendency to abandon unprofitable start-up ventures. The larger proportion meeting other measures of a "new firm" birth probably reflects the larger number of relevant items in the PSED II interview schedule as well as the stricter definition of profitability.

The differences in the median times to achieve an outcome are presented at the bottom of Table 10.21. This data indicate that disengagement took 6 months longer than initial profits for the PSED I; the difference is 10 months for the PSED II cohort. Again, some of the differences may reflect different operational definitions of profits and disengagement; the common feature is the longer time required to disengage from the start-up effort.

Table 10.21 Outcomes and median times 72 months after start-up entry: PSED I, II

Outcome	PSED I	PSED II
Initial profits	40.6%	27.2%
Other measures of "new firm"	13.1%	25.5%
Active start-up	8.6%	2.9%
Disengagement	37.7%	44.5%
Total	100.0%	100.1%
Median time to outcome		
To initial profits	24 months	16 months
To disengagement	30 months	26 months
Disengagement less profits median time	6 months	10 months

A review of the outcomes of participating in business creation, based on two independent cohorts assembled 5 years apart, makes clear the risks and benefits of attempting to start a new business. The risks are substantial as the majority of start-up efforts do not report sustained profitability 6 years after devoting a major commitment of time and money to new business creation. Benefits were achieved by two in five who reported at least 1 month of profitability (PSED I) or the one in four who report 6 or more months of profitability (PSED II). After 6 years two in five had completely disengaged from all start-up activities. Start-up efforts persisted even after 6 years for between 20% and 30% who continued to work on a nascent venture that had yet to produce initial profits. Overall, it would appear that it typically takes from one-and-a-half to 2 years for profits to occur and from 2 to 3 years to make the decision to disengage from the start-up effort.

10.11 Factors Affecting the Outcome

The most complete assessment of factors associated with a new firm birth was completed with 648 cases from the PSED I cohort where one or more follow-up interviews had been completed (Reynolds 2007b). Entry into the process was based on the criteria discussed in the previous section. However, the measure of outcome status was based on the reports of the nascent entrepreneur that the nascent venture was an "operating business." The assessment compared the 34% with operating businesses with the other 66% that were either "still active" (29%) or "no longer being worked on by anyone" (37%).

The analysis involved uni-variant comparisons of over 130 independent variables representing socio-demographic factors; current social, work life context; personal traits, orientations, and attitudes; business background and experience; business activity, context, and start-up investments; and the community in which the start-up occurred. The vast majority of the independent variables had no statistically significant effect on the outcome.

Those that did have an impact are summarized in Table 10.22. The classification of primary and secondary is based on the author's judgments, reflecting the level of impact on the outcome and statistical significance of the relationships. The major finding is that activities implemented during the start-up process had a major impact on the outcome. Except for business experience, none of the personal characteristics, background, attitudes, or orientations of the nascent entrepreneurs had much effect. A few personal traits – a stronger internal locus of control; a preference for trying harder to do better, rather than something different, when problems developed; confidence in social settings and sophistication about economic matters – had a small, statistically significant impact. The effect of ethnic background was distinctive. Although African-Americans were more likely to be involved in a nascent venture,

Table 10.22 Factors related to new firm births: PSED I (From Reynolds 2007b, Table 6.1)

Primary factors
Start-up activities related to producing a good or service
Start-up activities to develop a presence for the new firm
Measures of business experience, particularly in the same industry
Start-up activities to create a financial and organizational structure
Start-up team financial commitments
Concentration of resources (time, money) and speedy completion of start-up activities
Secondary factors
Presence in less urbanized, more rural areas
Personal traits
Internal locus of control
Try to do better, not differently when problems develop
Economic sophistication
Social confidence
Ethnic background (not African-American)

they were less likely to report they had completed the process with a new firm. They were, however, more likely to still be involved in the start-up process. Ethnic background had no relationship to reports that they had discontinued involvement.

A preliminary analysis of the PSED II cohort took advantage of a unique feature of the schedule to explore the level and impact of formal and informal financial support (Reynolds 2008a). Most other analyses have defined informal financial support based on the source of the funds, the infamous family, friends, and fools. In the PSED II interviews, the respondent is asked about the legal status of the nascent venture. Informal financial support is defined as funds provided from all sources prior to the registration of the firm as a legal entity. Formal financial support was considered to be all support to the venture after it became a legal entity. In this assessment, financial support was cumulative, support over all the interviews was added together to develop total amounts.

This assessment was completed using the first two follow-ups at 12 and 24 months, data on outcome status was available for 87% of the original cohort or 1,058 cases. Some cases were deleted as not meeting the criteria of active nascent entrepreneurs leaving 882 for the analysis. About half (50.2%) had reported legal registration of the nascent venture, typically between 8 and 10 months after entry into the start-up process. After the second follow-up interview at 24 months, 9% had reported positive monthly cash flow for 6 months, 65% were still active in the start-up process, and 26% had discontinued.

The relationship of financial support to the outcome status of the nascent ventures is summarized in Table 10.23. The top set of rows present the proportions that report any financial support, the bottom set of rows provides the average values. Almost all, 882, reported some form of informal support and 435 report financial support received after the firm was a legal entity. The average values are not a good representation of the distributions; the vast majority report very low amounts and the averages are heavily influenced by a few nascent ventures with a large amount of funding. Five ventures reported from $3–$17 millions in financial support.

In terms of outcomes, however, the pattern is quite striking. The proportion of new firms and discontinued ventures that report informal support is almost identical

Table 10.23 Formal and informal investments and outcome status: PSED II (From Reynolds 2008a, Tables 10 and 11)

Sources of support	All outcomes	New firm	Active start-up	Discontinue
Percent reporting support				
Informal funds: all sources	87.4%	79.0%	91.3%	80.6%
Formal funds: additional equity	26.6%	22.3%	32.0%	8.4%
Formal funds: total debt	34.5%	39.8%	40.5 %	8.2%
Formal funds: all sources	37.1%	41.3%	41.7%	15.1%
Amount of support (average, $1,000)				
Informal funds: all sources	48.4	42.4	54.5	35.1
Formal funds: additional equity	37.0	29.3	47.3	1.8
Formal funds: total debt	162.4	79.9	219.6	2.4
Formal funds: all sources	199.4	109.1	267.0	4.2

(79% and 81%) and the average amount of informal support is comparable ($42,000 and $35,000). Both the percentage receiving informal support (91%) and the average amount ($54,000) is higher for firms still in the start-up process. There are no major differences among outcome categories related to the informal support.

Formal financial support shows a very different pattern. The percentage of new firms and active start-ups receiving formal support is similar (41% and 42%), although the average amount is somewhat higher for those still in the active start-up status ($267,000 compared to $109,000). But the proportion of nascent ventures that have been discontinued that received formal support (15%) is much lower and the average amount of funds ($4,000) is almost zero.

While this result needs to be confirmed when data from additional PSED II follow-ups is available for analysis, it would suggest that the inability to obtain formal financing may have had a major impact on the decision to discontinue the nascent venture. This may, however, reflect the inability of the start-up team to develop a business idea or plan that others considered to have potential. Nascent teams reporting profits or still in the start-up phase would appear to have a difference experience with external financial sponsors; it may reflect a more promising or better prepared business plan.

10.12 Conclusion

The PSED research program was designed to provide a description of the process of new firm creation that occurred in the United States. The program provides a diverse data set that facilitates scholarly assessment of a wide range of theories and hypotheses. This objective has been facilitated by placing the data sets in the public domain and providing all interview schedules and detailed codebooks to scholars at no charge.[30] These data sets have been widely used in the preparation of dissertations, peer review journal articles, research monographs, and scholarly presentations. There is strong evidence that substantial progress has been made on this objective.

A reliable and representative description of the business creation process in the United States has been the focus of this chapter. The major factors associated with business creation, including the prevalence rates, the types of individuals that get involved, the nature of the new ventures, and other basic features have changed so little in the 5 years between the two PSED cohorts that the two data sets were merged for most of the descriptive analysis. This suggests that new firm creation is a stable feature of the United States economy and a well-established career option for those active in the labor force.

New analysis of the transitions during the start-up window and the outcome of involvement in firm creation suggest that the process takes much longer than was

[30] http://www.psed.isr.umich.edu

generally realized. Well after 6 years, one-quarter of the start-up efforts have not reached a resolution. About two in five had reported a brief period of profitability but about one in four had profits for more than 6 months. About two in five reported disengagement from the activity. Both the length of time required to achieve an outcome and the low proportion with sustained profits are new information about the business creation process; information with substantial implications for both practice and policy development. Additional analysis will help determine those factors associated with the creation of a profitable new firm; analysis based on the PSED I data[31] suggests that the activities undertaken in the creation of a new firm are more important than the social or demographic background of the entrepreneur. It would appear that the inability to obtain formal financial support after the nascent venture is registered as a legal entity is a major factor in the decision to discontinue the start-up effort.

As the only longitudinal study of a representative sample of the business creation process in the United States, the PSED research program is an important source of unique and valuable information for scholarly analysis and policy development.

The PSED data indicate three overall findings that are of some importance both for understanding the process of new business formation and to craft appropriate government policies to promote innovation, productivity, and job growth. The first is that the data uncovered no extraordinary characteristics of the individuals that are engaged in starting new businesses. Nascent entrepreneurs are quite similar to the general population on nearly every social and economic characteristic. They are ordinary people that chose to start a new business. The pervasiveness of the phenomena, business creation pursued by a cross section of the working population, underscores the strong impact of what is done in the start-up process on the outcomes. What is done is more important that who does it. The widespread acceptance of business creation as a career option is related to the strong cultural support of entrepreneurship in the United States.

The second finding is that nascent entrepreneurs invest a considerable amount of time and money in their attempt to start a new business venture. This indicates that they judge the potential benefits more favorability than the inherent risks. This is an essential characteristic for maintaining a vibrant entrepreneurial sector. Given that the risk of failure is high, the rewards for success must also be high. Importantly, most nascent entrepreneurs view existing economic institutions and markets as supportive of their efforts, although more could be done to help nascent entrepreneurs manage the wide range of risks they confront.

Finally, the data provide support for the notion that nascent entrepreneurs play a critical role in the spread of innovation, commercialization of new products, and adoption of new production techniques. While the vast majority of nascent enterprises do not introduce dramatic innovations, most will succeed by updating ordinary products or services or adoption more efficient or cost-effective procedures.

[31] Reynolds (2007b).

References

Dunn T, Holtz-Eakin D (2000) Financial capital, human capital, and the transition to self-employment: Evidence from intergenerational links. J Labor Econ 18(2):282–305

Fairlie RW (2006) Kauffman index of entrepreneurial activity: national report 1996–2005. Ewing Marion Kauffman Foundation, Kansas City, MO

Gartner WB, Jianwen L (2007) Pre-venture planning. Chapter 7 in US Small Business Administration (2007). The small business economy: A report to the President. US Government Printing Office, Washington, DC, pp 213–264

Gartner WB, Shaver KG, Carter NM, Reynolds PD (eds) (2004) Handbook of entrepreneurial dynamics: the process of business creation. Sage, Thousand Oaks, CA

Kim PH, Aldrich HA, Keister LA (2006) Access (not) denied: the impact of financial, human, and cultural capital on entrepreneurial entry in the United States. Small Bus Econ 27:5–22

Le AT (1999) Empirical studies of self-employment. J Econ Surveys 13(4):381–386

Reynolds PD (2000) National panel study of U.S. business startups: background and methodology. In: Katz JA (ed) Advances in entrepreneurship, firm emergence and growth, vol 4. JAI Press, Stamford, CT, pp 153–228

Reynolds PD (2007b) New firm creation in the U.S.: a PSED I overview. Found Trends Entrepreneurship 3(1):1–149

Reynolds PD (2008a) Informal and early formal financial support in the business creation process: exploration with the PSED II Data Set. Kauffman Foundation-Federal Reserve Bank of Cleveland Conference on Entrepreneurial Finance, Cleveland, OH, 12–13 March

Reynolds PD (2008b) Screening item effects in estimating the prevalence of nascent entrepreneurs. Small Bus Econ 33(2):151–163

Reynolds P, Bosma N, Autio E, Hunt S, De Bono N, Servais I, Lopez-Garcia P, Chin N (2005) Global entrepreneurship monitor: data collection design and implementation: 1998–2003. Small Bus Econ 24:205–231

Reynolds PD, Curtin RT (2008) Business creation in the United States: Panel Study of Entrepreneurial Dynamics II first wave results. Found Trends Entrepreneurship 4(3):155–307

Reynolds, PD, Richard TC (2009) Business creation in the United States: entry, startup activities, and the launch of new ventures. Chapter 7 in US small business administration, the small business economy: a report to the President 2008. US Government Printing Office, Washington, DC, pp 165–240

Reynolds PD, Miller B, Maki W (1995) Explaining regional variation in business births and deaths: U.S. 1976–88. Small Bus Econ 7:389–407

Reynolds PD, Storey DJ, Westhead P (1994) Cross-national comparisons of the variation in new firm formation rates. Reg Stud 28(4):443–456

Reynolds PD, White SB (1997) The entrepreneurial process: economic growth, women, and minorities. Greenwood, Westport, CT

Samuelsson M (2004) Creating new ventures: a longitudinal investigation of the nascent venturing process. Doctoral dissertation. Jönköping International Business School, Jönköping, Sweden

Schoonhoven CB, Burton D, Reynolds PD (2009) Reconceiving the gestation window: the consequences of competing definitions of firm conception and birth. Chapter 11. In: Reynolds PD, Curtin RT (eds) New firm creation in the United States. Springer, New York, pp 219–238

Chapter 11
Overview and Commentary

Paul D. Reynolds and Richard T. Curtin

11.1 Introduction

Business creation is a widespread and basic feature of all market economies. Contributions to job creation, new goods and services, a broader range of work opportunities, enhanced productivity, and economic growth benefit all nations and their citizens. The scope, importance, and contributions of business creation suggest there is considerable merit in understanding the major factors affecting the occurrence and outcomes of entrepreneurial activity. There is no question that personal, environmental, cultural, contextual, and institutional factors have an impact on major aspects of the business creation process. The challenge is in determining which factors have what types of impact at each stage of the business life course.

This book provides a description of the business creation process in nine different countries. This coordinated set of national projects reflects a shared research paradigm. The following overview of the results makes it clear that substantial advances have been made; even more progress can be realized with greater harmonization of the major aspects of the data collection efforts.

This chapter reviews selected similarities and differences across countries and illustrates the benefits of precise cross-national comparisons. Examples include the tendency to become involved in business creation, comparisons of the nature of those who are involved, some common activities of the start-up process, and the outcomes of the start-up efforts. It is clear that the process of business creation is complex and multifaceted, as many different factors are involved. As a consequence, a precise understanding of cross-national similarities and differences will require both a more comprehensive theoretical foundation as well as more precise harmonization of the critical measures. While there is nothing more useful than good theory, there is nothing more productive in generating good theory than good data.

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The benefits of precisely harmonized operational definitions are illustrated in an analysis of contextual factors that reflect relatively stable national attributes. The analysis is focused on two stages of the business creation process: the prevalence of nascent enterprises and the establishment of new firms. Different contextual factors appear to have a major impact on the presence of ventures in these two stages of the business life course. But only longitudinal studies of business creation can provide the information on how these contextual factors affect the transition from a start-up venture to a profitable new firm.

The final discussion considers some of the implications of this research for practitioners involved in business creation, policy makers concerned with achieving the benefits of new firm creation, and future research on this complex, fascinating, and important phenomena.

11.2 National Longitudinal Studies of Business Creation

The research procedure utilized by all the various national research projects involved identifying individuals as they enter the business start-up process and following their progress until the future of the nascent enterprises are determined. Does the start-up venture become an operating business or disappear as the participants disengage from efforts to establish a new firm?

The chapters in this book demonstrate, in some detail, the diversity in approaches taken to measuring critical transitions and major features of the business creation process. This diversity reflects several sources of variation in research design decisions among the projects. The first factor was the complexity of the business creation process and the large number of processes available for examination. No project can include measures of all the processes affecting business creation. Given the scarcity of resources for data collection decisions were made about which topics to emphasize. Each national research team developed a slightly different theoretical and policy focus selected from a wide range of factors associated with business creation. Each project, then, collected data on a distinct but overlapping set of processes.

These variations were the greatest among the first set of five projects, including the Canadian, first Netherlands, Norwegian, Swedish, and first US project [PSED I]. All of these projects were implemented by research teams affiliated with the Entrepreneurial Research Consortium [ERC] and all completed their initial screening for nascent cohorts between 1996 and 2000. As discussed in the introduction and illustrated in Table 1.3, there were variations in the screening items and criterion used to select nascent entrepreneurs. There was even greater variation in the content and diversity of other features, the nature and extent of the initial detailed interviews, the timing and number of follow-up interviews, the criteria used to determine the status of the nascent venture in the follow-up interviews, as well as the information obtained about progress of the venture in the follow-up interviews.

There was greater harmonization among the second set of projects. The Australian CAUSEE, China PSED, Latvian PSED, and the US PSED II shared major modules for the detailed interviews, although each project had distinctive features. The German GE-PANE, Latvian PSED, and second Netherlands effort selected nascent cohorts based on the standardized Global Entrepreneurship Monitor [GEM] interview schedules, which was similar to the screening procedures and criteria used in the Australian CAUSEE, China PSED, and US PSED II projects. The GEM-based projects, however, had the advantage of a short but standardized set of items obtained from nascent entrepreneurs and firm owner-managers (Reynolds et al. 2005).

11.3 Selected Empirical Patterns

There are two strategies for summarizing the results across a range of projects with a common focus. One is to consolidate the general results across different studies, often reflected in counts and types of variables found significant, or not significant, in predicting results. Two very useful assessments of the business creation process have followed this approach (Davidsson 2006; Davidson and Gordon 2009). It has the advantage of allowing a wide range of procedures, many using different theoretical orientations, research procedures, and measure of critical events to be compared and summarized. It is the strategy used later in this chapter to review factors affecting a new firm birth, represented in Table 11.11.

The alternative procedure that will be used in this section is to present precise comparisons by focusing on projects using similar or identical operational definitions. This minimizes ambiguity about the similarity of operational procedures used to obtain the data and increases confidence in the resulting comparisons. This will be accomplished by focusing on a selected set of topics that have been pursued in similar ways in different national studies.

The major patterns across the different national projects can be considered in terms of several basic features, including the prevalence of nascent entrepreneurs, the personal characteristics of nascent entrepreneurs, selected features of the start-up effort, as well as the reported outcomes.

11.3.1 Prevalence of Nascent Entrepreneurs

The prevalence rates reported for different countries in the various chapters are summarized in Table 11.1.

Although there is a more than fivefold difference in the prevalence rates of nascent entrepreneurs from 1.1 to 6.0 persons per 100 in Table 11.1, this is nonetheless a relatively narrow range compared with a more comprehensive list of nations. A much wider range of nascent entrepreneur prevalence rates is found among

Table 11.1 Comparison of nascent entrepreneur prevalence rates

	Screening years	Prevalence (#/100)	Table/source
Australia	2007	3.4	2.2
Canada	2000	1.1	3.5
China	2009	4.6	4.4
Germany	2006–2009[a]	2.2	5.3
Latvia	2007[a]	4.0	6.3 (5 year avg)
Netherlands	1998	2.5	7.3
Netherlands	2001–2009[a]	2.6	7.3 (9 year avg)
Norway	1996	3.4	8.3
Sweden	1998–2000	3.2	9.2 (2% interviewed)
United States	1998–2000	5.6	Text, Chapter 10
United States	2005–2006	6.0	Text, Chapter 10

[a]Based on GEM national assessment screening interviews

76 countries in the GEM research program; from six countries with a prevalence less than 2.0 per 100 (Taiwan, Japan, Puerto Rico, Belgium, Sweden, and Russia) to three with prevalence rates of 20.0 per 100 or higher (Angola, Peru, Yemen) a tenfold difference (Bosma and Levie 2010; Reynolds 2010). The highest levels of activity are found in the developing economies, not represented among the projects reviewed in this volume.

The procedures underlying the estimates of prevalence rates in the panel studies summarized in this book were conceptually harmonized but with some operational variations. As discussed in the introduction and presented in Table 1.3, there was some variation in the questionnaire items used in the initial screening to locate nascent entrepreneurs. In particular, the screening items in all projects, except Canada, asked about the start-up activity of the respondent; the Canadian procedure asked about all the adults in the household. This may be related to the unusually low prevalence rates for the Canadian sample. The Chinese sample was restricted to residents of urban areas, excluding those in rural areas, and the screening items were slightly different from other recent panel studies or the GEM protocol, affecting prevalence rates. The narrow range of prevalence rates may reflect the fact that five of the nine countries were developed economies in Northern Europe.

There was also some variation in the age range associated with the sample. The GEM interviews were the basis for identifying nascent entrepreneurs in Germany, Latvia, and for the second Netherlands project. To facilitate international comparisons, these GEM screenings were restricted to those 18–64 years of age. Other panel studies, in an effort to maximize the number of nascent entrepreneurs while minimizing screening costs, employed a wider age span. If screening includes those over 64 years of age, the prevalence rates would have been slightly lower, reflecting the low levels of participation in business creation among those over 64 years old.

11.3.2 Personal Characteristics of Nascent Entrepreneurs

The proportion of men and women in the nascent entrepreneur cohorts is summarized across eight countries in Table 11.2. The major sources of data are the previous chapters in this book, but in this and subsequent comparisons other analyses using the same data sets are utilized when appropriate. There was no difference in the two US samples so they have been combined for the presentation. The percentage of men varies from 56% to 77%. When the prevalence rate is computed separately for men and women, men are generally twice as likely to become involved in business creation as women. Perhaps most ironic is that the proportion of women in the nascent entrepreneur populations is the lowest in the Scandinavian countries, where participation by women in the labor force is among the highest in the world.

The proportion of nascent entrepreneurs of different ages is presented in Table 11.3 for seven countries. As mentioned above, there is some variation in the upper-age range, with some countries including only those 55–64 years old and others including those above 64 years of age. Again, the lack of difference in the two US cohorts led to their combination. There is considerable similarity among countries, with over 50% in every country between the ages of 25 and 44 years of age. There is some variation among the proportion 18–24 years of age, which is relatively low in Australia and the Netherlands and unusually high in China. China may be a special case as the proportion over 45 years of age is also unusually low. This may reflect the urban sample in China, where there may be a lot of young in-migrants from the rural regions (Economist 2010), as well as a cohort effect; older Chinese started their work careers in a highly structured, centralized economy and may be uncertain about how to pursue business creation in a market economy.

Despite some variations in operational procedures, there is considerable similarity among countries in participation in business creation. About two-thirds of nascent entrepreneurs are men and one-third women. Across these seven countries, about 57% are between 25 and 44 years of age, 16% are 18–24 years of age, and

Table 11.2 Proportion of nascent entrepreneurs by gender

	Screening years	Male	Female	Table/source
Australia	2007	55.8%	44.2%	2.3
Canada	2000	66.9%	33.1%	3.7
China	2009	67.8%	32.2%	4.5
Latvia	2007	67.8%	32.2%	6.4 (3 year avg)
Netherlands	1998	74.0%	26.0%	[a]
Norway	1996	76.9%	23.1%	8.3 (Estimated)
Sweden	1998–2000	71.4%	28.6%	9.5
United States	1998–2000, 2005–2006	62.1%	37.9%	10.5

[a]Gelderen et al. (2005), Table 1

Table 11.3 Proportion of nascent entrepreneurs by age

	Screening years	18–24 years	25–34 years	35–44 years	45–54 years	55–64 years	55-up years	Table/source
Australia	2007	6.3%	23.7%	30.6%	24.1%		15.3%	[a]
Canada	2000	12.9%	29.2%	30.3%	19.6%		8.1%	3.7
China	2009	27.6%	43.7%	17.3%	8.0%	3.4%		4.5
Latvia	2007*	20.1%	38.6%	23.5%	14.4%	3.3%		6.4 (3 year avg)
Netherlands	1998	7.0%	41.0%	35.0%	14.0%	3.0%		[b]
Sweden	1998–2000	14.6%	43.2%	28.9%	8.8%		4.5%	[c]
United States	1998–2000, 2005–2006	12.2%	29.1%	28.0%	20.3%		10.3%	10.5

[a] Davidsson and Reynolds (2009), Table 13.3
[b] Gelderen et al. (2005), Table 1
[c] Delmar and Davidsson (2000), Table 4
* Based on GEM national assessment screening interviews.

the remainder, 27%, over 44 years of age. Participation in business creation is remarkably uniform among these countries.

Whether considering the gender or age of those involved in business creation, it is clear that all segments of society are involved.

11.3.3 Motivation to Start a Nascent Enterprise

The contextual motivation of the nascent entrepreneurs reflects judgment regarding their basic rationale for pursuing the start-up. A comparison of six samples in five countries is presented in Table 11.4. The majority in all countries report that the voluntary pursuit of a promising business opportunity is the major reason they are involved. Except for Germany, where it is almost one third, less than one in five report they were involved because they cannot find suitable work. A broader assessment finds that up to half of the nascent entrepreneurs in developing countries of Africa, Asia, Latin America, and the Middle East report necessity as the primary motivation (Bosma and Levie 2010). In contrast, the high proportion of opportunity motivated nascent entrepreneurs included in this book reflects, once again, the high levels of economic development of the countries for which longitudinal studies have been developed.

Table 11.4 Contextual motivation

	Screening years	Opportunity	Have job and seek opportunity	Both	Necessity	Table/source
Australia	2007	75.8%	3.4%	14.1%	8.8%	2.4
Germany	2006–2009*	68.3%			31.7%	5.3
Latvia	2007*	53.0%	21.0%	8.0%	18.0%	[a]
Netherlands	1998	81.0%			19.0%	[b]
Netherlands	2001–2009*	85.8%			14.2%	5.3
United States	2005–2006	82.3%	0.3%	3.9%	13.5%	10.10

[a] Baltrasaityte-Axelson et al. (2008), Figure 22

[b] Gelderen et al. (2005), Table 1, reporting push motivation, yes or no

[*] Based on GEM national assessment screening interviews

11.3.4 Nature of the Nascent Enterprises

Several aspects of the nascent enterprises can be compared. The size of the start-up team, those that are active in implementing the new firm and expect to own part of the venture, are presented for seven samples from six countries in Table 11.5. Except for Sweden, where 44% are one-person start-ups, half or more of the nascent entrepreneurs are in one owner start-ups. Some of these, however, may be joint efforts of a married couple even though the venture was legally owned by one person.

Table 11.5 Start-up team size

	Screening years	One person	Two or more	Table/source
Australia	2007	50.9%	49.1%	2.4
Canada	2000	56.0%	44.0%	3.9
Latvia	2007*	58.0%	42.0%	[a]
Netherlands	1998	63.0%	37.0%	[b]
Netherlands	2007–2008	58.0%	42.0%	7.8
Sweden	1998–2000	43.5%	56.5%	9.12
United States	1998–2000, 2005–2006	50.0%	50.0%	10.5

[a] Baltrasaityte-Axelson et al. (2008), Figure 13
[b] Gelderen et al. (2005), Table 1
[*] Based on GEM national assessment screening interviews

The industry sectors in which the nascent ventures will operate are presented in Table 11.6. Four of the seven countries (Australia, Germany, Netherlands in 2001–2009, and the United States) have used a common summary coding scheme to present this information. Extractive refers to all agriculture, hunting, finishing, and mining. Transformative involves any change in a physical good, such as manufacturing, construction, utilities, or transportation or storage. Business services refer to sectors where the primary customer is another business, such as consulting, financial services, and business professionals (lawyers, accountants). Consumer oriented businesses involves activity where the primary customer is a private citizen, such as restaurants,

Table 11.6 Start-up economic sector: cross-national comparisons

	AU	CH	DE	LV	NL II	SE	US
Table/source	[a]	4.8	5.6	6.5	7.6	9.8	[a]
Extractive	6%		5%		2%		3%
Transformative	22%		12%		12%		24%
Business service	26%		36%		36%		30%
Consumer oriented	45%		48%		50%		43%
Agriculture, mining		2%		1%		3%	
Manufacturing		7%		4%		10%	
Utilities				1%			
Construction				19%		5%	
Wholesale, retail		41%		17%			
Transport, storage				10%		3%	
Food, lodging		16%		5%		18%	
Communication, information Tech		2%		4%		14%	
Banks, finance		1%		1%			
Real estate		4%		4%			
Business, consumer services		16%		20%		47%	
Others		12%		15%			

[a] Davidsson and Reynolds (2009), Table 13.7

bars, and lodging; repair services; health, education, and social services; entertainment; recreation; as well as arts and entertainment. Unfortunately, other national projects (China, Latvia, and Sweden) used a coding system that cannot be accurately summarized using the more compact coding categories.

When comparisons are made between the sector distributions of nascent firms and firms established in the country, the patterns are generally quite similar (see Table 6.5 for Latvia and Table 10.11 for the USA). This reflects, more than anything else, the tendency of individuals who are working to establish new firms similar to those where they had prior work experience. As a result, differences in the distribution of nascent enterprises across countries should reflect the differences in distribution of established enterprises across countries.

Perhaps the most significant pattern is the presence of nascent ventures in all sectors of the economies in all countries.

11.3.5 Features of the Firm Creation Process

Several features of the firm creation process can be compared across these different countries, including growth aspirations, origin of the business idea, and the number of start-up activities reported in the initial interview.

Growth aspirations are based on a single interview item that asks if the nascent entrepreneur wants the new venture to grow as much as possible or maintain a size that is comfortable to manage. Responses for six countries are presented in Table 11.7; for Latvia and the United States, the results are also available by gender.

Table 11.7 Growth aspirations

	Screening years	Size comfortable to manage	Maximize growth	Table/source
Australia	2007	74.1%	25.1%	2.4
China	2009	57.9%	41.1%	4.8
Latvia: Men	2007*	54.0%	46.0%	[a]
Latvia: Women	2007*	60.0%	40.0%	[a]
Netherlands	1998	81.0%	19.0%	[b]
Sweden	1998–2000	73.8%	22.3%	9.10
United States: Men	1998–2000, 2005–2006	75.2%	24.8%	10.10
United States: Women	1998–2000, 2005–2006	82.6%	17.4%	10.10

[a] Baltrasaityte-Axelson et al. (2008), Figure 28

[b] Gelderen et al. (2005), Table 1, Choice to grow large or stay small

* Based on GEM national assessment screening interviews

The majority report a preference for keeping the size to a level that is easy to manage. The differences among countries may reflect different interpretations of the meaning of a "size comfortable to manage" or "maximize growth." In two countries where language use would be uniform for both genders, Latvia and the United States, women are less growth-oriented than men.

The origin of the idea to start a business has been a major topic for discussion. There has been considerable speculation over whether the desire to be an entrepreneur, or a small business owner, might lead to a search for a promising business opportunity or if those active in the work force first developed or discovered a business opportunity and then become involved in business creation (Bhave 1994). When active nascent entrepreneurs were asked about the source of their business idea, it would appear that both sequences were common as well as the simultaneous occurrence of the business idea and the intention to start a new business. This was indicated in the comparisons across for samples in three countries in Table 11.8. It is possible that the procedures followed to implement a new firm may differ for those that enter the process with different orientations. Those that first elected to pursue entrepreneurship would be expected to spend some time developing an attractive business idea. Those that start with a business idea could be expected to start with a focus on assembling the resources and implement the new venture.

One of the more complex and demanding data collection activities is gathering information on which start-up activities have been initiated, the nature of the progress on selected activities, and the dates at which these activities had occurred. While there have been some efforts to use harmonized lists of activities, the unique features of different national contexts, the high cost of the interview time devoted to start-up activities, as well as variation in the research objectives among the different projects has led to some diversity among projects in terms of the activities included in their start-up inventory.

A summary of the activities and responses for eight samples in seven countries is provided in Table 11.9. The number of start-up activities included in interview schedules has varied from 14 to 41. Some of these activities would lead to the new venture's inclusion in a business register. These activities would include complying with national requirements to license or register the nascent venture, providing an initial tax payment related to employees' social security or the firm's annual income, or perhaps the inclusion in a commercial credit rating database. Knowing the dates at which various events were initiated is extremely valuable for describing and understanding the start-up process. It is, however, an additional expense and the analysis can be complex. As a result, dates of initiation of start-up activities were not part of all research designs.

As can be seen in Table 11.9, from one quarter to one half of the start-up activities are mentioned as having been initiated by the first interview. These proportions are higher when there is a shorter list of activities; longer lists of start-up activities often include things that are relevant to a smaller proportion of business

Table 11.8 Origin of business idea/entrepreneurial interest

	Screening years	Business idea first then entrepreneurial intentions	Idea and intentions simultaneous	Entrepreneurial intentions first then business idea	Table/source
Australia	2007	47.7%	35.6%	16.7%	[a]
Latvia	2007*	45.9%	35.7%	18.4%	[b]
United States	1998–2000	36.9%	21.0%	42.1%	[c]
United States	2005–2006	38.0%	49.3%	12.7%	[a]

[a] Davidsson and Reynolds (2009), Table 13.4, phone interviews
[b] Baltrasaityte-Axelson et al. (2008), Figure 10
[c] Hills and Singh (2004), Table 24.1, mail questionnaire completed by 472 of 669 respondents
[*] Based on GEM national assessment screening interviews

Table 11.9 Start-up activities: cross-national comparisons

	Screening years	Number of start-up activities assessed	Measures of firm registration [a]	Date of initiation obtained	Average reported 1st interview (count)	Percent all activities reported in 1st interview (%)	Table/source
Australia	2007	41	4	Yes	17.9	43.6	2.2
Canada	2000	21	1	No	10.1	48.1	3.12[b]
China	2009	16	0	Yes	5.6	35.0	4.7
Latvia	2007	14	1	Some	7.7	55.0	Text
Norway	1996	19	–	Yes	8.4	44.0	[c]
Sweden	1998–2000	22	2	No	8.8	39.8	9.15[d]
United States	1998–2000	26	4	Yes	7.2	27.7	10.16[e]
United States	2005–2006	34	6	Yes	8.8	25.9	10.16[e]

[a] Included in total count of all start-up activities

[b] Includes activities reported initial and first two follow-up interviews; assumes 148 respondents and 21 distinct activities as listed in Table 3.12

[c] Alsos and Ljunggren (1998), Table 2 used to compute average reported by 1st interview

[d] Average and percentage based on 22 activities listed in Table 9.15

[e] Does not include "serious thought" about the new firm

start-ups, like efforts to obtain intellectual property rights (patents, trademarks, copyrights, etc.).

11.4 Start-Up Process Outcomes

Only recently have the various longitudinal studies completed enough follow-up interviews to allow for comparisons of the outcome of the business start-up process. An initial effort is presented in Table 11.10. As the Chinese PSED project has not completed the first follow-up by the end of 2009, no data on outcomes are available for this comparison. Each panel study is presented in terms of the longest period until the last available follow-up was completed; they are rank ordered by follow-up interval in Table 11.10.

Focusing on the proportion of those that reported a new firm, it is clear that there is substantial variation across countries. For example, in four different studies where the latest report is based on data collected in a 1-year follow-up, the proportion reporting a new firm in place varies from 12% to 66%. For the three projects providing data 6 years after the first interview or entry into the start-up process, the proportion reporting new firms varies from 18% to 41%. Germany and the Netherlands report a proportion of new firm births (42% and 66%) 1 year after the initial interview that is equal to or higher than two US projects report 6 years after entry into the start-up process (42% and 27%).

There are many possible sources for these differences. Perhaps most important is the diverse criteria for determining a new firm birth, summarized in Table 1.6. The most widely used criterion was to accept the nascent entrepreneur's judgment that the start-up venture had become an "operating business" or "established and operating." This variation may be exacerbated by variations associated with concepts and connotations in different languages. In one case, Sweden, the respondent must report that money was invested, income received, and the firm is registered with the government authorities; reports of profits were not required. A more precise criterion has been used with three panels. The Australian CAUSEE and the US PSED I and II projects used reports of initial profits as indicators of a firm birth, although the period of profitability varied from 3 to 6 months. This would seem to account for the low proportion of nascent ventures considered new firms in these three panels. The low proportion of the CAUSEE panel reporting initial profits in the 12 month follow-up interview, 12%, is identical to the proportion of the US PSED II panel, also 12%, reporting initial profits in the 12 month follow-up interview (Schoonhoven et al. 2009).

A second issue is the computation of the time lag, which reflects procedures for determining the date used as the beginning of the start-up process. The most frequently used measure, as reflected in the outcome presentations, was to "start the clock" with the first detailed interview. However, most respondents have been

Table 11.10 Start-up process outcomes: cross-national comparisons

	Screening years	Initial time marker	Time to outcome	Criteria for new firm birth	New firms (%)	Discontinued (%)	Active start-ups (%)	N cases	Table/source
Australia	2007	1st interview	1 year	6 months profits	11.8	28.2	60.0	493	[a]
Latvia	2007	1st interview	1 year	Respondent report	27.2	18.0	54.8	261	6.2
Germany	2006–2009	1st interview	1 year	Respondent report	42.0	31.0	26.0	156	5.9
Netherlands	2006–2007	1st interview	1 year	Respondent report	66.3	11.6	22.1	137	7.4
Netherlands	1998	1st interview	3 years	Respondent report	46.1	27.8	26.0	414	[b]
Norway	1996	1st interview	3 years	Respondent report	45.9	25.0	29.1	148	8.5
Canada	2000	1st interview	4 years	Respondent report	24.0	65.0	11.0	132	3.14
Sweden	1998–2000	1st interview	1 years	Respondent report	34.0			623	9.3 [c]
Sweden	1998–2000	1st interview	3 years	Respondent report	29.0			623	9.3 [c]
Sweden	1998–2000	1st interview	6 years	Respondent report	18.0			623	9.3 [c]
United States	1998–2000	Began start-up	6 years	3 months profits	40.6	37.7	21.7	695	10.4 [d]
United States	2005–2006	Began start-up	6 years	6 months profits	27.2	44.5	28.4	1,185	10.4 [d]

[a] See text in Chapter 2, criteria of initial profits adopted for new firm birth; 16 cases terminated after birth considered new firm starts

[b] Van Gelderen et al. (2010), Table 2. Active start-ups refers to last known status from prior follow-up interviews, none contacted for the 3-year follow-up reported they were still active in the start-up process

[c] New firm includes only those cases of new firm births that did not discontinue after a period of operations

[d] Once a start up reports initial profitability, it is considered a firm birth regardless of later changes in status, such as a discontinued firm

involved in the start-up initiative well before they were identified in the screening interviews. The time lag from start-up entry to first interview can vary from weeks to years, more than 10 years in some cases. This has led to creation of a procedure that identifies the date when efforts to implement a new firm exceeded a minimal threshold.

One version of an alternative procedure, applied to the two US data sets, is discussed in Chapter 10. It requires that the date of initiation of all start-up activities be available for analysis. The date of entry into the start-up process is defined as the earlier of the first two start-up activities that occur within 12 months of each other. Other analyses have been based on the date of the first serious thought or the date of the first activity.

There is a third issue, the treatment of cases in different statuses in the follow-up interviews. In most projects, those nascent entrepreneurs that report they have disengaged from the process, or quit, are not contacted for additional follow-ups interviews. However, if the nascent venture meets the criteria for a new firm birth, they are usually contacted for the next follow-up interview. If, in subsequent interviews, the new firm owner reports that the operational new firm has been terminated, the case may be reclassified as an abandoned or terminated start-up. This procedure appears to have been followed with the follow-ups in the Swedish PSED, presented in Table 11.10, and accounts for the declining percentage of new firms in the Swedish cohort over the interviews, 34% after 1 year and 18% after 6 years.

But once a start-up venture has met the criteria for a new firm birth, post firm birth disengagements can be considered a new firm termination, rather than an unsuccessful nascent enterprise. The assessments of the outcomes of the two US samples, PSED I and PSED II, used this approach. The differences in the proportion of new firms in the US PSED I and US PSED II in Table 11.10 is accounted for by the use of a 3 versus 6 month period of initial profitability as an indicator of a new firm birth.

Even given these reservations, there are some major differences between the first year results for northern European countries and the 6 year results for the United States PSED I and II cohorts. This may reflect differences in the contextual factors that influence the start-up process, as it may be harder to achieve profitability in the United States. Alternatively, it may indicate that a larger proportion of nascent entrepreneurs in the United States were not as well prepared for business creation. Indeed, the higher level of social stigma associated with a start-up termination in some countries would discourage those that are not well prepared or well financed from becoming involved in a start-up venture. Nascent entrepreneurs in northern Europe may be better prepared, have more secure access to financial support, and are more committed to completing the start-up process with a new firm than nascent entrepreneurs in the USA.

While this assessment is useful, more precise cross-national comparisons will require more careful efforts to harmonize the operational criteria used to establish dates of entry into the start-up process and determining a new firm birth.

11.4.1 Factors Associated with Outcomes

A primary objective of these panel study projects is to determine which factors are associated with the creation of an operating new firm. Factors associated with new firm births from the various studies in this book are presented in Table 11.11. They distinguish the start-ups that become new firms from those discontinued or still in the start-up process. Because the projects are in different stages of development, the comparisons are not at the same points in time as presented in Table 11.10. In particular, the Swedish assessment is based on follow-ups 18 months after the initial interview. There is considerable variation in the length of time the cohorts have been tracked, from 1 year for the Australian CAUSEE cohort, to 6 years from conception for US PSED I and II. Given this diversity, this overview should be considered a preliminary assessment.

All assessments of factors affecting the outcomes of start-up efforts have confronted a major complication. The business creation process is quite complex and reflects the presence and interaction of a wide range of factors. While the large screening samples have provided opportunities to explore the relative impact of different factors affecting entry into the start-up process with some precision, the low prevalence rates has led to relatively small samples of nascent entrepreneurs and nascent ventures. The dilemma for assessing the relative impact of various factors on the start-up process outcomes is one of an excess of independent variables and a shortage of cases.

The analysis has been dominated by considering the impact of individual variables taken one at a time; an assessment of the outcome status for the 648 cases of the PSED I cohort, for example, involved examination of over 130 independent variables (Reynolds 2007). While this strategy allows testing the potential statistical significance of each variable, it does not permit the determination of the relative impact or potential interaction effects. An alternative strategy has been to develop a multivariate analysis using a small number of independent variables to test the impact of a single process or a theoretical perspective; these efforts have been well summarized in a recent review (Davidsson and Scott 2009).

An example of the complexity of the problem is illustrated by an attempt to summarize the results associated with the projects in this book, as presented in Table 11.11. Factors reported as having a statistically significant impact are indicated with an "X" entry. These independent variables are organized into five categories, reflecting different aspects affecting the business creation process. Note that most factors proved significant for only one country, although not every specific factors was included in all countries. Nonetheless, for each broad grouping of factors, some elements were significant in several countries.

Perhaps because it is easy to gather information on personal background and experience, this area has received a lot of attention. As seen in the top set of rows in Table 11.11, in six assessments more business experience or experience with start-ups has been associated with creating a new firm; only the Canadian analysis indicated that those with no prior start-up experience were more successful.

Two projects, Australia and Sweden, have found that a broader range of social contacts, particularly in the business world, was associated with new firm births. Three assessments have found that economic, financial, or tax system sophistication was associated with more firm births. Four assessments have found that more education was associated with more firm births, although in the German-Netherlands assessment those with intermediate educational attainment were the most likely to report a new firm birth.

A number of personal attributes have been found associated with firm births in several studies, mostly Canada and the United States. A preference for responding to problems by doing things better, not differently, was found to be associated with more firm births in two assessments. The rest are largely from a single project (Canada). A preference for a comfortable sized firm; perception that their problem solving style was a good match for the problems encountered in a start-up; a preference for high-risk, high-payoff ventures; confidence in social settings; and an internal locus of control were all associated with more new firm births. The results are mixed with regards to motivation related to opportunity. One study finds a response to opportunity is more likely to lead to a new firm, another that those reporting a mix of both opportunity and necessity are the most likely to report a new firm. In the US analysis, African-Americans were much more likely to be involved as a nascent entrepreneur, but less likely to complete the process with a new firm; they were, however, more likely, to continue active work on the start-up (Reynolds 2007). Ethnic background was unrelated to the proportion that had disengaged.

In terms of the nature of the start-up business, those in sectors requiring less financial investments or in manufacturing were more likely to result in a firm birth. As new manufacturing firms usually require substantial financial investments, these start-up efforts may have a number of positive features, such as an experience and focused start-up team that overcome this disadvantage.

Several analyses suggest that more activity during the start-up process itself is associated with more firm births. This would include greater financial investments by the start-up team as well as full time work activity. The start-up activities that involve organizing the firm itself, the production processes, the management structure, and the financial system, as well as developing a presence for the new venture in external communities seem to be most relevant. One analysis has suggested that a willingness to be flexible with regards to the business plan is also associated with favorable outcomes. A preliminary analysis of the US PSED II cohort indicates that nascent ventures that become new firms report much greater formal financial support following the registration as a legal entity (Reynolds 2008).

There is some evidence of a contextual effect, those nascent ventures entering markets considered to be low risk, in nonurban or rural areas, or in regions with low unemployment seem to be more likely to become new firms.

What is not evident from this assessment is the large number of factors, variables, or processes that have been examined and have no statistically significant relationship to completing the start-up process with a new firm. A wide range of

Table 11.11 Factors associated with new firm creation

Source [Chapter]	AU 2	CA 3	DE 5	LV 6	NL 7	DE-NL 7	NO 8	SE [a]	US 10
Background, experience									
Prior business, industry experience	X					X			
Industry experience				X					
Business experience in industry									X
Entrepreneurial experience							X		
Previous start-up experience								X	
No start up experience		X							
Business contacts in region	X								
Useful social networks						(–)		X	
Economic sophistication									X
Knows others starting businesses						X			
Self perception as specialist, not generalist						X			
Financial management capability		X							
Knowledge of the tax system				X					
Start-up classes or workshops		X							
More human capital qualifications			X						
Education				X				X	
Intermediate educational attainment						X		X	
Personal attributes, orientation									
Perceives good business opportunities						X			
Prefer doing things better, not different		X							X
Prefer comfortable size, not growth		X							
Good match of problem solving style and start-up problems		X							
High risk, high payoff business preferred to lower risk, modest payoff business		X							
Opportunity versus necessity motivation			X			Both			

Social confidence						X
Internal locus of control						X
Not African American						X
Nature of business						
One person versus team				X		
Less start-up capital			X			
In manufacturing sector			X			
Start-up processes						
Little use of former employer resources				X		
Action, doing start-up activities	X					
Direct investment of time, money	X					
Team financial commitment						X
Formal financial support to legal entity						X
Work full time on start-up			X			
Concentrated focus of effort						X
Start-up acts: connection (organizing)		X				
Start-up acts: control (external contacts)		X				
Start-up acts: production						X
Start-up acts: market presence						X
Start-up acts: mgt and financial structure						X
Willingness to adapt business plan	X					
Context						
Less risk in market			X			
Low unemployment in region					X	
Low per capita income in region					X	
Nonurban (rural) location						X

[a]Samuelsson and Davidsson (2009), based on three follow-ups through first 18 months

personal attitudes, perceptions, and characteristics have been examined, and very few seem to be associated with a successful firm birth. Two, however, deserve special attention.

Every project has considered the impact of gender on entry into the start-up process and completion with a new firm birth. Despite the strong impact of gender on the participation in the start-up process, not a single assessment has found gender significant in predicting which nascent ventures will become new firms. Once women get involved in the start-up process, they are just as successful, or unsuccessful, as men.

Perhaps most dramatic, and distracting for professors, is the lack of relationship between the presence or type of business planning and the outcomes of the start-up process. Despite repeated analysis and revisions of interview schedules to gather more precise information about formalized business planning, there is no evidence that it facilitates the birth of new firms. This may reflect two types of influences. First, many of the nascent ventures are relatively straightforward, one-person businesses doing a traditional activity, like carpentry or home-based child care. If a business is not complicated and the entrepreneur has a lot of experience, formal business planning may just be a distraction. Many simple businesses may reach initial profitability without a written business plan.

Second, one of the key features of a formal business plan is organizing and explicating the issues that need to be resolved for a successful firm. This may assist teams working on complicated nascent ventures to determine whether the initiative is viable. A formal business plan may facilitate a timely decision to discontinue or seek outside financing. In this case, business planning may serve a valuable purpose, as it can reduce the time and cost of a decision that the nascent venture is not viable or increase the likelihood of a successful initiative.

This does not suggest that business planning is irrelevant to the start-up process. Business planning may provide a valuable contribution in helping to identify critical issues and provide greater confidence in the decision about the outcome, whether an increased commitment to the start-up effort or disengagement from the start-up initiative.

The best available evidence suggests that two major factors facilitate completing the start-up process with a new firm. The first is business experience, particularly in the market or sector where the new firm will compete, and some level of sophistication about economic and financial matters. The second is actually doing things to implement a new firm, an emphasis on getting the business organized and developing a public presence for the firm among customers, suppliers, financial institutions, and so forth. This would reflect a major commitment of time and funds from the start-up team. And doing things quickly seems to have some positive effect.

Other factors may have a secondary impact. Various personal attributes may facilitate successful outcomes, but the impact of these factors is difficult to determine. It may also help to launch the firm in a low-risk market or region with little competition, but these may be unique to different types of business activity.

11.5 The Impact of National Context

Other research programs have explored factors affecting the prevalence of new firms by focusing on variations across geographic regions. Variation in the number or type of business creation is then considered a reaction to variation in the features of the geographic regions. If these measures are standardized across regions and over time, some inferences about causal impacts may be justified.

Such a strategy is easiest to employ within a single country, which may be divided into subnational geographic regions (such as states, labor market areas, administrative districts, or counties). If standardized measures of the business creation process are available across regions, they can be compared in terms of factors affecting stages of business creation. One early cross-national assessment involved seven countries (Reynolds et al. 1994).[1] This effort involved harmonizing the analysis within each country, although each was based on a different operational definition of the prevalence of new firms. While there was consistency on the independent variables used in the regression models, the measures were different for every country. The number of national regions varied from 64 to 382. Models using firm birth rates based on the human population explained an average of 78% of the variation; models predicting firm birth rates based on the business population explained an average of 65% of the variation. The significant factors were quite consistent across the models, with contributions from regional measures of demand growth, urbanization, levels of unemployment (but not in the US), household wealth, and the proportion of small firms in the region. Several analyses have been completed within the United States using this strategy with similar results (Reynolds et al. 1995; Armington and Acs 2002).

While comparisons of regions within countries takes advantage of standardized data collected by national governments, the major disadvantage is the lack of variation in many important contextual factors. The legal traditions, financial institutions, educational systems, employment contracts, cultural and social values, and political structures do not vary much within most countries. There may be some regional variation in the economic sectors, immigration patterns, or economic growth, but it is generally not large. Most variation in business creation within countries is related to urban – rural variations.

Analyses based on cross-national variations reflect a different set of opportunities and challenges. There is, on one hand, considerable variation in institutional and contextual factors among countries. There has been considerable progress, in the last several decades, on developing standardized measures of many national characteristics. The major lacuna has been in developing harmonized measures of business creation activity. Some efforts have been made to harmonize national administrative registries to facilitate cross-national compari-

[1] This special issue of Regional Studies (28:4) includes seven articles representing the harmonized analyses completed in France, Germany, Italy, Northern Ireland, Sweden, the United Kingdom, and the United States.

sons by the World Bank (Klapper et al. 2007), the International Finance Corporation (Kozak 2007), and a joint OECD-Eurostat initiative (Eurostat 2007; OECD 2008). But while it may be possible to develop harmonized censuses of large, established businesses, the tracking of new, micro, small, and medium businesses is more problematic. Each national administrative registry uses a different set of criteria for adding new firms to their registry, often doing this at different stages of the business creation process, and at different costs to the individual applicants.

There is also ambiguity over the relationship between a registry listing and the presence of an operational new firm. One of the major findings from the US PSED program has been the lack of relationship between initial filings in a registry and measures of profitable operation; about 85% of new listings in state unemployment insurance or federal social security files have yet to report initial profits (Schoonhoven et al. 2009). Further, in many cases a listing may represent legal entities created for tax or regulatory advantages, not independent operational businesses.

A final complication is represented by the unit of analysis on which a registry may be based. Some may gather data on all productive units or establishments; many larger firms are made up of multiple establishments. Others may base all records on the entire firm, which may be a single establishment or multiple-establishment business. If a new establishment is added to the registry, it may reflect either a new independent business or an expansion of an existing multi-establishment firm. Without knowing the details of the unit of analysis and how it is defined, it is difficult to know how to interpret comparisons of different national registries.

As a result, confidence in the value of cross-national comparisons of new firms based on administrative records is uncertain. For example, one effort to "count businesses" has indicated that India has 300,000 firms and China has eight million – 27 times as many (Klapper et al. 2007). In contrast, estimates based on the harmonized household surveys of the GEM program estimate over 100 million active firms in each country.

One effort to make progress on this problem has been the Global Entrepreneurship Monitor [GEM] project. Using harmonized surveys of the adult population, the procedure bypasses the problems of lack of harmonization among national administrative registries (Reynolds et al. 2005). The results are estimates of the prevalence of those in the three stages of a firm's life course, nascent entrepreneurs working on business creation, owners and managers of new firms, and owners and managers of established firms. Data on the number of individuals on the start-up or management team, which averages about 1.9 across all countries, makes it possible to develop harmonized estimates of the prevalence of business entities. For example, if there are 1.9 potential owners for each nascent enterprise, then 100 nascent entrepreneurs would represent 53 nascent enterprises.

All GEM data publically available from 2000 to 2009 were combined and used to estimate the prevalence rates of nascent ventures and new firms for

76 countries.[2] The average prevalence of nascent ventures was 3.2 per 100 adults 18–64 years of age, with a range from 0.3 to 12.4. The average prevalence of new firms (reporting profits for 3–42 months) was 3.1 per 100 adults 18–64 years of age, with a range from 0.5 to 12.0. As both distributions were highly skewed toward the lower values, a logarithmic transform was used to create a normal distribution for the regression analysis.

The result of an exploration of national factors affecting the prevalence of business ventures at these two stages of the business creation process is provided in Table 11.12.[3] Using a standardized stepwise regression procedure, the resulting linear additive models account for 59% of the variation in the prevalence of nascent ventures across 75 countries and 61% of variation in the prevalence of new firms across 74 countries.[4] This represents a reasonable level of predictive success.

11.5.1 National Variations in Nascent Enterprises

Variation in the prevalence of nascent enterprises – start-up ventures that have not reported initial profits[5] – is accounted for by five national attributes. Higher prevalence rates of nascent ventures were found in countries with a greater prevalence of informal investors, which were less developed (as indicated by a lower per capita

[2]Data for 1998–2005 was based on a consolidated database (Reynolds and Hechavarria 2007); data for 2006, 2007, and 2008, was taken from various annual GEM Executive summaries; data for 2009 was taken from the summary of the adult population surveys distributed by the GEM coordination team.

[3] Data on traditional versus secular-rational and survival versus self-expressive values taken from Inglehart and Welzel (2005). Data on informal investors in the population based on GEM project data sets from 2000 to 2009. Data on GDP per capita and annual change in GDP per capita from the October 2009 World Economic Outlook data set. Index on ease of registering a business based on data provided in the World Bank Doing Business 2010 report (World Bank, 2009). Data on the proportion of the population with different degrees of educational attainment from Barro and Lee (2000); data on Tonga from 2006 Tonga Statistical Abstracts. Data regarding population growth and percent of population with 25–44 years of age based on the US Census International Data Base. Data on income inequality based on Solt (2009). Data on labor force participation of men and women taken from the World Bank Genderstats data bases for the year 2007 in April 2010. Missing values were replaced by the average value for other countries in the same region: Western Europe, Central and Eastern Europe, North America and Oceana, Asia, Middle East and North Africa, Asia, Latin America and Caribbean, and Sub-Sahara Africa. This was done for Traditional versus secular-rational and survival versus self-expression values for 13 countries, male and female labor force participation for two countries, educational attainment measure for six countries, the prevalence of business angels for six countries (but not Turkey or Angola), and for the GINI index of economic inequality for seven countries. The informal investor prevalence rate for Turkey was taken from Figure 1 of Bygrave and Quill (2007).

[4] The SPSS regression procedure drops cases if missing values on an independent variable will preclude meeting the assumptions for creating linear additive models.

[5]In the GEM interview schedule, firms that have paid salaries and wages to the owner managers are assumed to have reached a minimal level of profitability.

Table 11.12 Cross-national predictions of nascent venture and new firm prevalence

	Nascent ventures	New firms
Explained variance [adjusted R**2]	59%	61%
No. of cases used in final model	75	74
Prevalence of informal investors in the population	0.17	0.22
GDP per capita: 2009	−.60	−.76
Traditional [−] versus secular-rational [+] values	−.38	
Female participation in the labor force: 2007	0.26	
Survival [−] versus self-expressive [+] values	0.21	
Male participation in the labor force: 2007		0.37
Percent adults with secondary school degree		0.26
Legal origin (1 = common law, 0 = civil code)		0.20
Constant	0.26	−1.12

A Log 10 transform was used on both dependent variables to create a normal distribution. Independent variables included 2009 per capita income, average population growth from 1999 to 2009, proportion of population 25–44 year of age, male and female labor force participation, proportion of population with only a secondary degree, index of income equality, legal system origin, index of ease of business registration, and index of traditional versus secular/rational and survival versus self-expressive values. Sources for the data are presented in an endnote

Stepwise regression performed with SPSS V15 with pair-wise deletion, standard defaults. The standardized beta weights are shown in the table columns. Based on ANOVA and a standard F test, all models statistically significant at 0.000

GDP), which had a focus on traditional rather than secular-rational values, which had greater participation by females in the labor force, and which placed an emphasis on self-expressive rather than survival values.

The interpretations of these relationships are relatively straightforward. The prevalence of informal investors would suggest that there is more financial support available in the early stages of the business creation process. Greater potential access to financial support may encourage more individuals to become involved in a new business start-up.

One national factor with a major impact is the level of national development, which is loosely related to GDP per capita. Participation in business creation is two to four times higher in developing countries in Latin America and Asia when compared to advanced economies such as Japan, France, UK, Germany, and much of Western Europe. A large proportion of the difference reflects much higher levels of necessity-based business creation in developing countries. Former UK colonies (Australia, Canada, New Zealand, and the United States) tend to be intermediate in the levels of activity and similar to Western Europe in the proportion of necessity entrepreneurs.

The emphasis on traditional values has a major impact, but reflects a diverse multifaceted orientation (Hechavarria and Reynolds 2009). While an acceptance of the importance of religion and respect for authority have the highest association with a focus on the traditional, other aspects are also highly related to this perspective. These include a strong emphasis on work, particularly by husbands, the importance of the family, a preference for a large number of children, and a

strong sense that parents are responsible for the well-being of their children (Inglehardt and Welzel 2005, Tables 2.1 and 2.3). The respect for authority seems to go somewhat beyond deference for those in positions of influence, but imply that individuals do not consider national governments as a source of solutions to personal problems; they expect to provide their own solutions. This would be consistent with another associated factor, self-reliance associated with a self-report of being politically right-of-center.

While women tend to be less involved in business creation than men, they are a substantial minority of all workers in many countries. Most of those that start new businesses do this while they are working. The more people who are working in a country, the greater the number of potential entrepreneurs. Hence, more women in the labor force increases the number of potential nascent entrepreneurs.

A stronger focus on self-expressive values, reflecting an acceptance of those who value a sense of personal accomplishment, the potential for using their imagination, and personal happiness is generally found in developing countries, those with higher levels of personal income. A focus on survival values tends to reflect those with fewer options that are concerned with a stable source of income and providing for their family (Ingelhardt and Welzel 2005, Tables 2.1 and 2.4). A greater focus on self-determination and personal development appears to lead to more individuals pursing business creation and more nascent enterprises.

11.5.2 National Variations in New Firms

The factors that emerge with a relationship to the presence of newly profitable firms are slightly different. While both the prevalence of informal investors and lower levels of personal income are still important, three other factors are also included in this model: higher levels of participation in the labor force by men, a larger proportion of adults that have completed high school, and a legal system based on the common law philosophy.

More men involved in work may reflect a national context that does not provide support for those not actively involved in a job; these countries may have a modest social safety net. As a result, men in these countries may have a greater commitment to working on their nascent enterprises so they become profitable new firms.

While most new ventures are not complex or technologically focused, those with the basic skills for reading, writing, and arithmetic may be more competent at all phases of the process of creating a profitable new firms. This would include the potential for defining a viable business opportunity to developing and presenting a cogent business plan to a wide range of stakeholders (employees, suppliers, customers, investors, etc.). As the proportion of the population that complete secondary education increases, more individuals may have the basic skills and confidence to complete the start-up process with an operational new firm.

The final factor is more subtle. Recent analyses have suggested that all countries can be considered to have one of two basic legal orientations. The common law

tradition emerged from the resolution of personal disputes in ancient Britain. It is associated with a decentralized decision-making system where national legal standards represent the consolidation of judicial decisions that resolved individual disputes. These precedents are then adopted as the prevailing standard. This is, in a sense, a bottom up strategy for developing national legal standards.

The civil code strategy, attributed to Napoleon who adopted it from the Catholic Church, represents an attempt to centrally define rules, regulations, and procedures so they can be applied in all locations with a minimum of judicial or administrative discretion. This reflects a top-down strategy for developing national legal standards. Most significant is that a civil code tradition is associated with more complex and detailed regulations for a wide range of commercial and civil affairs, particularly those related to registering a new firm (La Porta et al. 2008, Mahoney 2001). The ongoing effort to determine the ease of registering firms (World Bank 2009) has received considerable attention, although other aspects of business regulation are also associated with the civil code tradition.

Both legal orientation were spread through colonization and voluntary adoption: 42 countries have adopted the common law tradition, 85 the French civil code tradition, and another 26 different versions of a civil code. It would appear that national efforts to implement centralized control of all aspects of business activity reduce the prevalence of new firms.

11.5.3 Overall Impact of National Context

These two models suggest that one set of processes affect the prevalence of nascent enterprises and another overlapping set affect the establishment of new firms. The prevalence of nascent enterprises was due to a combination of the prevalence of informal investors, low per capita income, a focus on traditional values, wide spread participation in work by women, and an emphasis on self-expression and personal development that was associated with a greater prevalence of nascent ventures. A different set of processes affects the prevalence of operational new firms, those with initial profits for up to 42 months. This second model includes a different set of five factors, in addition to the presence of informal investors and low levels of personal income. The presence of new profitable firms is also related to male participation in the labor force, a high proportion of the population with secondary education, and the absence of a rigid, extensive set of regulations.

While this is useful information, there are two areas of uncertainty. First, why are different factors associated with the prevalence of business ventures at two stages of the business life course? Systematic comparisons of harmonized longitudinal studies of business creation can help resolve this issue.

The second problem is more basic, avoiding misinterpretations of the causal mechanism linking contextual factors with the prevalence of business ventures. This is an example of the well-known ecological fallacy (Robinson 1950; Schwartz 1994) and refers to the errors that can occur when reasonable interpretations about

the mechanisms linking variation in contextual attributes are not accurate. For example, in comparing regions within countries, it turns out that higher levels of regional in-migration are associated with higher prevalence of new firm formation. This may lead to the assumption that the new in-migrants are very active in business creation. However, when those involved in business creation area asked about how long they have lived in their community, the vast majority are long-term residents. In the United States, 60% have lived in their county for 10 or more years and 90% for at least a year (Table 10.7). This would suggest that a two stage process is activated. Population growth, the consequence of higher levels of in-migration, creates greater demand for goods and services. Long-term residents sense the increased level of unmet demand, consider this a business opportunity, and proceed to develop new firms to serve these customers.

Both of these complications can be mitigated by the implementation of longitudinal studies of those entering the business creation process with harmonized data collection procedures. This is the most efficient way to determine how individuals respond to differences in the prevailing context. To determine, for example, if a higher prevalence of informal investors represent the availability of more funding for new start-ups or is a reflection of the social acceptance of business creation as a career option; the later would encourage more to become involved in the entrepreneurial process.

A better understanding of the processes that link contextual factors with new firm creation would be facilitated by close coordination of these two types of research activity: cross-national comparisons of contextual factors affecting the prevalence of new firms and cross-national comparisons of longitudinal studies of the firm creation process.

11.6 Implications for Entrepreneurs and Policy Makers

Two decades ago there were no systematic longitudinal studies of business creation. This volume has provided an overview of 11 projects in nine countries. This change reflects a realization of the importance of new firms in market economies and that millions of individuals are involved in business creation. While in its early stages, findings from this research protocol have implications for those involved in business creation, relevant public policies, and for future cross-national research.

Every element of society welcomes the contributions of entrepreneurs to the national economy. New firms create jobs, often by offering new goods and services, establish a broader range of work opportunities, expand productivity, and promote overall economic growth. These benefits are provided when a nascent venture completes the business creation process and becomes a profitable new firm. It is in the public interest to easy entry into the business start-up process and to facilitate the successful completion with the creation of a new firm. The research contained in

this book provides useful insights for both the entrepreneurs involved in the process as well as for public policy makers.

Public policies need to encourage new business start-ups in an efficient manner. Since most new ventures are risky investments, it would be wasteful to encourage every person's dream of becoming a business owner. While there is no known method to predict who will be successful, it is reasonable to create an environment that minimizes the cost of failure. Simply lavishing attention on new high technology entrants with significant potential would ignore the substantial gains in employment and productivity that new firms bring to the more traditional aspects of economic activity. The crucial role played by all new firms in the process of creative destruction is meaningful for economic growth, whether the new firm offers a uniquely new product or a revised system for production, distribution, and sales of well established goods or services.

11.6.1 Implications for Entrepreneurs

It would appear that two types of people become involved in business creation: those that focus a good deal of their own time and resources in an intense effort to start a business and those that appear ambivalent about their involvement, as reflected in the initiation of start-up events over long periods of time and low commitments of time and money to the initiative. The majority are those who are seriously pursuing a new career option to become the owner-manager of a new business. These nascent entrepreneurs would like to know if the business idea is not viable as quickly and as cheaply as possible. In comparison, the less serious nascent entrepreneur may be involved in business creation for decades. As they seem to be satisfied with "participation without resolution," it is not clear how to advise these hobby nascents.

On the other hand, for entrepreneurs focused on attaining profitable outcomes, the implications from the assessments of business creation across nine countries would seem to be as follows:

1. *Anybody can do it*. Once individuals enter the start-up process, individual characteristics and personality traits seem to have little impact on the outcome. Gender, age, ethnic status, household income, and even educational attainment, beyond basic primary education, do not seem to have much impact.
2. *Know what you are doing*. There is considerable evidence that the amount of business experience as well as experience in the industry in which the nascent firm will compete is associated with the successful birth of a new firm. This is probably related to an understanding of how to implement a business organization and deal with competition in specific markets.
3. *Do it*. Take the steps to put the new firm in place, begin to assemble the resources, set up a process for producing the goods and services, and develop a presence for the firm among customers, suppliers, and other stakeholders.

4. *Do it quickly*. It would appear that the sooner the start-up activities are implemented, the sooner the form and structure of the nascent venture will emerge, and the sooner it will be clear whether or not the nascent venture can achieve sustained profitability.
5. *Do it flexibly*. While there is no evidence to suggest that formal business planning has much impact on the outcome of the start-up process, there is some level of planning involved in all business creation. It is probably a good idea to be flexible in the start-up process, adjusting the procedures and activities as new information about financing, suppliers, employers, and customer preferences are developed.
6. *Expect to use your own money*. Most of the financial support in the early phases, before the nascent venture becomes a legal entity, will be provided by the start-up team, with some limited support from family, friends, and work colleagues.

This is a very positive image for those that are serious about pursuing new business creation. It suggests that the major issues are related to understanding what is involved and going about business creation in an appropriate fashion.

11.6.2 Implications for Policy

There was some variation among the nine countries represented in this book with regards to entry into the start-up process. These nine countries appeared to fall into two groups. Four countries, the United States, Australia, China, and Canada, have relatively high levels of nascent enterprises, ranging from 2.7 to 4.0 per 100 adults. While encouraging citizens to enter into business creation may not be a policy priority for these countries, providing a framework that reduces credit and financial barriers to enable a quick and efficient implementation may reduce the total cost of the process for a society.

The other five, Sweden, Netherlands, Germany, Latvia, and Norway, have relatively low prevalence rates, ranging from 0.9 to 1.7 per 100 adults. This would suggest that public policy in this group of countries, might give attention to encouraging individuals to become involved in business creation. Leaving aside Sweden, the initial comparison of the outcome success would suggest that a relatively high proportion of those in the start-up process in Germany, Netherlands, and Norway complete the start-up process with a new firm. And the 1 year success rate in Latvia appears promising. The major problem in these countries seems to be getting more individuals involved in business creation.

11.6.3 Encouraging More Nascent Enterprises

It is a major challenge to devise the best public policy to encourage more citizens to enter into the start-up process. Five factors were identified in the regression models presented in Table 11.12 as affecting the prevalence of nascent enterprises.

Table 11.13 Prevalence of nascent and new enterprises: nine countries compared

Country	Nascent enterprise prevalence	Informal investors prevalence	GDP per capita: 2009 [US $ PPP adj]	Traditional [−] versus secular-rational [+]	Female labor force participation (%)	Survival [−] versus self-expressive [+]
Average[a]	3.2	3.8	20,914	−0.30	56.2	0.05
United States	4.0	5.0	47,178	−.75	68	1.40
Australia	3.3	2.9	39,067	−.10	69	1.62
China	3.2	6.2	6,509	1.15	77	−1.11
Canada	2.7	3.2	40,125	−.22	75	1.50
Norway	1.7	5.0	57,434	1.19	75	1.21
Latvia	1.5	4.8	18,983	1.09	67	−.92
Germany	1.5	2.7	36,447	1.22	69	0.66
Netherlands	1.2	1.6	41,042	0.76	70	1.56
Sweden	0.9	2.5	38,924	1.48	77	1.76

[a]Based on 76 countries

[b]Data sources described in the chapter endnote

The actual values for these nine countries are presented in Table 11.13. They vary substantially in terms of capacity for policy intervention. One of the major factors, the GDP per capita, is a reflection of the national level of economic development. Simply put, there is more business creation in less developed countries. No public policy could advocate reducing national wealth to increase the prevalence of nascent ventures, although privatizing rather than nationalizing key sectors of the economy could promote greater prevalence of nascent enterprises.

The potential for intervention varies among the other factors. For example, while all the low nascent venture countries have above average labor force participation by women, the data on nascents, presented in Table 11.2, indicates that in these countries a relatively low proportion of women are active as nascent entrepreneurs. One way to increase the prevalence of start-up ventures would be to encourage more women to get involved.

Three of these countries – Germany, Netherlands, and Sweden – appear to have low prevalence of informal investors. This may reflect a lack of opportunities for informal investments, as there is a low prevalence of start-up ventures, but it may also reflect a reluctance to provide small amounts of informal funds to nascent ventures. It suggests that the development of programs to provide small amounts of seed-funding for ventures in the start-up phase might encourage more to become involved. Such micro-finance programs have become very popular in many developing countries.

The remaining factors are associated with the national values, as measured by the World Values Survey. On the survival versus self-expression dimension, most of these northern European countries reflect a strong emphasis on self-development and self-expression, a context that appears to encourage business creation. No policy actions to enhance this perspective appear justified.

The final factor for attention is the traditional versus secular-rational values. Northern European countries are clustered at the secular-rational extreme, one that emphasizes collective responsibility for an individual's well-being. Most of these countries appear to have well developed social welfare programs. The combination of the national values and the presence of expanded social welfare may suggest to individuals that responsibility for their economic well-being is shared between them and the greater society. They may, in turn, be reluctant to be proactive about solving personal or household economic problems by creating a new firm – a stressful, demanding effort with uncertain outcomes.

In summary, policies to increase the prevalence of nascent entrepreneurs and start-up ventures might focus on:

- Encouraging more women to participate.
- Providing greater educational resources in secondary schools and colleges or universities focused on opportunity advancement from new business ventures in all sectors.
- Enhance informal funding or micro-finance support for the early stages of business creation.
- Encourage those in the work force to take personal responsibility for unsatisfactory economic situations.

Of these, the last – which involves changes in the basic social values – may be the most difficult to implement.

11.6.4 Enhancing Nascent Venture Transitions to New Firms

Proposals for enhancing success at completing the start-up process with a new firm benefits from the overview of critical factors presented in Table 11.11. Some aspects associated with the successful birth of new firms may not be well suited for policy interventions. While there is evidence that those developing firms in rural areas are more likely to succeed, policies to provide differential support for business creation in some geographic regions many not be politically acceptable – unless justified on differential economic growth across regions.

There is evidence that some personal dispositions may be associated with successful firm births, such as social confidence and an internal locus of control. Nonetheless, given the small amount of influence these factors may have, they do not seem to be a basis for policy development.

Educational attainment shows up as significant in two forms. First, those with little education, not having finished a primary education, appear to be less successful. Hence, a good basic education for all may facilitate more successful start-ups.

Second, there is considerable evidence that training and guidance about specific topics related to the creation and management of businesses may improve start-up success. Not only is business experience a recurring factor, but greater economic sophistication, improved capacity at financial management, and more effective approaches at business decision making are more likely to have a successful outcome. Appropriate training programs may help compensate for the lack of business experience, including decision-making skills and risk assessment, which seem to be associated with more start-up success.

Finally, there is growing evidence that an emphasis on some sets of start-up activities may facilitate a new firm birth, or at least a timely decision about whether or not to proceed. Activities related to developing external contacts or marketing the output and creating a system for delivering the goods or services appear to have some impact on successful firm births.

Two perspectives toward the start-up process might be incorporated into these training programs. The first reflects the finding that a period of intense, concentrated effort will facilitate an earlier outcome decision for the start-up. This may lead to initial profits or a decision to abandon the effort. This will reduce the sunk cost for the start-up team as they will know the outcome sooner rather than later. Second, there appears to be advantages to adapting the business strategy as new information is developed during the start-up process. Business plans should not be created as rigid blueprints but as a flexible framework for guiding development of the business idea.

Finally, there is the issue of financial support. There is evidence that the provision of financial support to the firm as a legal entity, not to or through the start-up team, is a critical event in the path to a profitable new firm. Assistance in passing this milestone may facilitate more firm births.

In summary, public policies to facilitate the transition from nascent venture to profitable new firm may include:

- Improving the overall level of educational attainment, including information relevant to starting and managing new businesses.
- Specific training and consultation to those in the start-up process that includes:
  - Capacity at financial management and administrative skills.
  - The nature and sequence of different sets of start-up activities.
  - Training in decision-making skills and risk management.
  - Importance of focused attention on the timely resolution of issues.
  - Adjusting business planning and strategy as new information is developed.
- Assistance in developing financial support for the nascent venture:
  - Micro-loans to nascent entrepreneurs during the preliminary stages.
  - Formal financial support to nascent enterprises once the firm is a legal entity.

Implementing policies and programs to facilitate business creation confront several challenges. First, there are large numbers of nascent entrepreneurs and nascent ventures in all countries. It will take a substantial effort to make a noticeable difference. Second, it is difficult to locate individuals and nascent ventures in the early stages of development, that stage where they are most likely to benefit from training, consultation, or financial assistance. While it is a major challenge to locate potential clients for assistance, there is evidence to suggest that those that receive such assistance are more likely to implement new firms (Reynolds 2007, Table 5.6). Third, adjusting the perspective of ordinary citizens may be very difficult. Those accustomed to a being taken care of by their governments may be reluctant to seriously consider a proactive stance toward self-sufficiency, particularly if they are accustomed to a focus on personal self-development.

11.7 Implications for Future Research

This review leads to a number of suggestions regarding future research. They can be considered in relation to various research objectives: improved descriptions and understanding of the business creation process, improved understanding of the impact of the business cycle or structural change, and improved potential for cross-national comparisons.

11.7.1 Conceptualization of the Business Creation Process

Assuming a focus on the early stages of the business life course, it would be useful to have conceptual agreement on the nature of a start-up venture and an established firm, as well as the critical transitions associated with business creation: what

constitutes entry into the start-up process, a new firm birth, and disengagement from the start-up process. These are all critical features of the beginning of the business life course and, as of now, there is a lack of consensus on their attributes or the operational definitions suitable for clear and robust measurements of their occurrences.

There is some agreement on the two stages of the business life course. Basic definitions for these stages might be:

Nascent enterprise – preliminary efforts by one or more individuals to assemble the necessary resources to provide goods or services to the marketplace.
Operating enterprise – an identifiable and sustainable entity that profitably provides goods or services to the market place.

The major transitions might be defined as:

Entry into the start-up process – resource commitments (time or funds) above some minimal level to create an operating business enterprise.
Start-up discontinuation – the withdrawal of resources (time or funds) to create an operating enterprise.
New firm birth – a business activity with profits sustained beyond some minimal period of time.

The importance of these proposed definitions is not in the details but in the potential for agreement on the major elements. Were such consensus to occur, it would simplify the development of operational procedures for measuring the occurrence of the entities – nascent and operating enterprises – and the relevant transitions. The conceptual definitions could still retain some flexibility, as the three transitions involve some threshold to distinguish entry and exit from the various stages.

The greatest arena for disagreement may be in the definition of a firm birth or operating enterprise; many definitions of an operating business emphasize other features beside profitability. The alternative definitions would include the presence of any type of economic exchange, purchase or sale of any good or service, listing in any business registry, or any work effort invested by participants in the endeavor (Schoonhoven et al. 2009). It may take some time before the various research communities develop a consensus on the definition of a new firm.

Assuming consensus on these conceptual definitions, issues associated with improving the potential for understanding business creation can be considered.

11.7.2 Enhancing Research Potential Through Representative Samples

Locating representative samples of nascent enterprises is a major challenge. Ideally such a sample would be identified as the start-up teams make the transition into active work on the nascent venture. It is not clear how to locate these individuals when they first emerge. The more tractable alternative, used by the projects represented in this

book, is to screen representative samples of the adult population to locate those actively working on a nascent venture, regardless of when they first undertook these efforts.

Standardized screening to locate nascent entrepreneurs seems to have been largely achieved. The screening items and criteria have been harmonized among the second generation panel studies (CAUSEE, CH-PSED, and US PSED II) as well as in the Global Entrepreneurship Monitor (GEM) project. There is conceptual harmonization and the major difference is in the definition of a profitable new firm. It is measured by the presence of salaries and wages for the owners in the GEM protocol and by periods of positive monthly cash flow in the recent PSED protocol. This harmonization, however, does not resolve all the issues.

There is considerable diversity in the potential for determining when serious efforts to work on the nascent venture began or how to set the date that reflects initial entry into the start-up process. If the beginning of the start-up process is to be considered an increase of activity and focus on business creation, the optimal solution may be to record the dates at which selected start-up activities occurred and use these to infer a date of entry into the start-up process. While some projects have used as many as 41 such activities, it may be possible to identify a dozen that are most common and use these in all studies to facilitate cross-national comparisons. One solution would to be include a single item in all initial interviews that would inquire about the level of commitment to a new venture: "In what month or year did you first spend more than 20 hours a week for 4 consecutive weeks on creating this new venture?"

A second issue is the problem of clarifying the unit of analysis (Davidsson and Gordon 2009). While the screening procedure is based on a representative sample of individuals, they can be considered as informants for the start-up team. Only the number of potential owners needs to be obtained to shift the description and analysis from an individual nascent entrepreneur to the nascent venture. Almost all existing data sets have this information and allow analysis to proceed on either individual nascent entrepreneurs or nascent enterprises. Without the initial representative sample of all adults, this shift to a representative sample of nascent enterprises is not possible.

This leads to a related issue, the potential for oversampling nascent ventures being launched by teams (Davidsson and Gordon 2009). Identifying nascent ventures from a representative sample of owners will result in more team-sponsored nascent ventures. Weights based on the inverse of number of owners can be devised to eliminate the bias.

An additional issue is related to the different lengths of time nascent ventures may be in the start-up phase. As the screening to identify nascent enterprises typically occurs over a short period of time, it will have a larger proportion of nascent ventures that have been in the process for an extended period of time; the sample will reflect nascent ventures in many different stages of the start-up process (Davidsson and Gordon 2009). There seems to be no way to adjust the screening procedure itself to compensate for this effect. However, if measures of entry into the start-up process are obtained in the initial interview, it is possible to compensate for this pattern by identifying nascent enterprises that have been in the process for different lengths of time or are in different stages in the start-up process. The use

of an inventory of start-up activities is one way to develop these estimates. Such a dated inventory is very useful in determining the sequence in which start-up activities were implemented.

Another issue concerns the impact of the data collection on the phenomena itself. It was suggested when the protocol was first developed that a long, detailed phone interview about business creation may discourage nascent entrepreneurs from moving forward with their start-up efforts. Two types of information suggest this has not been a problem. Questions were added to the end of both the US PSED I and II interview schedules asking about reaction to the interview: 61% claimed they were now more committed to the venture, 38% were neutral, and 1% were discouraged (Reynolds and Curtin 2008). The response to the US PSED II follow-up interviews provides further evidence of a positive rather than a negative reaction. Not only are a large proportion of follow-up interviews completed, the interviewers report that many respondents welcome the exchange as a way to complete an annual assessment of their progress. It would appear that selection for the nascent entrepreneur sample may enhance their commitment and, perhaps, success in launching a new firm. While there is, at this time, no way to determine the magnitude of this positive impact, it is to be preferred to evidence that participation in a panel study leads to fewer firm births.

Two additional issues deserve mention. There was both theoretical and empirical support to expect that the economy-wide business cycle may affect entry into and completion of the firm creation process. A research program that completed systemic screening over a number of years, with perhaps an even distribution across months, would provide the opportunity for tracking the impact of the changes in the national economy on business creation. Among the projects reviewed in this volume, only the German effort (Chapter 5) reports the implementation of such a sampling design. If a national government were to show interest in systematically tracking business creation as an ongoing feature of their economy, this would provide the potential for exploring the impact of the business cycle.

The second issue is related to the contributions of new firms to the national economy. There is substantial evidence that a small proportion of new firms are responsible for a disproportional share of these contributions, such as job creation, improved productivity, or new innovations. The samples of nascent ventures in all existing panel studies have been dominated by "typical firms," those being established in traditional sectors with modest growth aspirations; most have little potential for major contributions to market adaptation or innovation. The small proportions of high potential new firms in the representative samples of nascent ventures poses a complication (Davidsson and Gordon 2009). It is difficult to make general statements about the high potential new firms based on small sample sizes. An additional complication is the difficultly of identifying high-potential ventures before they become operating new firms and this potential is realized.

There are, of course, several solutions. One is to develop very large samples to ensure adequate numbers of high potential nascent ventures, but that may be too expensive to be considered a serious option. A second is to aggregate samples across different national data bases; this could create a much larger pool of high potential start-up ventures. While this has considerable potential, the capacity for

analysis will be limited unless there is a high level of harmonization across the critical features of the national interviews. Another option is to develop separate samples or cohorts of high potential nascent firms. There is, however, no obvious way to develop a representative sample of such ventures in the start-up phase; there are no existing registries of such ventures. One solution is to develop a sample of convenience of new, existing firms that are expected to have high potential; a comparison with typical new firms is facilitated by using the same interview schedules for both samples. This procedure, adopted by the Australian CAUSEE project (Chapter 2) may provide an acceptable solution.

11.7.3 Enhancing Analysis Potential

To compare national differences with precision requires that the data sets be combined, so that cases from one or more countries are processed in a uniform fashion with the same analysis procedures. A prerequisite for such an effort is that the interview procedures are standardized for all countries to be included in the data set. The benefits of this strategy are reflected in the analysis of national factors affecting the prevalence of nascent ventures and new firms, presented in Table 11.12. Such a comparison based on the initial detailed interviews of the Australian CAUSEE and US PSED II projects (Davidsson and Reynolds 2009) suggest that this approach is both feasible and provides considerable precision in comparing the two countries. Given the complexity of the phenomena and the diversity of processes involved in business creation, there seems to be no other way to compare the impact of different national contexts on the entrepreneurial process.

There are, however, administrative issues with such consolidations. There is considerable variation in the attitudes of national research teams toward making data sets publically available. At one extreme, some teams provide data to all concerned at little or no cost, which may be required if the project is sponsored with public funds. On the other hand, some research teams consider the data sets as proprietary and wish to complete all analyses before others have access to the information. Just how long this may take is often subject to different views on how much time is required, or should be allowed, to complete all analyses.

One solution might be to determine the minimum number of topics or modules that would be required for basic cross-national comparisons; each national project could agree to use standardized items for these parts of the interview and then provide the data for a consolidated data set. Without such collaboration, it is difficult to determine how the impact of national context can be established with precision.

11.7.4 Final Observations

The review of 11 different panel studies contained in this book leads to a number of suggestions regarding future research. Other reviews have lead to other

suggestions (Davidsson and Gordon 2009), consistent with the recommendations developed in this assessment. First, the success of these projects should stimulate more such efforts. More than anything else, these projects have made clear that business creation is a complex and multifaceted phenomena involving tens of millions of nascent entrepreneurs. The current research has only begun to provide the outlines of the phenomena. Although a more detailed understanding is beginning to emerge, it is related to only a few aspects of the business creation process.

Second, there are major benefits of carefully harmonized cross-national data collection. The use of standardized measures of nascent entrepreneur and new firm prevalence to explore national factors affecting business creation in Table 11.12 illustrates this benefit. On those few topics where standardized measures have been employed across national panel studies there is much greater confidence in similarities and differences. One major achievement has been standardization of the screening items to be used to locate active nascent entrepreneurs. Its widespread use in different counties suggests it is a robust and reliable procedure for locating those involved in business creation.

Third, it is a major challenge to develop representative samples of those nascent ventures that will eventually be a source of major innovations in the economy or have an unusually high-growth trajectory. While a small proportion of all samples of nascents will have these characteristics, the absolute numbers in the samples will be small. While samples of convenience may be justified, just how to locate a representative sample of nascent firms with great potential is a major challenge.

Business creation is a central feature of market economies, prevalent in all but a few countries of the world. In contrast to the long history of entrepreneurship, longitudinal studies of business creation are a recent innovation, less than two decades old. These various projects have already provided a wealth of new and useful information about the entrepreneurial process. This research has also clarified the many diverse processes that have an impact and the inherent complexity of creating a new business. These studies are providing a wealth of new opportunities for research and theory development.

While longitudinal studies of business creation are relatively expensive and require sustained commitment from talented investigators, they are the only reliable source of information about what happens during the business creation process and what leads to success in creating a new firm. They are a primary source of new information to assist entrepreneurs as they create new firms and policy makers as they adjust the policies and programs related to business creation. Compared to the enormous public and private resources devoted to business creation and economic development, these panel studies represent an inexpensive investment with a large payback in facilitating future economic growth.

References

Alsos G, Ljunggren E (1998) Does the business start-up process differ by gender? A longitudinal study of nascent entrepreneurs. Frontiers of Entrepreneurship Research Babson College, Wellesley, MA

Armington C, Acs ZJ (2002) The determinants of region variation in new firm formation. Reg Stud 36(1):33–45
Baltrasaityte-Axelson J, Sauker A, Welter F (2008) Nascent entrepreneurship in Latvia: evidence from the panel study of entrepreneurial dynamics 1st wave. Stockholm School of Economics in Riga, Riga, Latvia
Barro RJ, Lee J-W (2000) International data on educational attainment: updates and implications. Cambridge, MA: Harvard University, Center for international Development, Working Paper 42
Bhave MP (1994) A process model of entrepreneurial venture creation. J Bus Venturing 9:223–242
Bosma N, Levie J (2010) Global entrepreneurship monitor: 2009 executive report. London: Global Entrepreneurship Research Association, pp. 72
Bygrave WD, Quill M (2007) Global entrepreneurship monitor: 2006 financing report. Babson College and London Business School, Babson Park, MA and London, UK
Davidsson P (2006) Nascent entrepreneurship: empirical studies and developments. Found Trends Entrepreneurship 2(1):1–76
Davidsson P, Gordon SR (2009) Nascent entrepreneur(ship) research: a review. Queensland, Australia: Queensland University of Technology, Working paper
Davidsson P, Reynolds PD (2009) PSED II and the comprehensive Australia study of entrepreneurial emergence (CAUSEE). In: Reynolds lD, Curtin RT (eds) New firm creation in the US: initial explorations with the PSED II data set. Springer, New York, pp 263–278
Delmar F, Davidsson P (2000) Where do they come from? Prevalence and characteristics of nascent entrepreneurs. Entrepreneurship Reg Dev 12:1–23
Eurostat (2007) Eurostat-OECD manual on business demography statistics. Luxembourg: Eurostat Methodologies, Working Papers
Hechavarria DM, Reynolds PD (2009) Cultural norms and business start-ups: the impact of national values on opportunity and necessity entrepreneurs. Int J Manage Entrepreneurship 5:417–437
Hills Gerald E, Singh RP (2004) Opportunity recognition. In: Gartner WB, Shaver KG, Carter NM, Reynolds PD (eds) Handbook of entrepreneurial dynamics: the process of business creation. Age Publications, Thousand Oaks, CA, pp 259–272
Briefing: migration in China, invisible and heavy shackles. The Economist 395 (8681):26–28, 8 May 2010
Inglehart R, Welzel C (2005) Modernization cultural change and democracy. Cambridge University Press, New York
Klapper L, Amit R, Guillen MF, Quesada JM (2007) Entrepreneurship and firm formation across countries. Washington, DC: World Bank, Policy Research Working Paper 4313
Kozak M (2007) Micro, small, and medium enterprises: a collection of published data. International Finance Corporation, Washington, DC
La Porta R, Shleifer A (2008) The unofficial economy and economy development. Hanover, NH: Dartmouth College and Harvard University, Working paper
La Porta R, Lopez-de-Silanes F, Shleifer A (2008) The economic consequences of legal origins. J Econ Lit 46(2):285–332
Mahoney PG (2001) The common law and economic growth: Hayek might be right. J Legal Stud 30(2):503–525
OECD (2008) Measuring entrepreneurship: a digest of indicators. OECD-Eurostat Entrepreneurship Indicators Program, Paris, France
Reynolds PD (2007) New firm creation in the US: a PSED I overview. Found Trends Entrepreneurship 3(1):1–149
Reynolds PD (2008) Informal and early formal financial support in the business creation process: exploration with PSED II data set. Kauffman Foundation-Federal Reserve Bank of Cleveland Conference on Entrepreneurial Finance Presentation, Cleveland, OH
Reynolds PD (2010). Middle East North Africa [MENA] Region Entrepreneurship. Report prepared for the International Development Research Centre, Cairo, Egypt, Contract 105213-001

Reynolds PD, Curtin RT (2008) Business creation in the United States: panel study of entrepreneurial dynamics II initial assessment. Found Trends Entrepreneurship 4(3):155–307

Reynolds PD, Hechavarria D (2007) Consolidated Global Entrepreneurship Monitor [GEM] Adult Population Survey Data Set: 1988–2003. Ann Arbor, MI: University of Michigan, Institute for Social Research. ICPSR Study 20320

Reynolds PD, Storey DJ, Westhead P (1994) Cross-national comparisons of the variation in new firm formation rates. Reg Stud 28(4):443–456

Reynolds PD, Miller B, Maki W (1995) Explaining regional variation in business births and deaths: US 1976–88. Small Bus Econ 7:389–407

Reynolds PD, Bosma N, Autio E, Hunt S, De Bono N, Servais I et al (2005) Global entrepreneurship monitor; Data collection design and implementation 1998–2003. Small Bus Econ 24:205–231

Robinson WS (1950) Ecological correlations and the behavior of individuals. Am Sociol Rev 38:764–775

Samuelsson M, Davidsson P (2009) Does venture opportunity variation matter? Investigating systematic process differences between innovative and imitative new ventures. Small Bus Econ 33:229–255

Schoonhoven CB, Burton MD, Reynolds PD (2009) Reconceiving the gestation window: the consequences of competing definitions of firm conception and birth. In: Reynolds PD, Curtin RT (eds) New firm creation in the US: initial explorations with the PSED II data set. Springer, New York, pp 219–238

Schwartz S (1994) The fallacy of the ecological fallacy: the potential misuse of a concept and the consequences. Am J Public Health 84(5):819–824

Solt F (2009) Standardizing the world income inequality database. Soc Sci Q 90(2):231–242

Van Gelderen M, Thurik R, Bosma N (2005) Success and risk factors in the pre-start-up phase. Small Bus Econ 24:365–380

Van Gelderen M, Bankaj Patel B, Roy Thurik A, Bosma N (2010) Encountered problems and outcome status in nascent entrepreneurship. Rotterdam, the Netherlands: Erasmus Research in Management Report ERS_2009–008_ORG

World Bank (2009) Doing Business: 2010. Washington, DC: The International Bank for Reconstruction and Development and the World Bank

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Udo Brixy studied Geography at the Universities of Bonn (Germany) and Aberdeen (Scotland); he earned a Ph.D. in Geography at the University of Bonn in 1999. He is now with the Institute for Employment Research (IAB) in Nürnberg (Germany).

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Index

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