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ENTREPRENEURIAL INTENTIONS SUBSEQUENT TO FIRM EXIT

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ABSTRACT

While a large literature has emerged focusing on nascent entrepreneurship, the propensity for ex-entrepreneurs to consider re-entering into entrepreneurship, or what we term here as *renascent entrepreneurship*, has been generally overlooked. According to the theory of selection and passive learning (Jovanovic, 1982), while there is a lot to be learned about the underlying but unobservable endowment of entrepreneurial skills from entering into entrepreneurship, there is virtually nothing that can be additionally learned from subsequently re-entering into entrepreneurship following termination of a previous firm. This paper suggests a different view of learning, where the entrepreneur can utilize her capacity to absorb and learn from the initial entrepreneurial experience, thereby augmenting her initial endowment of entrepreneurial skills. This leads to the theoretical prediction that those ex-entrepreneurs with characteristics more conducive to augmenting entrepreneurial abilities are more likely to become renascent entrepreneurs. Based on the empirical evidence from a database consisting of ex-entrepreneurs, we conclude that those ex-entrepreneurs with the characteristics facilitating the augmentation of entrepreneurial skills exhibit a higher propensity for becoming renascent entrepreneurs. This would suggest that there are two types of learning gained from entrepreneurship – both passive learning about the underlying endowment of entrepreneurial skills, but also active learning in that the (ex)entrepreneur learns how to do it better.

1. Introduction

As the Lisbon Mandate of 2000 by the European Union suggests, promoting entrepreneurship has become a key instrument of policies for economic growth and employment creation. A focal point of such entrepreneurship policies is not only to increase the share of the labor force that would be potentially interested in entering into entrepreneurship, but also the actualization of nascent entrepreneurs into actual entrepreneurs. Why should such a gap exist between nascent and actual entrepreneurship? Most scholars have focused on the uncertainty involved in entrepreneurial activity that deters the transformation from nascent to actual entrepreneurship. For example, in one of the most prominent theories of entrepreneurship, the theory posited by Boyan Jovanovic (1982) of noisy selection and learning, nascent entrepreneurs are uncertain about their actual entrepreneurial abilities. The nascent entrepreneur can only learn about her actual entrepreneurial abilities through the process of starting a new firm. Only by starting a new firm and observing the subsequent performance is a nascent entrepreneur able to learn about her endowment of entrepreneurial talent.[1] Thus, an important implication of the Jovanovician model of entrepreneurship is that a positive entrepreneurial performance subsequent to startup will lead the entrepreneur to infer that she has a strong endowment of entrepreneurial skills, which will lead her to persist as an entrepreneur. By contrast, those startups with a poor performance will lead entrepreneurs to infer that they have only an impoverished endowment of entrepreneurial skills and will tend to exit out of entrepreneurship. Thus, the nascent entrepreneur can only learn about her true but unobservable underlying endowment of entrepreneurial skills by inferences gleamed from the actual entrepreneurial

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[1] Pakes and Ericson (1998) refer to this as 'passive learning', while they have developed a model of 'active learning' in which an entrepreneur learns about the value of a perceived market opportunity by investing in a new firm and subsequently developing and exploiting the opportunity (Ericson and Pakes, 1995; Pakes and Ericson, 1998). Baldwin and Rafiquzzaman (1995) label these two models "selection" and "evolutionary adaptation", respectively.

performance. Those entrepreneurs learning from actual entrepreneurial experience that they have only impoverished endowments of entrepreneurial skills select themselves out of entrepreneurship, while those learning that they have rich endowments of entrepreneurial skills remain in entrepreneurship.

A second important implication of Jovanovic's (1982) model is that once an individual has learned that she has a paucity of entrepreneurial skills, there is no reason to subsequently (again) become a nascent entrepreneur. According to the Jovanovic (1982) model, the underlying entrepreneurial skills would already have been revealed through the entrepreneurial experience. Thus, there would be little to be learned through considering to (re-) enter into entrepreneurship, or what we term here as *renascent entrepreneurship*.

However, a number of studies have shown that, rather than abstaining from subsequent entrepreneurship, people who were entrepreneurs actually have a higher and not a lower propensity to re-enter into entrepreneurship (Caroll and Mosakowski, 1987; Henley, 2004). If such ex-entrepreneurs had already learned that they did not possess a strong endowment of entrepreneurial skills, why would they re-enter into entrepreneurship? The purpose of this paper is to resolve this empirical paradox and to challenge both the Jovanovician (1982, 1994) view of entrepreneurial learning along with the high propensity for renascent entrepreneurship. In particular, we suggest that not only do entrepreneurs learn about their underlying entrepreneurial skills from their entrepreneurial experience, but, what Jovanovic (1982, 1994) did not consider, they learn how to improve those skills. As a result of this second type of learning, individuals who have exited out of entrepreneurship, presumably due to a weak entrepreneurial performance, may, in fact, become renascent entrepreneurs in order to appropriate the returns from their augmented entrepreneurial skills.

In the second section of this paper we present a model of renascent entrepreneurship. Measurement of renascent entrepreneurship is explained in the third section. In the fourth section a binary logistic regression model is estimated to explain why some ex-entrepreneurs become renascent entrepreneurs, while others abstain from renascent entrepreneurship. In the final section a summary and conclusions are presented. In particular, we find that the propensity for ex-entrepreneurs to become renascent entrepreneurs is not homogenous, but rather systematically related to the capacity to absorb knowledge and learn from previous entrepreneurial experience. Thus, those characteristics that are conducive to renascent entrepreneurship are somewhat different than those that are typically associated with nascent entrepreneurship.

2. A model of renascent entrepreneurship

The links between the nascent entrepreneurship and entrepreneurial performance are depicted in Figure 1. As the literature has documented (Parker, 2004, 2005), the average return accruing from starting a new firm, at point A, lies below the wage that could be earned working in an incumbent firm. However, the performance differential between the returns to entrepreneurship and wages earned working in an incumbent firm do not remain constant over time, but may increase or decrease. While the entrepreneurial decision occurs within a relatively narrow lapse of time, the entrepreneurial process involves the evolution of the new firm from birth towards maturity (Carter et al., 1996). The entrepreneurial process may result in a return far exceeding that expected from wages earned in an incumbent firm, as depicted by point D, or alternatively, in a return far below the benchmark wages, at point C. Thus, as Knight (1921) pointed out, the entrepreneurial process is shrouded in uncertainty and risk.
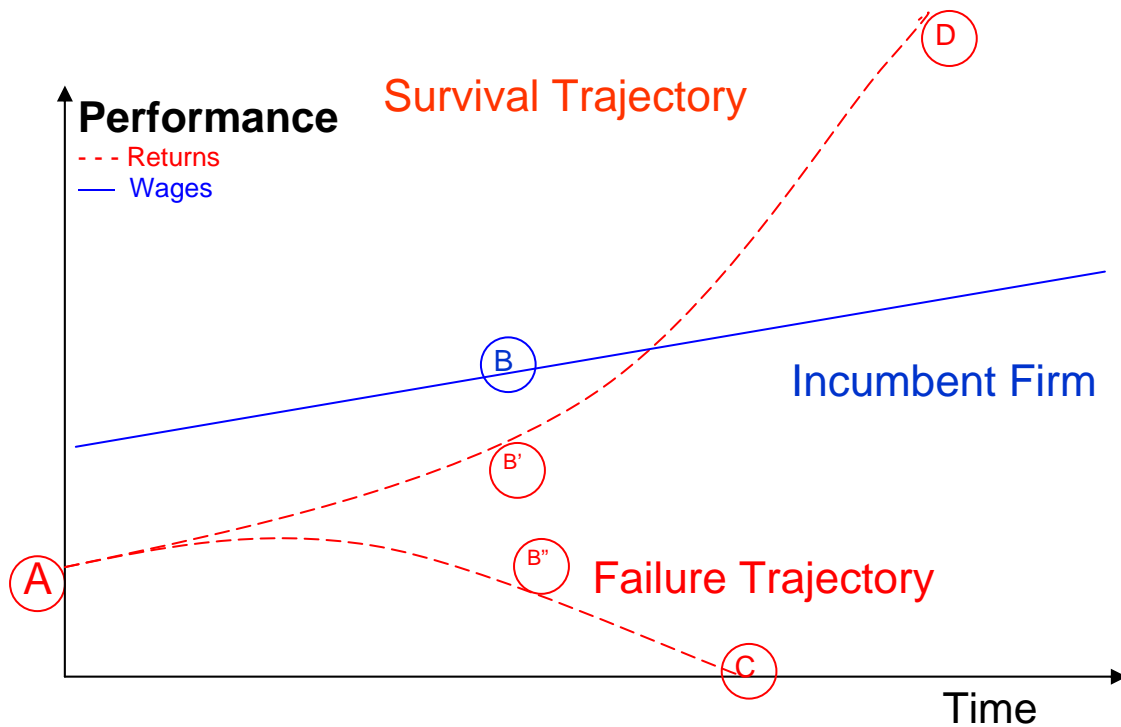
Figure 1. Entrepreneurial performance over time.

Figure 1 suggests that the entrepreneurial performance outcomes are inherently uncertain in that they result in alternative outcomes, as depicted by C or D (Audretsch et al., 2005). Once an individual has attained point C, she is confronted with the decision of re-entering into entrepreneurship, again at point A (i.e. renascent entrepreneurship)[2].

Within the economics literature, the prevalent theoretical framework has been the general model of income choice, which has been at times referred to as the general model of entrepreneurial choice (Parker, 1996, 2003, 2004, 2005). The model of income or entrepreneurial choice dates back at least to Knight (1921), but was more recently extended and updated by Lucas (1978), Kihlstrom and Laffont (1979), Holmes and Schmidt (1990) and Jovanovic (1994).

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[2] The successful entrepreneur at point D may also choose to sell his firm and to start again at point A.

In its most basic rendition, individuals are confronted with a choice of earning their income either from wages earned through employment in an incumbent enterprise or else from profits accrued by starting a new firm. The essence of the model of entrepreneurial choice is made by comparing the wage an individual expects to earn through employment, W, with the profits that are expected to accrue from a new-firm startup, P*. Thus, the probability of starting a new firm, P(s), can be represented as

(1) $P(s) = f(P^*-W)$

Parker (1996, 1997) uses a data set consisting of workers in the U.K. to link risk to entrepreneurial choice. In particular, he finds that as the risk associated with entrepreneurial activity increases, the propensity to engage in entrepreneurship decreases. This would suggest that the degree of uncertainty about the outcomes accruing from entrepreneurship will increase the gap between nascent and actual entrepreneurship.

An implication of the Jovanovic (1982) and Ericson and Pakes (1995) theory of firm selection is that entrepreneurs may start a new firm at a small, even suboptimal, scale of output, and then, if merited by subsequent performance, expand as depicted by the evolution from point A to D. Those entrepreneurs that observe a positive performance, as reflected by P*, will grow, whereas those that are not successful will remain small and may ultimately be forced to exit out of entrepreneurship.

An entrepreneur must decide whether to maintain output (Q_{it}), expand, contract, or exit. Two different strands of literature have identified several major influences shaping the decision to exit an industry. The first and most obvious strand of literature suggests that the probability of an entrepreneur exiting will tend to increase as the gap between its level of output and the

minimum efficient scale (MES) level of output increases (Mansfield, 1962). The second strand of literature points to the role that the technological environment plays in shaping the decision to exit. As Arrow (1962) argues, an environment characterized by technological change may also be associated with a greater amount of uncertainty regarding not only the technical nature of the product but also the demand for that product. As uncertainty increases, particularly under the entrepreneurial regime, the likelihood decreases that the entrepreneurial startup will be able to produce a viable product and ultimately be able to survive.

These two forces combine to shape the probability of a new firm remaining in business in period t, or

(2) $P(Q_{it} > 0) = f(i_{it}, c(Q_{it}) - c(Q^*))$,

where $c(Q_{it})$ is the average cost of producing at a scale of output Q_{it}, and $c(Q^*)$ is the average cost of producing at the MES level of output, or the minimum level of production required to attain the minimum average cost, Q^*. One of the main points to be emphasized is that, as firm size increases relative to the MES level of output, the more likely the firm is to decide to remain in the industry. This suggests that either an increase in the startup size of the firm or a decrease in the MES level of output should increase the likelihood of survival. It also implies that, given a level of MES output in an industry, the greater the size of the firm, the less it will need to grow in order to exhaust the potential scale economies. Notice that this theory is strikingly contradictory to the more typical and traditional theory that growth will be positively related to size for new firms, since larger firms are presumed to have access to greater financial resources.

The rather ambiguous role of innovative activity should also be emphasized. On the one hand, a greater perceived likelihood of innovating (i_{it}) will lead the entrepreneur to remain in an industry, even if other factors, such as the gap between the firm's size and the MES level of output resulting in a cost differential of $c(Q_{it})-c(Q^*_i)$ would otherwise have led the firm to exit out of the industry. Seen from this perspective, firms in a highly innovative environment will tend to have a lower propensity to exit, *ceteris paribus*, as long as the perceived likelihood of innovative activity is relatively high. On the other hand, the likelihood that the firm will actually end up producing a viable product for which there is sufficient demand will clearly be lower in more innovative environments. That is, the actual innovative activity of the firm, I_{it}, and not the likelihood of that innovative activity, i_{it}, will ultimately determine its actual level of output in period t, Q_{it}, so that

(3) $Q_{it}=Q_{it}+Q(I_{it})$

where Q_{it} is a factor of the firm's output in the previous period,

(4) $Q_{it} = Q_{i0} + aQ_{it-1}$

and Q_0 is an autonomous level of output and a is a factor representing the portion of the previous period's output that can be maintained in the market the next period (this could be zero in some cases). Factors such as market growth presumably influence the value of a. That is, if market growth is sufficiently high, a new firm may be able to grow enough so that $Q_{it}=Q^*_i$, even in the absence of innovative activity.

An important implication is that if an entrepreneur infers from a positive performance that she has an underlying high endowment of entrepreneurial skills, she will continue with

entrepreneurship. By contrast, if she infers from a poor performance that she has an impoverished endowment of entrepreneurial skills, she is more likely to exit out of entrepreneurship. The main point is that the entrepreneur has a period of time from which to observe entrepreneurial performance based on which she can make an inference about her underlying endowment of entrepreneurial skills.

An implication of the Jovanovic (1982) model of learning is that, if the entrepreneur infers from the actual entrepreneurial performance that her endowment of entrepreneurial skills is impoverished, she would revise P* downward. Subsequent to exiting out of entrepreneurship and (re-) entering into employment to earn a wage, W, working for an incumbent enterprise, there would be no reason for P* to change in the Jovanovic (1982) theory of learning.

By contrast, we suggest that P* can actually increase as a result of entrepreneurial experience. If the entrepreneur learns not just about the original endowment of entrepreneurial skills, but also how to augment these original entrepreneurial skills, then P* will not remain invariant to the entrepreneurial experience, but will actually be higher as a result of the entrepreneurial experience. In contrast to the original Jovanovic (1982) theory, this second type of learning would suggest that ex-entrepreneurs would indeed contemplate re-entering into entrepreneurship, becoming renascent men.

Table I summarizes the main findings in the literature linking characteristics specific to individuals to nascent entrepreneurship.[3] Similarly, the propensity for ex-entrepreneurs to transform entrepreneurial experience into actual renascent entrepreneurship may not be universal

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[3] This summary is based on: Van Gelderen (1999); Blanchflower et al. (2001); Diochon et al. (2002); Kim et al. (2003); Davidsson and Honig (2003); Reynolds et al. (2004); Wagner and Sternberg (2004); Arenius and De Clercq (2005); Arenius and Minnitti (2005); Grilo and Irigoyen (2005); Wagner (2005).

but rather shaped by individual characteristics. In some cases, the relationship between a personal characteristic and renascent entrepreneurship may be similar to that with nascent entrepreneurship; in other cases it may be considerably different.

Table I

Characteristics influencing nascent entrepreneurship

Characteristic	Nascent entrepreneurship
Human capital	
Educational level	+
Prior industry experience	x
Prior entrepreneurial experience	+
Financial capital	
Household wealth	0
(Household) income	(0) / +
Social capital	
Entrepreneurial role models	+
Demographics	
Male	+
Age	-
Urban location	+

+ = positive effect
0 = no (statistically significant) effect
- = negative effect
x = not measured

Human capital

There is a long research tradition linking the role of human capital to entrepreneurship. Studies have typically found a positive relationship between general human capital and nascent entrepreneurship (Van Gelderen, 1999; Diochon et al., 2002; Kim et al., 2003; Reynolds et al., 2004; Wagner, 2005). Individuals with more education may be more willing to start a new firm because they can relatively easily find a job if the venture fails. Wagner (2005) also found

evidence for Lazear's (2004) "jack-of-all-trades" theory of entrepreneurship, with a positive effect of the number of fields of experience on nascent entrepreneurship. Prior industry experience – a factor that has a clear negative effect on firm exit (cf. Klepper, 2002; Stam et al., 2005) – is not found to have an effect on nascent entrepreneurship.

But how would human capital impact renascent entrepreneurship. On the one hand, it elevates W, or the opportunities available to ex-entrepreneurs in working for an incumbent organization. On the other hand, a higher level of human capital may provide the ex-entrepreneur with the absorptive capacity to learn from the entrepreneurial experience and augment the initial endowment of entrepreneurial skills. This would suggest a positive relationship between human capital and the propensity for ex-entrepreneurs to be renascent entrepreneurs.

Financial capital

A series of studies (Evans and Leighton, 1989; Evans and Jovanovic, 1989; Blanchflower and Oswald, 1998) has identified that a lack of financial resources constrains new and small firms. The theory of liquidity constraints assumes that a major concern of nascent entrepreneurs is obtaining finance, which would imply that the receipt of capital (e.g. via an inheritance or gift) increases an individual's likelihood of becoming self-employed, both through the direct supply of capital and through the increased likelihood of bankers providing capital (due to the collateral provided). However, research on nascent entrepreneurship has shown mixed evidence and has generally found no effects of household wealth and income (Kim et al., 2003) but a positive effect of individual income (Van Gelderen, 1999).

Social capital

Recent research also suggests that social capital may impact entrepreneurship in general and nascent entrepreneurship in particular (Davidsson and Honig, 2003; Hoang and Antoncic, 2003; Arenius and De Clercq, 2005). Davidsson and Honig (2003) have argued that individuals who come from families who own businesses (bonding social capital), or from community networks that own or encourage self-employment (bridging social capital), will utilize their individual level social capital resulting in more successful discovery activities (i.e. nascent entrepreneurship) than those who do not.

Davidsson and Honig (2003) as well as Kim et al. (2003) and Wagner (2005) found a positive effect of having entrepreneurial family and friends, i.e. entrepreneurial role models. This factor revealed to be negatively related to young firm exit (Stam et al., 2005).

Social capital may provide a mechanism for absorbing entrepreneurial experience and transforming it into learning and the augmentation of entrepreneurial skills, which would suggest a positive relationship between social capital and the likelihood of ex-entrepreneurs to become renascent men.

Demographics

Age

Studies have typically found that nascent entrepreneurship tends to decline with age. For example, in an international study Blanchflower et al. (2001) found that for individuals the probability of preferring to be self-employed is strongly decreasing with age. A negative effect of age on nascent entrepreneurship has also been found in many other country studies (Van Gelderen, 1999; Diochon et al., 2002; Reynolds et al., 2004). A common interpretation of this

consistent finding is that younger individuals may be more adventurous (i.e. overconfident: Forbes, 2005) and, hence, may be more likely to have entrepreneurial intentions.

Gender

A consistent empirical result emerging in the literature on nascent entrepreneurship is that gender matters. In particular, women exhibit a consistently lower likelihood of becoming a nascent entrepreneur than are their male counterparts (Van Gelderen, 1999; Diochon et al., 2002; Reynolds et al., 2004; Wagner, 2005).

Urban location

Only a few studies focusing on nascent entrepreneurship have taken into account the geographic location of individuals. The meager evidence accumulated to date indicates that people in urban locations are more likely than their rural counterparts to become a nascent entrepreneur (Van Gelderen, 1999; Wagner and Sternberg, 2004; Arenius and De Clercq, 2005). Due to the density of people and organizations, urban and especially metropolitan locations provide more opportunities than their more rural counterparts (Jacobs, 1961).

Exit type

Research has identified the existence of a diversity in types of exits -- voluntary exits to acquire a better job (Van Praag, 2003; Bates, 2005), exits due to personal circumstances, successfully selling the firm (Headd, 2003), bankruptcy (Thornhill and Amit, 2003) etc. It is likely that the type of exit and perhaps also the timing of the exit – either in the first crucial three years ("valley of death") or later on – affect the entrepreneurial intentions after firm exit.

For example, successfully selling the prior firm is likely to deliver financial resources that can be used as starting capital for a restart, while bankruptcy is likely to lead to (short term) financial constraints lowering the feasibility of a restart. To a certain extent, the effects of these types of exit on entrepreneurial intentions can be interpreted with the theory of liquidity constraints. We assume that the receipt of capital due to the sale of (parts of) the prior firm also has a positive effect on the intentions to start a new firm again. In line with this argument, we expect that entrepreneurs whose firm was closed due to bankruptcy are relatively resource constrained (they are likely to have debts, and have problems with getting bank loans in the near future) and thus less likely to intent to start again. However, research by Van der Klaauw (1998) revealed the opposite effect: entrepreneurs that went bankrupt were more likely to have entrepreneurial intentions! The study by Van der Klaauw (1998) also revealed that entrepreneurs that stopped because of personal reasons were less likely to have entrepreneurial intentions.

Concerning the timing of the exit, it may be inferred that entrepreneurs whose prior firm has survived the so-called valley of death (the first three years after start-up), have a strong belief that they possess a relatively strong endowment of entrepreneurial skills. This would suggest that they might have a higher propensity for becoming renascent men.

3. Measurement issues

The literature has typically not linked previous entrepreneurial experience to nascent entrepreneurship. Those studies that do account for entrepreneurial experience have only included a measure indicating that some experience with entrepreneurship has been accrued. However, how the prior business experience of the ex-entrepreneur was terminated has not been

measured and analyzed. As explained in the previous section, this neglects a very important factor that may impact not just the post-entrepreneurial career in general, but also renascent entrepreneurship in particular.

Measuring entrepreneurial experience presents several challenges. We have started with a representative panel of firms that were registered as independent start-ups in 1994, 1998, 1999 and 2000 (on these panels see e.g. Bosma et al., 2004; Stam and Schutjens, 2005). The firms that did not survive were traced within one year subsequent to the closure of the business, and a number of characteristics were recorded in a survey. At the end of 2004 we had placed telephone calls to all 510 ex-entrepreneurs that had closed their business in the previous decade. We contacted 240 respondents, and collected information on several variables reflecting entrepreneurial experience, current occupations, and entrepreneurial intentions.

We thus have collected information from (at least) three points in time: the start-up of the firm (T^0), the closure of the business (T^1; 1 to 10 years after start-up) and a survey subsequent to firm exit (T^2; 1 to 9 years after closure). If the firm survived more than one year, we have also gathered information each year between the start-up and the closure of the firm (the years between T^0 and T^1). Figure 2 depicts the data collection points in time.
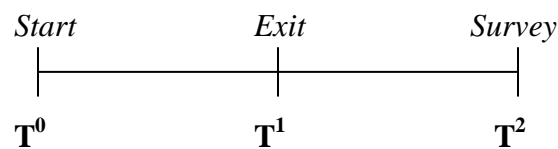

Figure 2. Temporal measurement of renascent entrepreneurship.

The non-response analysis revealed that there are no significant differences between the non-respondents and respondents, with the exception of age -- respondents tend to be older than non-respondents, which suggests that renascent entrepreneurs (as these tend to be relatively young) were undersampled. This response bias can be attributed to the higher mobility of younger people, which makes it harder to trace them via telephone surveys.

To measure whether an ex-entrepreneur has the (stated or revealed) preference for starting a new firm again two dichotomous variables were initially constructed. The first reflects the re-entry into entrepreneurship by having started a new firm again (serial entrepreneurship). The second reflects the intention to (re)start a new firm.

The dependent variable to be estimated reflects whether the respondents had no subsequent intention to (re-)enter into entrepreneurship (value 1: "one-night stands") or to (re)enter into entrepreneurship again as a control group (value 0: "renascent entrepreneurs"). Table II shows the distribution of ex-entrepreneurs across the different post-entrepreneurial trajectories.[4]

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[4] In the Netherlands about 2% of the adult population (18-64 years) can be characterized as nascent entrepreneurs, while about 5% expects to start a business within the next three years (Bosma and Wennekers, 2004).

Table II

Renascent entrepreneurs and one-night stands (N=240)

	Definition	Number	%
Renascent entrepreneurs	Individuals that have a stated or revealed preference for starting a new firm after firm exit	137	57.1
One-night stands	Ex-entrepreneurs that have no stated or revealed preference for starting a new firm	103	42.9
"Real one-off entrepreneurs"	Ex-entrepreneurs that have only started one firm in their life and who have no stated or revealed preference for starting a new firm	90	44.3*
"Wannabe serials"	Individuals with a stated preference for starting a new firm directly after firm exit	99	50.2**

* N=203; ** N=197

In the empirical analysis reported in this paper, the focus is restricted to the first two categories. A summary of the analyses on the remaining two categories is reported in the appendix.

The independent variables influencing the decision to be a renascent entrepreneur can be categorized into four main groups, which reflect human capital, social capital, firm exit type, and demographic (control) variables.

The human capital of the ex-entrepreneurs is reflected by several different measures. Respondents were asked to indicate the highest level of education they had completed. This variable was coded as a nominal variable with low or medium level of education as 0 and high educational attainment as 1. Two dummy variables are included which indicate whether the individual had prior industry experience prior to starting her firm and whether the ex-entrepreneur had started more than one firm as an indicator of prior entrepreneurial experience.

The measure of social capital reflects bonding social capital (Davidsson and Honig, 2003). The indicator of bonding ties consists of a dummy taking on the value of one if the respondent knew family or friends running their own business. This variable could also be interpreted as entrepreneurial role models, or even as "pre-market" entrepreneurial experience, and thus reflects an aspect of human capital (Kim et al., 2003).

Three variables are used to characterise the type of firm exit. The first variable indicates whether or not the prior firm was successfully sold (in total or parts). Firms which exit due to acquisition may be inferred to have been a success in that they exhibited (statistically significant) above average sales revenues and employment prior to exit. Due to the low number of bankruptcies (only seven) we were, in fact, not able to use this measure of "firm failure". However, since six of the seven entrepreneurs with bankruptcy as the cause of firm exit responded that they still had entrepreneurial intentions, this variable seems to be highly relevant. A second indicator of firm exit reflects a low commitment to entrepreneurship, i.e. closure for non-business reasons. The dummy variable "exit due to personal circumstances" (like personal health or family situations) was used. The timing of the exit is reflected by the dummy variable which indicates a prior firm age of less than or equal to three years, indicating a relatively early firm exit.

The final category of variables reflects demographic characteristics of the ex-entrepreneur, and consists of gender (a dummy for male), age (a dummy for being 40 years or younger), and urban location (a dummy for being located in one of the four largest cities in the Netherlands: Amsterdam, Rotterdam, Utrecht or The Hague). These variables are included to control for demographic influences.

4. Empirical results

In order to shed light on possible differences between the group of renascent entrepreneurs with (N=137) and the group of ex-entrepreneurs without subsequent entrepreneurial intentions (N=103), univariate descriptive statistics are provided in Table III. Univariate non-parametric statistical tests identify statistically significant differences between the two groups of ex-entrepreneurs. Non-parametric tests have less rigorous assumptions than parametric tests, and are appropriate for the relatively small sample and nominal variables. Chi-square tests are used to identify significant differences between the two groups of ex-entrepreneurs with regard to variables measured at a nominal level.

Table III
Differences between renascents and one-night stands

Characteristics	Renascent		No intention anymore		Chi-square Statistic	Significance Level
	No.	%	No.	%		
Human capital						
Highly educated	59	43.1	31	30.1	3.785	0.052
Prior industry experience	63	46.7	38	36.9	2.285	0.131
Prior entrepreneurial experience	21	15.3	8	7.7	3.164	0.075
Social capital						
Entrepreneurial role models	52	38.0	27	26.7	3.672	0.055
Nature firm exit						
Sold (parts of) prior firm	20	14.8	6	6.0	4.536	0.033
Exit due to personal circumstances	23	16.8	34	33.0	8.543	0.003
Prior firm age (> 3 yrs)	29	21.1	29	28.2	1.566	0.211
Demographics						
Gender (female)	39	28.5	41	39.8	3.402	0.065
Age (> 40 yrs)	92	67.2	94	91.3	19.598	0.000
Urban location	8	5.8	10	9.7	1.269	0.260

The entrepreneurial intentions in the post-exit period range from 64% directly subsequent to firm exit to 57% during the survey a few years after firm exit.[5] These intentions are still considerably higher than the entrepreneurial intentions in the overall adult population in the Netherlands, which is only 37% (see Blanchflower et al., 2001).

Table III shows that renascents and one-night stands exhibit statistically significant differences with regard to seven characteristics. Renascent entrepreneurs exhibit relatively high human and social capital: they have higher levels of educational attainment and have had greater prior entrepreneurial experience as well as more entrepreneurial role models. This suggests that both in a temporal and a social context, renascent entrepreneurs have been exposed to relatively high levels of entrepreneurship.

There is also evidence suggesting that the type of exit out of entrepreneurship is related to the likelihood of becoming a renascent entrepreneur. Renascent entrepreneurs are more likely to have successfully sold their prior business but less likely to be stopped in their entrepreneurial career by personal circumstances. The prior firm age and location are not related to renascent entrepreneurship as expected. Renascent entrepreneurs are somewhat more likely to have closed their prior firm within three years subsequent to exit, although the difference cannot be considered to be statistically significant. In contrast to the prediction, location in an urban area actually reduces the likelihood of being a renascent entrepreneur. Finally, only a very small proportion of the one-night stands are younger than 41 years old, and they also tend to be less often male than are their renascent counterparts.

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[5] These percentages are comparable with earlier research by Stokes and Blackburn (2002), who found that almost 70% of the business owners that had to close their business claimed that they were encouraged by their experience to continue as a business owner.

A binary logistic regression is also used to analyse the likelihood that an ex-entrepreneur has no subsequent entrepreneurial intentions. The logistic regression tests the probability of having entrepreneurial intentions or not.[6] The SPSS statistical package was used for all statistical analyses. The results are shown in Table IV.

Table IV

Binary logistic regression estimating abstinence from renascent entrepreneurship

Independent variable:	B	Std. Error
Constant	-1.938***	.523
Human capital		
Educational level (high)	-.769**	.321
Prior industry experience	-.389	.319
Prior entrepreneurial experience	-1.020**	.509
Social capital		
Entrepreneurial role models	-.661*	.343
Nature firm exit		
Sold (parts of) prior firm	-1.220**	.577
Exit due to personal circumstances	1.121***	.376
Prior firm age (> 3 yrs)	.554	.359
Demographics		
Gender (female)	.324	.344
Age (> 40 yrs)	2.339***	.487
Urban location	1.186*	.604
N		231
Model X^2		63.005
Df		10
-2 Log likelihood		251.905
Nagelkerke R^2		0.321

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Human capital

Human capital seems to be positively related to renascent entrepreneurship. All three variables have the expected negative coefficient on being a one-night stand entrepreneur. Prior entrepreneurial experience has the strongest effect, followed by the general human capital

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[6] In order to test for the robustness of our results, we also estimated regressions using a sub-sample of ex-entrepreneurs with no subsequent serial entrepreneurs and a sub-sample without pre-exit serial entrepreneurs (see appendix).

indicator. The effect of prior industry experience has the expected direction, but is not statistically significant.

Social capital

The social capital variable – having entrepreneurial role models – has the expected negative relationship with abstaining from renascent entrepreneurship. Ex-entrepreneurs with entrepreneurial families and/or friends seem to be persistent in their preference for entrepreneurship and are not deterred by a negative entrepreneurial episode.

Firm exit type

Two of the three variables related to the type of firm exit have rather strong effects in the expected direction. The success of the prior firm is negatively related to abstaining from renascent entrepreneurship, while personal circumstances are positively related to abstaining from renascent entrepreneurship. In contrast to the expectations, entrepreneurs whose prior firm has survived the valley of death are *not* more likely to be renascent entrepreneurs. The effect is even (although not statistically significant) the other way around – those entrepreneurs who terminated their business within three years subsequent to start-up are somewhat more likely to become renascent entrepreneurs. One possible interpretation is provided by McGrath (1999), who suggested that entrepreneurs view their startups as a real option and thus are not deterred from entering into subsequent entrepreneurship by terminating previous businesses.

Demographics

The strongest variable explaining abstinence from nascent entrepreneurship is provided by the age variable – younger ex-entrepreneurs are much more likely to be renascent

entrepreneurs than are older ex-entrepreneurs. However, since age is a proxy for other – yet unknown – underlying variables, this does not provide much insight by itself. If age makes such a large difference, how does the explanation differ for older ex-entrepreneurs in comparison with younger ex-entrepreneurs? A regression was estimated on the subpopulation of older ex-entrepreneurs, which yielded largely the same result as the regression for the entire population, with one remarkable exception. Entrepreneurial intentions of older ex-entrepreneurs are not affected by entrepreneurial role models, but rather by prior industry experience. They seem to be less affected by entrepreneurial role models and more shaped by their industry experience (which of course is at best meager for younger ex-entrepreneurs).

The other demographic variable, gender, has no significant effect on abstaining from renascent entrepreneurship, while the urban location has an unexpected effect. Ex-entrepreneurs living in large cities are less likely to have entrepreneurial intentions.

5. Are renascent entrepreneurs different from nascent entrepreneurs?

While focusing on renascent entrepreneurship is new and relatively unexplored, a large literature has compiled a series of consistent, systematic findings concerning nascent entrepreneurship. How do the factors conducive to renascent entrepreneurship differ from those shaping nascent entrepreneurship?

Based on the empirical evidence presented in the previous section, the answer appears to be similar but not at all identical. Such a comparison between nascent and renascent entrepreneurship is presented in Table V. To a large extent those factors conducive to nascent

entrepreneurship have a similar impact on renascent entrepreneurship. There seems to be some type of sorting mechanism – those individuals with the 'wrong' entrepreneurial profile, or endowed with those characteristics that typically are not associated with becoming a nascent entrepreneur, but in fact did start a firm, are less likely to have the intention to start again subsequent to terminating the initial business. This selection mechanism essentially provides the learning referred to by the Jovanovician model – those entrepreneurs selected out of entrepreneurship have apparently learned that they are not favorably endowed with characteristics reflecting entrepreneurial talent. As a result of learning about their underlying, but invisible (meager) endowment of entrepreneurial talent, these ex-entrepreneurs abstain from making the same mistake twice.

Table V
Differences between nascent and renascent entrepreneurship

Independent variable	Nascent/latent entrepreneurship	Renascent entrepreneurship
Education (high)	+	+
Industry experience	x	0
Entrepreneurial experience	+	+
Income (high)	+	x (+)*
Entrepreneurial role models	+	+
Gender (male)	+	0
Age of entrepreneur	-	-
Location (urban)	+	-

+ = positive relation * sold prior firm
0 = no (statistically significant) relation
- = negative relation
x = not measured

But perhaps this is a bit too deterministic. Individuals that have once entered into entrepreneurship might have two important advantages in contrast to de novo nascent entrepreneurs – first, they have accumulated entrepreneurial experience which increases the probability of having acquired entrepreneurial skills (and as a consequence a higher P*), and

second, when they have successfully sold their prior firm, which increases the access to financial resources. These two advantages make them more likely to intend to start again.[7]

In addition, the effects of two explanatory variables are different for renascent entrepreneurs than for nascent entrepreneurs. First, gender does not make a difference for renascent entrepreneurs. Once female entrepreneurs have terminated their business, they are not less likely to become renascent entrepreneurs. This raises the question, "Does the negative female bias melt away once they have done it?" Or is this because the effect of other variables influencing entrepreneurial intentions have been controlled for, which makes the direct gender effect insignificant (as it was significant in the univariate analysis; cf. Verheul, 2005 for a discussion of this phenomenon).

Second, an urban location has a positive effect on nascent entrepreneurship in general, but it turns to a (weakly) negative effect on renascent entrepreneurship. So, once entrepreneurs have terminated a business in a large city, they are less likely than their rural counterparts to prefer renascent entrepreneurship. Urban people may be more likely to do it once, but rural people once they have done it, are more likely to fancy entrepreneurship again. No one night stand for them.

6. Conclusions

Boyan Jovanovic's theory of selection and passive learning has provided a compelling framework for understanding and analyzing the gap between nascent entrepreneurship and actual

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[7] However, the positive effect of having successfully sold the prior firm does not remain significant when only "wannabe serials" are put in the regression. These successful entrepreneurs are thus likely to start again, and not just keep entrepreneurial intentions.

entrepreneurship. Because of the uncertainty confronting a nascent entrepreneur and her potential resource providers concerning her unobservable underlying endowment of entrepreneurial skills, some nascent entrepreneurs will be constrained from attaining their goal of entering into actual entrepreneurship. Only by being able to directly observe the actual entrepreneurial performance can inferences be made concerning the underlying entrepreneurial skills. But according to the Jovanovician model there would be no reason for becoming a renascent entrepreneur. Once a negative entrepreneurial experience had revealed sufficient information to infer that the entrepreneur is not well suited for entrepreneurship, there would be little to be learned from subsequent episodes of entrepreneurship. This study also shows the added value of a longitudinal research design, in which not only the prior experience but also the performance of the prior firm is taken into account. Both issues revealed to be important in the explanation of renascent entrepreneurship.

This paper has challenged the view of entrepreneurial learning posited in Jovanovic's (1982) model and instead suggested that, in addition to learning about the underlying endowment of entrepreneurial skills (passive learning), episodes of entrepreneurship can also augment that endowment of entrepreneurial talent (active learning). This would explain why ex-entrepreneurs would choose to become renascent entrepreneurs.

However, the findings of this paper suggest that the ability of ex-entrepreneurs to learn from their entrepreneurial experience in an endowment augmenting matter is not homogenous, but rather is shaped by characteristics influencing the capacity to absorb knowledge and learn from that entrepreneurial experience. While some of these characteristics conducive to renascent absorptive capacity are similar to those that have been found to promote nascent

entrepreneurship, others, such as gender are found to have a strikingly different impact on renascent entrepreneurship.

As public policy increasingly focuses on promoting entrepreneurship to generate employment, growth and global competitiveness, it is important to recognize that renascent entrepreneurs provide not just an important source of entrepreneurship, but also a source with entrepreneurial skills that may be augmented and enhanced compared to those of novice entrepreneurs.

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References

Arenius, P. and D. De Clercq, 2005, 'A network-based approach on opportunity recognition', *Small Business Economics* **24**, 249-265.

Arenius, P. and M. Minnitti, 2005, 'Perceptual variables and nascent entrepreneurship', *Small Business Economics* **24**, 233-247.

Arrow, K. J., 1962, 'Welfare and the Allocation of Resources for Invention', in R.R. Nelson (ed.), *The Rate and Direction of Inventive Activity*, Princeton, NJ: Princeton University Press, pp. 609-626.

Audretsch, D. B., M. Keilbach and E. Lehmann, 2005, *Entrepreneurship and Economic Growth*, New York: Oxford University Press.

Baldwin, J. R. And M. Rafiquzzaman, 1995, 'Selection versus evolutionary adaptation: Learning and post-entry performance', *International Journal of Industrial Organization* **13**, 501-522.

Bates, T. 2005, 'Analysis of young, small firms that have closed: delineating successful from unsuccessful closures', *Journal of Business Venturing* **20**, 343-358.

Blanchflower, D. and A. Oswald, 1998, 'What Makes an Entrepreneur?' *Journal of Labor Economics* **16**, 26-60.

Blanchflower, D. G., A. Oswald and A. Stutzer, 2001 'Latent entrepreneurship across nations', *European Economic Review* **45**, 680-691.

Bosma, N., M. van Praag, R. Thurik and G. de Wit, 2004, 'The Value of Human and Social Capital Investments for the Business Performance of Startups', *Small Business Economics* **23**, 227-236.

Bosma, N. and A. Wennekers, 2004, *Entrepreneurial Attitudes Versus Entrepreneurial Activities (GEM)*, Zoetermeer: EIM.

Carroll, G. R. and E. Mosakowsi, 1987, 'The Career Dynamics of Self-Employment', *Administrative Science Quarterly* **32**, 570-589.

Carter, N. M., W. B. Gartner and P. D. Reynolds, 1996, 'Exploring Start-up Event Sequences', *Journal of Business Venturing* **11**, 151-166.

Davidsson, P. and B. Honig, 2003, 'The Role of Social and Human Capital among Nascent Entrepreneurs', *Journal of Business Venturing* **18**, 301-331.

Diochon, M., Y. Gasse, T. Menzies, and D. Garand, 2002, 'Attitudes and entrepreneurial action: exploring the link', paper for ASAC 2002, Winnipeg, Manitoba.

Ericson, R. and A. Pakes, 1995, 'Markov-Perfect Industry Dynamics: A Framework for Empirical Work', *Review of Economic Studies* **62**, 53-82.

Evans, D. and B. Jovanovic, 1989, 'An Estimated Model of Entrepreneurial Choice under Liquidity Constraints', *Journal of Political Economy* **97**, 808-27.

Evans, D. and L. Leighton, 1989, 'Some empirical aspects of entrepreneurship', *American Economic Review* **79**, 519–535.

Forbes, D. P., 2005, 'Are some entrepreneurs more overconfident than others?', *Journal of Business Venturing* **20**, 623-640.

Grilo, I. and J. M. Irigoyen, 2005, 'Entrepreneurship in the EU: To wish and not to be', Papers on Entrepreneurship, Growth and Public Policy #01-2005, Max Planck Institute for Research into Economic Systems - Entrepreneurship, Growth and Public Policy Group, Jena.

Headd, B., 2003, 'Redefining Business Success: Distinguishing Between Closure and Failure', *Small Business Economics* **21**, 51-61.

Henley, A., 2004, 'Self-Employment Status: The Role of State Dependence and Initial Circumstances', *Small Business Economics* **22**, 67-82.

Hoang, H. and B. Antoncic, 2003, 'Network-based research in entrepreneurship - A critical review', *Journal of Business Venturing* **18**, 165-187.

Holmes, T. J. and J. A. Schmitz, 1990, 'A Theory of Entrepreneurship and its Application to the Study of Business Transfers', *Journal of Political Economy* **98**, 265-94.

Jacobs, J., 1961, *The Death and Life of Great American Cities*, New York: Vintage Books.

Jovanovic, B., 1982, 'Selection and the Evolution of Industry', *Econometrica* **50**, 649-670.

Jovanovic, B., 1994, 'Firm Formation with Heterogeneous Management and Labor Skills', *Small Business Economics* **6**, 185-192.

Kihlstrom, R. E. and J.-J. Laffont, 1979, 'A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion', *Journal of Political Economy* **87**, 719-748.

Kim, P. H., H. E. Aldrich and L. A. Keister, 2003, ,If I Where Rich? The Impact of Financial and Human Capital on Becoming a Nascent Entrepreneur', University of North Carolina at Chapel Hill and Ohio State University, draft mimeo, January. [Download: www.unc.edu/~healdric/Workpapers/WP147.pdf]

Klepper, S., 2002, 'The capabilities of new firms and the evolution of the US automobile industry', *Industrial and Corporate Change* **11**, 645 – 666.

Knight, F.H., 1921, *Risk, Uncertainty and Profit*, New York: Houghton Mifflin.

Lazear, E. P., 2004, 'Balanced Skills and Entrepreneurship', *American Economic Review* **94**, 208-211.

Lucas, R. E., 1978, 'On the Size Distribution of Business Firms', *Bell Journal of Economics* **9**, 508-523.

Mansfield, E., 1962, 'Entry, Gibrat's Law, Innovation, and the Growth of Firms', *American Economic Review* 52, 1023-1051.

McGrath, R.G., 1999, 'Falling forward: Real options reasoning and entrepreneurial failure', *Academy of Management Review* **24**, 13-30.

Pakes, A. and R. Ericson, 1998, 'Empirical Implications of Alternative Models of Firm Dynamics', *Journal of Economic Theory* **79**, 1-45.

Parker, S., 1996, 'A Time Series Model of Self-Employment under Uncertainty', *Economica* **63**, 459-475.

Parker, S., 1997, 'The Effects of Risk on Self-Employment', *Small Business Economic*s **9**, 515-522.

Parker, S., 2003, 'Asymmetric Information, Occupational Choice and Government Policy', *Economic Journal* **113**, 861-882.

Parker, S., 2004, *The Economics of Self-Employment and Entrepreneurship*, Cambridge: Cambridge University Press.

Parker, S., 2005, 'The Economics of Entrepreneurship', *Foundations and Trends in Entrepreneurship* **1**, 1-55.

Reynolds, P. D., N. M. Carter, W. B. Gartner and P. G. Greene, 2004, 'The Prevalence of Nascent Entrepreneurs in the United States: Evidence from the Panel Study of Entrepreneurial Dynamics', *Small Business Economics* **23**, 263-284.

Stam, E., and V. Schutjens, 2005, 'The fragile success of team start-ups', Papers on Entrepreneurship, Growth and Public Policy #17-2005, Max Planck Institute for Research into Economic Systems - Entrepreneurship, Growth and Public Policy Group, Jena.

Stam, E., V. Schutjens and J. Meijaard, 2005, 'Young Firm Exit: Types and Explanations', mimeo, EIM: Zoetermeer.

Stokes, D. and R. Blackburn, 2002, 'Learning the hard way: the lessons of owner-managers who have closed their businesses', *Journal of Small Business and Enterprise Development* **9**, 17-27.

Thornhill, S. and R. Amit, 2003, 'Learning about failure: Bankruptcy, firm age and the resource-based view', *Organization Science* **14**, 497-509.

Van der Klaauw, B., 1998, 'De effecten van het beëindigen van een onderneming op toekomstig ondernemerschap', Working Paper, Vakgroep Algemene Economie, Vrije Universiteit, Amsterdam.

Van Gelderen, M.W., 1999, *Ontluikend ondernemerschap*. Zoetermeer: EIM.

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

Verheul, I., 2005, *Is there a (fe)male approach? Understanding gender differences in entrepreneurship*. ERIM PhD thesis, Erasmus University Rotterdam.

Wagner, J., 2005, 'Nascent and Infant Entrepreneurs in Germany. Evidence from the Regional Entrepreneurship Monitor (REM)', University of Luneburg Working Paper Series in Economics, No. 1.

Wagner, J. and R. Sternberg, 2004, 'Start-up activities, individual characteristics, and the regional milieu: Lessons for entrepreneurship support policies from German micro data', *Annals of Regional Science* **38**, 219-240.

Appendix

Table VI

Binary logistic regression estimating abstinence from renascent entrepreneurship, without post-exit serial entrepreneurs (only "wannabe serials")

Independent variable:	B	Std. Error
Constant	-1.514***	.542
Human capital		
Educational level (high)	-.752**	.339
Prior industry experience	-.544	.333
Prior entrepreneurial experience	-.764	.575
Social capital		
Entrepreneurial role models	-.641*	.357
Nature firm exit		
Sold (parts of) prior firm	-.858	.647
Exit due to personal circumstances	.850**	.386
Prior firm age (> 3 yrs)	.516	.378
Demographics		
Gender (female)	.262	.360
Age (> 40 yrs)	2.238***	.496
Urban location	1.172*	.664
N		197
Model X^2		
df		10
-2 Log likelihood		225.180
Nagelkerke R^2		0.288

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Table VII

Binary logistic regression estimating abstinence from renascent entrepreneurship, without pre-exit serial entrepreneurs ("*real* one-off entrepreneurs")

Independent variable:	B	Std. Error
Constant	-1.836***	.524
Human capital		
Educational level (high)	-.899***	.407
Prior industry experience	-.419	.332
Social capital		
Entrepreneurial role models	-.476	.355
Nature firm exit		
Sold (parts of) prior firm	-1.186*	.636
Exit due to personal circumstances	.965**	.399
Prior firm age (> 3 yrs)	.625	.381
Demographics		
Gender (female)	.286	.359
Age (> 40 yrs)	2.285***	.485
Urban location	.865	.655
N	203	
Model X^2		
df	9	
-2 Log likelihood	226.612	
Nagelkerke R^2	0.304	

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$