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Serial entrepreneurship: differentiating direct from latent re-entrants

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Serial Entrepreneurship: Differentiating Direct from Latent Re-entrants

by

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Serial Entrepreneurship: Differentiating Direct from Latent Re-entrants

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Abstract

This study is the first to examine the decision to re-enter business ownership by entrepreneurs who have exited their first business using a longitudinal matched employer-employee database. This kind of data allow us to distinguish between those serial entrepreneurs who re-enter business ownership immediately upon exiting their first business (direct serial), and those who do so after an interlude in paid employment, or non-employment (latent serial). Results highlight the importance of human capital in triggering serial entrepreneurship, but the kinds of experiences driving direct and latent serial entrepreneurs are different.

JEL-classification: J24; L26, M13,

Keywords: Serial entrepreneurship, Occupational choice, Entrepreneurial opportunity; Human capital, Longitudinal data.

1. INTRODUCTION

It has been recognized that entrepreneurship is not solely confined to the creation of a new business (Cooper and Dunkelberg 1986), nor is it a single-action event (Birley and Westhead, 1993). This broader perspective emphasizes the heterogeneity of entrepreneurship and highlights the need to focus on the individual entrepreneur as the unit of analysis. One facet of entrepreneurship recently gaining interest of researchers is the study of *habitual entrepreneurs*; i.e. entrepreneurs involved in more than one venture. The need to focus on the behavior of individual entrepreneurs in a variety of settings that extend beyond one-time start-ups has been highlighted by, among others, Westhead and Wright (1998), and Carter and Ram (2003).

Habitual entrepreneurs are defined as individuals who have established, inherited and/or purchased more than one business, as opposed to *novice entrepreneurs*, who have established, inherited and/or purchased only one business. Habitual entrepreneurs include individuals who, after owning one venture in a specific moment, start, acquire or inherit another business in a subsequent moment, i.e. *serial entrepreneurs*, and individuals who own several businesses simultaneously, i.e. *portfolio entrepreneurs* (Birley and Westhead, 1993; Westhead and Wright, 1998).

The present study uses a longitudinal matched employer-employee data set covering a reasonably long period (1986-2000) to examine the evidence on the contrasts between serial and novice entrepreneurs. In particular, we focus on the decision by entrepreneurs who have exited their first business to start, inherit or acquire a second one, thereby becoming serial entrepreneurs. We distinguish between serial entrepreneurs who switch directly into a second entrepreneurial experience after exiting the first one, and serial entrepreneurs who experience a different labor market status

(paid employment, non-employment) in-between the first and second entrepreneurial experiences. This second type is termed “latent,” or, alternatively, nascent serial entrepreneurs.¹

We believe a significant contribution to the literature on serial entrepreneurship can be made by focusing specifically on the transition between the first and second entrepreneurial experience. In particular, little attention has been paid by the literature to the fact that this transition does not necessarily occur immediately upon exiting a first business. Indeed, there may be a prolonged interval between entrepreneurial exit and re-entry and it is important to ascertain whether or not those serial entrepreneurs who re-enter business ownership directly upon exiting their first entrepreneurial experience have the similar characteristics and are similarly motivated.

Our study uses linked employer-employee data to study entrepreneurs’² career decisions following exit from their first business ownership experience. In the analysis, we take into account entrepreneurs’ human capital characteristics, such as education and labor market experience, as well as the characteristics of their first business. In addition, we also examine the relationship between the mode of exit from the first firm (i.e. whether the business closed as the entrepreneur exited) and the decision to re-enter entrepreneurship. The longitudinal and often all-inclusive nature of large surveys, such as the one used in the present study, can be used to answer research questions where

¹ Latent entrepreneurs are those who report they would prefer to be entrepreneurs rather than being paid employees, or engaging in any other occupation (Blanchflower *et al.*, 2001). A nascent entrepreneur is someone who is active in trying to start a new business and who expects to be the total or partial owner of the new firm (Reynolds *et al.*, 2004).

² For the purpose of this research, a broad definition of ‘entrepreneur’ is used, comprehending those individuals who report themselves as business owners, regardless of whether they have full or partial ownership, and have started, acquired or inherited the business. We deliberately choose not to restrict our analysis to those who started businesses, preferring to control for differences between starters and acquirers/inheritors in our empirical analysis. The terms ‘entrepreneur’ and ‘business owner’ are used hereafter interchangeably.

interrelated heterogeneous factors concerning firms and individuals require large, unbiased samples with the possibility to simultaneously investigate a variety of factors, thus making the use of such data particularly appropriate for the research issue being studied here.

The paper proceeds as follows. The next section briefly discusses the fledgling literature on habitual entrepreneurship and defines the research goals and propositions of the present study, clarifying its contribution. Section 3 presents the data and discusses in detail the issues in data construction associated with the study of entrepreneurial careers and habitual entrepreneurship. Section 4 presents the model of entrepreneurial choice used, as well as the variables deemed to influence such choice. Section 5 displays and discusses the results from model estimation. Section 6 presents some concluding remarks and suggests future research avenues to be pursued.

2. BACKGROUND LITERATURE

2.1. Habitual entrepreneurship and entrepreneurial human capital

A great deal of the focus of the entrepreneurship literature is on understanding the determinants and processes of entry, exit and survival of new firms in the market. However, firm survival may be different from survival in entrepreneurship and firms' successes and failures do not necessarily influence the future performance of business owners (Sarasvathy and Menon, 2003). A considerable body of literature explores transitions into entrepreneurship from unemployment or paid employment. A significant part of this literature uses occupational choice models (see Parker, 2004 for a review).

A recently growing, but still narrow stream of work has been exploring the differences in characteristics and performance (at the level of both the firm and the

individual entrepreneur) between novice entrepreneurs and different types of habitual entrepreneurs (Kalleberg and Leicht, 1991; Westhead *et al.*, 2003, 2005). Habitual entrepreneurship is said to signal higher levels of entrepreneurial human capital (Ucbasaran *et al.*, 2003; Westhead *et al.*, 2005). Habitual entrepreneurs are expected to have better managerial and technical skills, better networks of contacts, access to market-specific information and knowledge, and accordingly should be better equipped to identify and take advantage of new business opportunities (McGrath and MacMillan, 2000; Shane, 2000). It has also been suggested that serial entrepreneurs may learn from their initial entrepreneurial experience, thereby augmenting their initial endowment of entrepreneurial skills (Stam *et al.*, 2006).

Recent empirical evidence shows that many individuals re-enter or remain in entrepreneurship despite having been unsuccessful in their previous entrepreneurial efforts (Flores and Blackburn, 2006). This finding suggests the need to rethink models of both firm survival and learning, and occupational choice (Stam *et al.*, 2006). Habitual entrepreneurs have been studied in particular with regard to opportunity discovery and pursuit. Individuals with greater business ownership experience should be more prone to identifying new business opportunities (McGrath and MacMillan, 2000; Shane, 2000).

2.2. Research Goals and Propositions

Our main goal is to explore the determinants of the decision that separates entrepreneurs who leave their first business and do not re-enter entrepreneurship in the period under analysis (novice or, to be more precise “one-business entrepreneurs”) from entrepreneurs who leave their first business and re-enter entrepreneurship, thereby becoming serial entrepreneurs. Among the different kinds of transitions that can occur

from the status of novice entrepreneur into different kinds of habitual entrepreneurs, the present study focuses solely on the decision of becoming a serial entrepreneur, i.e. of entering a second experience in entrepreneurship after exiting the first one³. More specifically, this study aims to answer the following research questions:

- i. What distinguishes novice entrepreneurs who do not re-enter business ownership from serial entrepreneurs?
- ii. What distinguishes serial entrepreneurs who switch directly from owning a first firm into owning a second firm, from serial entrepreneurs who only re-enter business ownership some time after their first entrepreneurial experience?
- iii. What are the individual, organizational and environmental variables influencing the choice of becoming a serial entrepreneur?

3. DATA DESCRIPTION AND CONSTRUCTION

The present investigation benefits from an extensive data set of individuals' backgrounds, career paths, and flows between firms and sectors, originating from a longitudinal matched employer-employee database (*Quadros de Pessoal*).⁴ The database is built from mandatory surveys submitted by firms to the Portuguese Ministry of Employment and Social Security. For the purpose of this study, entrepreneurs are defined as those who report themselves as owners of their current businesses, regardless of having full or partial ownership, and having started, acquired or inherited the business. Yearly data on business owners and paid employees include gender, age,

³ Despite acknowledging the importance of portfolio entrepreneurship, we choose to focus only on serial entrepreneurs. This methodological choice has to do with the specific structure of the data, namely the fact that a great percentage of individuals appear as portfolio due to data imprecision regarding their identification number.

⁴ For a complete description of the database, see: Escária and Madruga (2003) and Mata & Portugal (1994).

function and professional/hierarchical qualification, tenure, schooling and skill levels. For each firm, yearly data is available on size (employment), age, location, sector and number of establishments (including location and employment).

3.1. Choice of Labor Market Status

Our data set covers the period 1986-2003⁵ and accounts for male and female non-agricultural workers, aged 16 or more, who entered business ownership whether directly (with no previous work experience), after being in paid employment, or after being non-unemployed, and subsequently exit that first entrepreneurial experience. Upon exiting their first entrepreneurial experience, these individuals may pursue one of three possible courses:

- i. re-entering entrepreneurship directly, i.e. immediately after exiting their first business ownership experience;
- ii. re-entering entrepreneurship eventually, i.e. after a period of time in paid employment or in non-employment;
- iii. not re-entering entrepreneurship.

We start by categorizing individuals according to their professional status at a certain moment in time:

- i. paid employee (*PE*);⁶
- ii. business owner for the first time (*BO1*);
- iii. business owner for the second time (*BO2*); and
- iv. non-employed (*NE*).⁷

Individuals enter entrepreneurship for the first time in their professional careers at time t (entry stage). This first business ownership experience may occur as individuals enter the job market for the first time (i.e. with no previous work experience) or after having some experience as a paid employee. Exit from the first business ownership experience (exit stage) occurs at time $t+n$ ($n \geq 1$)⁸. The decision-making process modeled here occurs after the exit stage, meaning exit from the first experience as entrepreneur (the BO1 status). At this time, individuals decide whether or not to enter a second experience as entrepreneur (BO2) directly or indirectly.

Table 1 here

Table 1 outlines the possible transitions between labor market statuses for the universe of people under analysis, indicating three possible outcomes in our analysis:

- A. *Direct Serial Entrepreneurs*: individuals who, exit their first firm as business owners and switch directly⁹ into business ownership in a subsequent firm at time $t+n$ ($n \geq 1$);
- B. *Indirect Serial*; hereafter called *Latent Serial Entrepreneurs*: individuals who do not choose to re-enter entrepreneurship directly after exiting their first

⁵ The data set registers a gap in the years 1990 and 2001, for which there is no information available.

⁶ Given the small number of workers classified in the categories “members of producers’ co-operatives” and “unpaid family workers,” we chose to group them in the paid employment (PE) category instead of filtering them out of the sample.

⁷ We classify as “non-employed” people who are disengaged from any firm (i.e. exit the database) for two or more years, either because they are unemployed or because they exited the job market. The non-employed also include people who have not yet entered the job market (i.e. became engaged with a firm for the first time) at a certain moment, but will do so at a subsequent time.

⁸ In order to make sure that a transition in labor market status is not due to an error in the yearly entry in the database for the individual, we check each transition two years backwards and forwards.

⁹ A direct transition is here defined as a change occurring within the following two years after exiting the first experience as a business owner, thereby covering the possibility that the annual data collection procedure captures the individual during the transition process.

experience but do so at a later date – time $t+n+k$ ($n \geq 1$; $k \geq 1$), after a period of paid employment or/and non-employment in-between their first and second entrepreneurial experiences;

C. *One-Business Entrepreneurs*: individuals who, after a first entrepreneurial experience do not re-enter business ownership because they switch to paid employment or non-employed and remain so until leaving the workforce.¹⁰

3.2. Issues in Data Construction

The initial data set for the present study is composed of 385,407 individuals who entered entrepreneurship for the first time, of which about 85% are one-business entrepreneurs, while 15% are serial entrepreneurs. There are a number of data-related issues need to be discussed. The first concerns the age of entrepreneurs. Since the data only goes back to 1986, selecting individuals who become entrepreneurs for the first time during the time span covered by the data does not ensure us that those individuals did not entrepreneurial experience prior to 1986, as such experience would not be captured by the data. We therefore restrict our analysis to individuals who become business owners for the first time in the database aged between 16 and 35 years old. These individuals are more likely to have had no prior entrepreneurial experience. This methodological choice is supported by the fact that in the initial sample, transitions into entrepreneurship in Portugal during the period under analysis happen at an average age of 42 years old. Moreover, when comparing the summary statistics of our sample of individuals aged between 16 and 35 years old with a sample including all individuals,

¹⁰ For purposes of data construction, it is assumed that individuals exit the database (i.e. become non-employed) permanently if they leave the database prior to 2000 and do not return in the following years. This leaves us with complete spell cases occurring from 1986 to 2000.

we find no significant differences between groups, indicating that selection bias does not constitute a problem (see Appendix A).

After filtering out those individuals who enter entrepreneurship for the first time after 35 years old, our final dataset accounts for 101,561 cases, of which 80% are one-business entrepreneurs, 11.2% are direct serial entrepreneurs and 8.8% are latent serial entrepreneurs.

Since the main goal of the present research is to model the probability of entering serial entrepreneurship, it is important to account for the occurrence of length-biased sampling. For example, an individual who exits business ownership in 1999 and has not re-entered it by 2003 may still be a latent serial entrepreneur who did not have sufficient time to initiate a new entrepreneurial experience. In other words, due to right-censored cases, serial entrepreneurs may be recorded in our data set as one-business entrepreneurs. In order to mitigate this potential bias, two entrepreneurial entry cohorts were used in the analysis. Cohort 1 includes the cases of entrepreneurs exiting their first businesses in or before 1995; Cohort 2 includes the cases of entrepreneurs exiting their first business after 1995. While both cohorts are used for studying direct transitions into serial entrepreneurship, only Cohort 1 is used for the analysis of indirect transitions, so that it is possible to forward-track entrepreneurs' decisions for at least five years after exiting the first entrepreneurial experience.

Our analysis aims to distinguish serial entrepreneurs from novice entrepreneurs who do not re-enter entrepreneurship after terminating their first experience as business owners (one-business entrepreneurs). Hence, excluded from the data are the following groups: individuals who never enter entrepreneurship; portfolio entrepreneurs (i.e. those who remain as business owners in one firm while starting or acquiring other firms

simultaneously); and individuals who become entrepreneurs and remain so in the same firm until the end of the period under analysis.

With regard to the latter group, exclusion from the data being studied may lead to sample selection bias, since entrepreneurs who do not leave their first business during the time span covered by the data may do so at a later time, therefore becoming candidates for serial entrepreneurship. In order to examine this issue, we compare the statistics of our group of interest – entrepreneurs who exit their first firm (which we call ‘exiters’) – with those of the group being excluded from the analysis – entrepreneurs who remain in the same firm during the period under analysis (which we call ‘stayers’). Some differences exist between groups (see Appendix B), namely in autonomy¹¹, age, ownership tenure¹² and experience as paid-employee, which is expected as it reflects the fact that variables for the group of stayer entrepreneurs are measured for longer spells.¹³ A test for selection was conducted using a probit model with selection for the case of a binary response variable (see: Heckman, 1979; Van de Ven and Van Praag, 1981). Results indicate there is no sample selection problem (i.e. the *rho* values for the selection equations were not significant). Therefore, we model the decision to become a

¹¹ We have merged information on individuals’ hierarchical position within the firm, in a way to build the variable “Autonomy” which is related with individuals’ high level of responsibility for the outcomes of their own actions within the firm. For example, Van Gelderen *et al* (2003) define “autonomy” as the freedom to decide with regard to the “what, how, and when” aspects of work. Hence, we use this variable as a proxy for internal locus of control, as individuals in upper hierarchical positions often believe that they control their future occupational choices (see for example, Van Praag and Van Ophem, 1995).

¹² Although ‘tenure’ is a term more often used for employees, we use it here in reference to the entrepreneur’s time in business ownership in the same firm.

¹³ While variables for exiters are measured at the time of exit, variables for stayers are measured at the end of the period covered by the dataset, i.e. the year 2003.

serial entrepreneur, using only those who exit their first entrepreneurial experience (exiters).¹⁴

Another important issue concerns the modes of entry and exit from entrepreneurship. The mode of entry into entrepreneurship is examined by differentiating between starters and acquirers. If an individual enters a firm for the first time and that same firm is new in the market, (i.e. firm start-up and transition to business ownership occur simultaneously)¹⁵ we assume that entry into entrepreneurship occurs through a start-up; otherwise, we assumed that a pre-existing firm has been acquired by the business owner. The mode of exit is examined in a similar fashion by checking whether the time period when the business owner exits coincides with the firm extinction. It is more likely that simultaneous entrepreneurial exit and business closure corresponds to exit due to business failure¹⁶, while entrepreneurial exit from a firm that continues operating in the market after such exit is more likely to result from sale of the entrepreneur's share of the business to a third person, and is therefore less likely to result from business failure (Headd, 2003).

¹⁴ While individuals' decisions to switch out of entrepreneurship into a different firm or occupation can be examined only across a subset of the population (the exiters), the decision to exit concerns all the population (exiters and stayers – those who remain ever in the dataset as entrepreneurs in the same firm). Therefore, we use the main probit equation: $\text{Prob}(\text{SERIAL}=1) = F(\alpha + \beta X + \epsilon)$ and the selection probit equation: $\text{Prob}(\text{EXIT}=1) = F(\delta + \gamma X + \mu)$. SERIAL is a binary variable equal to 1 if individuals exit entrepreneurship and enter a second firm as business owners again; and equal to 0 if individuals exit entrepreneurship to paid employment or non-employment; X is the vector of the independent variables and EXIT is a binary variable equal to 1 for those who exit from the first entrepreneurial experience and equal to 0 for those who remain ever in the same firm as entrepreneurs. In order for the model to be well identified, we include the variable "Rate of Sales Growth" in the selection equation (EXIT), but not in the main equation (SERIAL).

¹⁵ Foundation and transition into business ownership are considered simultaneous if the year of firm foundation equals the year the individual becomes a business owner or if there is a difference of one year between occurrences, in order to account for possible asymmetries in data collection.

¹⁶ Business failure is here understood as failure to equal or exceed a performance threshold the entrepreneur requires to keep the business running (see Gimeno *et al.*, 1997), and not necessarily as failure to be economically viable. It is therefore possible that a business that is deemed to be failing by its current owner be acquired by an entrepreneur with a lower performance threshold. Hence, instead of "failure" we will hereafter use the term 'full exit' (Wiklund, 2006).

The data has a limitation with regard to the mode of exit, more specifically the absence of direct information distinguishing mergers and acquisitions from true liquidations of firms. We estimate a proxy for merger accounting for liquidations, by looking at the extent to which a sizeable part of the workforce of each firm moves to a different one. We reach a similar conclusion than Mata and Portugal (2002) that less than 1% of the total number of liquidations is due to merger/acquisition within the Portuguese private sector. This suggests that inability to track mergers is not likely to impact significantly upon results.

4. EMPIRICAL MODEL AND VARIABLES

In order to investigate why individuals who exited their first business ownership experience enter serial entrepreneurship, our study resorts to a form of the classic discrete choice model, similar to those proposed by Evans and Jovanovic (1989), and Taylor (1996); and subsequently reviewed by Parker (2004). In these models, occupational choice is determined by expected utility from each different occupation.

We assume that there are two entrepreneurial choices (j), here denoted by SE (serial entrepreneurship) and OE (one-business entrepreneurship). Each individual (i) has a vector X of observed characteristics and derives utility $U_{ij} = U(X_i; j) + u_{ij}$ if they work in a j specific situation (SE or OE), where $U(X_i; j)$ is observable utility and u_{ij} is unobserved utility.

$$E(U_j) = f(I, H, O, E) \quad (1)$$

The expected utility from being a serial entrepreneur or a one-business entrepreneur $[E(U_j)]$ is a function of: I =individual characteristics; H =Human capital and

experience; O=organizational features and E=Environmental conditions. We assume that individuals derive no utility from being unemployed.

An individual will re-enter entrepreneurship if: $E(U_{SE}) > E(U_{OE})$, in addition, s/he will remain as an entrepreneur in the same firm (one-business entrepreneur) if:

$$E(U_{SE}) < E(U_{OE}).$$

We can define the observable indicator variable z_i^* as:

$$z_i^* = E(U_{SE}) - E(U_{OE}) - u_{iSE} + u_{iOE}. \quad (2)$$

$$z_i^* = \alpha + \beta' X_i + v_i \quad (3)$$

where z_i equals 1 if $z_i^* \geq 0$ [i.e. individual i is observed in SE] and z_i equals 0 if $z_i^* \leq 0$ [i.e. individual i is observed in OE], being $\Pr(z_i=1) = \Pr(z_i^* \geq 0)$.

Logistic regression was used to assess the factors affecting the decision to re-enter entrepreneurship. Hence, our model becomes:

$$\Pr(z_i = 1) = \frac{e^{(\beta' X_i)}}{1 + e^{(\beta' X_i)}} \quad (4)$$

The main difference between our model and the ones used by Evans and Jovanovic (1989) and Taylor (1996) does not lie in its construction, but rather in its application – and, therefore, in the variables used – since the choice being modeled is not whether to become an entrepreneur, but whether to become a serial entrepreneur.

The choice of variables for inclusion in the models attempts to encompass the main types of factors found to influence entrepreneurial occupational choice in the general literature on self-employment and entrepreneurship and, particularly, in studies focusing on habitual entrepreneurship. Variables were structured in four main dimensions of analysis:

- i. *Entrepreneurial demographics;*
- ii. *Entrepreneurial human capital;*

- iii. *Organizational characteristics of the first business owned;*
- iv. *Environment.*

Table 2 here

Table 2 presents the variable definitions and descriptive statistics.¹⁷ Predicting the effects of variables on the decision to become a serial entrepreneur can become an exercise in speculation, given the modest amount of theoretical work focusing on this specific subject. Moreover, the rather more abundant literature on the occupational choice of becoming a novice entrepreneur has produced somewhat ambiguous results with regard to some key variables, thus making any attempt to bridge the literatures on occupational choice and habitual entrepreneurship more difficult. One such example is age.

The literature in entrepreneurship and occupational choice suggests a wide variety of effects associated with age on the decision to become an entrepreneur. Some authors have found that the transition into self-employment is positively correlated with age (for instance, Van Praag and Van Ophen, 1995). The reason for this is that older people have had more time to build better networks and to identify valuable opportunities (Calvo and Wellisz, 1980), and are more likely to have accumulated capital which can be used to set up a business (Blanchflower and Oswald, 1998).

Another research stream suggests that self-employment is concentrated among young individuals because older people are more risk averse (Miller, 1984), and because older individuals are prone to embark upon the more demanding work require by self-

¹⁷ The correlation matrix is omitted and is available from the authors upon request.

employment (Rees and Shah, 1986). Evidence shows that habitual founders start their first business at a younger age than novice founders (Birley and Westhead, 1993; Kolvereid and Bullvag, 1993). While a negative effect of age is unlikely, it is possible that positive effects will decrease as age increases.

Some remarks can be made about a few other variables. In general, women have a lower likelihood of becoming an entrepreneur than males (Wagner, 2005). Studies in habitual entrepreneurship also found that very few women become engaged in a second entrepreneurial experience (Kolvereid and Bullvag, 1993; Westhead and Wright, 1998). It is therefore expected that being female impacts negatively on the probability of becoming a serial entrepreneur.

Better-educated individuals have a higher probability of choosing self-employment than the less educated (Lucas, 1978). Workers that are better educated tend to be better informed, implying that they are more efficient at assessing self-employment opportunities (Rees and Shah, 1986). The same line of reasoning can be applied to habitual entrepreneurs. Studies of habitual entrepreneurship show a greater likelihood of this group to have higher education qualifications (Kolvereid and Bullvag, 1993).

Studies of habitual and novice entrepreneurs have analyzed the differences between the two groups with regard to their backgrounds (Ucbasaran *et al.*, 2003). Habitual entrepreneurs may learn from their earlier experiences as business owners and therefore feel better prepared to detect and pursue opportunities, thus suggesting that individuals with greater business ownership experience are more likely to become serial entrepreneurs. Still, empirical studies show no significant differences between the

performance of businesses owned by habitual entrepreneurs and those owned by novice entrepreneurs (Birley and Westhead, 1993; Kolvereid and Bullvag, 1993).

Finally, Ucbasaran *et al.* (2003) argue that habitual acquirers and starters use human capital differently for identifying and exploiting business opportunities. This difference in processes suggests that entrepreneurs who start their first business are also more likely to start their second business, while entrepreneurs who acquire their first business are also more likely to acquire their second business.

5. RESULTS

Results are presented in Table 3. Before discussing the results, a limitation of the models should be addressed. While the choice model estimated using the Logit procedures is appropriate to explain the individuals' occupational choice decision taking place at the moment they exit their first business ownership experience (i.e. whether or not to become a direct serial entrepreneur at time $t+n$), modeling a decision occurring at moment $t+n$ in time it is less appropriate when trying to explain latent serial entrepreneurship, since the individual only re-enters entrepreneurship at time $t+n+k$. In fact, it can be argued that an occupational choice decision takes place at each moment in time. Hence, a panel model explaining the probability of an individual re-entering entrepreneurship at each time unit (years, in the present case) from $t+n$ onwards would be more appropriate. Such model is not estimated here since one of the aims of the present study is to observe differences between direct serial and latent serial entrepreneurs in terms of the occupational decision taking place at the time they exit their first entrepreneurial experience. It can be argued that, at time $t+n$, individuals choose between entering *direct serial entrepreneurship*, entering *latent serial*

entrepreneurship, and remaining a one-business entrepreneur, since latent serial entrepreneurs will likely be intent on re-entering entrepreneurship at time $t+n$ but are only able to do it at time $t+n+k$.

Table 3 here

Models I-III focus on the decision whether to become a serial entrepreneur for starters and acquirers simultaneously. Model I distinguishes those who move directly towards their second business ownership experience after exiting the first one (direct serial) from all other cases, including those who will enter their second business ownership experience later (latent serial) and those who will not (one-business entrepreneurs). Model II outlines a multinomial choice distinguishing the three different cases: direct serial, latent serial and one-business entrepreneurs, while model III excludes direct serial entrepreneurs, focusing on the choices of those who did not re-enter business ownership immediately upon exiting their first business.

Results suggest that direct serial and latent serial entrepreneurs are different. However, gender and age and gender have similar effects on the choice of serial entrepreneurship in both cases. Women are less likely than men to become serial entrepreneurs. Older entrepreneurs are more likely to repeat business ownership. While the coefficient for age squared is negative, the absolute sizes of the coefficients imply that the overall effect of age on the probability of becoming direct or latent serial entrepreneur is always positive. This confirms the importance of opportunity recognition in serial entrepreneurship (Ucbasaran *et al.*, 2003). As previously pointed out, older entrepreneurs are expected to be more experienced, and therefore more capable of identifying and selecting opportunities, but are also more risk averse, thus pursuing fewer opportunities. Results suggest that the effect of experience in

opportunity identification clearly outweighs the effect of risk aversion as far as serial entrepreneurship is concerned.

Schooling plays a significant role in driving latent, but not direct serial entrepreneurship. Autonomy plays a significant role in driving direct, but not latent serial entrepreneurship. This suggests that, while general human capital may make it easier for individuals to find paid employment opportunities upon exiting business ownership, it also provides motivation to keep searching for opportunities to return to business ownership in the years after exiting their first business. Individuals with lower levels of education may be compelled to return to business ownership immediately upon exiting their first business due to lack of opportunities in paid employment. The ones most likely to embark in a new entrepreneurial experience are those with higher levels of responsibility for the outcomes of their own actions.

Specific human capital associated with experience acquired as a business owner and as a paid employee have contrary effects on direct and latent serial entrepreneurship decisions. The amount of time spent as a paid employee before entering the first business ownership experience plays a significant role in driving direct, but not latent serial entrepreneurship, while the amount of time spent in the first business ownership experience plays a significant role in driving latent, but not direct serial entrepreneurship. It seems therefore that experience accrued in the labor market as a paid employee facilitates immediate re-entry into business ownership, while experience accrued as a business owner does not, which is a somewhat surprising result. Experience as a business owner does seem to drive individuals to keep looking for opportunities to eventually return to business ownership.

Organizational variables (with regard to the first experience as a business owner) offer some interesting evidence. Individuals who exit their first business as it closes (full exit) are more likely to re-enter business ownership immediately upon exit. This is possible due to a “curse” effect by which individuals who are seen as having failed as entrepreneurs experience greater difficulty in finding paid employment. It is also possible in some cases that the extinction of the first firm results from a change in direction in the individual’s entrepreneurial plans, and a new firm is started to implement this change.

Those individuals exited entrepreneurship by selling their share in continuing business are less likely to re-enter immediately, but more likely to re-enter later on. This suggests that, while some of those who exit entrepreneurship have chosen to pursue a career in paid employment, others may just be taking their time to find an appropriate opportunity to return to entrepreneurship. In any case, it seems that persistence and willingness to remain in entrepreneurship are hardly affected by a less successful experience.

Individuals who start their first firm are more likely to repeat as entrepreneurs than individuals that enter entrepreneurship for the first time through acquisition. Direct serial entrepreneurship is more frequent in services, possibly due to lower investment requirements. Increases in unemployment reduce the probability of direct serial entrepreneurship. This is possibly due to a negative business cycle effect on entrepreneurial efforts. However, unemployment increases have a positive effect on latent serial entrepreneurship, suggesting that some of those who re-enter business ownership some time after exiting their first experience are not doing it due to

opportunity discovery, but due to an inability to find a satisfactory paid employment opportunity.

6. CONCLUDING REMARKS

In the present work, longitudinal matched employer-employee data were used to examine the contrasts between serial and one-business entrepreneurs. In particular, the study focused on the decision by entrepreneurs who exited their first business to re-enter entrepreneurship in a new or acquired business, thereby becoming serial entrepreneurs. The paper builds a model of occupational choice where variables associated with the entrepreneur's demographics and human capital, the features of his/her first entrepreneurial experience, and the business cycle, influence decisions associated with serial entrepreneurship, including:

- i. whether to become a *direct serial entrepreneur*, re-entering business ownership directly after exiting the first entrepreneurial experience;
- ii. whether to become an indirect or latent serial entrepreneur, re-entering business ownership only after a paid employment or/and unemployment spell after exiting the first entrepreneurial experience; and
- iii. whether to enter serial entrepreneurship by starting or acquiring a new firm.

Results from model estimation highlight the importance of opportunity recognition and pursuit in generating serial entrepreneurship and, in particular, the role played by specific human capital resulting from experiences as paid employee and entrepreneur in enhancing individuals' abilities to recognize and pursue venture opportunities after exiting their first business. However, while employment experience plays a positive role for direct transitions from the first to the second business

ownership experience, the length of experience as a business owner plays a positive role in indirect transitions.

General human capital has less clear cut effects. While higher levels of education may not have a significantly positive impact on individuals' ability to detect and pursue opportunities, they may contribute to increase their willingness to return to business ownership. One reason for this result may simply be that individuals that are better educated benefit more from business ownership experience than less educated individuals, becoming more likely to identify opportunities and to pursue them even after spending some time in paid employment or in non-employment. One other possible explanation is that experience with business ownership (particularly if it was a failed experience) may have an adverse effect on the individuals' expected earnings when returning to paid employment. If employers value experience as a paid employee more than business ownership experience, than individuals who have just ended a spell as business owners are at a disadvantage when competing for a paid employment. The present result indicates that this may be true for more educated individuals, who have more difficulty in finding a job/income deemed suitable for their abilities, and who are therefore more easily compelled to return to business ownership as soon as an opportunity arises.

Less successful initial experiences with entrepreneurship do not seem to deter individuals from re-entering business ownership. In fact, individuals who close their first firms are more likely to become direct serial entrepreneurs. Negative business cycles often prevent individuals from re-entering business ownership immediately upon exiting, but may drive those who chose paid employment back to business ownership

due to lack of job opportunities. Business starters are more likely to become serial entrepreneurs than acquirers/inheritors.

In a recent work, Compans and McMullen (2007), develop a typology of entrepreneurial opportunity characterizing three “schools” regarding the sources and types of opportunity: the economic school, the cultural cognitive school, and the socio-political school. The economic school attributes the existence of entrepreneurial opportunities to the distribution (or lack thereof) of information regarding material opportunities in society. The cultural cognitive school, while sharing an emphasis on knowledge and information, takes the view that it is the emergence of a subjective, shared meaning of knowledge that constructs opportunity. Finally, the socio-political school is built on the notion that opportunities are objective in the sense that they are social network structures and yet subjective given that their exploitation depends on the entrepreneur’s political skills and abilities. The results of the present analysis seem to give credence to elements of all three schools. While specific human capital seems to play a role in acquiring information with regard to entrepreneurial opportunities, information asymmetries are unlikely to have solely an objective dimension. Moreover, the results also suggest that, while general and specific human capital play a role in triggering serial entrepreneurship, they are far from explaining all differences between one-business and different sorts of serial entrepreneurs. More complex socio-political phenomena must also play a significant role,

Results also suggest that, as pointed out by Plummer *et al.* (2007), entrepreneurial opportunity theories need to distinguish between those opportunities that are genuinely new and those that are “under-exploited” instances of opportunities already in existence. The significance of direct and, particularly, latent serial

entrepreneurship, suggest that a lot of serial entrepreneurs may be individuals who, feeling that they have under-exploited an opportunity owing to errors in their entrepreneurial strategy, and seek a second opportunity to correct those errors.

Further research on habitual entrepreneurship can benefit significantly from the use of the resources of longitudinal matched employer-employee data. In particular, models can be improved in order to allow us to look at the dynamics of the decisions to enter, exit and re-enter business ownership. Beyond characteristics of direct and latent-serial entrepreneurs, time-to-event data modeling can also be performed, accounting for the time lag between entrepreneurial events. Panel data estimation techniques can be used to assess the motivations behind sequences of decisions through time, therefore shedding new light on entrepreneurial motivations and the process of opportunity recognition and pursuit.

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Table 1: Transitions after the first business-ownership experience

Time t	Time $t+n$, ($n \geq 1$)	Time $t+n+k$, ($n \geq 1$; $k \geq 1$)	Category
Enter business ownership for the first time ($BO1$)	Exit first business ownership experience & Re-enter business ownership directly ($BO2$)		A – <i>Direct Serial Entrepreneurs</i> ($N=9390$)
	Exit first business ownership experience & Do not re-enter business ownership directly	Re-enter business ownership at a subsequent time ($BO2$)	B – <i>Indirect (Latent) Serial Entrepreneurs</i> ($N=7956$)
		Leave business ownership to paid or non-employment (PE or NE) and do not ever re-enter business ownership	C – <i>One-Business Entrepreneurs</i> ($N=68704$)

Table 2: Descriptive statistics for models with direct and indirect transitions into serial entrepreneurship

VARIABLES	Models with direct transitions (two cohorts:1986/03)						Models without direct transitions (1 st cohort 1986/95)			
	One-Business		Direct Serial		Latent Serial		One-Business		Latent Serial	
	Mean	SDev	Mean	SDev	Mean	SDev	Mean	SDev	Mean	SDev
<i>DEMOGRAPHIC</i>										
Gender (1 if female)	.316	.465	.205	.404	.178	.383	.319	.466	.175	.380
Age of entrepreneur when exiting business ownership in first firm	32.214	5.597	33.501	5.817	31.833	4.238	31.230	4.466	31.718	4.027
Age squared	1069.08	374.29	1156.22	406.52	1031.33	265.67	995.31	270.85	1022.28	248.04
<i>HUMAN CAPITAL</i>										
Education (1 if university education)	.078	.269	.055	.228	.100	.300	.057	.233	.100	.300
Autonomy (1 if highly qualified or top manager)	.431	.495	.498	.500	.166	.372	.086	.280	.063	.243
Experience as an employee (1 if the entrepreneur was an employee before entering business ownership for the first time)	.357	.479	.378	.484	.202	.402	.267	.442	.161	.367
Tenure as business owner (No. years as business owner in first firm)	4.356	4.235	5.393	4.816	4.579	3.648	3.783	3.721	4.607	3.599
Tenure as business owner squared	36.916	63.621	52.288	74.238	34.279	45.650	28.159	49.270	34.180	43.691
<i>ORGANIZATIONAL</i>										
Sell-out (1 if first firm remains in business when entrepreneur exits)	.528	.499	.381	.485	.654	.475	.639	.480	.665	.471
High Tech	.013	.115	.011	.104	.011	.108	.013	.116	.011	.105
Knowledge Intensive Services	.060	.239	.044	.207	.080	.272	.049	.217	.083	.276
Log of Firm Size	1.703	1.084	1.920	1.030	1.809	.930	1.864	1.098	1.850	.918
Start-up	.552	.497	.608	.488	.683	.465	.517	.499	.692	.461
Services Sector	.594	.490	.594	.491	.611	.487	.566	.495	.617	.486
Industry Sector	.383	.486	.387	.487	.375	.484	.415	.492	.370	.483
<i>ENVIRONMENTAL</i>										
Unemployment Rate	5.295	.974	5.123	1.058	5.586	.836	5.492	.928	5.614	.848
Number of observations	N= 68704		N= 9390		N= 7956		N= 41202		N= 7420	

Table 3: Binomial and multinomial Logit estimation results (marginal effects)

VARIABLES	I	II		III
	Direct Serial Vs. Non-Direct Serial ⁱⁱ	Direct Serial Vs. Latent Serial Vs. One-Business ⁱ	Latent Serial Vs. One-Business ⁱ	
	Prob (Dir.)	Prob (Dir.)	Prob (Lat.)	Prob (Lat.)
<i>DEMOGRAPHIC</i>				
Gender (1 if female)	-0.066*** [0.002]	-0.069*** [0.002]	-0.035*** [0.002]	-0.082*** [0.004]
Age of entrepreneur when exiting business ownership in first firm	0.023*** [0.002]	0.023*** [0.002]	0.021*** [0.002]	0.026*** [0.004]
Age squared	-0.000*** [0.000]	-0.000*** [0.000]	-0.000*** [0.000]	-0.000*** [0.000]
<i>HUMAN CAPITAL</i>				
Education (1 if university education)	-0.039*** [0.004]	-0.040*** [0.004]	0.014*** [0.003]	0.037*** [0.006]
Autonomy (1 if highly qualified or top manager)	0.013*** [0.002]	0.013*** [0.002]	-0.087*** [0.002]	-0.052*** [0.006]
Experience as an employee (1 if the entrepreneur was an employee before entering business ownership for the first time)	0.014*** [0.002]	0.014*** [0.002]	-0.025*** [0.002]	-0.035*** [0.004]
Tenure as business owner (No. years as business owner in first firm)	-0.002*** [0.001]	-0.002*** [0.001]	0.007*** [0.001]	0.011*** [0.001]
Tenure as business owner squared	0.000*** [0.000]	0.000*** [0.000]	-0.001*** [0.000]	-0.001*** [0.000]
<i>ORGANIZATIONAL</i>				
Sell-out (1 if first firm remains in business when entrepreneur exits)	-0.072*** [0.002]	-0.073*** [0.002]	0.022*** [0.002]	0.009*** [0.003]
High Tech	-0.016* [0.009]	-0.016* [0.009]	-0.006 [0.007]	-0.028* [0.015]
Knowledge Intensive Services	-0.026*** [0.005]	-0.027*** [0.005]	0.023*** [0.003]	0.058*** [0.007]
Log of Firm Size	0.027*** [0.001]	0.027*** [0.001]	0.001 [0.001]	0.003* [0.002]
Start-up	0.023*** [0.002]	0.024*** [0.002]	0.031*** [0.002]	0.071*** [0.004]
Services Sector	0.025*** [0.007]	0.027*** [0.007]	0.033*** [0.007]	0.057*** [0.014]
Industry Sector	-0.012* [0.007]	-0.012* [0.007]	0.024*** [0.007]	0.032** [0.014]
<i>ENVIRONMENTAL</i>				
Unemployment Rate	-0.020*** [0.001]	-0.020*** [0.001]	0.013*** [0.001]	0.014*** [0.002]
Constant	-0.483*** [0.027]	-0.465*** [0.028]	-0.566*** [0.027]	-0.838*** [0.063]
Number of observations	86050	86050	48622	

* significant at 10%; ** significant at 5%; *** significant at 1% ; Standard errors in brackets

ⁱ One-Business is the omitted variable.ⁱⁱ Non-Direct Serial (Latent+One business) is the omitted variable.

APPENDIX A:

Descriptive statistics for the population and for a sub sample of individuals aged 16-35 years old

<i>VARIABLES</i>	All individuals		Aged 16-35	
	Mean	SDev	Mean	SDev
Gender (1 if female)	.261	.439	.284	.451
Age of entrepreneur when exiting business ownership in first firm	45.672	11.386	33.606	6.435
Education (1 if university education)	.075	.264	.085	.280
Autonomy (1 if highly qualified or top manager)	.554	.497	.544	.497
Experience as an employee (1 if the entrepreneur was an employee before entering business ownership for the first time)	.291	.454	.375	.484
Tenure as business owner (No. years as business owner in first firm)	6.826	7.626	5.201	4.714
Sell-out (1 if first firm remains in business when entrepreneur exits)	.386	.486	.345	.475
High Tech	.015	.124	.013	.116
Knowledge Intensive Services	.051	.221	.061	.239
Log of Firm Size	1.724	1.060	1.718	1.045
Start-up	.536	.498	.589	.491
Services Sector	.631	.482	.590	.491
Industry Sector	.346	.475	.389	.487
Unemployment Rate	5.698	1.008	5.743	1.004

APPENDIX B:

Descriptive statistics for the ‘exiters’ and ‘stayers’ aged 16-35 years old

<i>VARIABLES</i>	Main Group (Exiters)		Excluded Group (Stayers)	
	Mean	SDev	Mean	SDev
Gender (1 if female)	.292	.454	.268	.443
Age of entrepreneur when exiting business ownership in first firm	32.324	5.533	36.093	7.278
Education (1 if university education)	.078	.268	.098	.297
Autonomy (1 if highly qualified or top manager)	.415	.492	.795	.403
Experience as an employee (1 if the entrepreneur was an employee before entering business ownership for the first time)	.432	.495	.346	.475
Tenure as business owner (No. years as business owner in first firm)	4.492	4.268	6.576	5.207
Sell-out (1 if first firm remains in business when entrepreneur exits)	.523	.499		
High Tech	.013	.113	.015	.122
Knowledge Intensive Services	.060	.239	.061	.240
Log of Firm Size	1.737	1.067	1.682	.999
Start-up	.570	.494	.625	.483
Services Sector	.596	.490	.577	.493
Industry Sector	.383	.486	.399	.489
Unemployment Rate	5.302	.978	6.600	.000