Entrepreneurial Exit

STOCKHOLM SCHOOL OF ECONOMICS

EFI THE ECONOMIC RESEARCH INSTITUTE

Dissertation for the Degree of Doctor of Philosophy, Ph.D
Stockholm School of Economics 2009.

ISBN 978-91-7258-781-6

Keywords:
entrepreneurship
exit
survival
failure
behavioral decision-making
multi-level research

Printed by:
Elanders, Vällingby 2009

Distributed by:
EFI, The Economic Research Institute
Stockholm School of Economics
Box 6501, SE-113 83 Stockholm, Sweden
www.hhs.se/efi

In Memory of Harry Hellman (1919 – 2004)

PREFACE

This dissertation is a result of a research project carried out at the Center for Entrepreneurship and Business Creation at the Economic Research Institute at the Stockholm School of Economics.

This volume is submitted as a doctor's dissertation at the Stockholm School of Economics. As usual at the Economic Research Institute, the author has been entirely free to conduct and present her research in her own ways as an expression of her own ideas.

The institute is grateful for the financial support which has made it possible to fulfill the project: The Institute of Labor Market Policy Evaluation (IFAU) and Handelsbanken Research supported Karl's dissertation work financially.

The unique databases used in this project were financed from combined grants from the Swedish Agency for Innovation Systems (Vinnova), the Swedish Foundation for Small Business Research (FSF), and the Swedish National Board for Industrial and Technological Development (NUTEK).

Generous supports from Sweden-America foundation and Ann-Margret and Bengt Fabian Svartz foundation allowed Karl to spend a period as a visiting doctoral student at Stanford University.

Filip Wijkström
Director
Economic Research Institute
Stockholm School of Economics

Carin Holmquist
Director
Center for Entrepreneurship and
Business Creation
Stockholm School of Economics

EFI THE ECONOMIC RESEARCH INSTITUTE

EFI Mission

EFI, the Economic Research Institute at the Stockholm School of Economics, is a scientific institution that works independently of economic, political and sectional interests. It conducts theoretical and empirical research in the management and economic sciences, including selected related disciplines. The Institute encourages and assists in the publication and distribution of its research findings and is also involved in the doctoral education at the Stockholm School of Economics. At EFI, the researchers select their projects based on the need for theoretical or practical development of a research domain, on their methodological interests, and on the generality of a problem.

Research Organization

The research activities at the Institute are organized into 20 Research Centres.
Centre Directors are professors at the Stockholm School of Economics.

EFI Research Centre:	***Centre Director:***
Management and Organization (A)	Sven-Erik Sjöstrand
Centre for Entrepreneurship and Business Creation (E)	Carin Holmquist
Public Management (F)	Nils Brunsson
Information Management (I)	Mats Lundeberg
Centre for People and Organization (PMO)	Andreas Werr
Centre for Innovation and Operations Management (T)	Pär Åhlström
Centre for Media and Economic Psychology (P)	Richard Wahlund
Centre for Consumer Marketing (CCM)	Magnus Söderlund
Centre for Information and Communication Research (CIC)	Per Andersson
Marketing, Distribution and Industry Dynamics (D)	Björn Axelsson
Centre for Strategy and Competitiveness (CSC)	Örjan Sölvell
Accounting and Managerial Finance (B)	Johnny Lind
Centre for Financial Analysis and Managerial Economics in Accounting (BFAC)	Kenth Skogsvik
Finance (FI)	Clas Bergström
Centre for Health Economics (CHE)	Magnus Johannesson
International Economics and Geography (IEG)	Mats Lundahl
Economics (S)	Paul Segerstrom
Economic Statistics (ES)	Anders Westlund
Centre for Business Law (RV)	Johnny Herre
Centre for Tax Law (SR)	Bertil Wiman

Chair of the Board: Professor Carin Holmquist
Director: Associate Professor Filip Wijkström

Address

EFI, Box 6501, SE-113 83 Stockholm, Sweden • Website: www.hhs.se/efi/
Telephone: +46(0)8-736 90 00 • Fax: +46(0)8-31 62 70 • E-mail efi@hhs.se

Acknowledgements

This dissertation is dedicated to my grandfather who taught me how to memorize a book in 20 minutes but never got the chance to go to high school.

My colleagues use to joke about my energy for discussing research and other important aspects of life. To a considerable extent I have my colleagues, and our joint discussions, to thank for many of the ideas developed in this dissertation. By far my largest gratitude is to professor Carin Holmquist who recruited me to the Center for Entrepreneurship five years ago. Carin, you early on gave me responsibilities that helped me build confidence and grow into the role as a research student. You encouraged me to pursue my own line of research and challenged me to develop my ideas further. Perhaps most importantly, you supported and pushed me when I was not doing well and was considering a premature exit from this project.

Carin also helped me to form the best dissertation committee a doctoral student could ever wish for! Johan Wiklund and Frédéric Delmar were inspirational in making me part of a team of researchers where I learned to give and to receive. They gave freely of their time, ideas, support and encouragement. Tim Folta joined the dissertation committee and kindly hosted me in Indiana, and later on in Lyon, teaching me the importance of ambition and rigor in research, and how to see my work in a broader light.

Professor Arjen van Witteloostuijn acted as a superb opponent at the pre-defence, providing inspirational criticism that encouraged me to take my research further. He carefully read the whole dissertation, commenting on small and large. Leif Lindmark, Alexander McKelvie, Johan Alvehus, Susanna Alexius, Bengt Göransson and Christina Hellman also read the dissertation and provided vital comments.

My remarkable colleagues at the the Center for Entrepreneurship provided a daily flow of ideas and inspiration. Thank you Ingela, Anna, Erik, Karin, Anders, Sven and Leif for all the good times. Ingela and Anna also provided keen advice on life management issues.

Colleagues and friends at the Stockholm School of Economics and elsewhere directly or indirectly helped me to develop many of the ideas pursued in this dissertation: Göran Lindqvist, Dawn DeTienne, Melissa Cardon, Anna Krohwinkel-Karlsson, Stefan Jonsson, Ebba Sjögren, Karin Hellerstedt, Grégoire Croidieu, Patrik Ström, Jerker Denrell, MB Sarkar, Erkko Autio, Linus Dahlander, Henrik Berglund and Michael Dahl, thanks for all past and future discussions.

Thanks also to Erik Noyes, Brett Smith and Chris Stevens for inspiring me to "get it done".

Some dissertations are described as evil offspring, stealing the author away from family life. On the contrary, I am deeply grateful for how life as research student provided us the opportunities and flexibility to explore the world: Isak and Johanna, in many ways we embarked on this research journey together. Freja, you joined halfway through but made us love life all the more. Thanks to this darn book we got to visit Madrid, Uddevalla, Palo Alto and many other exotic places. I am grateful for every day together.

Last but not least, a huge thanks to Anni who helped me carry this through, and to Moa who added all the shining parts.

Hägersten and London, March 24 2009
Karl Wennberg

Contents page

Figures:

Tables:

Appendices:

Study 1 – Don't hang on too long: Experienced entrepreneurs' use of real options strategies (working paper)
Study 2 – Reconceptualizing entrepreneurial exit: Divergent exit routes and their drivers (forthcoming, *Journal of Business Venturing*)
Study 3 – The Survival of Financial Services Ventures (published, *Journal of Evolutionary Economics*)
Study 4 – Performance aspirations and exit from entrepreneurship (working paper)
Study 5 – The effect of clusters on the survival and performance of new firms (forthcoming, *Small Business Economics*)

ENTREPRENEURIAL EXIT

1. INTRODUCTION

Much popular management literature discusses 'exit' as a successful outcome of entrepreneurship, stressing the importance for firm founders to have an 'exit strategy'. Research within the fields of organization studies, industrial organization economics and strategic management has often considered exit as the 'failure' of a firm, but little attention has been given to the role of individual owner-managers in these firms. This is somewhat remarkable because the simple truth is that eventually, the exit of entrepreneurs from the firms they initiated is an inevitable outcome of entrepreneurship. In Sweden alone, recent surveys indicate that the founder in as many as 60 percent of all privately held firms will exit in the coming decade (Nutek, 2004). These founders' decision to leave entrepreneurship often leads to changes or even the exit of the firm itself (Carroll, 1984; Haveman, 1993). Despite the obvious societal and economic ramifications of such large-scale changes among entrepreneurs and the firms they initiated, much of the extant work in entrepreneurship and organization studies assumes that exit is a sign of failure (Bates, 1990; Sorensen & Audia, 2000; Brüderl, Preisendörfer, & Ziegler, 1992). Yet, we know that many new and ongoing firms are not necessarily successful in terms of operating at a profit (van Witteloostuijn, 1998) and that many entrepreneurial exits are in fact not perceived as failures (Bates, 2005; McGrath, 2006).

In this dissertation I argue that exit may be the outcome of both failing and successful venturing and that research should investigate what factors lead entrepreneurs to exit, and if so, what type of exit takes place. Using advanced research designs and high-quality data that match individual entrepreneurs with their firms, I show that while the resources and skills of entrepreneurs affect their possibilities to stay in business, exit is to a considerable extent a voluntary decision that they take if the performance of their venture is less than what they aspired to. These aspirations are formed by entrepreneurs comparing themselves to individuals with similar social background and education. The empirical evidence presented in this dissertation indicates that the high failure rates among new firms reported in both the academic and popular press may be, at least partially, misinterpreted positive exit decisions rather than failures. Further, I show that the factors leading to one type of exit – such as exit by the sale of a profitable firm – clearly differ from factors leading to another type – such as exit by the liquidation or sale of a firm in financial distress. The prevalence and distinctive patterns of these different exit routes highlight the limitation of previous theoretical models in explaining exit. A key reason for experienced entrepreneurs to re-enter may thus not be that their new firms are more likely to outlive those of less experienced founders, but rather that the chances to build a profitable firm that is sold rather than closed will be much higher.

The dissertation contains a critical review of prior research on exit in entrepreneurship and the overarching fields of economics, sociology, and organization studies. Five empirical studies are presented that investigate exit from the perspectives of both the individual entrepreneur and the firm that he or she creates. To take account of the multi-level[1] nature and conceptual complexity of exit, the five papers explicitly focus on distinct levels of analysis and slightly different definitions of exit. The studies provide theoretical and empirical contributions to the fields of entrepreneurship and organization studies. Taken together, this dissertation represents a comprehensive picture of entrepreneurial exit that highlights the importance of internal factors such as the skills and experiences among individual entrepreneur(s) and external factors such as industry structure, geography, and the performance of other entrepreneurs, for exit. I discuss some implications for research on entrepreneurship and organization studies, entrepreneurship pedagogy, and public policy.

1.1 Exit and its role in the entrepreneurial process

Most studies of new firm's exit in the fields of organization studies, industrial organization economics and strategic management have used exit to approximate the 'failure' of a firm. Yet, there are clear indications that exit from entrepreneurship is not the same as failure. Bates (2005) and Headd (2003) found that among a representative sample of U.S. entrepreneurs, about one-third characterized their firms as successful at the time of liquidation. Similarly, Ucbasaran, Westhead and Wright (2006) found that in a representative sample of U.K. entrepreneurs, more than a third of those that exited considered their firm "a success". These studies show that in the eyes of entrepreneurs, exit and failure are two distinct concepts.[2]

We know from prior research that many entrepreneurs start a firm without much thought to the eventual outcome, while others maintain a fairly explicit exit strategy already from the

[1] "Multi-level" is a term used in the social sciences to describe a phenomenon that unfolds or is under influence from different levels of analysis (i.e. individual, group, region, and nation, etc). This is distinct from "multi-level model" which refer to a formal statistical model which parameters vary at more than one of these levels.

[2] The point of departure in this dissertation is that exit is an individual decision to leave the management and majority ownership of a firm that he or she created. In section 1.2. I elaborate on this definition and how I use the concept in this dissertation. In section 3.2. I also discuss how exit operates at different levels of analysis and what implications this have for the empirical analyses in the dissertation.

start (DeTienne & Cardon, 2006). While it is possible to imagine a variety of specific exit routes used by entrepreneurs (family succession, sell-off, IPO, liquidation, etc.), empirical research seems to converge on a conclusion that there are two broadly distinct exit routes that are comparable across a variety of studies and contexts: exit by liquidation/closure[3] and exit by sell-off (e.g. Gimeno et al., 1997; Mitchell, 1994). In this dissertation I therefore suggest – and empirically substantiate – that exit may be the result of financial failure as well as success. I argue that research should identify which specific route of exit is utilized and why this is so, rather than assuming that exit equals either failure or success.

1.1.1. Exit of individual entrepreneurs and exit of new firms

Most empirical research on entrepreneurial exit has focused on *individuals* exit from self-employment or the exit of *firms* from the market. The research on individual exit has revealed that financial performance as well as individual characteristics such as education, skills, and psychological make-up affect the probability of remaining self-employed, as do external factors such as economic conditions and outside job options (Burke, Fitzroy & Nolan, 2008; Evans & Leighton, 1989). However, a weakness with the individual-level focus is a tendency to disaggregate the exit choice to individual decisions, ignoring the importance of other stakeholders in the entrepreneur's firm. The type of career choice models most commonly used in individual-level studies is built on the logic that entrepreneurs compare the utility or relative attractiveness of competing alternatives, commonly in a discrete choice framework which assumes that the decision maker is an individual with sole control over the decision at hand (Ben-Akiva & Lerman, 1985). Recent evidence indicates that such conceptualizations of career choices are undersocialized by not taking into account the strong social influences on an individual's career choices. Studies show that people are more than 500 percent more likely to engage in entrepreneurship if they have been working at a very small firm compared to a larger firm (Parker, 2009; Sørensen, 2007a) and up to 60 percent more likely to enter if any of their colleagues are ex-entrepreneurs (Nanda & Sørensen, 2007). This suggests that activities such as entry and exit are not socially isolated. Entrepreneurship is a process that should be viewed in dynamic terms where vital events are shaped by the entrepreneur's own volition as well as his or her interaction with other actors (Van de Ven & Engleman, 2004).

[3] In this dissertation I use the term "exit by liquidation" rather than "exit by closure". Liquidation refers to the firm being dissolved and its debts repaid, with remaining assets distributed to the owner(s). If debts exceed assets, the firm might be declared bankrupt. Clearly, bankruptcy is a distinct form of low-performing exit but as I expand on in study 2, the degree of volition in a bankruptcy is in fact quite 'fuzzy' with a substantial number of bankruptcies initiated by the entrepreneur him- or herself, while other entrepreneurs choose to sell off remaining assets, pay their debts and liquidate their firm, perhaps to avoid some stigma attached to bankruptcy.

Hence, theoretical models of entrepreneurial exit require linkages between key components of this process and social influences on the exit decision (Aldrich & Zimmer, 1986).

Firm exit has been thoroughly examined in the areas of industrial organization economics and organization studies. These two literatures have focused on widely different aspects of exit. Economics research has highlighted the roles of the economic cycle, the industry's specific characteristics and the innovation rate in the exit of new firms (e.g. Audretsch, 1995). Organization studies have focused on how a broader set of economic and social factors shape the exit of new firms. In particular, a large number of studies in the area of organization ecology have investigated exit through the theory of *density dependence*. According to this theory, entry and exit of organizations are shaped primarily by the dual roles of competition for resources and a need for social legitimacy – i.e. the acceptance or taken-for-grantedness of a product offering, business model, or organizational form that the entrepreneur is trying to implement (Carroll & Hannan, 2000; Sorenson & Audia, 2000). For example, the entrepreneurs that started the first automobile companies were generally seen with great skepticism when they started a hundred years ago – 'who will ever pay for something like that?' (Rao, 2004; Rao, 2008). Most of these early entrants exited the automobile industry, but once the survivors started to receive public awareness they were able to attract more customers, encouraging other entrepreneurs to launch competing ventures. Accordingly, the theory of density dependence predicts that new firms have to struggle to gain legitimacy in order to survive when there are few firms in a specific field. As the number of entrants increase, legitimacy spreads which makes it easier for new firms to survive. However, these new entrants also generate increased competition which at some point decreases the probability of firm survival.

Taken together, the individual perspective suggests that personal skills and job options are vital for entrepreneurial exit, but that social influences might be important as well. The firm perspective suggests that exit is shaped by competition for resources and the need for legitimization. While firm-level research in economics and organization studies alike has yielded considerable insights into processes of firm exit, this research tends not to consider the role of the individual firm founders. This is problematic since we know that most firms in any industry are quite small (Carroll & Hannan, 2000) and thus the exclusion of individuals from firm-level studies means that perhaps that largest source of variation among these small firms is disregarded. As Pennings, Lee and Van Witteloostujin (1998) showed in their longitudinal study of the Dutch accounting industry, disregarding the characteristics and skills of individual firm founders leads to underspecified models, resulting in possibly erroneous conclusions regarding firm-level processes of exit such as in the density dependence model. Hence, to understand the evolution and survival of new firms one must also take into account the skills, aspirations and career goals of individual entrepreneurs (Boone & Witteloostuijn, 1996; Shane & Khurana, 2003). This indicates a need for research on exit to pay closer attention to the role of these individual founders.

1.1.2. Entrepreneurship research and the individual-firm relationship

Research in the field of entrepreneurship has constructed a line of theories and empirical studies addressing the firm-individual interface (Shane, 2003). Entrepreneurship is here viewed as individuals pursuing opportunities, often by the creation of new organizations (Gartner & Carter, 2003). For new ventures, the firm can in fact be considered as 'an extension' of the founder (Chandler & Hanks, 1994; Churchill & Lewis, 1983). Studies in this vein have investigated both individual firm founders, teams of founders, and the evolution of firms that they start. Unique questions addressed by research in entrepreneurship include how goals and motivation at the time of founding affect the attractiveness of various exit routes (DeTienne & Cardon, 2006), how planning and ties to external investors affects the likelihood of exit (Delmar & Shane, 2003; Shane & Stuart, 2002) and how individual dispositions or societal institutions shape the willingness to exit (Stam, Thurik, & van der Zwan, 2008). This research has yielded many important findings, but interpretations of various studies are complicated by the fact that individual entrepreneurs and the firms that they found are very heterogeneous, even more so than established firms (Davidsson, 2007; Shane, 2003). Not all entrepreneurs have a clear goal of what they want to achieve. Some seek to exploit a valuable invention or discovery and to earn money. Some others value the freedom to decide how and when they work (Carter et al., 2003). These differences affect how entrepreneurs' consider the possibility of exit, as well as the relative attractiveness of different exit routes.

The entrepreneurial process has been considered as beginning with the moment when an idea is born or an individual initiates activities to start a new firm. However, there are some disagreements in the literature as to when the entrepreneurial process ends. Reynolds and White (1997) suggest that the entrepreneurial process begins with the *conception* of potential entrepreneurs (all individual), *gestation* of a new firm (nascent entrepreneurs) and *infancy* (fledging new firms), and end with *adolescence* (new firms that are firmly established).

Korunka and colleagues (2003) make a distinction between the individual founder(s) and the new firm in their view that the entrepreneurial process "…begins with the first actions of the nascent entrepreneur…and ends with the first activities of the new venture". Bygrave (1994) extends the view of the entrepreneurial process by considering also growth in the early stages of the firm as the end point of the process, while Davidsson, Delmar and Wiklund (2002) view growth *per se* as an important entrepreneurial event. What these perspectives have in common is the assumption that the entrepreneurial process consists of activities that lead to the creation of a new firm and that the end of the process is the establishment or growth of the firm, whereupon the role of the founder diminishes. Yet, the role of the founding entrepreneur can still loom large in established firms (Holmquist, 2004) and his or her departure might even endanger the survival of the firm (Carroll, 1984; Haveman, 1993).

Delmar (2005) takes a broader view of the entrepreneurial process, inspired by Aldrich (1999) he presents an evolutionary development where *variation* among entrepreneurs and the firms they start leads to differences in growth and survival among firms, whereby firms that are ill-adapted to the current environment are *selected* for exit. From this perspective, variation is an essential condition for efficient selection which is required for entrepreneurs to learn and, on an aggregate level, for the overall economy to progress (Audretsch, Houweling, & Thurik, 2004). The idea of entry and exit as a source of learning supports the research indicating that having previously exited increases the chances of future entrepreneurial success (e.g. Samuelsson, 2004). Hence, exit might not be an altogether negative outcome for the individual entrepreneur, or for society as a whole. This motivates the integration of exit as a vital component of the entrepreneurial process.

1.2 Definitions of exit

Various studies of entrepreneurial exit have operationalized it as: the exit of firms from a particular market (Anderson & Tushman, 2001; Mitchell, 1994), exit as firm discontinuance (Gimeno et al., 1997) or exit as an individual's decision to leave self-employment (Evans & Leighton, 1989; Van Praag, 2003). These studies have spurred a variety of empirical insights but none of them take into account that an individual might concurrently run several firms as a "portfolio entrepreneur" (Davidsson, 1989) or successively move from one firm to another as a "serial entrepreneur" (Westhead & Wright, 1998). In a theoretical paper, DeTienne (2008) defines entrepreneurial exit as "the process by which the founders of privately held firms leave the firm they helped to create; thereby removing themselves, in varying degree, from the primary ownership and decision-making structure of the firm" (DeTienne, 2008). This definition focuses on entrepreneurs' decision to *leave a firm*. Conversely, Stam and colleagues (2008) define entrepreneurial exit as "the decision to quit an entrepreneurial career", implying that the decision to exit can be quite permanent, or at least that it represents a major shift in labor market identity. In this dissertation I follow DeTienne (2008) by viewing entrepreneurial exit as *when an individual leaves the primary ownership and stops working in the firm that he or she initiated*. Compared to Stam et al.'s definition, the focus on (i) ownership and (ii) workplace activity includes exit events when an individual liquidates or sells a firm and shortly thereafter starts another. This is important since while exit might be quite permanent for one person, for another person it might be a trigger to re-enter by starting a new venture. Compared to DeTienne's definition, the focus on workplace activity instead of management is intended to accommodate the fact that boundaries between managers and employees, and the influence on decision making among these, is quite blurry during the early life course of a firm (Samuelsson, 2004; Sørensen, 2007a). Finally, my definition also includes exit events when an individual liquidates or sells a firm and shortly thereafter starts another.[4]

By considering exit and the possibility of re-entry as part of the entrepreneurial process, this dissertation challenges current definitions which implicitly suggest that the process ends with the exploitation of opportunities (Shane & Venkataraman, 2000) or with the new firm reaching a stable growth (Bygrave, 1994). The observation that firm exit might not be a concluding event has been noted in the literature on geographic 'spillovers' of entrepreneurial resources and skills such as in "Death Hurts but it is Not Fatal" (Hoetker & Agarwal, 2007; see also Mason & Harrison, 2006). My dissertation adds to this literature by highlighting the personal experiences and decision-making of individual founders as an essential and under-researched component of exit. The focal point is the recognition that the individual entrepreneur or the starting team of entrepreneurs is central to processes of exit and re-entry (Sarasvathy, 2004). Figure 1 shows a simple sketch of this process from the viewpoint of the individual entrepreneur.[5] Here, the entrepreneurial process is considered as consisting of three main stages: first the start-up process where the entrepreneur strives to assemble resources

[4] See study 1 where I delineate between immediate and more distant re-starts to measure an individual's experience from different "spells" in entrepreneurship during his or her career.
[5] Or the founding group of entrepreneurs, see the empirical study 3.

and reach potential customers and supporters.[6] The second stage consists of the activities and processes involved when entrepreneurs try to organize and grow their firm.[7] The third stage is the focus of this dissertation. Yet thinking of entrepreneurship as a multi-stage process helps us to understand how conditions during the start-up or organizing/growth stages influence entrepreneurs' exit processes (Eckhardt, Shane, & Delmar, 2006).

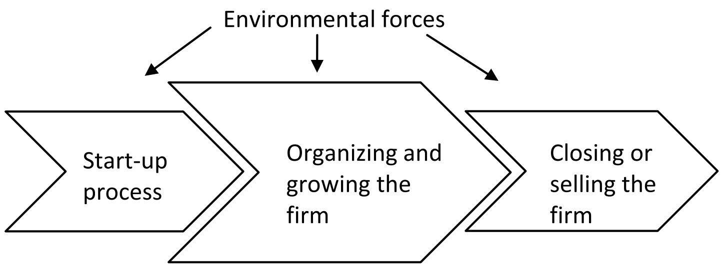

***Figure 1*: The entrepreneurial process**

1.3 Purpose

Research has shown that people engage in entrepreneurship for a wide variety of reasons such as self-realization, generating wealth, to fulfill some social expectation, or to see one's idea become reality (Carter et al., 2003). It is similarly reasonable to assume that there are several motives for people to leave entrepreneurship (Storey, Parker & van Witteloostuijn, 2005), suggesting that exit is a multidimensional phenomenon. Yet little attention has been paid to motives for exit, the different methods people use for exiting their ventures, or what factors contribute to their choice of exit route. This dissertation addresses these questions with a specific focus on behavioral decision-making, differences in exit routes used, and how individual competencies affect exit. The overall research question is:

Why do entrepreneurs exit?

---

[6] This process is in itself very complex and fluctuating, as highlighted by the many studies of "nascent entrepreneurs' (e.g. Davidsson & Honig, 2004; Delmar & Shane, 2004: Samuelsson, 2004)

[7] The most heterogeneous stage that (i) can last anywhere from a brief period to when the founding entrepreneur departs or decease, (ii) involves bringing in external actors, often spreading ownership and control of the firm, and (iii) most entrepreneurs do not try to grow their firms at all (Wiklund, Davidsson, & Delmar, 2003).

This question can be broken down into three separate issues. The first focuses on the role of financial performance for exit. The second addresses distinctive routes of exit. The third pertains to the decision-making leading to exit. I address each of these in the following paragraphs.

While research has noted that entrepreneurs may have many unique motivations for new venture creation, individual wealth creation is often viewed as a defining objective for entrepreneurship (Schumpeter, 1934). "That the entrepreneur aims at maximizing his profits is one of the most fundamental assumptions of economic theory" (Scitovszky, 1943:57). Most economic theories of firm dynamics consequently assume that entrepreneurs with firms exhibiting low 'fitness' with the environment should close down following a process of natural selection (Jovanovic, 1982; Lippman & Rumelt, 1982). This centrality of financial performance in economic models of exit stands in stark contrast to prevalent empirical accounts of entrepreneurs persisting for years in spite of continuous losses (Delmar et al., 2005; Gimeno et al., 1997). Although financial performance is not always a primary motive for entrepreneurs, a certain performance level is necessary in order to keep a business afloat. The first sub-question is therefore aimed at disentangling the role of performance for entrepreneurial exit:

Sub-question 1: ***What is the relationship between entrepreneurial performance and exit from entrepreneurship?***

Even if the entrepreneur in a young firm strives to pursue profitability, erratic performance is common: initial high performance can quickly turn into losses or bankruptcy because young firms generally have few reserves to withstand sudden environmental shifts (Cooper, Gimeno-Gascon, & Woo, 1994). In lieu of measuring success by traditional financial performance measures, entrepreneurship research has therefore tended to use approximations such as survival or growth (Van de Ven, Hudson, & Schroeder, 1984). This approach conflates two distinct concepts: financial result and firm status. Firm status (e.g. to continue, sell, or exit) is a choice made by the entrepreneur and is not an inevitable consequence of financial performance (Pavone & Banerjee, 2005). A central argument in this dissertation is therefore that instead of viewing exit as either a failure or a successful outcome, research should identify which specific route of exit is utilized and what drives entrepreneurs to choose one route instead of another. This leads to a second research question:

Sub-question 2: ***What are the different routes of entrepreneurial exit?***

As suggested by the first two sub-questions, financial performance is a key component in the decision to exit but it does not seem to have a simple linear relationship with exit (Gimeno et al., 1997). To untangle the effects of financial performance on the decision to exit, it becomes interesting to consider the entrepreneur's subjective reaction to such performance and how this reaction is socially influenced. Research on the social influences on labor market behavior has found that interaction in the workplace is a very strong mechanism by which people are influenced to become entrepreneurs (Nanda & Sørensen, 2007). I argue that these social mechanisms also influence the level at which entrepreneurs compare their performance with that of similar individuals. Instead of considering that insufficient performance triggers a rational exit decision, the choice to exit likely depends on whether the entrepreneur reaches his or her own *subjective* goals or not. This subjective goal fulfillment, and its social component, is the final topic of this dissertation. The literature on aspiration level performance (Greve, 2003a) holds that goal satisfaction is a function of comparison with a peer group. Performance relative to an aspiration here acts as an approximation of perceived success or failure for an individual (Lopes, 1987), i.e. "the smallest outcome that would be deemed satisfactory" (Schneider, 1992: 1053). A third sub-question to address therefore is:

Sub-question 3: ***How does performance relative to an aspiration level affect entrepreneurial exit?***

1.4 Delimitations

The general topic of entrepreneurial exit is indeed broad, and it would not be feasible to investigate all possible reasons for exit in a single dissertation. The focus of investigation in this dissertation is how individual's human capital, their behavioral decision-making and economic factors affect entrepreneurial exit. This focus necessitates that I make some delimitations and also that I try to control for other factors that we know might be important for exit. The economic cycle and industry life-cycle are two such areas (Audretsch, 1995). By using longitudinal research designs looking at multiple cohorts of entrepreneurs in the empirical studies, I hope to control for those issues. Another important factor for entrepreneurial exit is individual life-course dynamics (Carroll & Mosakowski, 1987). We know that the processes of entrepreneurial entry and exit are affected by people's aging, geographic moves, switching careers and partners – "entrepreneurship happens when people are on their way to somewhere else" (Aldrich & Kenworthy, 1994). Life-course dynamics of entrepreneurship is an area worthy of inquiry in its own right but does not constitute a primary topic in this dissertation. To delineate between the topics of investigation and such life-course dynamics I use a large number of control variables in the analyses of individual entrepreneurs, including age, gender, social background and family situation. Finally, a strand of research suggests that institutional factors such as legitimation-enhancing actors, norms, and culture, might have substantial implications for entrepreneurial entry and exit. Investigating such institutional effects requires a research design focusing on variation in institutional setting – for example by comparing different countries (Autio & Acs, 2007; Stam et al., 2008) or to look for potential access to public institutions among individual entrepreneurs (Baum & Oliver, 1991). These two approaches are difficult to combine with a research design focusing on following individual entrepreneurs and their firms simultaneously over time. The role of institutions and culture for entrepreneurial exit are therefore left outside the scope of this dissertation.

1.5 Structure of the dissertation

Following this section is a literature review where I describe earlier studies and theories of exit and outline how they relate to the research problems posed. After this comes a methods section where I discuss levels of analyses and the overall research design of the five studies included in the dissertation. Then follow extended summaries of the five studies and a brief description of how they are related to each other. Finally, I sketch some conclusions and discuss what can be learned from this dissertation in research, entrepreneurship pedagogy and public policy on entrepreneurship.

2. LITERATURE ON EXIT

The question why entrepreneurs exit has been investigated in various social science literatures such as economics, sociology, organization studies and entrepreneurship. These literatures all make distinct assumptions regarding economic and social embeddedness, on individual agency and rationality, as well as on level of analysis. Carroll and Mosakowski (1987) argue that since individuals' entrepreneurship is episodic, dispositional arguments based on stable individual attributes common in entrepreneurship research are incomplete, as are sociological theories of class and career because they do not consider life-course dynamics. They suggest that ideas from different theoretical fields are needed for investigating the dynamics of exit. This is the case also for the questions posited in this dissertation. For example, studies in organizational ecology have touched upon different routes of exit but tend to equate exit and low performance. Conversely, studies in organization and strategic management have investigated the role of financial performance for the exit of new firms, but tend not to address the aspirations of founding entrepreneurs. To answer the research question I therefore find it necessary to combine some of the theoretical perspectives on exit. Given this eclectic approach, the literature review is organized topically and not by theoretical perspective.

Table 1: **Entrepreneurial exit in different disciplines**

Research area	Level of analysis	Key assumptions	Integrative problems	Key contributions for a theory of entrepreneurial exit	Illustrative Reference
ECONOMICS	Individual	Exit is a swift decision: labor can be employed elsewhere	Utility maximizing leads to under-socialized theory	Entrepreneurship is a choice among several types of activities to make a living	Taylor (1999) Johansson (2000)
SOCIOLOGY	Individual/ group	Individuals are bound by their social background (class, gender and ethnicity)	No financial performance focus	Individual choice is formed in a social setting such as family, school, etc.	Carroll and Mosakowski (1987) Sørensen (2007b)
ORGANIZATIONAL ECOLOGY	Firm	Focus on exit as failure: organizations are resource dependent entities	Equating exit with low performance	Longitudinal studies covering populations to remedy unobserved heterogeneity	Sorenson and Audia (2000) Phillips (2001)
STRATEGY & ORGANIZATION STUDIES	Firm	Focus on exit as failure: organizations are resource dependent entities	Little attention to the individuals who start organizations	Exit is often preceded by Failure-avoiding strategies	Mitchell (1994) Hoetker and Agarwal (2007)
ENTREPRENEURSHIP	Individual / Firm	Firms are founded by individuals or teams with volitional control of their venture	Disparate body of research – lack of strong theory	The individual-firm interface is important	Davidsson and Honig (2003) Stearns et al. (1995)

Table 1 briefly summarizes the key points of five theoretical perspectives on exit, pointing out possible contributions and integrative problems for a theory of entrepreneurial exit. The table is not meant to be exhaustive, but includes what I perceive as the major theoretical areas discussing entrepreneurial exit, as well as some illustrative references for each perspective.

To answer the research question I therefore find it necessary to combine some of the theoretical perspectives on exit. Given this eclectic approach, the literature review is organized topically and not by theoretical perspective. Table 1 briefly summarizes the key points of five theoretical perspectives on exit, pointing out possible contributions and integrative problems for building a model of entrepreneurial exit. The table is not meant to be exhaustive, but includes what I perceive as the major theoretical areas discussing entrepreneurial exit, as well as some illustrative references for each perspective.

In order to research a phenomenon with clarity and precision, the researcher needs to satisfy four conditions (Chopra, 2005). First, a clearly defined object must be present on which the phenomenon acts. Second, the boundaries of the phenomenon must be distinct. Third, forces associated with the phenomenon – that affect or are affected by it – must be clear. Fourth, knowledge of the process by which the phenomenon unfolds over time must be clear. Looking at the accumulated knowledge on entrepreneurial exit on these dimensions, it becomes obvious that exit as a phenomenon needs better clarity and precision. The literature has made significant progress on the third element, and to some extent the fourth, identifying predictors and consequences of exit. Knowledge of exit processes as they unfold is also sparse (an excellent exception is Burgelman, 1994). However, research has made little progress on the first and second elements. Despite having looked at the individual, firm or population as the object on which the phenomenon acts, research has failed to distinguish between the role of individual, firm-level and population level elements of the exit decision. For example, population-level studies that do not include the characteristics and skills of individual firm founders lead to underspecified models and possibly erroneous conclusions regarding processes of exit (Pennings et al., 1998).

A more critical problem is that the conceptual boundaries of exit have not been clearly defined or discussed. This has hampered theoretical progress since many empirical studies do not distinguish between exit, failure, and liquidation of firms. In studies within the fields of industrial organization economics and population ecology, entrepreneurial exit has often been equated with ‘failure’ as a fundamental performance measure of new organizations. Yet there are clear indications that exit from entrepreneurship is distinct from ‘failure’. Bates (2005) and Headd (2003) investigated the U.S. Census Bureau’s 1996 survey Characteristics of Business Owners (CBO) which is based on a large representative sample of U.S. firms founded between 1989 and 1992. They found that about one-third of the exiting owners characterized their firms as successful during exit. Ucbasaran and colleagues (2006) surveyed a representative sample of 767 entrepreneurs in Great Britain and found that among the entrepreneurs who had closed a firm, more than a third considered their last firm to be “a success”. These studies indicate that at least in the eyes of entrepreneurs, exit and failure are two distinct concepts.

2.1.1. Structure of the literature overview

Since I posit that theoretical eclecticism is necessary to provide an encompassing framework for the study of entrepreneurial exit and to answer my research questions, the literature overview that here follows is organized topically and not according to a specific theoretical viewpoint. Each section reviews the theoretical rationale behind the section’s particular focus on exit – for example, why individual competencies, firm performance, and environmental factors are important in molding entrepreneurial exit. The sections are concluded with a table that summarizes the key factors found to impact exit in prior empirical studies.

The five theory sections are organized to explain a specific part of the process model of entrepreneurial exit as shown below in Figure 2. To relate back to the first research question pertaining to *the relationship between performance and exit*, I start the literature review by discussing how the evolution and performance of a new firm are related to entrepreneurial exit. This perspective is indicated in the bottom grey section in Figure 2, and discussed in the theory section 2.1. Following the perspective on performance, I discuss the actual decision-making preceding exit in the theory section 2.2. Here, I explain different theoretical models explaining how performance can be used as a source of information guiding the decision to exit. Specifically, I expand on the notion that *performance relative to an aspiration level* is a specific mechanism affecting exit, pertaining to my third research question. Finally, forces affecting exit can be related to initial conditions and individual competencies, which are discussed in the theory section 2.3. In the subsequent theory section 2.4., I outline how environmental factors outside the power of the entrepreneur affect exit. In the final theory section 2.5., I discuss definitions of exit, specifically addressing how prior research has approached my research question related to *different routes of entrepreneurial exit*.

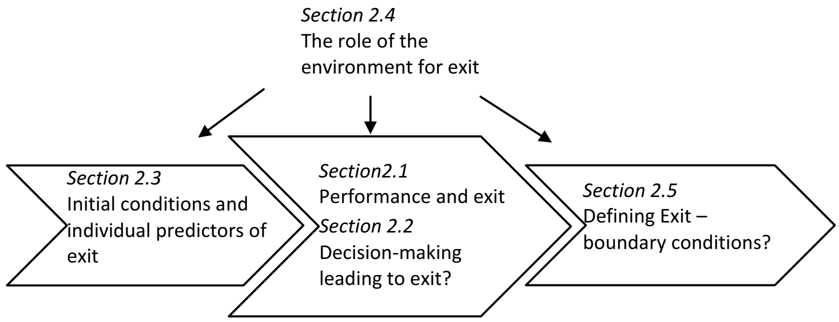

***Figure 2*: A schematic overview of entrepreneurial exit**

2.1. Performance and exit

This section discusses how entrepreneurial exit is shaped by economic performance. A basic tenet in this dissertation is that financial performance has an important, but not necessarily a linear effect on entrepreneurial exit (Gimeno et al., 1997). Why so? One common answer is that performance is used as an information signal for entrepreneurs. Both the areas of industrial organization economics and organization studies view financial performance as an important source of information for entrepreneurs regarding the appropriateness of their actions and strategies – thus being a source of entrepreneurial learning. For example, Jovanovic's (1982) economic model of industrial dynamics suggests that uncertainty characterizes the production and managerial abilities in new firms. According to the model, entrepreneurs enter an industry to pursue a perceived profit opportunity, but they cannot know beforehand if they will be successful or not. They therefore have to invest some time and money and enter to learn about their ability to manage as an entrepreneur. As time progresses, feedback from the most recent period of performance might lead to the decision to expand, to contract or to exit (Jovanovic, 1982: 650-653).

Frank (1988) suggested a modified economic model of exit, in which entrepreneurs are conceptualized as overconfident about their own abilities and therefore "…a longer series of bad results will be required to induce exit" (Frank, 1988: 334). This is related to the idea that entrepreneurs sometimes are driven by "hubris", leading to excessive entries of entrepreneurs who are forced out of business when they realize they cannot attain the financial performance necessary to stay in business (Camerer & Lovallo, 1999; Hayward, Shepherd, & Griffin, 2006). Interestingly, entrepreneurs are not predicted to react to declining performance in any proactive way in these models: "declining firms will have increasingly lazy entrepreneurs. This laziness is a reaction to, rather than the cause of, the decline. Past good performance never guarantees continuation" (Frank, 1988: 343). The models of exit presented by Jovanovic and Frank are consequently characterized as 'passive' models of entrepreneurial learning (Pakes & Ericson, 1998) in that they assume that no improvement in productivity[8] takes place once an entrepreneur enters but rather that the venturing process consists of entrepreneurs 'learning' about their own production function – i.e. entrepreneurial ability is more or less fixed. Hence, there are quite strong assumptions of economic rationality in these economic models of exit.

Schary (1991) developed a related economic model of how firms exit through liquidation, merger or bankruptcy. Testing the model empirically on a sample of 61 textile firms active in New England from 1924 to 1940**,** she found that the form of exit was not related to profitability in any clear-cut way. Hence, different types of exit might be considered in a sequential decision process in which each form of exit is considered in turn. Schary also argues that firm-level characteristics alone are not sufficient to predict all forms of exit.

A model explaining the role of profitability and exit using theories from both economics and organization studies that include firm-level as well as individual-level characteristics is the threshold model of entrepreneurial continuation (Gimeno et al., 1997). According to this model, entrepreneurs choose to terminate their firm when it performs below a critical threshold. Gimeno and colleagues suggested that this threshold is shaped by an individual's general human capital providing him or her with other employment opportunities, together with occupational switching cost and the perceived psychological value associated with

[8] The literature on entrepreneurial learning in I/O economics often discuss "entrepreneurial productivity" in the sense of the production function of the new firm (Jovanovic, 1982; Pakes & Ericson, 1998) while the labor economics literature discuss "entrepreneurial productivity" as an individual's ability. The two can be thought of as identical if we assume that the firm is small and decision-making power comes from a single owner-manager.

entrepreneurship. Testing their model on a sample of 1,547 entrepreneurs belonging to the U.S. National Federation of Independent Businesses, they found that exit was affected by individual-specific, firm-specific, and environmental factors that simultaneously affected entrepreneurial income, such as education and management experience, but also by factors that did not affect income, such as age and parental background. Gimeno and colleagues (1997) also found that financial buffers in the form of the founders' wealth lowered the probability of exit (see e.g. Holtz-Eakin, Joulfaian, & Rosen, 1994 for similar evidence). However, potential buffers in the form of financial slack *in the firm* seemingly did not affect entrepreneurial exit in Bates's (1990) study of 4,429 U.S. entrepreneurs between 1976 and 1982, despite the evidence that slack strongly affects risk-taking and performance in larger firms (Bromiley, 1991). A potential explanation is that while financial slack allows firms to weather times of low profitability, exit of new entrepreneurial-run firms is to a large extent a voluntary decision taken by the owner-manager entrepreneur and financial buffers in the firm is not necessarily closely connected with this decision.

***Table 2*: Economic performance and entrepreneurial exit**

	Increasing probability of Exit	N/S	Decreasing probability of Exit
Individual level Financial variables			
Income drawn from entrepreneurship			Holtz-Eakin et al.(1994) Gimeno et al (1997) * Jørgensen (2005) * Andersson (2006)
Entrepreneurs' wealth		Van Praag (2003)	Gimeno et al (1997) * Holtz-Eakin et al.(1994)
Firm level Financial variables			
Net income			Kalleberg and Leicht (1991) *♂
Slack (debt/equity ratio)		Bates (1990) *	
Market Strategy			
Specialist (market niche) focus		Brüderl et al. (1992)* Carter et al. (1997) *	Stearns et al. (1995) * Sorenson and Audia (2000) *
Generalist (mass market) focus	Gimeno et al (1997)*		Brüderl et al. (1992) *
Number of product offerings			Kalleberg and Leicht (1991) ♀ *
Innovative activities	Kalleberg and Leicht (1991) *♀		

Note: All studies based on the 5% significance level or above. * = firm exit. ♂ = men only. ♀ = women only

Table 2 outlines the relationship between various performance-related or strategy-related variables and individual exit found in prior studies. The three columns outline studies indicating a significant positive relationship between various performance variables on firm exit (left column), a non-significant relationship (middle column) or a negative relationship (right column). The findings summarized in Table 2 clearly indicate that entrepreneurs' earnings (performance) lower the likelihood of exit, as does their accumulated wealth. Some studies also indicate that an explicit market strategy – be it a more focused or a more general one – seems to lower the probability of firm exit. The evidence is quite clear that financial performance matters – as we would expect it to – given that revenue is needed to continue in business. Yet, with only one exception, the available studies do not inform our understanding of how, specifically, performance matters for entrepreneurial exit decisions.

Among the studies revealing that financial performance decreases the probability of exit, only the threshold model by Gimeno and colleagues (1997) offers a theoretical explanation for why entrepreneurs will terminate their firm when it performs below a certain level. The threshold model posits that entrepreneurs' exit decisions are determined by them comparing their expected earnings from entrepreneurship vs. other occupations together with their personal costs of switching occupations and their perceived psychological value of entrepreneurship.

The key difference between the model by Gimeno et al. and the models I suggest in this dissertation is that instead of assuming that the entrepreneurs' performance below a certain threshold should always trigger the same type of response, I posit that entrepreneurs' choice to exit depends on whether the entrepreneur fulfills his or her aspiration – i.e. reaches his/her *subjective* goals or not. To accommodate the notion of subjective goal fulfillment I draw on behavioral models of decision-making developed in organization studies (Miner & Mezias, 1996). Here, goal satisfaction is considered a function of comparison with some peer group and/or earlier performance levels. How, then, are behavioral learning models different from a rational learning model?

2.2. Decision-making leading to exit

From a behavioral perspective, decision-makers in new owner-managed firms are opportunistic and less dependent on external stakeholders than managers of large firms (Cyert & March, 1963). They can quite easily shift strategy or abandon their entrepreneurial efforts by closing their firm. Yet a number of studies show that many new and small firms persist for several years with low profitability (e.g. Detienne, Shepherd, & De Castro, 2008; Gimeno et al., 1997). This fact is difficult to explain with economic models of entrepreneurial learning that stress utility-maximizing and selection-based learning.[9] Behavioral models do not assume decision makers to behave rationally, although they are often described as *intentionally* so.[10] However, a key theoretical difference between behavioral and economic models is the conceptualization of aspirations versus expectations (Lant, 1992). Expectations are defined as anticipations of future events based on the optimal use of all available information (Muth, 1961). This is distinct from constructs that represent desires, such as aspirations, which in economic models are subsets of expectations that are simply assumed to be included in a decision-maker's preference function. So while utility-maximizing economic models suggest that aspiration is but one of all aspects that human agents factor into their preference function, behavioral learning theories hold that there is a strong social component to economic decisions and what is considered "adequate" performance. Empirically, however, the predictions of behavioral decision models might be difficult to distinguish from rationality, especially in the long run (Lant, 1992).

In behavioral learning models, declining performance is considered a 'trigger' for strategic readjustment and change. Studies of large and small organizations using behavioral logic have found that declining performance can be a trigger for further investments (Greve, 2003b), acquisitions (Folta & O'Brien, 2008), internationalization (Wennberg & Holmquist, 2008) and firm growth (Delmar & Wennberg, 2007). From a behavioral perspective, entrepreneurship is considered an experiential learning process where entrepreneurs learn from observing the performance implications of previous actions, using that information to take new strategic action. This suggests that an important diverging empirical prediction between behavioral and rational learning models is how entrepreneurs relate to deteriorating performance: Economic learning models predict that entrepreneurs exit the market when performance is low, although there is some disagreement across the models as to how long a period of low performance is necessary to induce exit. Behavioral learning models predict that low performance leads to strategic change in behavior, which could include exit, but also to other changes such as business model / market focus.

---

[9] See Carroll and Harrison (1994) for a sociological explanation why selection is 'weak' in most industries.

[10] 'Intentional rationality' can be thought of as goal-directed choice anchored in a person's interpretation of the situation which he or she confronts (Beckert, 2003). This process is not purely individual-subjective as in a social constructionist view but rather based on generalized expectations of other's behavior and agreed-upon interpretations of such behavior (c.f. Mead, 1934).

In the behavioral tradition, adequate – or 'satisficing' – economic output is considered something that is partly socially constructed by observing one's previous performance or the performance of similar others – a reference group (Cyert & March, 1963). While micro-oriented research in organizational behavior has tended to use measures of reference groups derived from individual perceptions (cf. Goodman & Haisley, 2007; Kulik & Ambrose, 1992), more macro-oriented research has tended to model firms' reference groups as a simple benchmark with other firms in an industry (Greve, 1998) in a social network (Baum et al., 2005). Others have suggested that physical proximity, size, and other organizational characteristics are important for the formation of reference groups (Lant & Baum, 1995; Porac et al., 1995). Yet, such aggregate measures do not seem to accurately reflect the social comparison processes of entrepreneurs running small firms. In this dissertation I use theories of socialization (Mumford, 1983; Ryan, 2000) to propose that in the context of entrepreneurial exit, a more valid reference group for individual entrepreneurs should consist of entrepreneurs with a comparable educational background. A prior study of social interaction in and labor market behavior in Sweden indicates that personal links formed in school settings affect the individual's job switches (Hedström, Kolm, & Åberg, 2003). But to the best of my knowledge, no research has yet investigated the role of schooling for the formation of entrepreneurs' aspiration levels.

2.3. Initial conditions and predictors of exit

The perspective of exit as a strategic response to performance relative to a threshold or a level of aspiration suggests that the initial goals and aspirations of entrepreneurs are important. There is, however, a broader literature pertaining to the importance of the initial conditions and resources available at the time of initial venturing, for shaping entrepreneurial exit. Many studies have found that initial conditions at the time of entry are vital in shaping the likelihood, conditions and processes of exit. For an individual entrepreneur, the personal reasons and factors associated with entry into entrepreneurship are crucial factors associated with both *whether* and *how* he or she chooses to exit (Taylor, 1999). The resources and environmental conditions present at the time of founding can also influence *the firm* in long-lasting ways, even if more resources are accumulated and environmental conditions change (Delmar, Hellerstedt, & Wennberg, 2006). This means that the entrepreneurial process by which individuals engage in the start, the growth, and the exit of a firm is path-dependent. Entrepreneurs starting in times of economic hardship generally encounter more obstacles such as lack of venture capital, low demand, environmental uncertainty, etc. Even if they manage to persist as entrepreneurs, the way that they deal with those obstacles can shape the way that their venture develops in the future (Landberg, 2008).

The theoretical logic behind the importance of initial conditions has been explained by the ecological theories of *density delay* and *red queen competition.* Density delay proposes that the number of competitors present at the time of firms' founding reduces the amount of resources for each firm, increasing the probability of exit throughout their entire life course because the lower resource available in periods of high density tend to become self-reinforcing and amplify differences in exit rates of firms founded under different conditions (Carroll & Hannan, 1989). The theory of red queen competition, on the other hand, suggests that the number of competitors present at the time of firms' founding can increase the viability of firms that manage to remain in business (Barnett & Pontikes, 2008). Hence, density delay stresses *selection-based competition* whereas red queen competition stresses *adaptation from competition*. A moderating view is presented in Shepherd, Douglas, and Shanley's (2000) model of new venture survival, which suggests that entrepreneurs learn to deal with the selection pressure on new firms by engaging in various risk-reducing strategies. The model focuses specifically on failure – i.e. exit due to financial default. In this model, it is not the number of competitors during founding per se that determines the probability of exit, but rather the new firms' degree of novelty on a number of dimensions: market novelty (the degree to which the customers are uncertain about the new venture), production novelty (the extent to which the production technology is similar to technologies in which the production team has experience and knowledge), and novelty to management – the entrepreneurial team's (lack of) relevant business skills, industry specific information and start-up experience. Shepherd and colleagues also suggest that strategies to reduce risk might lessen default – i.e. exit due to low performance. Similar suggestions are provided in Van Witteloostuijn's (1998) model of exit which posits that firms performing under a reference point may engage in failure-avoiding strategies to avoid default. To the best of my knowledge, no studies to date have empirically investigated how risk-reducing/failure-avoiding strategies impact exit.[11] In this dissertation I start to address this empirical gap by investigating how individual entrepreneurs' risk-reducing strategies affect both low-performing and high-performing exits.

[11] See the related literature on corporate 'turnarounds' which focus on large firms (e.g. D'Aveni, 1989).

2.3.1. Firm-level initial conditions

What, then, are the important initial conditions noted by prior studies pertaining to the firm level? New firms started with higher initial capital (Bates, 1990), an established legal entity (Delmar & Shane, 2004), more extensive number of product offerings (Kalleberg & Leicht, 1991) and more employees during founding (Bates, 1995; Delmar, Hellerstedt, & Wennberg, 2006) have been found less likely to exit. However, also here the resources of the new firm have been found to be closely intertwined with the resources and knowledge of the individual entrepreneur. For example, firm founders' human capital has been found to be strongly related to both start-up capital and firm survival, indicating that failure to control for entrepreneurs' human capital characteristics might lead research to overestimate the importance of financial capital (Bates, 1990). This indicates that research needs to acknowledge that resources might be distinctly related, non-related, or adversely related to each other. Further, studies of new firm evolution need to consider factors related to the founding entrepreneur(s). The importance of such initial factors will now be discussed.

2.3.2. Individual-level initial conditions

Generally, empirical studies have found that the probability of exit is lower for entrepreneurs with more extensive human capital (Brüderl et al., 1992). Fundamental to this line of research is the assumption that individual competencies and skills will influence the firm's development even though the environment and the firm will continue to change. The theoretical reasoning centers on the notion that new firms whose founders bring with them a more extensive base of skills and experience are in a better position to withstand environmental fluctuations and also to overcome bad managerial decisions.

A substantial empirical literature has investigated the role of firm founders' human capital in entrepreneurial exit. For example, Taylor (1999) investigated 1,361 persons from the British Household Panel Study between 1991 and 1995. He found that while specific human capital such as prior entrepreneurial experience lowered the likelihood of exit, formal education did not. Two other studies in this vein are Johansson's (2000) study of 4,192 Finnish persons who became self-employed during 1987-1995, and Andersson's (2006) study of all 22,438 Swedes who started a sole proprietor or a partnership in 1999. Both studies found that long education increased the probability of exit to a paid job but decreased the probability of exit to unemployment. Finally, the study by Sørensen (2007b) followed 4,399 Danes who started a sole proprietor or a partnership during 1980-1997 and found that, while prior industry experience lowered the likelihood of exit, experience from growing up in a family of entrepreneurs did not.

Not only the explicit skills among entrepreneurs but also their individual goals and strategies have been found important for exit. For example, the existence of an explicit type of market strategy – either a more generalist or a specialist niche strategy – has been found to reduce the probability of exit (Brüderl et al., 1992; Stearns et al., 1995). There is also indirect evidence that such strategies and goals are related to the founder's experience and skills. Boeker (1988) noted in his study of 62 Californian semiconductor firms that a founder's career background strongly shaped the evolution of firms. One goal of this dissertation is to investigate how founders backgrounds affect patterns of exit by looking specifically at differences in the individual's education and work experience, as such differences are believed to affect how entrepreneurs consider the possibility of exit as well as the relative attractiveness of different exit routes. In this way the progress of new firms and self-employed entrepreneurs follows a path-dependent process where initial conditions by and large shape the paths that firms and individual entrepreneurs follow. Table 4 below summarizes the important initial factors that prior studies have found to be related to entrepreneurial exit. As is evident in the table, for some variables such as years of education, the findings from prior studies are inconclusive as to how much they affect exit. In this dissertation I argue that these divergent findings are due to an underconceptualization of exit as a binary outcome, and that some of the inconclusive findings in regard to entrepreneurial experience, age, or education might be remedied if studies of exit can distinguish between exit by liquidation and exit by firm sale. These distinctions are discussed in the final theory section 2.5, but before this I will also address how environmental factors outside the power of the entrepreneur affect exit.

Table 3: **Initial conditions and entrepreneurial exit**

	Increasing probability of Exit	N/S	Decreasing probability of Exit
Human capital variables			
Years of education	Andersson (2006) Taylor (1999) ♂ Lin et al. (2000)	Taylor (1999) Van Praag (2003) Johansson (2000)	Bates (1990) Brüderl et al. (1992)
University education (0/1)	Andersson (2006)	Azoulay & Shane (2001) * Lohmann & Luber (2004) Burke et al (2008) ♂	Amossé & Goux (2004) ♂ Sørensen (2007b)
Vocational education (0/1)		Lohmann & Luber (2004) Burke et al (2005) ♂	Amossé & Goux (2004) ♂ Sørensen (2007b)
Industry experience	Metzger (2007)	Shane & Stuart (2002) *	Gimeno et al (1997) * Pennings et al. (1998) * Van Praag (2003)
Management experience		Bates (1990)	Gimeno et al (1997) *
Entrepreneurial experience	Jørgensen (2005) * Kalleberg & Leicht (1991) ♂ *	Van Praag (2003) Gimeno et al (1997) *	Gimeno et al (1997) * Delmar & Shane (2003) * Taylor (1999) Andersson (2006)
Socio-Demographic variables			
Gender=male		Sørensen (2007)	Bates (1990) Taylor (1999) Burke et al (2008)
Age	Harhoff et al. (1998) * Taylor (1999) Holtz-Eakin et al. (1994)		Gimeno et al (1997) * Van Praag (2003) Jørgensen (2005) *
High Age (age squared)	Taylor (1999) Jørgensen (2005) * Andersson (2006)		
Married	Sørensen (2007b) ♀	Johansson (2000)	Jørgensen (2005) * Andersson (2006)
Family firm background		Sørensen (2007)	Gimeno et al (1997) *
Social Network			Davidsson & Honig (2003) Dahl & Sorenson (2008)
Firm level variables			
Firm's legal form		Kalleberg & Leicht (1991) * ♂	Jørgensen (2005) * Delmar and Shane (2004) *
# Employees/ partners at start		Carter et al. (1997)	Cooper et al. (1994) Bates (1995) Headd (2003)

Note: All studies based on the 5% significance level or above. * = firm exit. ♂ = men only. ♀ = women only

2.4. The role of environment for the exit decision

So far I have mostly discussed internal reasons for exit such as the founder's strategic decision-making, the resources and skills that she brings to the new firm, and the collaborators and employees that he or she teams up with. But no matter how determined, bold, or overconfident the founder is 'to make it', no matter what resources, skills or experiences are assembled in the new firm,[12] an inescapable fact is that entrepreneurs are strongly dependent on the situation in the society and market economy. During the time of writing this dissertation, the world is entering a global recession that might be the worst in 80 years. Many entrepreneurs could be hard pressed to exit in such dire economic times. Thus, even if the main focus of investigation in this dissertation is how a founder's skills and decision-making affect entrepreneurial exit, it is also necessary to consider the research that has documented how a range of geographic, economic and industry-level forces might affect the likelihood of exit.

Theories of entrepreneurship often focus on the importance of uncertainty for the emergence of new entrepreneurial opportunities and individuals' decisions to discover and exploit such opportunities (Shane & Venkataraman, 2000). However, uncertainty might also induce the exit of existing firms. The study by Anderson and Tushman (2001) investigated what led firms to exit the American cement and minicomputer industries during the 20th century. They found that uncertainty, in the form of demand volatility and the rate of technological change, was strongly associated with exit – far more important than other industry-level and macroeconomic conditions. This highlights the Schumpeterian idea that uncertainty in future demand creates important opportunities for entrepreneurs – but once they have established their firm, this very uncertainty becomes a threat to the persistence of firms. Hence, industry volatility is one important condition that may impart exit. Study 1 in this dissertation investigates the role of industry uncertainty (volatility) for both the entry and the exit of individual entrepreneurs, arguing that more experienced entrepreneurs use strategic decision-making heuristics to deal with such uncertainty.

More general economic conditions have also been found to exhibit weak to moderate effects on entrepreneurial exit. Economic conditions influence the profitability of the entrepreneurial

[12] Take for example the case of the internet retail start-up Boo.com, which was started at the height of the dot-com boom by a team of extremely motivated and experienced entrepreneurs with over $100 million in venture capital funding. When the market turned sour, the firm did not even last for two years.

venture, but also the amount of job opportunities available elsewhere (Phillips & Kirchoff, 1989). Several empirical studies find that the probability of exit is higher when the economy is in decline, such as when unemployment or bankruptcy rates increase (Andersson, 2006; Carrasco, 1999; Taylor, 1999). For example, Everett and Watson (1998) studied 5,196 Australian retail and service start ups between 1960 and 1999. They found that environmental factors such as the unemployment rate were associated with somewhere between 30 and 50 percent of exits. Everett and Watson interpreted this to mean that a high unemployment rate may indicate problems in the economy, increasing the probability of business failures. However, there is also research indicating that under some conditions, the likelihood of exit might *increase* when the overall economy is thriving. Economic growth or high salary levels in the surrounding area suggest that the availability of outside job opportunities increases (Andersson, 2006; Gimeno et al, 1997). This might lead entrepreneurs to liquidate or sell their firm, moving instead to another occupation.

Further, a substantial literature in entrepreneurship, population ecology, and economic geography suggests that geographic factors – such as the clustering of similar or related firms in industrial agglomerations – are important for entrepreneurial entry and exit. However, some of this work argues that entrepreneurs are less likely to exit if they co-locate, while other work argues that co-locating increases the probability of exit. For example, Pe'er and Vertinsky (2006) argued that entrepreneurs who co-locate in clusters should be less likely to exit since they are less dependent on the rare skills of their employees and specific resources, as skills and resources can be attracted nearby. Conversely, Gordon and McCann (2005) argued that entrepreneurs who co-locate in clusters should be *more* likely to exit because there are stronger job-matching opportunities in clusters of firms, meaning that under-performing entrepreneurs can more easily find alternative employment. Also the empirical evidence in this area is mixed. A famous study by Dumais, Ellison and Glaeser (2002) of all U.S. manufacturing plants between 1972 and 1992 found that new plants in industrial agglomerations were *less* likely to exit. However, this study mixed independent plants and plants owned by large firms, so the findings might not extend to small owner-manager firms. The study by Sorenson and Audia (2000) of all 5,119 footwear manufacturers in the U.S. between 1940 and 1989 found that young plants which located in or near concentrated regions were *more* likely to exit than isolated plants. One reason suggested for these divergent findings is that prior studies have employed a variety of different ways to measure clusters. In a study employing different measures of clustering, Baum and Mezias (1992) followed all 593 transient hotels started in New York during 1889–1990 and found that physical proximity to other hotels tended to increase the probability of exit, but only if measured by similar hotel segments. While the proximity to hotels of similar size, similar locations and similar pricing segment increased the probability of exit, the number of competitors in the city *per se* actually decreased the probability of exit. A sociological explanation for these divergent findings on how agglomerations of similar firms affect exit is provided in Carroll's (1985) model of "resources partitioning". This model proposes that the amount of resources available in a market is limited, and in order to grab an increasing share of those resources, existing firms have to grow and become more "general" in order to position themselves as able to cater to most needs in that market. However, this also creates opportunities for new organizations to enter "on the fringes" of the market as providers of niche products and services. Evidence of resources partitioning for new firm entry has been shown in diverse industries such as software manufacturers (Fernhaber, Gilbert, & McDougall, 2007), film producers (Mezias & Mezias, 2000), and American microbreweries (Carroll & Swaminathan, 2000). Relatively less emphasis has been put on how resource partitioning might affect entrepreneurial exit. One study, however, suggested that firm are more likely to exit when the outside job prospects of managers are high (Phillips, 2001). Hence, both industry and geographic factors are also important in shaping exit patterns.

One might ask whether the importance of geographic factors and generalist/specialist strategies for exit holds true also for very small owner-manager firms. It seems so: Schiller and Crewson (1997) used data on entrepreneurs from the U.S. Longitudinal Study of Youth and found that entrepreneurs locating in an urban area had a significantly lower likelihood of exit. Further, Stearns and colleagues (1995) studied a random sample of 2,653 owner-manager firms founded in 1986 in the U.S. states of Pennsylvania and Minnesota. They found that patterns of exit differed greatly depending on industry context and whether the firms were founded in urban or rural locations. New service firms with a niche strategy were less likely to exit when they located in urban rater than in rural areas. Conversely, new product firms with low-cost strategies (generalists) were more likely to exit in urban than in rural areas. This affirms the important role of environmental characteristics during processes of entrepreneurial exit. Such environmental characteristics therefore have to be controlled for if we wish to investigate the importance of other factors, such as the role of financial performance or behavioral decision-making, for entrepreneurial exit. So although the environment is not a primary interest in this dissertation, in the empirical studies I try to control for environmental influences on entrepreneurial exit. The exception is study 5: here the opposite research design is used and I try to control for *internal* factors when investigating the role of industrial clusters for the exit of new firms. Table 5 below summarizes the empirical evidence from studies of how environmental factors impact entrepreneurial exit. It shows that many individual-level studies indicate that the probability of exit increases when the local unemployment or bankruptcy rate is high, but also when income levels and the overall economy are growing. Further, a couple of studies indicate that locating in an urban area decreases the probability of exit. When it comes to co-locating with similar firms, however, the evidence is mixed in regard to whether proximity to similar firms increases or decreases the probability of exit. This is one of the motivations for study 5 where the firm's environment is the focus of investigation.

***Table 4*: Environmental influences on entrepreneurial exit**

Environmental Variable	Increasing probability of Exit	N/S	Decreasing probability of Exit
Macro economic conditions			
Local unemployment rate	Everett & Watson (1998) Carrassco (1999) Taylor (1999) Andersson (2006)		
Local mean income	Andersson (2006)		
Local bankruptcy rate	Johansson (2000) Van Praag (2003)		
Local economic growth	Gimeno et al (1997) *		Barbieri & Bison (2004)
Demographic factors			
Human Population density	Gerber (2004)	Andersson (2006)	
Urban location			Stearns et al. (1995) * Schiller & Crewson (1997)
Industry Competition			
Firm Population density			Carroll & Hannan (2000) *
Firm Population density ²	Carroll & Hannan (2000) *		
Proximity to similar firms	Sorenson & Audia (2000)* Folta, Cooper & Baik (2006)*	Azoulay & Shane (2001) *	Dumais, Ellison & Glaeser (2002) *
Industry volatility	Anderson & Tushman (2001)*		

Note: All studies based on the 5% significance level or above. * = firm exit. ♂ = men only. ♀ = women only

2.5. Different *routes* of exit

Perhaps the most conclusive evidence on entrepreneurial exit to date was provided by Gimeno and colleagues (1997). They found that exit was affected by factors that simultaneously affected entrepreneurial income, but also by factors that did not affect income at all, such as growing up in a family firm. Another key finding of this study was that exit is underspecified as a dependent variable – i.e. that there are several different routes of exit that might involve different theoretical explanations. This finding has received much attention in the recent literature and will now be discussed because it relates directly to how we define and think about exit.

From a firm-level perspective, the dominating focus on exit as 'failure' in the area of organization studies reflects the – implicit or explicit – view that firms are seen in the light of 'going concern', i.e. entities that try to prolong their existence. For incumbent firms with a multitude of stakeholders such as large joint-stock corporations, this might not be an unreasonable assumption. Yet, for new independent firms run by one or a few entrepreneurs, the destiny of a firm is intimately linked to that of its owners(s). This can be exemplified with Headd's (2003) investigation of perceptual measures of success amongst 12,185 firms in the 1996 Characteristics of Firm Owners Survey, a representative sample of U.S. firms started between 1989 and 1992. He found that after four years, half of all entrepreneurs had exited and one-third of these considered their firm to be 'successful'. Headd also found that factors characterizing exiting firms such as lack of initial resources, started by a young entrepreneur, etc., did not differ between entrepreneurs who considered themselves as making a 'successful' or an 'unsuccessful' exit. A conclusion of the study was that a high proportion of exiting entrepreneurs seem to consider this a satisfactory outcome. Another conclusion was that entrepreneurs' goals and time horizon diverge: some may want a life-style firm, some are trying to build a high-growth firm that they can divest in a few years, yet some others seek to avoid unemployment, etc. This interpretation received support in DeTienne and Cardon's (2006) study of future exit strategies among 189 entrepreneurs in the U.S. electrical measurement and surgical medical instrument industries. They found that older entrepreneurs were more likely to have an exit strategy, and that common human capital variables such as age, education and experience were related to what specific exit strategy (family succession, sell-off, IPO, liquidation, etc.) the entrepreneurs envisioned.

Despite the multitude of exit motives and specific exit routes suggested by these studies, research on *firm exit* seems to converge on a conclusion that there are two broadly distinct exit routes: liquidations and sell-offs (e.g. Gimeno et al., 1997; Mitchell, 1994). Research on *individuals' exit* from self-employment seldom has access to firm-level data: hence these studies cannot observe what happened to the firm after the entrepreneur left self-employment (see Taylor 1999 and Van Praag 2003 for important exceptions). Rather, such studies focus on what happens to the individual entrepreneur after exit, i.e. whether he or she starts another firm, become unemployed, takes up a job etc. The lack of access to firm-level data in studies of individuals' exit is a problem since the likelihood of becoming unemployed will naturally be much higher if the entrepreneur did not plan for exit – such as in the cases of firm bankruptcy or forced liquidation. Hence, research cannot readily assign 'causes' or validity to specific exit routes without carefully specifying the levels of analysis – is it interesting what happens to the firm upon exit, what happens to the entrepreneur(s) – in the short or the long run? Hand in hand with the level of analysis also goes the question of boundary conditions of exit as a phenomenon. Are we interested in *why* the entrepreneur exited? Then, the happenings of the firm and the entrepreneur's reaction to this should be of interest. Are we interested in what the entrepreneur comes to do *after* exit? Then what happened to the firm might plausibly be less important.

This dissertation focuses on *why* entrepreneurs exit. Hence, firm development and performance are important topics, as are vital events in the life of the entrepreneur. Prior studies have used different approaches to account for entrepreneurial life-course events: Gimeno et al. (1997) explained such events indirectly in that the opportunity costs to entrepreneurship are affected by demographic factors (see also Carroll & Mosakowski, 1987). Taylor (1999) provided some interesting evidence in his study of 1,361 U.K. entrepreneurs between 1991 and 1995. In the study, 4.3 percent of men who exited from entrepreneurs quoted 'personal reasons' such as education or family care for their decision to exit, while 13.4 percent of women entrepreneurs quoted similar reasons. This indicates that the personal reasons for exit can differ substantially across individual and that the life-course situation of entrepreneurs can be important for exit. In all individual-level analyses I therefore try to control for gender and other factors relevant to the life situation of entrepreneurs.

Even though there might be substantial heterogeneity in entrepreneurs' motivations for exit and how well their firms are performing, exit by closing/liquidating the firm should generally be more closely associated with low-performing entrepreneurs. But what about sell-off? Storey, Parker and Van Witteloostuijn (2005) suggested that there might be several distinct types of firm sales but did not specify what types of sales those might be. Entrepreneurs might have a multitude of reasons to sell off their firms, including unsatisfactory performance (Jensen & Ruback, 1983), lack of resources to sustain further expansion (Granstrand & Sjölander, 1990), mismatch with the entrepreneurs' other goals (Burgelman, 1994) or managerial succession due to old age or unwillingness to further pursue the firm (Melin & Nordqvist, 2000). While liquidation generally indicates low firm performance, sell-off indicates that the firm performed better than average (Bates, 1999). Some studies have identified sales with respect to the characteristics of the buyer (Birley & Westhead, 1993; DeTienne & Cardon, 2006; Graebner & Eisenhardt, 2004). Implicit in this literature is that sell-off is seen as successful by the seller. Yet sell-off may also be an alternative preferred by the entrepreneur to avoid bankruptcy or liquidation of a poorly performing firm. If a firm is starting to generate losses and the entrepreneur is unable to turn the situation around, she has the option to sell the firm's operations and its remaining assets before it accumulates further losses – what Van Witteloostuijn (1998) refers to as the "flight from losses".

All this indicates that research on exit should look for divergent motives or difference in performance among entrepreneurs who exit by liquidation or sale, rather than assuming that liquidation is always an unsuccessful outcome and sell-off is always a successful outcome. Study 2 in this dissertation looks specifically at this issue by investigating entrepreneurs who exit by liquidation or sale of firms that are either close to bankruptcy or performing well. To exemplify the types of exits investigated in previous studies and their relationships with various variables, Table 6 below summarizes a number of important prior studies, their level of analysis, the main findings, and the specific exit routes investigated. Among other things, the table shows that individual-level factors have strong effects on exit at the firm level (Brüderl et al., 1992), that there are various types of exit routes related to entrepreneurs' labor market options (Andersson, 2006; Holtz-Eakin et al., 1994; Lin, Picot, & Compton, 2000), and that exit routes can differ markedly between men and women entrepreneurs (Taylor, 1999). Perhaps most importantly, the studies by Van Praag (2003) and Lin et al. (2000) show that entrepreneurs' human capital might have differential effects on each of these exit routes. This shows how my second research question – about different routes of exit – relates directly to the other research questions, since factors such as performance and aspirations might well also differ across exit routes.

***Table 5*: Different routes of entrepreneurial exit**

Study:	Brüderl et al (1992)	Holtz-Eakin et al. (1994)	Mitchell (1994)	Taylor (1999)	Lin, Picot & Comption (2000)	Van Praag (2003)	Andersson (2006)	Sørensen (2007b)
Country:	Germany	U.S.A.	U.S.A.	Great Britain	Canada	U.S.A.	Sweden	Denmark
Sample:	1,794 firms registered 1985-1986 in Western Bavaria, interviewed in 1990 (resp. rate 43%).	1,892 sole proprietors in 1991 who received inheritances 1991-1995.	141 new and 274 diversifying entrants in 7 medical product markets tracked from first sale in the industry.	1,361 persons above age 18 from the British Household Panel Study 1991 - 1995.	13,403 representative persons aged 15 - 64 who were not full-time students.	271 white men aged 20-32 with non-incorporated firms from National Longitudinal Study of Youth (NLSY)	All Swedes (22,438) who started either a sole proprietor or a partnership in 1999, followed until 2000.	4,399 entrepreneurs in proprietorships/ partnerships from the IDA Database followed until 1997. 42% had parents that were entrepreneurs.
Unit of analysis	Firm	Individual	Firm	Individual	Individual	Individual	Individual	Individual
No. exits events:	1	3	2	3	4	2	4	1
Type of exits:	*All exit treated as 'disbanded' based on reports with founders 5 years after registration*	*Exit to employment*: (40.0%), *Exit to* self employment *in another firm*: (51.3%). *Retiring or exiting the labor market*: (8.7%).	*Firm exit from the product market*: (40%), Firm *exit by sale of the firm to outsiders or as a management buy-out* (20%):	*Bankruptcy*: *(15.1%*) *Exit to employment:* (43.5%): *Other reasons* – such as education or family care: (4.3% for men and 13.4% for women)	*Exit to employment*: (31.4%), *Exit to* self-employment *in another firm*: (9.0%), *Exit to unemployment* (21.9%). *Exiting the labor market*: (40.5%).	*Compulsory exit (*44%) defined as (a) "bankruptcy" (b) "fired" from self-employment, or (c) 2+ months unemployment after exit. *Voluntary exit:* (56%): defined as "quitting" self-employment	*Exit to employment*: *(*43,2%), *Exit to unemployment* (19,1%), *Exit to inactivity* (17,9%), *Exit from the labor market: (*19,8%).	Pooled exit from self-employment with exit due to incorporating the partnership / proprietorship.
Key findings:	*Resources at founding* (capital and employees) and a *strategy for growth* predicted firm survival.	Receiving an inheritance decreases probability of exit.	Entrepreneurs in n*ew firms are no more likely than diversifying entrants to exit from a market*, and are less likely to sell the firm.	Experience in self-employment or employment lowered chance of *exit*, but formal education did not.	The exit rate for those priorly unemployed is 3 times higher than those not unemployed	Labor market experience increased the probability of voluntary but not compulsory exit, while high age increased the probability of compulsory but not involuntary exit.	Education, high age, and part-time entrepreneurship associated with exit to employment. Being women or immigrant associated with exit to unemployment.	Parent's entre-preneurship had no effect on exit, but prior industry experience and parents in the industry was negatively related to exit

2.6. A general model of entrepreneurial exit

This section presents a general theoretical model of entrepreneurial exit. The model is based on the process model of entrepreneurship presented in Figure 1 in the introduction and its components are derived from the above literature review. By combining the insight from earlier studies and perspectives on exit in the above theory sections, it is apparent that three main groups of factors are highly relevant for exit: (i) individual competencies and resources, (ii) firm performance, and (iii) environmental forces. Further, in section 2.5. I suggested that the importance of these factors might differ depending on the specific exit route utilized, for example if the entrepreneur exits by selling the firm rather than liquidating it. In Figure 3 below, I therefore summarize the three groups of factors in an attempt to integrate them with the suggested process model of entrepreneurial exit.

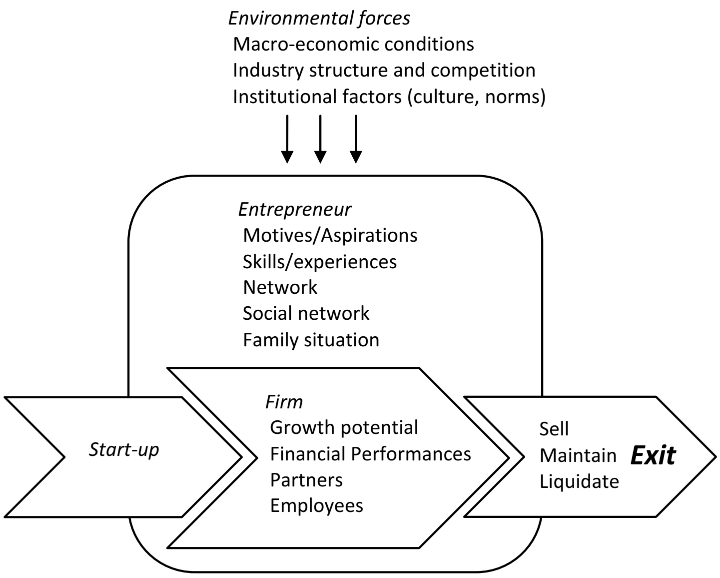

***Figure 3*: A general model of entrepreneurial exit**

3. METHODS

3.1. Research motivations and outline of the 5 studies

With a background in cognitive psychology and business/economics, a keen interest for me when embarking on a PhD in entrepreneurship was how the entrepreneurial processes of creating, growing, and exiting a firm could be explained by models of decision-making develop in economics and the behavioral sciences. Study 5 started before I had finalized the theoretical model of entrepreneurial exit presented above in section 2.6. I was interested in the mixed empirical evidence regarding how firm's locating close or far to an industrial cluster would affect their probability of exit. In this study, internal factors such as individual competencies and behavioral decision-making are not the main interests, and I try rather to control for individual competencies when investigating how industrial clusters affect the performance and exit of new firms. Study 1 evolved simultaneously as I was drafting the dissertation and my research questions. The study grew out of my interest in one specific model of decision-making (real options) and whether it could be used to explain entrepreneurial processes. The focus on dynamic decisions and recursive investments in real options theory led me to the decision to investigate both entry and exit over a longer period of time in study 1. Study 2, on the other hand, was made with the intention of problematizing exit as an outcome variable, and thus it specifically addresses the second research question, about different routes of entrepreneurial exit. Study 3 started as an attempt to broaden the focus from the individual entrepreneur to the entrepreneurial team, so as to investigate the boundary between individual founders and the new firm. The choice of industry was born when I shared office space with a group of students starting a financial services venture, and it struck me as an ideal setting for investigating how firm founder's *combined* competencies would shape firm exit. Study 4 is perhaps the most ambitious part of this dissertation. I started it with the specific goal of integrating a behavioral decision-making approach to the individual entrepreneurs' decision to exit by sell-off or firm liquidation, respectively. In sum, each of these studies makes a different contribution to research on entrepreneurial exit, and altogether, they support the view that exit includes various factors related to the firm, the individual founder(s) and the environment, as outlined in the general model of entrepreneurial exit shown above in Figure 3.

3.2. Connections between the 5 studies

The general conceptual model of entrepreneurial exit– or rather, distinct parts of the model – are investigated in the empirical studies in this dissertation. Note that according to this model, the actual decision-making leading to exit is not distinguished as a separate 'phase' of the exit process. Rather, it is investigated through the relationships between performance, aspirations, and exit. My first research questions pertained to the relationship between performance and exit. This is addressed by all of the empirical studies but specifically by studies 1, 2, and 4. As indicated in Figure 4, study 1 connects the role of individual founders' skills with both the start-up process and subsequent exit. Study 2 investigates different exit routes by distinguishing well-performing firms from firms in financial distress, hence focusing on the right-hand side of Figure 4. Study 3 moves to the firm level of analysis to investigate the role of entrepreneurial teams for firm exit, as is indicated in the lower part of Figure 4. Study 4 investigates how performance relative to an aspiration level affects exit by liquidation and exit by firm sell-off, respectively. It is the most encompassing among the studies and hence takes the center stage in Figure 4. Finally, study 5 focuses on the role of environmental factors for exit, as indicated in the upper part of Figure 4.

3.3. Level of analysis and measurement of exit

A key point of this dissertation is that exit can be analyzed at different levels. 'Entrepreneurial exit' might constitute the exit of a firm from the marketplace, and/or the exit of an individual from entrepreneurship. In this dissertation I focus primarily on the latter level. This choice necessitates that I distinguish between firm exit and individual exit. Table 7 outlines the distinction between individuals who withdraw from entrepreneurship without closing their firm (*A:* Exit from entrepreneurship by sell-off), individuals who close their firm but soon thereafter start another (*B:* serial entrepreneurship), and individuals who withdraw completely from entrepreneurship and close down their firm (*C:* Exit from entrepreneurship by liquidation). This is compared to the traditional models of new firm exit that investigated firm liquidation without considering what the entrepreneur subsequently does (*D:* firm liquidation).

***Table 6*: Exit events on firm and individual level**

Event	*Individual Exit*	*Firm Exit*	*Designation*	*Study*
A: The individual withdraws from entrepreneurship but the firm continues	Yes	No	Exit from entrepreneurship by sell-off	Study 2 Study 4
B: The individual closes the firm but soon thereafter starts another	No	Yes	Serial entrepreneurship	Study 1
C: The individual withdraws and the firm is liquidated	Yes	Yes	Exit from entrepreneurship by liquidation	Study 1 Study 4
D: The firm is liquidated, what the entrepreneur does subsequently is ignored	?	Yes	Firm liquidation	Study 2 Study 3 Study 5

Different strands of the literature have tended to focus on distinct types of exit. For example, economic career choice models tends not to distinguish between cases A and C in Table 7, nor do they distinguish between case B and an individual who persists in running the same firm for several years. Models of organizational failure (D'Aveni, 1989; van Witteloostuijn, 1998) focus on firms that are disbanded in spite of managerial attempts to prevent this from happening – as in case D. This category does not address what happens to managers and owners after firm exit. To account for this conceptual complexity of exit at multiple levels of analysis, in the five empirical studies I therefore focus on a distinct level of analysis and slightly different definitions of exit as indicated in the right-hand column of Table 7.

In this dissertation I focus mainly on the individual founder as the unit of analysis. Some have criticized this focus on the *entrepreneur* because it fails to acknowledge the strong contextual factors present in entrepreneurial processes, thus being ‘devoid of context’ (Aldrich & Zimmer, 1986) or at risk of ‘glorifying’ the individual founder by disaggregating the social and economic environment into the actions of a single individual (Gartner, 1988). Others have argued moderately that while context is important, understanding the designer of the firm is important for understanding how a firm is designed (Sarasvathy, 2004). My view is that fundamentally, the entrepreneurial process is always initiated by individuals or teams with divergent motivations (Shane, Locke, & Collins, 2003), career options (Gimeno et al., 1997) and aspirations (Sarasvathy, 2004). In order to understand the emergence and evolution of new firms, we thus have to grapple with the important role of the firm's founder(s). Throughout this dissertation, I try to accommodate the individual vs. environment discussion by consistently focusing on the individual-firm interface, using research designs that also incorporate environmental and contextual factors. However, the analytical focus is slightly different in the five empirical studies. This is illustrated in the following sections that discuss the research design of the studies.

3.4. Research design of the empirical studies

In psychology, medicine, and the natural sciences, experimental research is often viewed as an ideal for determining the properties of a social, biological or ecological system and how they affect each other. In the social sciences, it is difficult and expensive to design experiments. Moreover, the external validity of those experiments is problematic since it is not clear to what extent human decisions in an 'artificial' experimental setting can be generalized to the 'real' world. Therefore, researchers frequently use two types of research designs: First, we may look for some 'natural experiment' where a social system is suddenly affected by an outside shock – for example, when an industry is deregulated. Then we observe how entrepreneurs and firms behaved before and after that shock. Alternatively, we use observational data and try to control statistically for factors that we think might interfere with our theoretical model but cannot be manipulated in an experimental setting. The research designs of the different studies in this dissertation primarily follow the second approach. Hence, although I draw upon a large *theoretical* literature, the methodological approach in this dissertation is primarily limited to statistical modeling of observational data drawn from various public register. These registers represent an hitherto unexploited and potentially unique source of population-level data on entrepreneurship. However, they do not contain primary data on e.g. entrepreneurs' motivations, attitudes, or psychological make-up. Hence, the types of inferences and interpretations that can be drawn from the five empirical studies are, as in all studies, limited by the choice of data and methods employed.

In this dissertation on entrepreneurial exit – focusing on the very real world of entrepreneurs who withdraw from firms they initiated – the empirical material collected exhibits all the features of a complicated social system, in that the properties, structures and relations between human actors in an economic system (i) change over time and (ii) affect each other, and (iii) changes at one point time can lead to changes at another point in time. As exemplified in section 2.4, entrepreneurs starting in a recession face different choices than entrepreneurs starting in an economic boom. The choices made early in the entrepreneurial process affect what choices are available for these entrepreneurs in the future. Investigating exit from a 'process perspective', I therefore need to control for what happened earlier in the process. Entrepreneurship research is messy!

To acknowledge and deal with this 'messiness' in a systematic way, I investigate entrepreneurial exit in five studies that each take a slightly different view of the exit decision. In my view, the goal of any theoretical model is to make simplifications that helps in understanding and/or predicting a phenomenon. In the words of Karl Popper: "Simple statements are to be valued more highly than less simple ones because they tell us more; because their empirical content is greater; and because they are better testable" (Popper, 1959: 142). The primary goal of empirical analyses in this dissertation is to understand the causes and/or factors leading to different modes of exit. Since any one single study cannot possibly investigate all different properties of a complicated social system, the five studies in this dissertation each focus on a different part of exit – for example, by looking at different *types* of exit, by shifting the *level of analysis* from the individual to the firm, or by looking at how *different aspects in the entrepreneurial process* (entry, exit and growth) affect each other. In each study, I present a research model of entrepreneurial exit that focuses either on the exit of new firms (studies 3 and 5), or the exit of entrepreneurs from the firms that they started (studies 1, 2, and 4). I try to use fairly simple models whose properties (predictor or outcome variables) have been tested in previous studies (e.g. human capital variables), or else – in the case of novel variables such as aspiration levels or failure-avoiding strategies – there is a clearly articulated theoretical logic behind the variables. The intention behind this approach is that my studies should be generalizable also to other contexts, so as to give other researchers the opportunity to replicate, criticize, or extend upon the theoretical models that I propose.

With a process perspective, studies of exit should integrate how the earlier phases of entrepreneurial entry and growth feed into an evolutionary process where the exit routes and motivations available might have been molded into place much earlier. To investigate this fully requires a very complicated research design and access to rich data. Whether this is an unattainable ideal or not can be discussed, but I nevertheless try to control for what earlier research has shown to be important "imprinting" decisions in earlier phases of the entrepreneurial process. Study 1 investigates the start-up decision and shows the pathdependency between this and the exit decision (see section 2.1). In this dissertation I do not focus specifically on the issue of organizing and growing the firm. Plenty of entrepreneurship research has already investigated these issues (e.g. Brytting, 1991; Wiklund et al., 2003). This is relevant for my dissertation only to the extent that processes of organizing and growth might also have implications for exit: for instance, fast-growing firms might have higher probabilities of both acquisition and liquidation as the variance in performance is higher than among slow-growing or non-growing firms (Barnett & Pontikes, 2008). In the five studies, I try to control for these issues by using advanced longitudinal research designs and by using various control variables:

-study 1 controls for performance
-study 2 controls for firm size and performance
-study 3 controls for firm size and performance
-study 4 controls for firm size, growth and performance
-study 5 controls for firm size and attrition from the sample

3.5. Dealing with heterogeneity

A key problem cited in the entrepreneurship literature is that new firms and their founders are extremely heterogeneous, ranging from 'mom and pop' retail stores to venture capital-backed start-ups in the high tech sector (Davidsson, 2007; Dosi, 1988). Key sources of such heterogeneity concern the industry that the entrepreneur chose to enter. Industries vary widely in economic and institutional barriers to entry and exit (Caves, 1998), availability of entrepreneurial opportunities (Shane, 2003) and how business is generally conducted (Carter et al., 1997). For example, mature industries such as heavy manufacturing often have large barriers to entry and exit and fewer entrepreneurial opportunities than emerging or rapidly growing industries (Shane, 2001). In order to provide robust models with some claims for generalizability, empirical studies need to find ways to control for this heterogeneity (Davidsson, 2007; Wennberg, 2005). Industry context is an important source of *observed heterogeneity* – that is, we know that industries are heterogeneous and we can spot these differences by comparing how entrepreneurs behave and how their firms evolve in different industries. In such cases, research designs need to sample specific industry sectors and/or use control variables to make sure that the conclusions of a theoretical model (for example, how founders' human capital or their firms' performance relative to a level of aspiration affect exit) are not concealed by differences between the industries studied.

In this dissertation I have been able to draw upon a unique dataset maintained by Statistics Sweden that allows me to control for heterogeneity in various ways. First, the data I use are based on whole *populations* of firms and individuals and not on a small sample. The empirical patterns observed can therefore be attributed to the actual patterns of entrepreneurial behavior among firms and individuals in Sweden. Further, and more importantly, the large samples and longitudinal data in the form of panel data allow me to observe differences *between* individuals and firms and differences between the actions and outcomes among individuals and firms *over time*.

A more serious problem is *unobserved* heterogeneity – the possibility that some unknown or unmeasurable systematic difference in the entities investigated might affect the results (Davidsson, 2007). In the economic literature, differences among individuals' cognitive abilities are an often claimed source of *unobserved* heterogeneity that is known to affect labor market behavior and outcomes. In entrepreneurship, individual entrepreneurs might exhibit systematic differences in entrepreneurial ability or risk tolerance which is difficult if not impossible to measure (Shane, 2003; Sørensen, 2007). Since by definition we do not *know* to what extent the entities investigated (individuals, firms, etc.) are similar or heterogeneous regarding some factor we lack information on, we are left with theory, prior research findings, and pure logic to judge whether a sample could be susceptible to unobserved heterogeneity or not. This can only be dealt with indirectly – for example by using longitudinal panel data and statistical techniques that introduce separate control variables for each individual unit investigated (so-called 'fixed effects' regression) or event history models incorporating a gamma-distributed random variable that summarizes the impact of 'omitted variables' – regardless of whether the missing variables are intrinsically unobservable or simply unobserved in the data set at hand. Such techniques consume many statistical degrees of freedom and therefore require information on a large number of individual entities over time. In this dissertation I use these techniques on two occasions. In study 4 I use event history models incorporating random variables to verify that the effect on exit by performance relative to an aspiration level is not a spurious finding caused by some unobserved factor. In study 5 I use fixed effects regression to ensure that the positive effects on new firms' location in an industrial cluster are caused by actual changes in cluster strength over time and not by some factor that I cannot observe, such as access to venture capital, alliances, or pure entrepreneurial ingenuity.

4. EXTENDED SUMMARIES OF THE 5 STUDIES

In this dissertation, all five studies investigate entrepreneurial exit but explicitly focus on different levels of analysis and slightly different definitions of exit. They have a common theoretical framework of focusing on individuals' skills and resources (human capital) and behavioral decision-making, but apply slightly different theories and research designs to shed light on the phenomenon of entrepreneurial exit from various angles.

Study 1 – *"Don't hang on too long: Experienced entrepreneurs' use of real options strategies"*

This study investigates how an individual entrepreneur's exit decision is affected by the entrepreneur's initial mode of entry and how entry and exit are jointly affected by the level of uncertainty in the industry that he or she enters. The study ignores entrepreneurial teams and does not distinguish between liquidation and sell off decisions.

Theory

The study is based on the economic theory of human capital and real options theory to conceptualize entrepreneurship as a specific skill that can be learned – entrepreneurial capital. Since entrepreneurial entry involves dealing with non-foreseeable (exogenous) uncertainty, individuals cannot make rational decisions on how much to invest (Jovanovic, 1982). I use an "Investment under uncertainty" perspective – real options theory – to explain how individuals choose between employment and entrepreneurship in an uncertain market characterized by imperfect information. Applying real options to entrepreneurship indicates a trade-off between the uncertainty and the irreversibility of an investment in a new venture (O'Brien, Folta, & Johnson, 2003). The study therefore does not focus on the ability to recognize an opportunity, but on the choice of how to exploit it in the presence of the dueling options: invest early to gain growth opportunities, or postpone investing to gather more information. This trade-off, and its relationship with entrepreneurial capital, is the focus of the empirical investigation.

Methods

A sample of individuals entering entrepreneurship in 1997 (N=14,150) was matched with a control sample of non-entrepreneurs (N=883,404) and both were followed until 2002. Entrepreneurial experience was measured by using individuals' labor market activities between 1989 and 1996 to count all venturing activities with at least a one-year gap between the spells of venturing activity or at a two-year gap between spells in the same industry and location. Industry-level uncertainty was measured by the conditional variance generated from a generalized autoregressive conditional heteroskedasticity (GARCH) model on quarterly industry investments. Logit models were then used to test the effects of individual experience and industry uncertainty for entrepreneurial entry, comparing all of the entries with the random sample of non-entries. Survival models were used to investigate the effects of the same variables for the exit of the 14,515 entrepreneurs that did enter. This study largely focused on individual entrepreneurs but controlled for basic firm and environmental characteristics such as industry context and financial earnings.

Findings

Prior entrepreneurial experience was found to be a strong predictor of both entrepreneurial entry and exit. This highlights the strong role of learning from prior venturing – suggesting that the skills and knowledge relevant to successfully managing and operating a business are mainly experiential in nature. Further, industry-level uncertainty exhibited curvilinear effects on entry, indicating that entrepreneurs are motivated by growth options that at some level become more valuable than options to defer entry. This suggests that more experienced entrepreneurs use a real options heuristic, in that they much more frequently identify and exploit new opportunities – and more swiftly exit their ventures if the opportunity does not prove valuable enough.

Study 2 – *"Reconceptualizing entrepreneurial exit Divergent exit routes and their drivers"*

This study investigates the exit of 1,735 individual entrepreneurs from the firms that they have founded. Prospect theory was used to define and investigate four distinct exit routes: exit of high- or low- performing firms (liquidation, liquidation of firm in distress) and the sale of high- or low- performing firms (harvest sale, distress sale).

Theory

Prospect theory and its recent applications in behavioral finance suggest that exit decisions are contingent on whether an entrepreneurial project is framed as a gain or as a loss (Kyle, Ou-Yang & Xiong, 2006). The theory predicts that this should affect not only the probability of exit but also the type of exit. In this study it is therefore argued that research should identify which specific route of exit is utilized rather than assume that exit is equivalent to either failure or success.

Methods

The empirical investigation is based on a sample of 1,735 owner-manager entrepreneurs with incorporations or partnerships started in 1995. These were followed until they exited or until 2002. To define the outcome variable, firm exit codes were used to distinguish between liquidated and sold firms. Second, a bankruptcy prediction model was used to distinguish between high and low performing firms, the result being four distinct exit routes.

Findings

The results provide strong support for our conceptualization of exit routes, and also suggest that the effects of commonly examined human capital variables substantially differ across the four exit routes. Entrepreneurial experience increased the likelihood of exiting by harvest sale but not with any other route, consistent with the idea in study 1 of learning by previous experience in entrepreneurship. An entrepreneur's age increased the likelihood of harvest and distress sale compared to both types of liquidation or continued operations, indicating that as their wage-earning years decrease, entrepreneurs are more likely to try to sell their business and capture as much of the harvested value as they can than to simply liquidate it. It was also found that entrepreneurs with higher education were more likely to exit via liquidation than harvest or distress sale, but that education does not differentiate between liquidation and continuation. Although this finding was contrary to what was hypothesized, one possible explanation is that entrepreneurs with high education have other labor market options available to them (Gimeno et al., 1997) and may therefore choose to liquidate the firm and move quickly to another opportunity. Two failure-avoiding strategies were found to affect exit. Taking an outside job decreased the probability of exit by distress liquidation and distress sale, but had no effect on harvest sale or harvest liquidation. This means that taking an outside job decreases the risk of imminent exit, but is not conducive for the successful sale of a firm. Once taking an outside job, the entrepreneur has less time to devote in order to develop the business. This postpones having to sell or liquidate the firm in distress, but also hampers growing the firm to a point where its value can be harvested. The failure-avoiding strategy of investing additional equity reduced the probability of all four exit routes. Interestingly, investing additional equity also reduced the probability of harvest sale. This indicates that there might be disincentives to additional investments if tax laws penalize taking money out of the firm as salaries or dividends.

Taken together, these results indicate a more complex empirical picture of entrepreneurial exit than presented in earlier empirical research using a human capital framework. Further, they validate the notion that psychological framing processes such as those highlighted by prospect theory can be used to analyze the distinctiveness of entrepreneurs' exit decisions.

Study 3 – *"Knowledge combinations and the survival of financial services ventures"*

This study broadens the picture from the individual entrepreneurs to that of the entrepreneurial team. The study investigates the role of industry knowledge for the survival of new ventures in the financial services industry in Sweden during the 1990s. Prior to, and during this period, the financial sector underwent several waves of deregulation and technological change, making it an ideal case for studying the evolution of new entrepreneurial firms.

Theory

The study uses theories of human capital and spin-out entrepreneurship to investigate whether founders' experiences from working in the financial or technological sectors facilitate the survival of new firms. Spin-outs refer to new firm entrants founded by employees of firms in the same industry (Agarwal et al., 2004), suggesting that experiences gained through previous employment in parent firms allow founders of spin-outs to bring specific knowledge regarding a wide range of issues to their new firm, e.g. knowledge of customer demand, products, technology, suppliers and competitors (Helfat & Lieberman, 2002). This study indicate that it is not only the *individual* founder's experience (Cooper et al., 1994) or the experience of the *founding team* (Delmar & Shane, 2006) that might be important to facilitate firm survival, but also the *combination* of experience from different sectors. The line of arguments is based on Kogut and Zander's (1992) theory of combinative capabilities, which has not previously been applied to the field of entrepreneurship. The theory explains how large firms are able to combine unexploited technological opportunities by using prior knowledge accumulated within another unit in the firm. In this study it is suggested that the same micro-mechanisms might be utilized by the founding team members in *new* firms to exploit their existing knowledge together with the unexplored potential of new technologies. For such new firms, their knowledge is to a large extent the aggregate of firm founders' personal industry experience and business acumen.

Methods

The study flips the research design of the second study by putting the focus on the type of firm founded, and therefore uses the firm as the level of analysis instead of the individual founder. The sample consists of all new financial services firms started in Sweden between 1990 and 2002. Data on the firms were linked to data on their founders' career histories prior to venturing, work experience, education, and other variables. Firm-level data included performance measures as well as exit codes that allow distinctions to be made between firms that merge, or are acquired by other firms, and firms that are terminated. After excluding firms that were merged or acquired, 1,077 firms remained for analysis. By investigating how the aggregate experiences among individual entrepreneurs and ventures founded by entrepreneurial teams affect the probability of firm exit, the study is one of the first to derive firm-level variables from the basis of individual founders. Delineations were made between ventures that exited by liquidation and those exiting by acquisition/merger, using survival analysis to investigate what factors contribute to firm liquidation.

Findings

The empirical investigation reveals that firms with more extensive knowledge from the financial and high-tech sectors have higher chances of survival than firms with more narrow knowledge bases. Experience from the financial services sector seems particularly valuable: for each additional year of experience within the founding team, the firm increases its probability of survival by eight percent. Conversely, one additional year of experience from the high-tech industry increases the probability of survival by one percent. Further, the indicator variable for firms whose founders have experience in both sectors reveals that these firms have a twelve percent higher chance of survival, above that contributed by the length of experience in the two industries, respectively.

These findings contribute to the emerging literature on spin-out entrepreneurship by stressing the importance of different types of industry experience for firm survival. While earlier research on *individual* entrepreneurs has verified the importance of pre-firm knowledge in the form of founders' prior employment experiences (Delmar and Shane, 2006; Gimeno et al., 1997; Pennings et al., 1998), this study is the first to demonstrate the importance of different *types* of knowledge.

Study 4 – *"Performance Aspirations and Exit from Entrepreneurship"*

This study investigates how exit is shaped by entrepreneurs' 'performance aspirations' – decision-making heuristics whether the economic performance of their venture is enough to continue or to exit, or enough to sell the firm instead of continuing.

Theory

The study posits that feedback from economic performance is used as information for decision-making among entrepreneurs. The theory of performance feedback (Greve, 2003a) is used to present hypotheses that when performance is below a level of aspiration, the likelihood of exit through firm liquidation will increase, but the likelihood of exit through firm sale will increase. The literature on social comparison in organization behavior and strategic management holds that the performance of a peer group is the benchmark against which a decision-maker evaluates his or her current performance. While the management literature has modeled social comparison as the mean performance of other firms in the industry (Greve, 2003a) or in a social network (Baum et al., 2005), psychologically oriented research has tended to use more empirically salient measures of reference groups based on social similarity (Goodman & Haisley, 2007). Following the logic of the psychological literature, this study argues that the social aspirations of owner-manager entrepreneurs should be determined by their 'similar others' – individuals with similar education and background – rather than by some industry-defined measure.

Methods

The sample consists of all entrepreneurs who started incorporations between 1994 and 1996 in the knowledge-intensive sectors, i.e. high-tech manufacturing and knowledge-intensive services (N=7,473). The first dependent variable is a binary variable defined as *exit by firm liquidation.* The second dependent variable in this study is defined as *exit by sell-off* where the individual owner leaves the majority ownership of the firm to someone else. Following Hamilton (2000), entrepreneurial performance was defined as [revenues – expenses = money taken out + retained earnings]. Data on the individual's age, school, and graduation year from the LOUISE database were used to create a measure of individuals' social comparison group where all individuals graduating with a similar degree in the same municipality during a year. Social aspiration variables were formed by subtracting the social group's performance from the performance of the focal entrepreneur, and historical aspiration variables were formed by subtracting the focal entrepreneur's average past performance from the current performance. Control factors include entrepreneurs' human capital, family and social background, and other characteristics. Event history analysis was used to assess duration in entrepreneurship. To distinguish between different exit routes, the modeling approach estimates exit by liquidation and exit by sell-off as "competing risks" where the other outcome is treated as censored.

Findings

Competing hazard models revealed that performance above the social aspiration has a negative effect on the probability of exit by liquidation and a positive effect on the probability of exit by sell-off. Conversely, performance below the social aspiration had a positive influence effect on the probability of exit by liquidation, but no effect on the probability of exiting by sell-off. The effects of historical performance were even higher, with performance above the historical aspiration exhibiting a strong negative effect on exit by liquidation and positively influencing exit by sell-off. Somewhat surprisingly, the effect of performance below the historical aspiration on exit by sell-off and exit by liquidation was all but identical, increasing the probability of *both* types of exit. This indicate that what is considered 'satisfactory' financial performance among entrepreneurs is constructed, to a considerable extent, in a social setting where the performance of 'peers' strongly affects the probability of exit, over and above the effect indicated by financial performance *per se*. These findings extend previous models of exit indicating that entrepreneurs choose to terminate their firm when it performs below a critical reference point (Gimeno et al., 1997) by showing that reference points are phenomena that are constructed in social interactions, adding to the debate on whether previous models of exit are undersocialized (Shane & Stuart, 2002).

The study also makes conceptual and empirical contributions to the debate on what constitutes the proper reference group for firms' social comparison (Baum et al., 2005; Goodman & Haisley, 2007; Greve, 2003a). While relying on the same fundamental observations of *individuals'* behavior when observing the performance of self and others (Festinger, 1954; Hoppe, 1930; Lewin et al., 1944), organization studies have tended to approximate firms' social comparison based on salience and ease of observation (Baum et al., 2005), whereas the psychological literature has tended to use more empirically derived measures of social comparison groups (Goodman & Haisley, 2007; Kulik & Ambrose, 1992). The current study represents a first attempt to reconcile these discrepancies within the social comparison literatures, applying established psychological theories in a setting where the entrepreneur's peer group constitutes his or her similar others.

Study 5 – *"The effect of clusters on the survival and performance of new firms"*

Theory

This study takes a more macro perspective by investigating the effects of locating in an industrial cluster on the survival and performance of new firms. The study draws upon agglomeration economics and related research in entrepreneurship, strategic management, and organizational sociology. Economic explanations for clustering maintain that while moderate levels of clustering are beneficial for new firms, very strong clusters might produce adverse effects due to congestion and hyper-competition among firms for resources and personnel (Swann & Beaudry 2001; Folta et al., 2006). Conversely, research in population ecology maintains that socio-cognitive effects might account for the presence of clusters, independently of any economic advantages. From this perspective, agglomerations arise from exaggerated expectations of success due to skewed perceptions of entrepreneurial opportunities (Sorenson & Audia, 2000). Ecological theory thus holds that an increased level of entering firms could sustain an industrial agglomeration, even in the presence of economic disadvantages. Establishing whether or not new entrepreneurial firms benefit from being located in a cluster is therefore of both empirical and theoretical interest.

Methods

The study analyzed all 4,397 Swedish firms started in telecom and consumer electronics, financial services, information technology, medical equipment, biotech and pharmaceuticals between 1993 and 2002, and investigated their survival and economic output in terms of job creation, tax payments and salaries paid to employees. The measure of clustering followed Porter's (2003) method of identifying clusters based on related industries with upstream-downstream links in the industry value chain. The clusters were measured on several geographic levels based on both absolute (firm / employee counts) and relative agglomeration measures (location quotients). Piecewise exponential hazard models were used to investigate the effect of clustering on firm survival, and fixed-effects generalized least squares (GLS) models were used to investigate the effect of clustering on firms' job creation, salary payments, and VAT payments. To account for the importance of the founding entrepreneurs, we control for firm founders' and employees combined human capital.

Findings

The results showed that – with a potential exception of Medical Equipment – locating in a cluster of related industries had strong positive effects of firm survival and performance. For the average firm, an increase of one standard deviation in the level of clustering raised its survival chance by 21%, increasing its number of jobs created by 28% and VAT salary payments with 10%, and the amount of VAT payments to society by 22%. It was also found that these positive effects vary depending on which geographical aggregation level is chosen for the agglomeration measure. The study contributes to the literatures on entrepreneurship and economic geography. The study is among the first to attempt to establish a meso-level link between firm-level cluster effects and firm performance measures relevant not only for the firm but for the local region. Further, operationalizing clusters as aggregate groups of related industries instead of narrowly defined agglomerations provides a potential answer to the inconsistent evidence in earlier studies which have found that clustering might exhibit positive as well as negative effects on firm survival and performance. By measuring the economic contributions of clustered and non-clustered firms, the empirical evidence also provides support for basing economic policies on clusters.

***Table 7*: Summary of the five studies**

	Theoretical perspectives	Outcome variable	Sample	Unit of analysis	Findings
Study 1	Entrepreneurship Theory Behavioral Finance Human Capital Theory	Individual's exit from self-employment	14,150 individuals entering self-employment in 1997 and followed until 2002	Individual	Individuals with prior experience in entrepreneurship more frequently identify and exploit new opportunities by starting a venture, and seem to more swiftly exit their venture if the opportunity does not prove valuable.
Study 2	Entrepreneurship Theory Behavioral Finance Human Capital Theory	Exit by (i) firm liquidation, (ii) liquidation of firm in distress, (iv) harvest sale of firm, (v) sale of firm in distress.	1,735 individual entrepreneurs starting an incorporation or partnership in 1995, followed until 2002	Individual / Firm	Commonly examined factors differ across the four exit routes investigated, suggesting the need to distinguish entrepreneurial exit from firm exit, as well as between the specific routes of exit. Prior entrepreneurial experience increased the likelihood of harvest sale but did not distinguish between persistence and distress sale. Taking an outside job decreased the risk of imminent exit but was not conducive for the profitable sale of a firm.
Study 3	Entrepreneurship Theory Human Capital Theory Evolutionary Economics	Firm Exit	1,077 financial services firms started between 1990 and 2002 and followed until 2002	Firm / Entrepreneurial Team	Ventures whose founding team has prior employment with a firm in the finance or IT sectors have higher survival chances. Firms whose founders have experience from *both* sectors have a clearly higher chance of survival, beyond the effect of employment experience from a single sector.
Study 4	Entrepreneurship Theory Organization studies Behavioral Decision Theory	Exit by (i) firm dissolution or (ii) firm sell-off	7,473 entrepreneurs starting an incorporated firm between 1994 and 1996, followed until 2002	Individual / Firm	Individual entrepreneurs' decision to exit is determined by economic performance relative to a socially constructed level of aspiration, shaped in interaction with similar others.
Study 5	Entrepreneurship Theory New Economic Geography	Contribution to the local economy by new firms, measured as (i) Firm Survival, (ii) Job creation, (iii) VAT payments, (iv) Salary payments	4,397 firms started in 5 knowledge-intensive sectors between 1993 and 2002 and followed until 2002	Firm / Region	New firms have higher survival changes and contribute more to the local economy by creating jobs, making tax payments, and paying wages to employees if they locate in an industrial cluster. The strength of these positive effects varies depending on the level of geographical aggregation and whether agglomeration is measured in absolute (counts of plants or employees) or relative (location quotients) terms.

49

5. CONCLUSIONS

This section outlines answers to the research questions posed and what conclusions can be drawn for theory, public policy, and entrepreneurship pedagogy.

The first research question in this dissertation asked about the general relationship between entrepreneurial performance and exit from entrepreneurship. In the empirical analyses, Study 1 controlled for performance (net results) and found that while this did not significantly affect the probability of exit, net results positively correlated with human capital variables such as industry experience, education, and prior entrepreneurial experience. While industry experience and education lowered the probability of exit, entrepreneurial experience had a positive effect on exit, indicating that experienced entrepreneurs are more likely to perform higher but also more likely to exit and more likely to re-start (cf. Gimeno et al., 1997). Study 2 investigated performance among exiting firms with a bankruptcy prediction model indicating whether they were in financial distress or not at the time of exit. This revealed that exit is likely to occur both for well-performing firms and firms in distress, but *for different reasons*. Entrepreneurial experience increased the likelihood of exiting by harvest sale but not with any other route, which might explain the surprising results in Study 1 where all exits were treated equally. Entrepreneurs' age increased the likelihood of harvest and distress sale, suggesting that older entrepreneurs are more likely to try to sell their business and capture as much of the value as they can than to simply liquidate it. Study 3 investigated the exit of firms founded by entrepreneurial teams, controlling for firm performance, albeit in a relatively coarse manner (firm turnover). It was found that while turnover lowered the probability of exit by liquidation, this effect dissipated when the combined knowledge of the founding team was controlled for. This is consistent with study 1 as well as the prior findings by Bates (1990), supporting the notion that individual founders' skills and competencies have important effects on both firm performance and firm exit that are concealed in studies which only measure firm-level variables. The overall conclusions are thus that, in order to investigate the true effects of firm performance on exit, founders' skills and competencies must be controlled for, as well as the fact that there might be different exit routes which are differentially related to performance. These conclusions are integrated in study 4, which also investigates the relationship between performance and exit but from a more narrow perspective, that of individual-specific aspiration levels. This is developed further in the third research question below.

The second research question in this dissertation asked what different routes of exit are available to entrepreneurs. Strictly speaking, entrepreneurs might have a multitude of reasons to exit and it is difficult to descriptively provide a comprehensive view that would mean anything useful for researchers, entrepreneurs, policy makers or educators. I therefore decided to let theory and data availability guide me in the decision to investigate two broad routes of exit suggested by prior studies: exit by selling a majority stake from the firm, and exit by liquidating (closing) the firm. Another possible category that could have been added is exit by firm bankruptcy, since this is regularly seen as an 'involuntary' or 'externally imposed' decision and would thus be a theoretically important type of exit route. Empirical studies of bankruptcies (e.g. Thornburn, 2000) and my examination of a number of Swedish bankruptcy procedures suggest that the degree of volition of bankruptcies is in reality quite 'fuzzy' with a substantial number of bankruptcies initiated by the entrepreneur himself or herself, while other entrepreneurs choose to sell off remaining assets, pay their debts and liquidate their firm when facing bankruptcy, perhaps to avoid a 'stigma' of bankruptcy (Thorburn, 2000). This fuzziness between bankruptcy and firm liquidation led me to the decision that the important theoretical division lies not in the distinction between legal terms, but in the performance dimension of the exiting firm. That is, if exit is generally negatively related to the financial performance of a firm, to what extent do specific exit routes depart from this relationship? In study 2, I specifically examined exit by firm sale or liquidation by investigating performance differentials among these exit routes, distinguishing between high- and low-performing sales and liquidations, so as to examine the effect of various variables used in prior studies on these four exit routes. I found that the predictors differ systematically in a logical way, explaining some of the discrepancies of earlier studies that have examined just one or two exit routes. Studies 3 and 5 investigated whether the predictor variables for firms that were liquidated (i.e. discontinued) or sold/merged with another firm were identical or not. Finding that the predictors differed significantly, firms that were sold/merged with another firm were excluded from further analysis, so as to not bias the result of the analysis of survivors/ liquidated firms. Although the differences between exit routes are not central to these two studies, the differences in predictors do indicate that prior studies investigating new firm survival might have pooled conceptually distinct events. These conclusions are integrated in the final study 4, which investigates how performance relative to an individual-specific aspiration level affects exit by firm sale and exit by liquidation, respectively. This is developed further in the third research question below.

The third research question in this dissertation is perhaps the most specific, investigating how performance relative to an aspiration level influences entrepreneurial exit. Study 4 found that performance above a social aspiration lowered the probability of exit by firm liquidation, but raised the probability of exit by sell-off. Further, performance below a social aspiration lowered the probability of exit by liquidation but had no effect on the probability of exit by sell-off. Also performance relative to a historical aspiration level affected exit, but by increasing the probability of *both* exit by liquidation and exit by sell-off. Taken together, this evidence highlights the role of aspiration levels as an individual-level heuristic guiding the strategic economic decisions of entrepreneurs.

5.1. Contributions to entrepreneurship theory

This dissertation contributes to entrepreneurship theory in three main ways. First, I show that the conceptualization of exit exclusively as an individual-level *or* a firm-level phenomenon is erroneous, since both phenomena are frequent in early stages of entrepreneurship. Furthermore, they are not mutually exclusive and there is a high degree of correlation between the two forms of exit. Empirically, I show the prevalence of different "types" of exit on both the individual and firm levels. Theoretically, I show that the factors leading to one type of exit – such as the sale of a profitable firm – clearly differ from factors leading to another – such as liquidation or sale of a firm in distress. The prevalence and distinctive patterns of these different exit routes highlight the limitation of previous theoretical models in explaining entrepreneurial exit. For example, the studies in this dissertation imply that a key reason for experienced entrepreneurs to re-enter entrepreneurship might not be that their new firms are more likely to outlive those of less experienced founders, but rather that the chances of achieving a profitable firm that is sold to others rather than closed down will be much higher.

An implication of this is that empirical studies of exit need to carefully consider the boundary conditions of what they are studying. If firm exit is the topic of investigation, one should be careful what firm-level and what individual-level variables are used (Davidsson & Wiklund, 2001). Further, since firm-level factors (such as performance) matter for individual exit, and individual-level factors (such as skills and motivation) matter for the exit of new firms, empirical studies should strive for multi-level designs and try to collect data on both individual entrepreneurs and the firms that they start. The importance of looking at different levels of analysis also highlights a limitation of this dissertation: while data on several levels are jointly considered, I do not try to simultaneously model those in a multi-level framework. Future studies can and should improve upon this by using the advances in multi-level modeling (Klein & Koslowski, 2000) with the potential to specify multi-level models of exit that can simultaneously assess the importance of individual-, firm-, group-, or environmental-level influence for entrepreneurial processes (Autio & Wennberg, 2009; Davidsson, 2004).

The second major contribution of this dissertation is to begin unraveling the role of entrepreneurial performance for exit. I theorize about the role of individual aspirations for entrepreneurial exit, and show that entrepreneurs' performance relative to a level of aspiration strongly influences their decision to exit by firm liquidation, in a way that differs from how it influences their decision to exit by selling the firm. In so doing, I add to the ongoing discussion on 'entrepreneurial failure' by building on prior findings suggesting that individual entrepreneurs' decision to exit from entrepreneurship is determined by their economic performance relative to a threshold level. The evidence presented in this dissertation indicate that this threshold is a socially constructed reference point created by individual entrepreneurs' performance history and in their social comparison with similar entrepreneurs.

The third major contribution of this dissertation is the theoretical extension of aspiration-level models in determining entrepreneurs' strategic decisions. This has implications both for entrepreneurship research and for theories of aspiration levels in organization studies. Researchers have pointed out that the role of aspiration levels and the overarching behavioral theory of the firm are inherently formulated from the perspective of incumbent firms (e.g. Dew et al., 2008; Zander, 1999). Bringing this model to bear on new firms started by entrepreneurs thus offers an important extension of behavioral theory that directly addresses "the dilemma for theories of organizational learning concerning the legitimacy of extending a process originally conceptualized at the level of the individual to a collective" (Barley & Kunda, 2001: 87). By connecting the aspiration level back to an individual decision-maker who can be compared to his or her similar others, I extend aspiration-level theory in organization studies by showing how social comparison among individual founder-managers shapes their vision of profitability and willingness to persist in entrepreneurship. This should have implications also for other types of economic decisions, indicating an exciting research area for researchers seeking to use behavioral theories to shed light on other individual-level and organizational-level phenomenon.

It is my hope that the focus on exit as an important and unavoidable phase of the entrepreneurial process, on the importance of individual aspirations, and on the link between entrepreneurial exit and re-entry decisions, will increase awareness of exit and spur further research in this area. In the following three sections I discuss further the findings of this dissertation in relationship to behavioral decision-making, entrepreneurial learning, and the construction of reference points, suggesting some implications for future research. I conclude with a section on implications for public policy, and a section on pedagogical implications.

5.1.1. Theoretical implication: Entrepreneurship and behavioral decision-making

This dissertation also offers several tests and extensions of theories of behavioral decision-making about entrepreneurial exit. The first study indicated that entrepreneurial decisions to enter and exit seem to follow a real options heuristic, where the decision to enter was affected by the irreversibility and the uncertainty of investment in a particular industry, and where prior entrepreneurial experience increased the probability of rapid exit. If these findings can be substantiated in further studies, this indicates that experienced entrepreneurs can utilize real options reasoning as a decision-making heuristic to rapidly enter and exit entrepreneurial ventures to test different business opportunities.

The second study further validates that models of behavioral decision-making can be used to analyze individual-level processes of entrepreneurial exit. Specifically, the study shows that psychological processes documented in liquidation of financial investments are also present in shaping entrepreneurs' decision to liquidate, sell, or continue their firm. While high financial performance *per se* does not ensure entrepreneurs' willingness to continue with their ventures, the psychological processes of anchoring and adjustment suggest that entrepreneurial performance is examined relative to a reference point where the value function is steeper for losses than for gains (Kahneman & Tversky, 1979). This theory offers an explanation for the systematic differences in entrepreneurial exit routes investigated in study 2, in that the utility loss for realizing a financial loss of a certain size is greater than the utility gain from realizing a financial gain of the same size – hence successful entrepreneurs will be more prone to let go of the venture they have built up in order to harvest its value.

These conclusions also suggest an interesting temporal dimension of entrepreneurial exit, in that performance above a reference point should not only increase the probability of the entrepreneur choosing to sell the firm at a profit, but might also accelerate this exit process, whereas performance below a reference point could delay the decision to exit (Kyle et al., 2006). Future research should investigate how the psychological framing processes affect the temporal patterns of exit, and what strategic or psychological mechanisms that might moderate how the framing of performance affects the exit decision. For example, the literature on escalation of commitment suggests that individuals who are personally responsible for decisions in which there are negative outcomes are more likely to escalate their commitment to a course of action beyond what is financially warranted (Staw, 1976). Further, the notion of 'anticipatory grief' suggests that under some circumstances, postponing the exit from an unprofitable venture can help owner-managers to manage the emotional costs of failure in order to enhance an overall recovery — despite the possibility of incurring higher financial costs by delaying the exit decision (Shepherd, Wiklund & Haynie, 2007).

Future research on the behavioral aspects of entrepreneurial exit could also relate exit to the entrepreneurs' psychological make-up. Several studies have found that entrepreneurs' intrinsic motivation decreases the probability of exit (Gimeno et al., 1997; Burke et al, 2008), as might psychological traits such as the "big five" factor of conscientiousness (Ciavarella et al., 2004) and personal creativity (Burke et al, 2008). Connecting such personality constructs back to models of exit, especially by relating them to variance in individual entrepreneurs' aspirations, represents an important area for future research.

5.1.2. Theoretical implication: How do entrepreneurs learn from experience?

Case study evidence suggests that multiple start-ups experience might enhance individuals' ability to identify and exploit further opportunities (Shane, 2000). Study 1 in this dissertation is, to the best of my knowledge, among the first to offer generalizable evidence that those with prior entrepreneurial experience are not only more likely to re-enter, but also more swift to exit from their new firm. This indicates a general need for research to explore more deeply how entrepreneurs learn from prior venturing experiences (Reuber & Fischer, 1999). The literature on individual learning suggests that learning from a discrete and unusual event such as exit from a firm one helped to create can often be 'transformational' and vital for higher-level learning to take pace (Argyris & Schön, 1978). Investigating how entrepreneurs learn from successful vs. unsuccessful exits would be a specifically worthwhile endeavor.

5.1.3. Theoretical implication: The social construction of reference points

The fourth study showed that what is considered 'satisfactory' financial performance among entrepreneurs is to some extent constructed in a social setting, where falling performance and the performance of 'peers' strongly affect the probability of exit. Specifically, I found that, controlling for financial performance, performance relative to the performance of entrepreneurs with similar age, education, and geographic location has strong effects on exit decisions. The findings of this study provide conceptual and empirical contributions to the debate on what constitutes the proper reference group for firms' social comparison (Baum et al., 2005; Goodman & Haisley, 2007; Greve, 2008). While relying on the same fundamental observations of *individuals'* behavior when observing the performance of self and others (Festinger, 1954), organization studies have tended to approximate firms' social comparison based on ease of observation (Baum et al., 2005) whereas the psychologically oriented literatures have tended to use more empirically salient measures of social comparison groups (Kulik & Ambrose, 1992). This study represents a first attempt to reconcile these discrepancies within the social comparison literature, providing a stronger basis for insights into how individuals' socialization affects their economic decisions. The broader implication of this relates to the question of how entrepreneurs make strategic decisions that are shaped beyond the boundaries of comparison across industry or competitors. A natural question that follows is how long the individual founder compares his or her performance to demographically similar peers, rather than firms that she finds herself in direct competition with. Some research has argued that aspiration levels might shift depending on the state of firm development (Delmar & Wennberg, 2007), geographic location (Lant & Baum, 1995) or size of the firm (Greve, 2008). Future research on the behavioral aspects of entrepreneurial exit might investigate entrepreneur's shift in attention between peers groups and competitor firms, and how founders' reference group might change as their firms grow and change.

5.2. Implications for public policy

The findings in this dissertation offer some suggestions for public policy discussions on entrepreneurship. Much effort and resources are spent by policy makers trying to increase entrepreneurship either from society's supply side or from its demand side. For example, policy makers have attempted to increase the attractiveness of entrepreneurship as a career choice by lowering the tax rate for new firms (Lundström & Stevenson, 2002). There is comparatively little policy attention directed at the exit side of entrepreneurship. While the focus in this dissertation is to contribute to entrepreneurship research, the results might also be of interest to policy makers trying to understand or affect the conditions that lead individuals to exit from entrepreneurship. The difference between successful and unsuccessful exits and the role of entrepreneurial experience could be particularly interesting. For example, some current policy attempts to "match" novice entrepreneurs to firms where the owner is approaching retirement and the family is not willing to take over management of the firm. The evidence provided in this dissertation suggests that matching such firms with novice entrepreneurs is, at best, a very risky approach.

Successful and unsuccessful exits. A common strand in several of the studies in this dissertation concerns the distinction between successful and unsuccessful exits. Most prior studies have investigated unsuccessful exits (Amaral et al., 2007). This is relevant for public policy especially from the perspective of entrepreneurial experience below, in that the overly negative impact of unsuccessful exits – such as the stigma of failure – should be addressed. However, from a policy perspective, successfully exiting entrepreneurs are at least equally relevant because they might provide an informal source of capital and advice to the novice entrepreneur (Mason & Harrison, 2006) and act as role models for future generations by increasing their propensity towards and attachment to entrepreneurial activities (Samuelsson, 2004). Further research that specifically addresses successful exits and their societal implications is therefore dearly needed.

The role of entrepreneurial experience. One of the most important concepts in this dissertation is entrepreneurial experience: Study 1 showed that firm owners with prior experience were more likely to re-start entrepreneurship. They were also more swift to close their new firm. The policy implication of this study is that serial entrepreneurship should be encouraged. Specifically, legal obstacles such as personal credit and bankruptcy laws, and policy tools such as public financing of small business, should explicitly consider the importance of not focusing solely on 'de novo' or first-time entrepreneurs, since this dissertation suggests that there are important gains in repeated entrepreneurship.

Study 2 also revealed that experience was a common factor among entrepreneurs who exited by selling a profitable firm, suggesting that novice entrepreneurs should be encouraged to get experience, perhaps try several different routes to building a profitable firm, and that closing a firm and starting another need not be a sign of failure. Pursuing an unprofitable business for too long might rather force them into exit by liquidation or even to bankruptcy. The literature on escalation of commitment suggests that individuals who are personally responsible for decisions in which there are negative outcomes are more likely to escalate a course of action beyond what is financially warranted. If public policy seeks to stimulate more high-potential entrepreneurship, focus should be on tools that encourage entry as well as the rapid exit of unprofitable firms. Important tools suggested in prior research are a lowering of the cost of incorporating a firm into limited liability (Delmar, et al., 2005) and balanced bankruptcy laws that take the societal costs of entrepreneurial failure into account and do not exclusively favor the creditors of small firms (Gratzer & Sjögren, 1999). Conversely, public policy should balance the encouragement of rapid exit of unprofitable firms with encouraging the growth of profitable businesses. In the Swedish banking crisis of the early 1990s, many small businesses – even highly profitable ones – were forced to exit because of the sudden rigidity of credit terms which put a stranglehold on their liquidity. It is important for authorities not to let this happen again in times of financial turmoil.

5.3. Pedagogical implications

The findings of this dissertation suggest that many aspects of entrepreneurship pedagogy using traditional theoretical-deductive reasoning need to be reconsidered. Study 2 revealed the importance of "learning-by-doing" in that practical entrepreneurial experience had a positive effect on the probability of exiting by a harvest sale of the firm while formal education had a *negative* effect on harvest sale. This highlights the experiential nature of entrepreneurial knowledge and also the need for educators in primary, secondary, and higher education to consider practical rather than theoretical exercises in entrepreneurship as an essential tool to teach students about entrepreneurship. The past two decades have seen a tremendous increase in the number of academic courses and programs in entrepreneurship (Busenitz et al., 2003). Yet it remains to be investigated what specific parts of university entrepreneurship education programs are most effective in facilitating entrepreneurship. The foremost pedagogic tool in many entrepreneurship programs seems still to have students learn how to write a business plan (Hills, 1998; Johannisson, Landström & Rosenberg, 1998). This dissertation suggests that there are both theoretical and practical reasons to move beyond the focus on business planning to a focus on other activities that can be key ingredients of future entrepreneurship programs. The more theoretical models used in higher education would be better suited to focus on specific aspects of entrepreneurship where such models can be gainfully applied. Specifically, Study 1 suggested that financial perspectives such as real options theory could be used as decision-making support when developing new ventures. Naturally, such general suggestions should always be attentive to individual differences, the specific industry, and the business model envisioned by the entrepreneur(s) in order to aid joint learning and prevent potential barriers to learning (Yar, Wennberg & Berglund, 2008). Finally, study 2 also suggested that it is important for entrepreneurship educators to highlight the wide array of potential exit routes and types of skills that are linked with each type of exit, so that future entrepreneurs can more productively harvest the value from their firms.

6. REFERENCES

Agarwal, R., Echambadi, R., Franco, A., & Sarkar, MB. (2004). Knowledge transfer through inheritance: spin-out generation, development and survival. *Academy of Management Journal*, *47*(4):501–522.

Aldrich, H. E., & Kenworthy, A. L. (1994). The Accidental Entrepreneur: Campbellian Antinomies and Organizational Foundings. In J. A. C. Baum & J. V. Singh (Eds.), *Variations in Organization Science: In Honor of Donald t. Campbell.* .

Aldrich, H., & Zimmer, C. (1986). Entrepreneurship through social networks. In D. L. Sexton & R. W. Smilor (Eds.), *The Art and Science of Entrepreneurship* (pp. 3-24). Cambridge, Massachusetts: Ballinger Publishing Company.

Amaral, A. M., Baptista, R., Lima, F., & Preto, M. (2007). Is there a labor market 'penalty' to Entrepreneurship? The evaluation of earings for business-owners who become paid employees. In A. Zacharakis (Ed.), *Frontiers of Entrepreneuirship Research 2007*. College Park: Babson College.

Amossé, T. & Goux, D. (2004). Entries and Exits from Self-employment in France of the last twenty years. In R. Arum & W. Muller (Eds). *The reemergence of self-employment* (pp. 75-103). Princeton: Princeton University Press.

Anderson, P., & Tushman, M. (2001). Organizational environments and industry exit: the effects of uncertainty, munificence and complexity. *Industrial and Corporate Change, 10*(675-711).

Andersson, P. (2006). *Determinants of exit from self-employment*.Unpublished manuscript, Stockholm: SOFI.

Argyris, C. & Schön, D.A. (1978).*Organizational Learning: A Theory of Action Perspective.* Reading: MA.

Audretsch, D. B. (1995). *Innovation and industry evolution*. Cambridge, Mass. ; London: MIT Press.

Audretsch, D. B., Houweling, P., & Thurik, A. R. (2004). Industry Evolution: Diversity, Selection and the Role of Learning. *International Small Business Journal, 22*(4), 331-348.

Autio, E., & Acs, Z. (2007). Individual and Country-Level Determinants of Growth Aspiration in New Ventures. In A. Zacharakis (Ed.), *Frontiers of Entrepreneurship Research 2007*. Babson: Babson College.

Autio, E., & Wennberg, K. (2009). You Think, Therefore, I Become: Social Attitudes and the Transition to Entrepreneurship. Working Paper: Imperial College London.

Azoulay, P. & Shane, S. (2001). Entrepreneurs, Contracts, and the Failure of Young Firms. *Management Science*, *47*(3): 337-358.

Barley, S., & Kunda, G. (2001). Bringing work back in. *Organization Science, 12*(1): 76-95.

Barbieri, P. & Bison, I. (2004). Self-Employment in Italy: Scaling the Class Barriers. In R. Arum & W. Muller (Eds). *The reemergence of self-employment* (pp. 310-347). Princeton: Princeton University Press

Barnett, W. P., & Pontikes, E. (2008). The Red Queen, Success Bias, and Organizational Inertia. *Management Science, 54*, 1237-1251.

Baum, J. A. C., & Oliver, C. (1991). Institutional Linkages and Organizational Mortality *Administrative Science Quarterly, 36*(2), 187-218.

Bates, T. (1990). Entrepreneur human capital and small business longevity. *The Review of Economics and Statistics, 72*(4): 551-559.

Bates, T. (1995). Analysis of survival rates among franchise and independent small business startups. *Journal of Small Business Management, 33*(2): 26-36.

Bates, T. (1999). Exiting self-employment: An analysis of Asian immigrant-owned small businesses. *Small Business Economics, 13*(3): 171-183.
Bates, T. (2005). Analysis of young, small firms that have closed: delineating successful from unsuccessful closures. *Journal of Business Venturing, 20*(3): 343-358.
Baum, J. A. C., & Mezias, S. J. (1992). Localized Competition and Organizational Failure: The Manhattan Hotel Industry 1898-1990. *Administrative Science Quarterly, 37*, 580-604.
Baum, J. A. C., Rowley, T., Shipilov, A., & Chuang, Y.-T. (2005). Dancing with Strangers: Aspiration Performance and the Search for Underwriting Syndicate Partners. *Administrative Science Quarterly, 50*(4): 536-575.
Beckert, J. (2003). Economic Sociology and Embeddedness: How Shall We Conceptualize Economic Action? *Journal of Economic Issues* 37, 769–787.
Ben-Akiva, M., & Lerman, S. R. (1985). *Discrete Choice Analysis*. Cambridge: MIT Press.
Birley, S., & Westhead, P. (1993). The owner-managers exit route. In H. Klandt (Ed.), *Entrepreneurship and Business Development* (pp. 123-140). Avebury: Gower Press.
Boeker, W. (1988). Organizational Origins: Entrepreneurial and Environmental Imprinting at the Time of Founding. In G. Carroll (Ed.), *Ecological Models of Organizations* (pp. 33- 51). Cambridge, MA: Ballinger.
Boone, C., & Witteloostuijn, A. (1996). Industry competition and firm human capital. *Small Business Economics, 8*(5), 347-364.
Bromiley, P. (1991). Testing a causal model of corporate risk taking and performance. *Academy of Management Journal, 34*, 37–59.
Brüderl, J., Preisendörfer, P., & Ziegler, R. (1992). Survival Chances of newly founded business organizations. *American Sociological Review, 57*(April), 227-242.
Brytting, T. (1991). *Organizing in the Small Growing Firm- A Grounded Theory Approach.* Stockholm School of Economics, The Economic Research Institute.
Burgelman, R. (1994). Fading memories: A process theory of strategic business exit in dynamic environments. *Administrative Science Quarterly, 39*: 24-56.
Busenitz, L. W., West, I., G. Page, Shepherd, D., Nelson, T., Chandler, G. N., & Zacharakis, A. (2003). Entrepreneurship Research in Emergence: Past Trends and Future Directions. *Journal of Management, 29*(3): 285-308.
Bygrave, W. (1994). *The Portable MBA in Entrepreneurship*.
Camerer, C., & Lovallo, D. (1999). Overconfidence and Excess Entry: An Experimental Approach. *American Economic Review, 89*(1): 306-318.
Carrasco, R. (1999). Transitions to and From Self-employment in Spain: An Empirical Analysis. *Oxford Bulletin of Economics and Statistics, 61*(3), 315-341.
Carroll, G. (1984). Dynamics of publisher succession in newspaper organizations. *Administrative Science Quarterly, 29*(1), 93-113.
Carroll, G. R. (1985). Concentration and Specialization: Dynamics of Niche Width in Populations of Organizations. *American Journal of Sociology, 90*(6): 1262.
Carroll, G. R., & Hannan, M. T. (1989). Density Delay and the Evolution of Organizational Populations: A Model and Five Empirical Tests. *Administrative Science Quarterly, 43*, 411-430.
Carroll, G. R., & Hannan, M. T. (2000). *The Demography of Corporations and Industries*. Princeton, New Jersey: Princeton University Press.
Carroll, G.R. & Harrison, J.R. (1994). On the historical efficiency of competition between organizational populations. *American Journal of Sociology*, 100: 720-49.
Carroll, G. R., & Mosakowski, E. (1987). The Career Dynamics of Self-Employment. *Administrative Science Quarterly, 32*(4): 570-589.

Carroll, G., & Swaminathan, A. (2000). Why the Microbrewery Movement? Organizational Dynamics of Resource Partitioning in the U.S. Brewing Industry. *American Journal of Sociology, 106*(3), 715–762.

Carter, N. M., Gartner, W. B., Shaver, K. G., & Gatewood, E. J. (2003). The career reasons of nascent entrepreneurs. *Journal of Business Venturing, 18*(1): 13-39.

Caves, R. E. (1998). Industrial organization ans new findings onthe turnover and mobility of firms. *Journal of Economic Literature, XXXVI*: 1947-1982.

Chandler, G. N., & Hanks, S. H. (1994). Market attractiveness, resource-based capabilities, venture strategies, and venture performance. *Journal of Business Venturing, 9*: 331-349.

Churchill, N. C., & Lewis, V. L. (1983). The Five Stages of Small Business Growth. *Harvard Business Review, 3*, 30-50.

Chopra, A. (2005). *Survival.* Paper presented at the Academy of Management Conference, Hawaii.

Ciavarella, M. A., Buchholtz, A. K., Riordan, C. M., Gatewood, R. D., & Stokes, G. S. (2004). The Big Five and venture survival: Is there a linkage? *Journal of Business Venturing, 19*(4): 465-483.

Cooper, A. C., Gimeno-Gascon, F. J., & Woo, C. Y. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing, 9*: 371-395.

Cowling, M., & Mitchell, P. (1997). The evolution of UK self-employment: A study of government policy and the role of the macroeconomy. *Manchester School of Economic and Social Studies, 65*(4): 427-442.

Cyert, R. M., & March, J. G. (1963). *A behavioral theory of the firm*. Englewood Cliffs, N.J.: Prentice-Hall.

Dahl, M. & Sorenson, O. (2008). Home Sweet Home? The Social Attachment to Place. Working Paper. Aarhus University.

Davidsson, P. (1989). *Continued entrepreneurship and small firm growth*. Stockholm: Economic Research Institute Stockholm School of Economics Ekonomiska forskningsinstitutet vid Handelshögsk. (EFI).

Davidsson, P. (2004). *Researching Entrepreneurship*. New York: Springer.

Davidsson, P. (2007). *Strategies for dealing with heterogeneity in entrepreneurship research*. Paper presented at the Academy of Management Conference, August 7th, Philadelphia.

Davidsson, Delmar and Wiklund (2002). Growth as entrepreneurship – entrepreneurship as growth. In M.A. Hitt et al. (eds). *Strategic Entrepreneurship: Towards a new Mindset* (pp. 328-338). Blackwell.

Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing, 18*(3): 301-331.

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

Delmar, F. (2005). The entrepreneurial process: Emergence and evolution of new firms in the knowledge intensive economy. In A. Fayolle, P. Kyrö & J. Ulijn (Eds.), *Entrepreneurship Research in Europe: Outcomes and Perspectives* (pp. 55-79). Cheltenham: Edward Elgar.

Delmar, F., Hellerstedt, K., & Wennberg, K. (2006). The evolution of firms created by the science and technology labor force in Sweden 1990 - 2000. In J. Ulhöi & P. Christensen (Eds.), *Managing Complexity and Change in SMEs* (pp. 69-102). Cheltenham: Edward Elgar.

Delmar, F., & Shane, S. (2003). Does business planning facilitate the development of new ventures? *Strategic Management Journal, 24*: 1165-1185.
Delmar, F., & Shane, S. (2004). Legitimating first: organizing activities and the survival of new ventures. *Journal of Business Venturing, 19*(3): 385-410.
Delmar, F., & Shane, S. (2006). Does experience matter? The effect of founding team experience on the survival and sales of newly founded ventures. *Strategic Organization, 4*(3): 215-247.
Delmar, F., & Wennberg, K. (2007). Risk Taking, Aspiration Levels and the Evolution of New Ventures In A. Zacharakis (Ed.), *Frontiers of Entrepreneurship Research 2007*
Delmar, F., Wennberg, K., Wiklund, J., & Sjöberg, K. (2005). *Self-employment among the Swedish Science and Technology Labor Force: The evolution of the firms between 1990 and 2000*. Stockholm: ITPS.
DeTienne, D. (2008). Entrepreneurial exit as a critical component of the entrepreneurial process: Theoretical development. *Journal of Business Venturing, in press*.
DeTienne, D., Shepherd, D., & De Castro, J. (2008). The fallacy of "only the strong survive": The effects of extrinsic motivation on the persistence decisions for under-performing firms. *Journal of Business Venturing, 23*(5): 528-546.
Dumais, G., Ellison, F. & Glaeser, E.L.(2002). Geographic Concentration as a Dynamic Process. *Review of Economics and Statistics*, *84*(2): 193-204.
de Scitovsky, T. (1943). A Note on Profit Maximisation and its Implications. *Review of Economic Studies*, 11: 57-60.
Dosi, G. (1988). Sources, Procedures, and Microeconomic Effects of Innovation, *Journal of Economic Literatur*e, 26(3), 1120-1171.
Eckhardt, J. T., Shane, S., & Delmar, F. (2006). Multistage Selection and the Financing of New Ventures. *Management Science, 52*(2), 220-232.
Evans, D. S., & Leighton, L. S. (1989). Some Empirical Aspects Of Entrepreneurship. *The American Economic Review, 79*(3): 519-535.
Everett, J., & Watson, J. (1998). Small Business Failure and External Risk Factors. *Small Business Economics, 11*(4), 371-390.
Fernhaber, S. A., Gilbert, B. A., & McDougall, P. P. (2007). International entrepreneurship and geographic location: an empirical examination of new venture internationalization. *39*(2): 267-290.
Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*: 117—140.
Folta, T. B., Cooper, A. C., & Baik, Y.-S. (2006). Geographic cluster size and firm performance. *Journal of Business Venturing, 21*, 217-242.
Folta, T. B., & O'Brien, J. P. (2008). Determinants of firm-specific thresholds in acquisition decisions. *Managerial and Decision Economics, 29*(2-3): 209-225.
Frank, M. Z. (1988). An intertemporal model of industrial exit. *Quarterly Journal of Economics, 103*(2): 333.
Gartner, W. (1988). "Who is an entrepreneur?" is the wrong question. *American Journal of Small Business, 12*(4): 11- 32.
Gartner, W. B., & Carter, N. M. (2003). Entrepreneurial behavior and firm organizing processes. In Z. J. Acs & D. B. Audretsch (Eds.), *Handbook of Entrepreneurship Research* (Vol. 1, pp. 195-221). New York: Springer.
Gerber, T.P. (2004). Three Forms of Emergent Self-Employment in Post-Soviet Russia: Entry and Exit Patterns by Gender. In R. Arum & W. Muller (Eds). *The reemergence of self-employment* (pp. 277-309). Princeton: Princeton University Press.

Gimeno, J., Folta, T. B., Cooper, A. C., & Woo, C. Y. (1997). Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms. *Administrative Science Quarterly, 42*(4): 750-783.
Gordon, I.R., McCann, P. (2005). Innovation, agglomeration, and regional development. *Journal of Economic Geography*, 5 (5): 523-
Goodman, P. S., & Haisley, E. (2007). Social comparison processes in an organizational context: New directions. *Organizational Behavior and Human Decision Processes, 102*(1): 109-125.
Graebner, M., & Eisenhardt, K. M. (2004). The seller's side of the story: acquisition as courtship and governance as syndicate in entrepreneurial firms. *Administrative Science Quarterly, 49*(3), 366-403.
Granstrand, O., & Sjölander, S. (1990). The acquisition of technology and small firms by large firms. *Journal of Economic Behavior and Organization, 13*(3): 367-386.
Gratzer, K. & Sjögren, H. (1999) *Konkursinstitutets betydelse i svensk ekonomi*. Hedemora: Gidlunds.
Greve, H. R. (1998). Performance, Aspirations and Risky Organizational Change. *Administrative Science Quarterly, 43*(1): 58-86.
Greve, H. R. (2003a). *Organizational Learning from Performance Feedback : A Behavioral Perspective on Innovation and Change*. London: Cambridge University Press.
Greve, H. R. (2003b). Investment and the behavioral theory of the firm: evidence from shipbuilding. *Industrial and Corporate Change, 12*(5), 1051-1076.
Greve, H. R. (2008). A behavioral theory of firm growth: Sequential attention to size and performance goals. *Academy of Management Journal, 46*, 685–702.
Harhoff, D., Stahl, K. & Woywode, M. (1998). Legal Form, Growth and Exit of West German Firms: Empirical Results for Manufacturing, Construction, Trade and Service Industries. *Journal of Industrial Economics 46*(4): 453-488.
Haveman, H. (1993). Ghosts of managers past: Managerial succession and organizational mortality. *Academy of Management Journal, 36*, 864-881.
Hayward, M., Shepherd, D. A., & Griffin, D. (2006). Hubris theory of entrepreneurship. *Management Science, 52*(2), 160-172.
Headd, B. (2003). Redefining Business Success: Distinguishing Between Closure and Failure. *Small Business Economics, 21*(1): 51-61.
Hedström, P., Kolm, A.-S., & Åberg, Y. (2003). *Social interaction and unemployment*: IFAU - Institute for Labor Market Policy Evaluation.
Helfat, C. E., & Lieberman, M. B. (2002). The birth of capabilities: market entry and the importance of pre-history. *Industrial and Corporate Change, 11*(4): 725-760.
Hills, G. E. (1988). Variations in university entrepreneurship education: An empirical study of an evolving field *Journal of Business Venturing*, 3(3): 109-122.
Hoetker, G., & Agarwal, R. (2007). Death Hurts but it is Not Fatal: The Post Exit Diffusion of Knowledge Created by Innovative Companies. *Academy of Management Journal, 50*(2), 446-467.
Holmquist, C. (2005). Managepreneurs – the missing link. In S. Zahra et al. (Eds). Frontiers of Entrepreneurship Research 2005. Babson Park: Babson College.
Holtz-Eakin, D., Joulfaian, D., & Rosen, H. S. (1994). Sticking it out: Entrepreneurial survival and liquidity constraints. *The Journal of Political Economy, 102*(1): 53.
Jensen, M. C., & Ruback, R. (1983). The market for corporate control: The scientific evidence. *Journal of Financial Economics, 11*: 5-50.
Johansson, E. (2000). Self-employment and Liquidity Constraints: Evidence from Finland. *Scandinavian Journal of Economics, 102*(1): 123.

Johannisson, B., Landström, H. & Rosenberg, J. (1998). University training for entrepreneurship – An action frame of reference. *European Journal of Engineering Education*, Vol. 23, No. 4, pp 477-496.
Jovanovic, B. (1982). Selection and the evolution of industry. *Econometrica, 50*(3): 649-670.
Jørgenssen, R. (2005). A duration analysis of danish start-ups. Working paper SP 2005-08, Centre for Economic and Business Research, Denmark.
Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*(2): 263-291.
Kalleberg, A. L., & Leicht, K. T. (1991). Gender and organizational performance: Determinants of small business survival and success. *Academy of Management Journal, 34*(1): 136-161.
Klein, K. J. & Kozlowski, S.W.J. (2000). *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions*. San Francisco: Jossey-Bass.
Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science, 3*(3): 383-397.
Korunka, C., Frank, H., Lueger, M., & Mugler, J. (2003). The entrepreneurial personality in the context of resources, environment, and the startup process-A configurational approach. *Entrepreneurship Theory and Practice, 28*(1), 23-42.
Kulik, C., & Ambrose, M. (1992). Personal and situational determinants of referent choice. *Academy of Management Review, 17*: 212-237.
Kyle, A.S., Ou-Yang, H. & Xiong, W.. (2006). Prospect theory and liquidation decisions, *Journal of Economic Theory, 129*(1): 273–288.
Landberg, A. (2008). *New venture creation: resistance, coping and energy.* Stockholm School of Economics.
Lant, T. (1992). Aspiration level adaptation: an empirical exploration. *Management Science, 38*(5), 623-644.
Lant, T., & Baum, J. A. C. (1995). Cognitive Sources of Socially Constructed Competitive Groups: Examples from the Manhattan Hotel Industry. In W. R. Scott & S. Christensen (Eds.), *The Institutional Construction of Organization: International and Longitudinal Studies* (pp. 15-38). Newbury Park, CA: Sage Publications.
Lin, Z., Picot, G., & Compton, J. (2000). The Entry and Exit Dynamics of Self-Employment in Canada. *Small Business Economics, 15*: 195-125.
Lippman, S. A., & Rumelt, R. P. (1982). Uncertain imitability: an analysis of interfirm differences in efficiency under competition. *Bell Journal of Economics, 13*(2): 418-438.
Lohmann, H. & Luber S. (2004). Trends in Self-Employment in Germany: Different Types, Different Developments?. In R. Arum & W. Muller (Eds). *The reemergence of self-employment* (pp. 36-74). Princeton: Princeton University Press.
Lopes, L. (1987). Between hope and fear: The psychology of risk. *Advances in Experimental Social Psychology, 20*: 255-295.
Lundström, A. & Stevenson, L. (2002). Entrepreneurship Policy: Theory and Practice. Springer.
Mason, C. M., & Harrison, R. T. (2006). After the exit: acquisitions, entrepreneurial recycling and regional economic development. *Regional Studies, 40*, 55-73.
McGrath, R. G. (2006). *Reconsidering the mortality hypodissertation.* Paper presented at the The Academy of Management Conference, Atlanta.
Mead, G. H. (1934). *Mind, self, and society: from the standpoint of a social behaviorist*. Chicago: University of Chicago Press.

Melin, L., & Nordqvist, M. (2000). *Corporate governance processes in family firms: The role of influential actors and the strategic arena.* Paper presented at the ICSB World Conference 2000, Brisbane.
Metzger, G. (2007). *Personal Experience: A Most Vicious and Limited Circle!? On the Role of Entrepreneurial Experience for Firm Survival*.Unpublished manuscript, ZEW Discussion Paper No. 07-046.
Mezias, J., M. , & Mezias, S., J. (2000). Resource partitioning, the founding of specialist firms, and innovation: The American feature film industry, 1912-1929. *Organization Science, 11*(3), 306-322.
Miner, A., & Mezias, S. J. (1996). Ugly Duckling No More: Pasts and Futures of Organizational Learning Research. *Organization Science, 7*: 88-99.
Mitchell, W. (1994). The Dynamics of Evolving Markets: The Effects of Business Sales and Age on Dissolutions and Divestitures. *Administrative Science Quarterly, 39*(4): 575-602.
Mumford, M. D. (1983). Social comparison theory and the evaluation of peer evaluations: a review and some applied implications. *Personnel Psychology, 36*(4), 867-881.
Muth, J. F. (1961). Rational Expectations and the Theory of Price Movements. *Econometrica, 29*, 315-335.
Nanda, R., & Sørensen, J. (2007). *Peer Effects and Entrepreneurship*.Unpublished manuscript.
Nutek. (2004). *Generationsskiften i företag - en problemanalys [Firm succession – a problem analysis]*: Nutek – the Swedish National Board for Industrial and Technological Development. Publication No. B2004:2.
O'Brien, J. P., Folta, T. B., & Johnson, D. R. (2003). A real options perspective on entrepreneurial entry in the face of uncertainty. *Managerial and Decision Economics, 24*: 515-533.
Pakes, A., & Ericson, R. (1998). Empirical implications of alternative models of firm dynamics. *Journal of Economic Theory, 79*(1): 1.
Parker, S. C. (2009). Why do small firms produce the entrepreneurs? *Journal of Socio-Economics, In Press, Corrected Proof.*
Pavone, C., & Banerjee, S. (2005). *No Exit: Explaining the Persistence of "Living Dead" Firms.* Paper presented at the Academy of Management Conference, Hawaii.
Pe'er, A., & Vertinsky, I. (2006). *The Survival Value of Clusters for De Novo Entrants*.Unpublished manuscript, University of British Columbia.
Pennings, J., M. , Lee, K., & Witteloostuijn, A. v. (1998). Human capital, social capital, and firm dissolution. *Academy of Management Journal, 41*(4), 425-440.
Phillips, B. D., & Kirchoff, B. A. (1989). Formation, growth and survival; small firm dynamics in the U.S. economy. *Small Business Economics, 1*: 65-74.
Phillips, D. (2001). The Promotion Paradox: Organizational Mortality and Employee Promotion Chances in Silicon Valley Law Firms, 1946-1996. *The American Journal of Sociology, 106*(4): 1058-1098.
Popper, K. (1959). *The Logic of Scientific Discovery*. London: Routledge.
Porac, J. F., Thomas, H., Wilson, F., Paton, D., & Kanfer, A. (1995). Rivalry and the industry model of Scottish knitwear producers. *Administrative Science Quarterly, 40*: 203-227.
Porter, M. E. (2003). The Economic Performance of Regions. *Regional Studies, 37*(6-7): 545-546.
Reuber, R. & Fischer, E. (1999). Reconceptualizing Entrepreneur's Experience. *Journal of Small Business Management*. 37 (2/April): 30-45.
Reynolds, P. D., & White, S. B. (1997). *The Entrepreneurial Process: Economic Growth, Men, Women, and Minorities*. Westport, Connecticut: Quorum Books.

Rao, H. (2004). Institutional activism in the early American automobile industry. *Journal of Business Venturing, 19*(3), 359-384.
Rao, H. R. (2008). *Market Rebels: How Activists Make or Break Radical Innovation*. Princeton , NJ: Princeton University Press.
Ryan, A. M. (2000). Peer Groups as a Context for the Socialization of Adolescents' Motivation, Engagement, and Achievement in School. *Educational Psychologist, 35*(2): 101-111.
Samuelsson, M. (2004). *Creating new ventures : a longitudinal investigation of the nascent venturing process*. Jönköping: Jönköping International Business School.
Sarasvathy, S. D. (2004). Making It Happen: Beyond Theories of the Firm to Theories of Firm Design. *Entrepreneurship: Theory & Practice, 28*(6): 519-531.
Schary, M. A. (1991). The probability of exit. *RAND Journal of Economics, 22*(3): 339-353.
Schiller, B. R., & Crewson, P. E. (1997). Entrepreneurial origins: A longitudinal inquiry. *Economic Inquiry, 35*(3): 523-531.
Schneider, S. (1992). Framing and conflict: Aspiration level contingency, the status quo, and current theories of risky choice. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 18*: 1040-1057.
Schumpeter, J. A. (1934). *The theory of economic development : an inquiry into profits, capital, credit, interest, and the business cycle*. Cambridge, Mass.: Harvard University Press.
Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science, 11*(4): 448-469.
Shane, S. (2001). Technology regimes and firm formation, *Management Science, 47*(9): 1173-1190.
Shane, S. (2003). *A General Theory of Entrepreneurship. The Individual-Opportunity Nexus*. Northampton, MA: Edward Elgar.
Shane, S., & Khurana, R. (2003). Bringing individuals back in: the effects of career experience on new firm founding. *Industrial and Corporate Change, 12*(3), 519-543.
Shane, S., Locke, E. A., & Collins, J. C. (2003). Entrepreneurial Motivation. *Human Resource Management Review, 13*(2), 257-279.
Shane, S., & Stuart, T. (2002). Organizational Endowments and the Performance of University Start-ups. *Management Science, 48*(1): 154-170.
Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1): 217-266.
Shepherd, D. A., Douglas, E. J., & Shanley, M. (2000). New venture survival: Ignorance, external shocks, and risk reduction strategies. *Journal of Business Venturing, 15*(5-6): 393-410.
Shepherd, D.A., Wiklund, J. & Haynie, M (2007). Moving forward: Balancing the financial and emotional costs of business failure. *Journal of Business Venturing, in press*.
Sorenson, O., & Audia, P. G. (2000). The social structure of entrepreneurial activity: Geographic concentration of footwear production in the United States, 1940-1989. *American Journal of Sociology, 106*(2): 424-462.
Swann, P., & Beadry, C. (2001). *Growth in Industrial Clusters: A Bird's Eye View of the UK*.Unpublished manuscript, SIEPR Working Paper, Stanford University.
Stam, E., Thurik, A. R., & van der Zwan, P. (2008). *Entrepreneurial Exit in Real and Imagined Markets.* .Unpublished manuscript, Tinbergen Institute Discussion Papers number 08-031/3
Staw, B. M. (1976). Knee-deep in the big muddy: a study of escalating commitment to a chosen course of action. *Organizational Behavior and Human Performance, 16*(1), 27-44.

Stearns, T., Carter, N. M., Reynolds, P., & Williams, M. L. (1995). New firm survival: Industry, strategy, and location. *Journal of Business Venturing, 10*(1), 23-42.

Sørensen, J. (2007a). Bureaucracy and Entrepreneurship: Workplace Effects on Entrepreneurial Entry. *Administrative Science Quarterly, 52*(3), 387-412.

Sørensen, J. (2007b). Closure and Exposure: Mechanisms in the Intergenerational Transmission of Self-employment. *Research in the Sociology of Organizations*, *25*: 83-124.

Taylor, M. P. (1999). Survival of the fittest: An analysis of self-employment duration in britain. *The Economic Journal, 109*(March): 140-155.

Thorburn, K.S., (2000). Bankruptcy auctions, costs, debt recovery, and firm survival, Bankruptcy auctions, costs, debt recovery, and firm survival. *Journal of Financial Economics*, *58*, 337-368,

Ucbasaran, D., Westhead, P., & Wright, M. (2006). Habitual Entrepreneurs Experiencing Failure Overconfidence and the Motivation to Try Again. In J. Wiklund, D. Dimov, J. Katz & D. Shepherd (Eds.), *Advances in Entrepreneurship, Firm Emergence and Growth, Entrepreneurship Frameworks and Empirical Investigations from Forthcoming Leaders of European Research* (Vol. 9, pp. 9-28): Elsevier, JAI.

Van de Ven, A., Hudson, H. R., & Schroeder, D. M. (1984). Designing New Business Startups: Entrepreneurial, Organizational and Ecological Considerations. *Journal of Management, 101*(1): 87-107.

Van de Ven, A. H., & Engleman, R. M. (2004). Event- and outcome-driven explanations of entrepreneurship. *Journal of Business Venturing, 19*(3): 343-358.

Van Praag, C. M. (2003). Business Survival and Success of Young Small Business Owners. *Small Business Economics, 21*: 1-17.

van Witteloostuijn, A. (1998). Bridging Behavioral and Economic theories of Decline: Organizational Inertia, Strategic Competition, and Chronic Failure. *Management Science, 44*(4): 501-519.

Wennberg, K., & Holmquist, C. (2008). Problemistic search and international entrepreneurship. *European Management Journal, 26*(6), 441-454

Westhead, P., & Wright, M. (1998). Novice, portfolio, and serial founders: are they different? *Journal of Business Venturing, 13*(3): 173-204.

Wiklund, J., Davidsson, P., & Delmar, F. (2003). What do they think and feel about growth? An expectancy-value approach to small business managers' attitudes toward growth. *Entrepreneurship Theory and Practice, 27*(3): 247-270.

Yar, D. Wennberg, K. & Berglund, H. (2008). Creativity in entrepreneurship education. *Journal of Small Business and Enterprise Development*, *15*(2): 304-320.

Zander, I. (1999). *Why does the firm come into existence? Towards an entrepreneurial understanding of the nature of the firm.* Paper presented at the SCANCOR Workshop, "The Roots and Branches of Organizational Economics", Stanford University, September 26-27 1999.