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No. 4157

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THAN PROFITS? EVIDENCE FROM
ENTREPRENEURIAL CHOICE**

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FINANCIAL ECONOMICS



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Discussion Paper No. 4157
December 2003

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ABSTRACT

Does Prestige Matter More than Profits? Evidence from Entrepreneurial Choice*

This Paper investigates whether social norms play an important role in the decision to become an entrepreneur. We study whether the individual decision to become an entrepreneur or entrepreneurial income are affected by the decisions of other individuals living in the same municipality. To overcome the identification problems, we use very detailed Swedish data and exploit the large institutional changes that occurred in Sweden in the 1980s and early 1990s (the dissolution of the centralized wage-setting arrangements and the major tax reform in 1990-1), which create a quasi-natural experiment for analysing entrepreneurial choice. The results show that more individuals become entrepreneurs in municipalities where entrepreneurship is more widespread, even though entrepreneurial profits are lower. This suggests that social norms play an important role in the decision to become an entrepreneur. We also evaluate alternative explanations, such the existence of agglomeration economies, or knowledge spillovers. They do not, however, seem to find support in the data.

JEL Classification: J24, M13, R12 and Z13

Keywords: agglomeration economics, entrepreneurial choice, peer effects, social interactions and social norms

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*We are grateful to René Adams, Howard Aldrich, Guido Friebel, Luigi Guiso, Olmo Silva, Paul Söderlind, and seminar participants at the EVI conference at the Stern School of Business at New York University, the Research Institute on Industrial Economics (IUI) in Stockholm, the Stockholm School of Economics, the Center for Economic and Business research in Copenhagen, the European Meeting of the Econometric Society in Stockholm, and the University College of Dublin for comments. We are also grateful to Jonas Vlachos for providing some of the municipality data we use in this Paper. Any errors and omissions are entirely our own. The authors also wish to acknowledge financial support from the Jan Wallander and Tom Hedelius Foundation.

Submitted 02 October 2003

1. Introduction

Entrepreneurship is believed to be important for economic growth and employment. Despite this, knowledge about the determinants of entrepreneurial activity is limited. In different societies, the most talented individuals undoubtedly have different incentives for choosing among different occupations. As Baumol (1990) and Murphy, Shleifer and Vishny (1991) argue, institutions that affect occupations' relative payoffs or access to credit influence occupational choices. However, social interactions may also play a role by creating social norms which affect the social status and prestige of different occupations. The dominant social norms affecting whether entrepreneurs are, for example, more highly regarded than bureaucrats may have a major influence on an individual's occupational choice because, as some recent models postulate (Bernheim, 1994), social status, prestige and the like may enter directly into the utility function.¹

Social scientists other than economists have long recognized the importance of social factors in occupational choices.² Balazs (1964), for instance, explains not only the low level of entrepreneurship, but also the failure of China to start an industrial revolution despite the apparent prosperity of the Sung period (960-1270), using the desire for prestige, popularity and esteem. He concludes that:

“What was chiefly lacking in China for further development of capitalism was not mechanical skill or scientific aptitude, nor a sufficient accumulation of wealth, but scope for individual enterprise. ...perhaps the supreme inhibiting factor was the overwhelming prestige of the state bureaucracy, which maimed from the start any attempt of bourgeoisie to be different, to become aware of themselves as a class and fight for an autonomous position in society.” From Balazs (1964, p. 53)

Still, a quantitative exploration of these factors is missing. In this paper, we try to fill this gap. We study entrepreneurial choice within one country, namely Sweden. The homogeneity of institutions and other local conditions affecting economic incentives, such as taxes, the political system, and the enforcement of law, allows us to look at a situation where the economic incentives to choose a given occupation differ less than they would across countries or states, as in the U.S. Hence, we can focus on differences related to the community in which an individual lives. In addition, for Sweden we have very detailed -

¹ See Cole, Mailath and Postlewaite (1992) for a model of social interactions where individuals' interest in social status affects effort and investment.

² See Aldrich (2003) for a comprehensive survey.

probably unique - information on individual characteristics, sources of income and municipalities' characteristics.

Identifying the effect of social norms on the decision to become an entrepreneur is nevertheless a challenging task. The correlation between individual and aggregate occupational choices that social norms would imply could depend on several other factors such as unobserved characteristics of the community or the population. For instance, if agglomeration economies matter or widespread entrepreneurial activity generates knowledge spillovers, we expect to observe an analogous correlation between individual and aggregate occupational choices.

To address these problems, we proceed as follows. First, using a simple model, we formulate predictions about the expected effect of the level of entrepreneurial activity within a municipality on individual occupational choice *and* entrepreneurial income, respectively. If social norms matter, not only do we expect to find that the probability of an individual becoming an entrepreneur is positively affected by the level of entrepreneurial activity within the municipality, but also that entrepreneurial income is lower where entrepreneurial activity is more widespread. This is because an individual derives utility from becoming an entrepreneur regardless of profits. This prediction contrasts with what agglomeration economies or knowledge spillovers would imply (see Glaeser et al., 1992, and Rauch, 1993), as entrepreneurial productivity and therefore entrepreneurial income would be higher if these factors mattered.

The task of testing these hypotheses, however, is far from straightforward. We might observe a positive (negative) correlation between our proxies of entrepreneurial activity within a municipality and the probability of an individual becoming an entrepreneur (entrepreneurial income) because we do not observe some individual or municipality characteristics which are totally unrelated to social norms.

In order to draw some conclusions, we use the methodology suggested by Case and Katz (1991) and followed by, among others, Cutler and Glaeser (1997), and identify some instruments that are *not* expected to directly affect an individual's decision to become an entrepreneur, but that do affect entrepreneurial activity, *without* being affected by it. We use two instruments that we believe satisfy these criteria: the proportion of pensioners who are members of the state church and the proportion of individuals who voted for right-wing parties in the early 1980s.

We are confident that these cultural characteristics of the municipality population do not directly affect the decision to become an entrepreneur. In fact, we are able to control for

roughly the corresponding individual cultural traits and for the demand conditions of the labor market, which could be affected by a rightist local administration, for instance through the availability of public sector jobs.

A potential problem is, however, that municipality culture, and therefore religious beliefs and political orientation, could be affected by the level of entrepreneurial activity. We can overcome this problem thanks to the large institutional changes that Sweden underwent in the 1980s and early 1990s. During this period, Sweden experienced a significant change in industrial structure because of the dissolution of the centralized wage-setting arrangements and the major tax reform in 1990-91 (Davis and Henrekson, 1999 and 2000). As a result, entrepreneurial activity in Sweden almost doubled between the mid-1980s and the mid-1990s (Blanchflower, 2000).

The level of entrepreneurial activity we observe in our sample period (1995-2000) is a consequence of this process and may have been influenced by the cultural values prevailing in different municipalities in the early 1980s. However, cultural values in the early 1980s *cannot* have been affected by the level of entrepreneurial activity (especially, not the current level), as at that time entrepreneurship was a much less common phenomenon.

Therefore, we are confident that the proportion of individuals who voted for right-wing parties in the early 1980s is exogenous to the level of entrepreneurial activity in the second half of the 1990s. Nevertheless the political orientation of the municipality, which may be related to the prestige attributed to self-employment versus paid employment, may have affected the attitude towards entrepreneurial activity once the institutions became more favorable to it.

For similar reasons, we take the proportion of *pensioners* (and *not* the proportion of population of working age) who are members of the state church as an instrument: As many have pointed out before us (see Guiso, Sapienza and Zingales, 2003), religious beliefs affect attitudes towards entrepreneurial activity. However, the religious beliefs of pensioners, which are most often lifetime beliefs, are extremely unlikely to have been affected by the current level of entrepreneurial activity, which is again the result of the institutional changes that affected Sweden during the 1980s and early 1990s.

Our results suggest that in municipalities where entrepreneurship is more widespread, individuals are more likely to become entrepreneurs, even after controlling for individual characteristics, and local conditions, such as wages, rate of unemployment, and employment in the public sector. Moreover, in municipalities with a higher proportion of entrepreneurs, entrepreneurial income seems to be lower.

These findings support the hypothesis that social norms influence entrepreneurial choices. They are also confirmed by several robustness checks. First, by looking at the behavior of movers, we can exclude that the correlation between individual and aggregate occupational choices is due to sorting of individuals more prone to entrepreneurial activity in some municipalities.

Second, to increase the confidence in our identification strategy, we check that our results continue to hold for young individuals who were not part of the labor force in the early 1980s, and who definitively *cannot* in any way have affected the cultural values we use as instruments. Although the sample is dramatically reduced, our results remain qualitatively invariant. This confirms that the estimates we present are unlikely to be affected by endogeneity problems.

Third, since social interactions are more intense in small communities, we expect that the correlation between individual and aggregate occupational choices is stronger in non-urban municipalities. If we found that urban municipalities were just as important for our findings, it would be more likely that some omitted factors correlated with our instruments could be driving our results. Instead, in accordance with our hypothesis, we find that this is not the case. Our results are mainly due to the correlation between individual and aggregate occupational choices in non-urban municipalities.

Finally, our results lose significance if we use a municipality's distance from the closest airport to instrument the level of entrepreneurial activity. The distance from the closest airport is also unlikely to directly affect an individual's decision to become an entrepreneur, after we have controlled for other municipality characteristics. However, it is more likely to capture the variation in the proportion of entrepreneurship that is related to possibly unobserved economic characteristics of the municipality or of the population. The loss of significance of our estimates suggests that, if anything, omitted economic related characteristics bias our estimates downward.

This paper is connected to a large body of recent research showing that social interactions affect economic decisions such as stock market participation, investment decisions, or propensity to commit crime.³ It is also related to the rich literature on entrepreneurial choices (Evans and Leighton, 1989; Evans and Jovanovic, 1989), which analyzes the characteristics of individuals who are more likely to become self-employed. With respect to this literature, we take a step forward. We recognize that not only individual

³ See, respectively, Hong, Kubik and Stein (2002), Glaeser, Sacerdote and Scheinkman (1996), Duflo and Saez (2002), Borjas and Hilton (1996), Bertrand, Luttmer and Mullainathan (2000).

characteristics but also the community in which an individual lives may be important. Furthermore, we suggest that municipalities' characteristics matter, but not only because they might affect economic incentives. Differences in cultural values across municipalities play a role. In this respect the paper is consistent with the findings of some recent papers showing that entrepreneurial activity may involve substantial non-pecuniary benefits (Hamilton, 2000 and Moskowitz and Vissing-Jorgensen, 2002). We show that there may be systematic differences in non-pecuniary benefits across communities due to different social norms. This suggests that influencing culture and providing role models may be more important than providing subsidies to underdeveloped regions to spur entrepreneurship.

The rest of this paper is organized as follows. Section 2 presents a simple framework to describe how individual characteristics, social norms, and economic conditions affect entrepreneurial choices and profits. Section 3 describes the data. The results and the robustness checks are presented in Sections 4 and 5, respectively. Section 6 concludes.

2. The determinants of entrepreneurial choices

2.1 A simple framework

In this section, we sketch a simple model of occupational choice and illustrate how differences in productivity across municipalities, social interactions, and individual characteristics affect the decision to become an entrepreneur.

The productivity of individual i in region r , A_{ir} , depends positively on her skills and the strength of agglomeration economies in municipality r , a_r :

$$A_{ir} = A(s_i, a_r).$$

We also assume that $\frac{\delta^2 A_{ir}}{\delta a_r \delta s_i} > 0$.

Individuals have heterogeneous skills, s_i , which influence their productivity in entrepreneurial activity. An entrepreneur's productivity also depends on the location: If municipality, r , offers good infrastructure, easy access to intermediate goods, or other sources of agglomeration economies exist, an individual becomes more productive in organizing her own business.

Entrepreneurial profits will depend on the entrepreneur's productivity level and the labor, l , employed in the firm. Entrepreneurs choose the amount of labor to employ maximizing profits and taking wages as given. Formally, they solve the following program:

$$\pi_{ir} = \max_l A_{ir} l^\gamma - w_r l.$$

As is well established in the literature (Lucas, 1978) and can be easily derived from the first order conditions, entrepreneurs with higher productivity run larger firms and, of course, earn higher profits.

The utility of an individual i depends on the income she can earn from her occupation, as an entrepreneur or as an employee, and on the social status or prestige she enjoys in society because of her job:

$$u = u(I_{i,o,r}, status_{o,r})$$

where $I_{i,o,r}$ is the income level of an individual with skills s_i in occupation o in municipality r , and $status_{o,r}$ is the prestige of occupation o in municipality r . Obviously, $I_{i,o,r} = \pi_{i,r}$, if an individual chooses to be an entrepreneur, and $I_{i,o,r} = w_r$ if the individual is an employee.

Like Bernheim (1994), we assume that utility is increasing both in income and status. Here, status captures any non-pecuniary benefits of entrepreneurial activity, which may be substantial, as shown in some recent papers (Hamilton, 2000 and Moskovitz and Vissing-Jorgensen, 2002). Unlike these papers, however, we assume that non-pecuniary benefits vary across municipalities so that we can derive testable implications and evaluate the importance of social norms – which involve a community and not the preference of a single individual – for occupational choices.

Individuals make their occupational choices by comparing the utility from setting up their own business with being employed. As usual, individuals who are more productive in entrepreneurial activity are more likely to become entrepreneurs because they can earn higher profits (π_{ir} is increasing in s_i). This implies that in a given region the most skilled individuals set up their own business. The skill level of the marginal entrepreneur (i.e., the individual who is indifferent to being an entrepreneur or an employee) varies across municipalities for several reasons.

First, the level of agglomeration economies in a municipality, a_r , affects individual productivity positively: For any given level of wages, relatively less skilled individuals will choose to become entrepreneurs if the municipality's advantage is stronger, because $A_{i,r}$ and hence $\pi_{i,r}$ are higher. Second, in municipalities where wages are higher, fewer individuals will choose entrepreneurial activity, as income from paid employment is high. Finally, for any given level of entrepreneurial profits, social norms matter: If the status attributed to being an

entrepreneur is high relative to other occupations, even individuals who are relatively less productive and have lower profits from setting up their own business or would earn higher wages in paid employment will prefer to become entrepreneurs.

For all the above reasons, the decision whether to become an entrepreneur is correlated across individuals. Interestingly, though, if social norms drive entrepreneurial choices, entrepreneurial profits are expected to be *lower* in municipalities where there are relatively more entrepreneurs, as less skilled individuals become entrepreneurs. In contrast, if agglomeration economies or other unobserved differences in the distribution of skills across municipalities drive – or, at least, are relatively more important for – entrepreneurial choices, we would expect entrepreneurial profits to be higher in municipalities where entrepreneurship is more widespread.

Additionally, the model suggests that wage differentials may determine the observed correlation between individual and aggregate occupational choices. We will take this into account in the econometric analysis.

2.2 What are social norms?

In the previous subsection, we have identified social norms as a factor that enters directly in the utility function. Members of a community derive utility from following the prevalent social norm, because of social interactions. In some communities, independently of income, individuals derive higher utility from being entrepreneurs. In others, they prefer paid income because they desire to conform to the occupational choices of other individuals in their community. To put it differently, we posit that there are non-pecuniary benefits to be derived from a given occupation, which vary systematically across different communities because of social norms.

The methodology we put forward in the following sections aims to evaluate the importance of these systematic differences in non-pecuniary benefits of entrepreneurial activity, deriving from peer effects. It is beyond the scope of this paper, however, to identify who the peers are and why individuals derive benefits from following the social norm.

More specifically, because of data limitations, we are unable to distinguish whether the peer effect is determined by the larger circle of acquaintances of an individual or by the more restricted family circle. Perhaps more importantly, though, our methodology can evaluate whether the peer effect matters because of its effect on the utility function.

Moreover, social norms can affect the utility function for several reasons. In this context, the most direct interpretation of social norms is probably that different communities confer prestige, popularity and esteem to different occupations. The interpretation would be analogous if individuals were influenced by their peers' actions only because they desire to conform.

Social norms may also influence the ease with which an individual expects to run her own business in a municipality, for instance, because she trusts and is trusted by others (Bhidé, 2000). Additionally, social contacts that facilitate access to input providers or potential customers may reduce the effort involved in running a business. In these cases, too, utility increases if the level of trust is higher or social contacts more intense. Social norms that increase trust or social contacts may also have a positive effect on entrepreneurial income because, in high-trust communities, for instance, more informal credit is available and financing costs are lower. Hence, their effect is largely undistinguishable from agglomeration economies (a_r in the above model). To the extent that trust can increase utility without affecting profits (by, e.g., reducing the effort otherwise required in entrepreneurial activity), we also capture this effect of social norms. However, it is beyond the scope of this paper to try to distinguish between prestige, desire for conformity, availability of social contacts, and trust, to the extent that they affect the way entrepreneurial activity is perceived but do *not* have an effect on entrepreneurial profits.

Finally, social interactions may matter because they make information available, and not because they directly affect the utility function. The correlation among individual occupational choices may well be due to knowledge spillovers, which increase individual productivity, as Glaeser et al. (1992) note. Knowledge spillovers, however, would constitute a regional advantage, like the availability of infrastructure, and would affect equilibrium as any other form of agglomeration economies would. Hence, they are distinguishable from social norms whose effect we aim to evaluate.

3. The data

3.1 Sources

Our main data source is *Linda*, a register-based longitudinal data set for Sweden, providing information about household organization, labor status, sources of income, wealth, housing, and other socio-economic characteristics. We match the individual data provided by

Linda with information about the 289 Swedish municipalities (*kommun*), provided by *Statistics Sweden*.⁴ In addition, we use *Market Manager*, a data set collecting the balance sheets of all private and public companies incorporated in Sweden to obtain information about firm size and the success of entrepreneurial activity in different municipalities.

Linda is a representative sample including some 300,000 households, or approximately 4% of the Swedish population. This data set is much more representative of the population than other data sets previously used in a similar context. For instance, the U.S. National Longitudinal Survey, used by Evans and Jovanovic (1989) and Evans and Leighton (1989) for analyzing entrepreneurial choices, includes only 5,225 individuals. Analogously, the Survey of Consumer Finances used by Moskowitz and Vissing-Jorgensen (2002) includes only 4,000 U.S. households. Even if these sources could be matched with municipality level information, it would be very difficult to draw any conclusions about how community characteristics influence individual occupational choice, because they do not provide a sufficient number of observations for individuals within a municipality. This is not the case with *Linda*: Our sample includes on average 5% of the population (1,584 individuals per municipality) for all Sweden's 289 municipalities and never less than 3.9% of the population (106 individuals per municipality).

Moreover, starting from 1995, *Linda* provides detailed information on whether an individual reports to the tax authority any capital income she has received from a company in which she works at least part-time and that she controls. This enables us to define entrepreneurial activity using tax returns, as did Holtz-Eakin, Joulfaian and Rosen (1994). For this reason, we limit our sample to 1995-2000.

3.2 Definition of entrepreneur and measures of entrepreneurial activity

Our definition of entrepreneur includes all individuals who report any capital income from a company in which they work at least part-time and that they control. Similarly to Holtz-Eakin, Joulfaian and Rosen (1994), it includes both individuals who are truly self-employed and those who run their own business as a second job. We include these individuals because all businesses, even the most successful ones, are generally started with very small investments, and it is very difficult to predict *ex ante* which businesses will indeed be successful (Bhidé, 2000). Therefore, even individuals who run their own business on the side may become very successful entrepreneurs.

⁴ We have only 288 municipalities until 1999, when one of the municipalities was split in two.

Additionally, thanks to the detailed information reported in *Linda*, we can identify individuals who receive salaries from a firm they own. We also classify these individuals as entrepreneurs.

Like most of the previous literature on entrepreneurial choices, we restrict our sample to individuals aged between 18 and 60, as individuals who are too young or too old are extremely unlikely to set up a proper entrepreneurial activity. Additionally, we exclude individuals involved in agriculture, farming, and forestry, which are concentrated in rural areas and could bias our results towards finding a correlation between individual and aggregate occupational choices.

According to our definition, approximately 5% of the population is involved in entrepreneurial activities, slightly less than in previous studies (see, for instance, Blanchflower, 2000 and Blanchflower, Oswald and Stutzer, 2001), which mostly also include farmers. We study the decision to *become* self-employed, looking at individuals who, according to our definition, can be classified as entrepreneurs in year t but not in year $t-1$. These people represent approximately 1% of the working-age population each year. We use a dummy variable equal to 1 if we observe that individual i becomes an entrepreneur and equal to zero otherwise as dependent variable to estimate the probability of an individual becoming an entrepreneur.⁵

In order to analyze whether individual and aggregate occupational choices are correlated, we use several proxies of entrepreneurial activity within the municipality: The first one uses the individuals who are classified as entrepreneurs relative to all individuals under the age of 60 in a given municipality included in *Linda*.

The second definition tries to take into account that the prestige of a given occupation may vary not only across municipalities, but also across peer groups within the same municipality. In fact, individuals have more frequent interaction with others who belong to their own circle: Because individuals are likely to care about the social esteem in which they are held by their own peers, their occupational choices will be more strongly influenced by the individuals within their same peer group. We define peer groups using educational achievement. Using *Linda*, for any individual, we can construct a peer group of individuals in the municipality with a similar level of education. We rely on three educational groups: individual with less than high school diploma, with a high school diploma and with a university degree. Since individuals with different educational achievements may have different propensities to become entrepreneurs at the country level, or a group may be

overrepresented in some municipalities, we define the variable of interest as follows: The proportion of entrepreneurs in a given group in a given municipality minus the proportion of entrepreneurs in a given group in the whole country times the proportion of individuals of a given group in the municipality.

Finally, we use a measure based on economic outcome, namely the proportion of entrepreneurs in the top quartile of the income distribution in each municipality. This proxy captures the fact that in municipalities where the richest individuals are entrepreneurs, this profession must be considered highly prestigious. Hence, this variable may be a more direct proxy of the existence of role models. It may also be relatively less affected by omitted variable bias as the occupational choices of the most successful individuals should have different economic determinants from the occupational choices of the rest of the population.

We use the proxy of entrepreneurship at $t-1$ to explain the probability of an individual becoming an entrepreneur at time t . For this reason, we lose one year. Our final sample consists of 469,504 individuals, and a total of 1,704,373 individual-year observations from 1996 to 2000.

Table 1 shows that there is substantial variation across municipalities both in the proportion of individuals who are entrepreneurs and in those who become entrepreneurs. Although the statistics presented include both cross-section and time-series variation, most of the variation comes from the cross-sectional differences between Swedish municipalities.

3.3 Instruments

Interpreting the effect of our alternative proxies of entrepreneurial activity on the probability of an individual becoming an entrepreneur is problematic, because our variable of interest could be correlated with individual or municipality characteristics that we do not observe, and that may have an independent impact on the decision to become an entrepreneur (Manski, 1993).

To address this problem, we follow the methodology suggested by Case and Katz (1991), and followed, among others, by Cutler and Glaeser (1997) to test for the importance of social interactions. We identify some instruments that are *not* expected to directly affect the individual decision to become an entrepreneur, but that do affect the entrepreneurial activity, *without* being affected by it. We use two instruments that we believe to satisfy these criteria:

⁵ Individuals who already are entrepreneurs at $t-1$ are excluded from the sample.

the proportion of pensioners who are members of the state church⁶ and the proportion of individuals who voted for right-wing parties in the early 1980s.

We are confident that these cultural characteristics of municipalities do not affect directly the decision to become an entrepreneur. In fact, we are able to control for roughly the corresponding individual cultural traits. We do observe whether an individual is part of the state church, and therefore we can control for the fact that individual religious beliefs can directly affect the choice to become an entrepreneur. Additionally, we can control for individual income and wealth, which are highly correlated with the decision to vote for right-wing parties. Finally, we can control for factors affecting labor demand which could be affected by a rightist local administration, such as the proportion of individuals employed in the public sector and the rate of unemployment

Municipality culture, however, and therefore religious beliefs and political orientation, could be affected by entrepreneurial activity. We can overcome this problem thanks to the large institutional changes that Sweden underwent in the late 1980s and early 1990s. High corporate and personal taxes and centralized wage-setting arrangements had significantly affected Swedish industrial structure during the 1980s, favoring large companies and limiting the entry of new firms (Davis and Henrekson, 1999 and 2000). As a result of the dissolution of centralized wage-setting arrangements and the major Swedish tax reform in 1990-91, Sweden experienced a significant change in industrial structure: Entrepreneurial activity in Sweden almost doubled between the mid-1980s and the mid-1990s (Blanchflower, 2000).

The level of entrepreneurial activity we observe in our sample period (1995-2000) is a consequence of this process and may have been influenced by the cultural values prevailing in different municipalities in the early 1980s. However, the level of entrepreneurial activity *cannot* have affected cultural values at that time, as entrepreneurship then was a much less common phenomenon. Therefore, we are confident that the proportion of individuals who voted for right-wing parties in the early 1980s is not jointly determined with the level of entrepreneurial activity in the late 1990s. But the political orientation of the municipality, which may be related to the prestige attributed to self-employment versus paid employment, may have affected the attitude towards entrepreneurial activity once the institutions became more favorable to it.

For similar reasons, we use the proportion of *pensioners*, defined as individuals older than 60, who are members of the state church as an instrument. As Weber (1905) first argued,

⁶ In Sweden, individuals who are members of evangelical churches are generally also members of the state church.

religious beliefs are associated with different economic attitudes: In a recent paper, Guiso, Sapienza and Zingales (2003) find that religion is positively associated with attitudes that are conducive to market-oriented institutions. Additionally, *pensioners'* religious beliefs, which are most often lifetime beliefs, are extremely unlikely to be affected by – or even jointly determined with – the current level of entrepreneurial activity, as this is the result of the institutional changes that affected Sweden during the 1980s and early 1990s.

Besides being unlikely to be affected by endogeneity problems, these instruments also have high explanatory power in explaining entrepreneurial activity, as is clear from the first-stage regression (which uses the proportion of entrepreneurs in the population as dependent variable) we report below:

$$\left(\frac{\text{Entrepreneurs}}{\text{Population}} \right)_t = -0.24_{(15.40)} + 0.27_{(16.71)} \left(\frac{\text{Pensioners member of state church}}{\text{Pensioners}} \right)_t + 0.20_{(26.45)} \left(\frac{\text{Right-wing votes}}{\text{Total Votes}} \right)_{1982}$$

$$R^2 = 0.42$$

Number of observations = 1442.

The high explanatory power of our instruments eliminates the concerns that arise with instrumental variable estimation when the correlation between the instruments and the endogenous explanatory variable is weak. As shown in Tables 3 to 6, the F test of the regression of our variable of interest on the instruments is always well above 1. Hence, we do not have to worry about possible inconsistency problems arising from a weak relationship between our instruments and the error of the second stage regression, as Bound, Jaeger and Baker (1995) suggest.

3.4 Control variables

We control for many individual and municipality characteristics that can affect the decision to become an entrepreneur or the entrepreneurial income, as suggested by our simple model or by previous studies. In this way, we try to saturate the equation controlling for as many individual and municipality characteristics as we can.

Panel A of Table 2 summarizes the individual characteristics. These are:

1. A dummy equal to 1 for individuals who are members of the state church (DUMMY(CHURCH)).

2. The logarithm of the salary received by an individual (LABOR INCOME) and the logarithm of the income of the other members of the household (INCOME OF OTHER HH MEMBERS), both measured the year before the occupational choice. These variables proxy for how remunerative the status of employee is for an individual, and the resources available to the household. While an increase in the non-entrepreneurial income is expected to decrease the probability of an individual becoming an entrepreneur, the income of the other household members may have a positive effect because more resources are available to set up a new business.
3. The logarithm of wealth (WEALTH) and the square of the logarithm of wealth (WEALTH²) of an individual's household. These variables have been included because wealthy individuals are less likely to be subject to liquidity constraints that keep them from starting a business (Evans and Jovanovic, 1989, and Holtz-Eakin, Joulfaian and Rosen, 1994). We also include the quadratic term because individuals who are already very wealthy may not have an incentive to undertake entrepreneurial activity.
4. The ratio of liquid assets, including securities and bank accounts, to total wealth (SHARE OF LIQUID ASSETS IN HH WEALTH), which takes into account that only the most liquid assets may be available to fund a new business.
5. The individual age (AGE) and its square (AGE²), which are commonly believed to be negatively correlated with risk aversion (Evans and Leighton, 1989), and should therefore be negatively related to the probability of an individual setting up her own business.
6. A dummy equal to 1 for men (MALE), to account for possible gender differences.
7. A dummy equal to 1 for married individuals (MARRIED), a dummy equal to 1 for divorced individuals (DIVORCED), the logarithm of the number of children in the household (NUMBER OF CHILDREN), a dummy equal to 1 if either the number of children or the marital status changed in the last year (DUMMY(CHANGES IN FAMILY STRUCTURE)). These variables may be related to the risk aversion of an individual because they proxy for the responsibility an individual has towards the household (Evans and Leighton, 1989). Moreover, individuals whose status recently changed may have a stronger need for extra resources. This may affect their willingness to start a new business.
8. A dummy variable equal to 1 if an individual is an immigrant (IMMIGRANT) and zero otherwise; and, similarly, a dummy variable equal to 1 if an individual changed municipality during the last year and zero otherwise (MOVER).
9. The wage premium or discount (WAGE PREMIUM) an individual received the year before becoming self-employed, once the observable characteristics of the individual and

of her job have been taken into account. This variable has been computed as the residual of the regression of the individual's salary on her age and its square, the variables regarding the family status mentioned before, a dummy equal to 1 for immigrants, a dummy equal to 1 for individuals with a handicap, a dummy equal to 1 for individuals who are recorded to be unemployed, and finally dummy variables controlling for an individual's education level, the industry of employment, the occupation, and the seven Swedish macro-regions.

Panel B of Table 2 summarizes the municipality characteristics from Market Manager and Statistics Sweden that we use to control whether any characteristics of the local environment affect occupational choices. These are the following:

1. The level of unemployment in a municipality (UNEMPLOYMENT RATE) and the proportion of public employees in the population (PROPORTION OF PUBLIC SECTOR EMPLOYEES), which account for the demand conditions in the local labor market.
2. The proportion of unemployed enrolled in entrepreneurship programs (PROPORTION OF UNEMPLOYED IN ENTREPRENEURSHIP PROGRAMS), which is obviously expected to have a positive effect on the decision to become an entrepreneur.
3. The proportion of employment in the financial sector (PROPORTION OF FINANCIAL SECTOR EMPLOYEES), which proxies for the level of financial development. Although this variable is endogenous, and a more developed financial sector may certainly depend on higher demand for financial services in municipalities with more entrepreneurs, we include it as a control variable because we know that the rate of firm creation is positively affected by financial development (see, for instance, Guiso, Sapienza and Zingales, 2002). If we did not control for this variable, one of the reasons the stock of entrepreneurs in a municipality may help explain occupational choices could be the greater availability of financial services.
4. The share of the top five industries in local employment to the share of the top five industries in national employment (SPECIALIZATION), which provides a measure of specialization of the municipality. This variable proxies for the existence of dynamic externalities (Glaeser et al., 1992), which may increase productivity in regions that specialize in few sectors, and could have an independent effect on the choice to become an entrepreneur.

5. The number of firms per employee incorporated in a municipality relative to the number of firms per employee in Sweden (COMPETITION).⁷ This variable measures average firm size in a municipality, and has been used as a proxy for competition in the labor market (Glaeser et al., 1992). In our case, this variable also helps to control for competition in the product market that may drive down profits and affect the decision to become self-employed.
6. Per capita income (INCOME PER CAPITA) and per capita wealth tax (WEALTH TAX PER CAPITA). Both variables proxy for the availability of funds in a region.
7. Entrepreneurial entry (BIRTH RATE) and exit rates (EXIT RATE), which control for differences in firm dynamics that can influence our results: If, in regions with a high proportion of entrepreneurs, more firms die and are replaced by new ones, we could observe a positive correlation between the individual decision to become an entrepreneur and the proportion of entrepreneurs in a municipality. This, however, would not indicate either agglomeration economies or social norms but would simply be related to firm dynamics. By controlling for firm birth and exit rates, we overcome this problem.

Finally, we include two education-group fixed effects (for individuals with high school diplomas and university education, respectively) to capture systematic differences across individuals belonging to different educational groups, seven regional fixed effects capturing systematic differences across different areas, and eleven fixed effects that refer to the sector in which an individual is employed.

4. Results

4.1 The decision to become an entrepreneur

We model the probability of an individual becoming an entrepreneur using a linear probability model. Then, we instrument our main variable of interest and estimate the parameters of the independent variables by two-stage least squares. For comparison, we also estimate the probability by ordinary least squares and by using a probit model.

Table 3 presents the parameter estimates. Results show that individual and aggregate occupational choices are correlated: The proportion of entrepreneurs in a municipality has a positive and significant effect on the probability of an individual becoming an entrepreneur.

⁷ The number of firms incorporated in a municipality differs from the number of self-employed, because in many cases firms are not incorporated.

The effect is also economic significant as one standard-deviation increase in the proportion of entrepreneurs in a municipality increases the probability of an individual becoming an entrepreneur by more than 3% in the two-stage least squares estimates. The effect is five times larger in the probit estimates.

Results are qualitatively similar when we use only one of the two available instruments and for the alternative measures of entrepreneurship.

We can interpret our estimates of the coefficient of the variable that measures the level of entrepreneurial activity in the population (or in a given educational group) as evidence in favor of the existence of social interactions if we believe that our instruments are not correlated with any omitted individual characteristics that could have an independent effect on occupational choices. We are quite confident that this is so because, as we explain below, we control for a long list of individual and municipality characteristics.

Additionally, our results are also confirmed by the use of the third variable measuring entrepreneurial activity within the municipality: We check whether for individuals in the three lowest quartiles of income distribution the decision to become an entrepreneur is affected by the proportion of entrepreneurs in the highest quartile. We find that indeed this is the case. Most importantly, the results are qualitatively similar to when the proportion of entrepreneurs in the municipality is used as a proxy for social interactions.

The remaining control variables generally have the expected sign and help us to control for individual and municipality characteristics that directly affect the decision to become an entrepreneur. Firm dynamics matter: In municipalities where many new firms are born, individuals are more likely to become entrepreneurs. Moreover, we generally find that individuals are more likely to become entrepreneurs in municipalities where the firm exit rate is lower.

Individuals who perceive a high wage premium, high salaries or are part of households whose members earn high incomes are less likely to become entrepreneurs. Surprisingly, the individual employment status has no effect on the decision to become an entrepreneur and unemployed individuals are even less likely to become entrepreneurs in high unemployment regions.

As previous studies pointed out, wealth increases the probability of any individual becoming an entrepreneur because liquidity constraints are less likely. However, the square of the wealth logarithm is generally negative and significant suggesting that very wealthy individuals have weaker incentives to become entrepreneurs. The share of wealth invested in liquid assets does not seem to matter, as its coefficient is generally not significant at

conventional levels. The impact of age on the probability of an individual becoming an entrepreneur is non-linear: the linear term is positive and significant indicating that individuals are more likely to become entrepreneurs as they get older, but this is less likely after they reach a certain age because the quadratic term is negative and significant. The life cycle in the probability of becoming an entrepreneur seems to be related more to wealth accumulation than to risk aversion, as young individuals are expected to be less risk averse but also poorer. Male and married individuals, and individuals with a larger number of children are more likely to become entrepreneurs in almost all specifications. The same holds for individuals whose household composition recently changed. Also these household characteristics do not seem to be positively related to risk aversion. If anything, individuals with larger households seem to need more resources and are more likely to start their own businesses.

Municipality characteristics, other than those proxying for entrepreneurial activity, have a marginal impact on the decision to become an entrepreneur. Surprisingly, the share of financial sector employees in the overall employment of a municipality, which proxies for the availability of financial services, if anything, decreases the probability of an individual becoming an entrepreneur. However, wealth per capita in the municipality, which may also be related to the availability of funding, positively affects the decision to become an entrepreneur. Interestingly, individuals are less likely to become entrepreneurs in high unemployment regions; however, as expected, a high proportion of unemployed enrolled in entrepreneurship programs increases the probability of any individual becoming an entrepreneur.⁸

All equations include year and regional dummies, which are generally significant. Moreover, the education-group fixed effects (not reported) indicate that better educated individuals are more likely to start their own businesses.

4.2 Income from entrepreneurial activity

In analyzing the determinants of entrepreneurial profits, we must keep in mind that individuals self-select into entrepreneurial activity. Therefore, we use a two-stage Heckman procedure. In the first stage, we estimate the probability of individual *i* being an entrepreneur,

⁸ In other specifications, we also control for other municipality characteristics such as proxies for firm economic performance, and a variable ranging from 1 to 6 that measures the individual educational level more precisely than the fixed effects. Since these variables are not statistically significant and do not affect the coefficients of the other explanatory variables, we do not report the results.

using the same specification that we use to estimate the probability of individual i becoming an entrepreneur. To correct the bias due to self-selection, we use the first-stage estimates to compute the Mill ratio. In the second stage, we include the inverse Mill ratio in the equation for the individual income, together with our main variable of interest, capturing social interactions, and control variables that pick up heterogeneity in individual and municipality characteristics expected to influence entrepreneurial income.⁹ We estimate the income equation both by ordinary least squares and two-stage least squares.

The results are presented in Table 4. The first stage estimates hold no surprises: The probability of an individual being an entrepreneur has largely the same determinants of the probability of an individual becoming an entrepreneur. The only difference is that this time we included also a dummy equal to 1 if the individual was also an entrepreneur the previous year in the equation. The inverse Mill ratio enters significantly into the second stage regression for the entrepreneurial income, indicating that there is self-selection.

The results that emerge from the second stage regression are striking: In municipalities where there are more entrepreneurs, entrepreneurial income is also lower.¹⁰ A one-standard deviation increase in the proportion of entrepreneurs decreases the entrepreneurial income by 20 percent.

These results do not depend on the proxy for entrepreneurial activity that we use. Also, they do not depend on the fact that there may be more part-time entrepreneurs in some municipalities, as the coefficient of our variable of interest remains negative and significant when we control for the share of individual income earned in the entrepreneurial activity. Most importantly, the estimates are qualitatively invariant when we use instruments, indicating that our results, at least partially, are driven by the variation in cultural values.

These findings are compatible with the existence of social norms, which drive the decision to start a new business. They could not be explained by stronger competition in the labor or the product market in municipalities where there are more entrepreneurs. First, to account for this effect, we included a variable measuring the number of firms per employee in a municipality relative to the number of firms per employees in Sweden, which Glaeser et al. (1992) use as a proxy for competition. This variable is indeed negative and significant, and should capture the effect of competition on profits. Second, we re-estimate the equation of the

⁹ The system is identified because in the second stage we do not include the individual's salary and the income of the other household members, which should be unrelated to the productivity of the entrepreneurial activity.

¹⁰ Entrepreneurial income is often underreported for tax reasons. However, this does not affect our results because we compare entrepreneurial income in different locations, not entrepreneurial income with employees' wages.

entrepreneurial income including also the square of the proportion of entrepreneurs (the estimates are not reported for brevity): the linear term remains negative and significant, while the quadratic term is positive. The positive effect, however, prevails only for very high values of the proportion of entrepreneurs. Most importantly, it suggests that profits are higher exactly when competition should be stronger, invalidating the hypothesis that high competition can explain the negative coefficient of our variable of interest. If anything, it seems that only in municipalities where entrepreneurship is very high, are entrepreneurial choices driven by profits.

The result that entrepreneurial profits are lower in municipalities where the entrepreneurship rate is high is not completely surprising in the light of some recent papers suggesting that the non-pecuniary benefits of self-employment are substantial. Moskowitz and Vissing-Jorgensen (2002), for instance, show that entrepreneurs largely under-diversify their portfolios investing in their own businesses, and the returns they enjoy on their entrepreneurial activities are too low to justify their behavior. As a consequence, they expect entrepreneurs to enjoy large non-pecuniary benefits. Along the same line, Hamilton (2000) finds that entrepreneurs enter and persist in business despite the fact that they have both lower initial earnings and lower earnings growth than they would as employees. In this respect, our contribution is to show that the importance of non-pecuniary benefits may vary substantially across municipalities, because of social interactions.

The remaining variables also give some interesting information on the determinants of entrepreneurial profits. Individuals who earned a wage premium are likely to have unobserved abilities because they also earn higher entrepreneurial income. Immigrants, who seldom become entrepreneurs, earn higher entrepreneurial income as well.

5. Robustness checks

5.1 Sorting

One possible problem with the estimates we presented so far is that entrepreneurs or potential entrepreneurs may move to municipalities that are more favorable to entrepreneurial activity. In this case, the positive correlation between individual and aggregate occupational choices could be biased.

We can test whether sorting of individuals more prone to entrepreneurial activity can explain our results by looking at movers: We find that individuals who move to municipalities with more entrepreneurs are, if anything, less likely to become entrepreneurs, as suggested by

the negative and significant coefficient of the variable obtained interacting the mover dummy with the proportion of entrepreneurs in a municipality. The result does not depend on the time horizon we choose for identifying movers. The coefficient of the interaction variable continues to be negative and significant if we define as movers individuals who moved between 1 and 3 years before.

Furthermore, in Panel B of Table 5, we analyze individual moving decisions. We find that entrepreneurs are always less likely to move. Most importantly, individuals who are not entrepreneurs are more likely to move to higher entrepreneurship municipalities than are entrepreneurs. Overall, the evidence does not support the possibility that individuals who are inclined to become entrepreneurs or are already self-employed sort in municipalities where there are more entrepreneurs.

5.2 Young people's entrepreneurial choices

Our identification strategy has so far relied on the fact that, thanks to the large institutional changes that affected Sweden during the 1980s, differences in culture in the early 1980s are predetermined with respect to the current level of entrepreneurial activity. Entrepreneurial activity was without doubt a much less common phenomenon in the early 1980s. However, there may have been some preexisting differences in entrepreneurial activity that affected the local culture. If individuals persist in entrepreneurial activity, some of the entrepreneurial activity we observe nowadays may have affected the local culture.

Our instruments, however, are certainly exogenous with respect to the occupational choices of young individuals, whose age ranged between 18 and 30 in 1995, and who were certainly not part of the labor force in the early 1980s. We re-estimate both our equations of interest considering only the level of entrepreneurial activity among young people and how this affects other young people's occupational choices and entrepreneurial income. We find that our results are qualitatively unchanged. This further increases our confidence in the identification strategy we have chosen.

5.3 Large and small municipalities

The discussion in the previous section shows that our instruments can be considered exogenous with respect to current entrepreneurial activity. However, as always happens with

non-experimental data, we cannot exclude that they are correlated with a third factor we do not observe but that affects entrepreneurial choice.

The large number of variables we control for increases our confidence that this is not the case. Nevertheless, we further check whether our results are due to omitted variable bias by directly exploring the mechanism through which social interactions and social norms should operate. If social norms indeed matter, individuals are expected to imitate the occupational choice of the individuals they more often interact with. Our proxies for entrepreneurial activity capture closer and more frequent interactions, especially in smaller communities. Therefore, if the parameter estimates of our variable of interest are due to social interactions, we expect our results to be stronger in smaller municipalities.

To test whether this is the case, we separate the municipalities that belong to urban areas from non-urban municipalities, where approximately two-thirds of the individuals represented in our sample live. We re-estimate the two equations of interest by interacting our proxy for entrepreneurship with two dummies, one equal to 1 for urban areas and the other equal to 1 for non-urban areas.¹¹

We find that the effect of the variable proxying for social interactions on the decision to become an entrepreneur is positive and significant only for non-urban areas as we would expect. Additionally, in urban areas with more entrepreneurs, the entrepreneurial income is larger. This is not so in the smaller non-urban municipalities, where entrepreneurs seem to enjoy non-pecuniary benefits by conforming to other individuals' choices.

5.4 “Misfit” theories and other economic determinants of self-employment

Can any omitted economic factors generate results similar to those we have described so far? Clearly, differences in entrepreneurial productivity do not seem to be driven by regional advantage, such as agglomeration economies, because the profitability of entrepreneurial activity is lower in high entrepreneurship municipalities.

However, both the correlation between individual and aggregate occupational choices and lower entrepreneurial income in high entrepreneurship municipalities could potentially be explained by the fact that individuals are pushed into entrepreneurial activity in depressed

¹¹ Unfortunately, we cannot use our measure of entrepreneurial activity based on peer groups because our instruments are not powerful enough to capture the cross-municipality variation in entrepreneurial activity for different peer groups when we separate urban areas from the rest. In fact, they would explain only 1% of the variation in entrepreneurial activity in urban areas. The instruments perform much better when we disregard peer groups: They explain more than 20% of the variation in the proportion of entrepreneurs.

areas. Alternatively, individuals, who are unsuitable for paid employment and therefore choose to start their own business, may be concentrated in some areas. We believe that these factors should be accounted for, to a large extent, by the several municipality control variables we include, such as income per capita, rate of unemployment, and proportion of individual employed in the public sector, to mention just a few. Additionally, the seven macro-regional fixed effects should also help to control for economic underdevelopment as depressed areas are likely to include several contiguous municipalities.

To further check whether there are any factors related to the characteristics of the population or the municipality that make them *economically* more inclined to entrepreneurial activity, we instrument the level of entrepreneurial activity in both equations of interest using variables that are more related to economic incentives. We use as an instrument the distance from the closest airport, which explain more than 10% of the variation in the proportion of entrepreneurs. Hence, no concerns arise regarding the quality of this instrument for our endogenous independent variable (Bound et al., 1995).

Further, this instrument is unlikely to directly affect the individual decision to become an entrepreneur, after we have controlled for other municipality characteristics. However, it is more likely capture the variation in the proportion of entrepreneurs that is related to, possibly unobserved, economic characteristics of the municipality or of the population, such as the presence of individuals who are unsuitable for paid employment.

By using the distance from the closest airport as an instrument, we can also *exclude* most of the cross-municipality variation in entrepreneurial activity related to culture, which captures social norms (i.e., individuals who imitate other individuals' actions for the sake of doing so and *not* for economic reasons).

Panel C of Table 6 presents the parameter estimates. We find that our variable of interest loses significance in explaining the probability of an individual becoming an entrepreneur. More interestingly, in the entrepreneurial income equation, we find that the estimate of the coefficient of the proportion of entrepreneurs becomes positive. This means that if occupational choices were driven merely by economic incentives, there would be more entrepreneurs where profits are higher. This increases our confidence that, if anything, omitted economic-related characteristics bias our estimates downward.

5.5 Further robustness checks

Our results are robust to a number of modifications of the equations we presented. For instance, we have checked whether the definition of entrepreneurship is a key determinant of our results. In fact, it is not. The estimates remain qualitatively invariant if we define as entrepreneurs only the individuals for whom at least 30 percent of the income comes from entrepreneurial activity.

In addition, we test whether our results may be due to the fact that individuals may have become overly optimistic in the late 1990s, during the high-tech bubble. Potentially, in areas with more successful entrepreneurs, some individuals may have over-estimated their expected income from the entrepreneurial activity, and decided to become entrepreneurs. In this case, our results should be driven by the correlation between individual and aggregate occupational choices in the second part of the sample (1998-2000). In fact, the results for the subperiods 1996-1997 and 1998-2000 are similar to the ones we report. This confirms that herding phenomena are unlikely to be able to explain our findings.

Finally, we have tried to remove subsets of the control variables, and, in particular, the education and regional fixed effects, and firm entry and exit rates. None of these robustness checks produces results that are significantly different from the ones we report. This increases our confidence that our results are not due to omitted variable bias. If unobservable characteristics about individuals or municipalities drove our results, one would expect that increasing the set of unobservable characteristics by treating observable characteristics as unobservable would have a large impact on the estimate of the social interaction term. In fact, the estimates are almost invariant.

6. Conclusions

This paper shows that occupational choices do not have only economic determinants. The cultural values prevailing in a community affect the individual decision to become an entrepreneur. We suggest that this happens because social norms affect the desirability of different occupations, and individuals are not only eager for profits but also for esteem.

Alternative explanations, such as agglomeration economies, knowledge spillovers or unobserved characteristics of the population that could also generate a correlation between individual and aggregate occupational choices do not find support in the data. In all these cases, a high entrepreneurship rate would be positively correlated with entrepreneurial productivity. Instead, we find that entrepreneurial income is lower in municipalities where

entrepreneurial activity is higher suggesting that the private benefits of entrepreneurial activity may be higher there.

Additionally, we show that the component of the variation in the proportion of entrepreneurs that helps to explain individual entrepreneurial choice is not related to the economic characteristics of the municipality. It is instead related to prevailing cultural values in the municipality that are unlikely to have any direct effect on entrepreneurial choices, if not through social norms.

From a policy point of view, these results suggest that to spur entrepreneurship, it is not sufficient to provide subsidies or subsidized finance. It might also be useful to influence culture and provide role models.

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Table 1: Cross-municipalities differences in entrepreneurial activity

The variable Entrepreneurship is the ratio of entrepreneurs to the population of a municipality; Birth rate is the ratio of new entrepreneurs relative to the entrepreneurs in a municipality; Exit rate is the ratio of entrepreneurs abandoning entrepreneurial activity to the entrepreneurs in a municipality. The following three rows present the proportion of entrepreneurs with a given education level to the total population of a municipality. The education level is indicated in the first column. All individuals aged between 18 and 60 who have some entrepreneurial income are classified as entrepreneurs. The population includes all individuals aged between 18 and 60. Proportion of entrepreneurs in the top quartile is the proportion of entrepreneurs in the top quartile of the income distribution Entrepreneurial income is the average income per entrepreneur within the municipality. The statistics employ observations for all 289 municipalities from 1999 to 2000 (288 from 1995 to 1998).

Entrepreneurial activity	Mean	Median	Minimum	Maximum	Standard Deviation	Interquartile Range
Entrepreneurship	0.057	0.052	0.015	0.183	0.023	0.029
Birth rate	0.241	0.239	0.000	0.750	0.145	0.124
Exit rate	0.224	0.204	0.000	0.600	0.144	0.149
Entrepreneurship by education level:						
Less than high school diploma	0.013	0.011	0.000	0.061	0.009	0.011
High school diploma	0.008	0.006	0.000	0.110	0.014	0.017
University education	0.016	0.015	0.000	0.065	0.009	0.011
Proportion of entrepreneurs in the top quartile	0.053	0.050	0.000	0.188	0.027	0.030
Entrepreneurial income (SEK 000)	103.81	99.43	14.48	444.35	29.81	24.72
Instruments						
Proportion of individuals older than 60 member of the state church	0.936	0.947	0.728	1.000	0.040	0.045
Proportion of votes for right-wing parties in 1982 elections	0.460	0.461	0.151	0.747	0.114	0.146

Table 2: Descriptive Statistics
Panel A: Individual Characteristics

LABOR INCOME is the logarithm of the salaries of individual i . INCOME OF OTHER HH MEMBERS is the income of the other members of the household. EXPERIENCE is a dummy equal to one for individuals who were entrepreneurs both at time t and $t-1$. WEALTH is the logarithm of the total wealth. SHARE OF LIQUID ASSETS IN HH WEALTH is the proportion of individual wealth invested in bank accounts or securities. AGE is an individual's age. MALE is a dummy variable equal to 1 for males. MOVER is a dummy equal to 1 if the individual moved from a municipality to another during the previous year. DUMMY(CHANGES IN FAMILY STRUCTURE) is a dummy equal to 1 if there have been any changes in family structure during the previous year. NUMBER OF CHILDREN is the number of children. MARRIED is a dummy equal to 1 if the individual is married. DIVORCED is a dummy equal to 1 if an individual is divorced. UNEMPLOYED is a dummy equal to 1 if the individual is unemployed. IMMIGRANT is a dummy equal to 1 if the individual is an immigrant. The WAGE PREMIUM is the residual of a regression including individual age and its square, the variables regarding the family status mentioned before, a dummy equal to 1 for immigrants, a dummy equal to 1 for individuals with a handicap, a dummy equal to 1 for individuals who are recorded as unemployed, and finally dummy variables controlling for an individual's education level, industry of employment, the occupation, and the seven Swedish macro-regions. DUMMY(CHURCH) is a dummy variable equal to 1 if the individual is member of the Church of Sweden. All observations from 1995 to 2000 are included.

Variable	Mean	Median	Minimum	Maximum	Standard Deviation	Interquartile Range
LABOR INCOME	165803	162638	0.000	20373042	140689	156115
INCOME OF OTHER HH MEMBERS	155115	135144	0.000	20373042	174085	237988
EXPERIENCE	0.056	0.000	0.000	1.000	0.229	0.000
WEALTH	8.880	10.117	0.000	47.172	6.684	7.989
SHARE OF LIQUID ASSETS IN HH WEALTH	-1.209	-0.561	-6.695	0.777	1.796	1.261
AGE	40.488	40.000	19.000	69.000	11.776	17.000
MALE	0.498	0.000	0.000	1.000	0.500	1.000
MOVER	0.093	0.000	0.000	1.000	0.290	0.000
DUMMY(CHANGES IN FAMILY STRUCTURE)	0.173	0.000	0.000	1.000	0.378	0.000
NUMBER OF CHILDREN	1.111	1.000	0.000	12.000	1.184	2.000
MARRIED	0.551	1.000	0.000	1.000	0.497	1.000
DIVORCED	0.072	0.000	0.000	1.000	0.259	0.000
UNEMPLOYED	0.135	0.000	0.000	1.000	0.342	0.000
IMMIGRANT	0.096	0.000	0.000	1.000	0.295	0.000
WAGE PREMIUM	0.011	0.035	-6.663	4.175	0.569	0.390
DUMMY(CHURCH)	0.824	1.000	0.000	1.000	0.381	0.000

Panel B: Municipality Characteristics

PROPORTION OF UNEMPLOYED IN ENTREPRENEURSHIP PROGRAMS is the proportion of unemployed enrolled in entrepreneurship programs; UNEMPLOYMENT RATE is the rate of unemployment; PROPORTION OF FINANCIAL SECTOR EMPLOYEES is the share of employment in the financial sector; SPECIALIZATION is the share of employment in the five most important industries; COMPETITION is the number of firms per employee in the municipality relative to the number of firms per employee in Sweden; INCOME PER CAPITA is income per capita; WEALTH TAX PER CAPITA is wealth tax per capita; DISTANCE FROM THE CLOSEST AIRPORT is the logarithm of the distance from the closest civilian airport.

Variable	Mean	Median	Minimum	Maximum	Standard Deviation	Interquartile Range
PROPORTION OF UNEMPLOYED IN ENTREPRENEURSHIP PROGRAMS	0.252	0.219	0.027	1.147	0.135	0.136
UNEMPLOYMENT RATE	6.335	6.129	1.216	13.789	2.172	3.148
PROPORTION OF FINANCIAL SECTOR EMPLOYEES	0.010	0.009	0.003	0.117	0.007	0.003
SPECIALIZATION	0.451	0.438	0.341	0.706	0.066	0.078
COMPETITION	1.960	1.944	0.703	3.561	0.503	0.644
PROPORTION OF PUBLIC SECTOR EMPLOYEES	0.068	0.069	0.038	0.104	0.010	0.014
INCOME PER CAPITA	156662	154339	600	340051	21467	22817
WEALTH TAX PER CAPITA	1137	1030	300	6986	594	757
DISTANCE FROM THE CLOSEST AIRPORT	9.273	9.563	5.893	10.873	1.074	0.946

Table 3: The decision to become an entrepreneur

The dependent variable is a dichotomic variable with a value equal to 1 if individual i becomes an entrepreneur at time t and equal to zero otherwise. Individuals who were already entrepreneurs at time $t-1$ are excluded. In the specification “without peer groups”, ENTREPRENEURSHIP is defined as the proportion of individuals who are entrepreneurs in a municipality; in the specification “with peer groups”, ENTREPRENEURSHIP is the proportion of entrepreneurs among the individuals with a given education level in a given municipality minus the proportion of entrepreneurs among the individuals with a given education level in the whole country times the proportion of individuals with a given education level in the municipality. The explanatory variables are defined in Tables 1 and 2. All the equations include four year dummies, two education dummies for individuals with high school and university degrees, seven regional dummies, and eleven dummies that refer to the sector where an individual is employed. The equation is estimated using a probit and a linear probability model (LPM). The latter is estimated using Huber-White and 2SLS estimates. The instruments are the proportion of individuals older than 60 who are members of the state church and the proportion of votes for right-wing parties in 1982 elections. The standard errors are corrected for heteroskedasticity and take into account that observations for the same municipality may be correlated. *T-statistics* are reported in parentheses. The marginal effects have been calculated setting the variables equal to the mean. We also report the Adjusted – R-Squared (Pseudo-R-Squared for probit estimates). For 2SLS estimates we report the result of Bound-Jaeger-Baker’s (1995) test for the quality of instruments. Estimates for linear probability model are multiplied by 100.

Variable	Without peer groups						With peer groups				Entrepreneurship in top quartile				
	Probit estimate		H-White estimates		2SLS estimates		2 SLS estimates		H-White Estimates		2 SLS estimates				
	Estimate	T-stat	100xME	Estimate	T-stat	Estimate	T-stat	Estimate	T-stat	Estimate	T-stat	Estimate	T-stat		
ENTREPRENEURSHIP	416.82	(26.22)	14.22	15.62	(26.52)	14.00	(10.51)	459.00	(4.85)	8.40	(12.12)	23.26	(6.95)		
Individual level controls															
INCOME OF OTHER HH MEMBERS	-1.66	(-10.39)	-0.06	-0.05	(-10.09)	-0.05	(-10.14)	-0.06	(-10.12)	-0.07	(-12.66)	-0.07	(-12.53)		
LABOR INCOME	-2.45	(-6.91)	-0.08	-0.09	(-7.28)	-0.09	(-7.29)	-0.09	(-7.41)	-0.12	(-10.81)	-0.12	(-10.79)		
WEALTH	1.76	(12.50)	0.06	0.04	(9.11)	0.04	(9.16)	0.04	(9.21)	0.06	(11.12)	0.06	(11.02)		
WEALTH^2	-0.03	(-5.87)	0.00	0.00	(-1.70)	0.00	(-1.71)	0.00	(-1.88)	0.00	(-3.42)	0.00	(-3.46)		
SHARE OF LIQUID ASSETS IN HH WEALTH	0.21	(1.19)	0.01	0.01	(1.42)	0.01	(1.37)	0.01	(1.19)	-0.01	(-0.79)	-0.01	(-0.95)		
AGE	5.78	(22.37)	0.20	0.16	(19.46)	0.16	(19.47)	0.16	(19.47)	0.16	(19.58)	0.16	(19.64)		
AGE^2	-0.06	(-19.99)	0.00	0.00	(-16.77)	0.00	(-16.78)	0.00	(-16.85)	0.00	(-17.35)	0.00	(-17.42)		
MALE	25.60	(39.54)	0.87	0.88	(40.12)	0.88	(40.13)	0.89	(40.09)	0.86	(35.59)	0.86	(35.44)		
MOVER	0.20	(0.12)	0.01	0.00	(-0.03)	0.00	(-0.03)	0.00	(0.09)	-0.04	(-0.82)	-0.05	(-0.88)		
DUMMY(CHANGES IN FAMILY STRUCTURE)	1.41	(1.65)	0.05	0.05	(1.75)	0.05	(1.75)	0.06	(1.89)	0.05	(1.54)	0.05	(1.57)		
NUMBER OF CHILDREN	1.33	(4.35)	0.05	0.06	(6.11)	0.07	(6.16)	0.06	(5.84)	0.05	(4.43)	0.05	(4.32)		
MARRIED	7.22	(8.70)	0.25	0.25	(8.75)	0.24	(8.70)	0.25	(8.88)	0.29	(9.72)	0.30	(9.95)		
DIVORCED	1.40	(1.06)	0.05	0.04	(0.81)	0.03	(0.79)	0.05	(1.03)	0.02	(0.53)	0.03	(0.68)		
UNEMPLOYED	-0.38	(-0.16)	-0.01	-0.02	(-0.33)	-0.03	(-0.36)	-0.03	(-0.45)	-0.09	(-1.29)	-0.08	(-1.19)		
IMMIGRANT	-4.61	(-1.99)	-0.16	-0.13	(-1.70)	-0.12	(-1.67)	-0.08	(-1.14)	-0.03	(-0.38)	-0.01	(-0.11)		
WAGE PREMIUM	-5.73	(-11.07)	-0.20	-0.23	(-12.31)	-0.23	(-12.33)	-0.23	(-12.28)	-0.28	(-15.70)	-0.28	(-15.68)		
DUMMY(CHURCH)	-1.36	(-1.55)	-0.05	-0.06	(-1.91)	-0.06	(-1.85)	-0.04	(-1.30)	-0.01	(-0.42)	-0.01	(-0.37)		
Municipality level controls															
DIVERSITY	-1.37	(-0.23)	-0.05	0.39	(1.95)	0.36	(1.80)	0.86	(3.39)	0.30	(1.38)	0.62	(2.72)		
COMPETITION	2.22	(2.77)	0.08	0.07	(2.49)	0.09	(2.83)	0.19	(6.48)	0.16	(5.40)	0.05	(1.18)		
UNEMPLOYMENT RATE	-0.40	(-1.47)	-0.01	-0.01	(-0.62)	-0.02	(-1.28)	-0.05	(-3.58)	-0.04	(-3.80)	0.02	(1.31)		
PROPORTION OF UNEMPLOYED IN ENT. EDUCATION PROGRAMS	2.25	(0.63)	0.08	0.16	(1.26)	0.23	(1.68)	0.69	(5.35)	0.62	(4.68)	0.36	(2.47)		
SHARE OF EMPLOYED IN FIN SECTOR	31.92	(1.11)	1.09	0.75	(0.74)	0.79	(0.78)	-3.41	(-2.47)	-1.15	(-1.06)	-3.55	(-2.93)		
PROPORTION OF PUBLIC EMPLOYEES	19.54	(0.56)	0.67	1.43	(1.19)	1.65	(1.36)	-1.57	(-0.98)	3.40	(2.64)	3.65	(2.83)		
INCOME PER CAPITA	0.00	(-0.79)	0.00	0.00	(-1.27)	0.00	(-1.62)	0.00	(-1.95)	0.00	(-1.90)	0.00	(1.55)		
WEALTH TAX PER CAPITA	0.00	(0.58)	0.00	0.00	(1.62)	0.00	(1.96)	0.00	(1.86)	0.00	(1.98)	0.00	(-1.74)		
UNEMPLOYMENT RATE * UNEMPLOYED	-0.56	(-2.40)	-0.02	-0.02	(-2.28)	-0.02	(-2.21)	-0.02	(-2.12)	-0.01	(-1.97)	-0.02	(-2.10)		
PROPORTION OF IMMIGRANTS * IMMIGRANT	-35.35	(-1.25)	-1.21	-1.31	(-1.47)	-1.36	(-1.53)	-1.69	(-1.90)	-2.14	(-2.36)	-2.49	(-2.75)		
BIRTH RATE	165.97	(31.57)	5.66	6.17	(32.12)	5.95	(23.26)	5.70	(14.36)	3.56	(18.90)	4.20	(17.89)		
EXIT RATE	3.90	(0.61)	0.13	0.07	(0.33)	-0.06	(-0.24)	-0.81	(-3.53)	-1.72	(-7.31)	-2.65	(-8.49)		
Adjusted R2	0.04				0.01		0.01		0.01		0.0056		0.0051		
Log Likelihood	-100585														
N. obs.	1440097			1440097				1440097				1068597		1068597	
Bound-Jaeger-Baker F-test							174613		<.0001		1075.88		<.0001		

Table 4: Income the entrepreneurial activity

In the first stage, the dependent variable is a dummy variable equal to 1 if an individual is an entrepreneur at time t and equal to zero otherwise. In the second stage, the dependent variable is the income from the entrepreneurial activity. The explanatory variables are defined in Tables 1 and 2. LAMBDA is the inverse Mill ratio. All the equations include four year dummies, two education dummies for individuals with high school and university degrees, seven regional dummies and eleven dummies that refer to the sector where an individual is employed. The first stage equation has been estimated using a probit model. The second stage equation has been estimated using Huber-White and 2SLS estimates. The instruments are the proportion of individuals older than 60 who are members of the state church and the proportion of votes for right-wing parties in 1982 elections. The standard errors are corrected for heteroskedasticity and take into account that observations for the same municipality may be correlated. *T-statistics* are reported in parentheses. The marginal effects have been calculated setting the variables equal to the average. We also report Adjusted R –Squared (Pseudo-R-Squared for first stage estimates). For 2SLS estimates we report the result of Bound-Jaeger-Baker’s (1995) for the quality of instruments.

	Without peer groups						With peer groups				Entrepreneurship in top quartile			
	First stage		100xMargi nal Effect	H-White Estimates		2SLS estimates		2SLS estimates		H-White Estimates		2SLS estimates		
	Estimate	T-stat		Estimate	T-stat	Estimate	T-stat	Estimate	T-stat	Estimate	T-stat	Estimate	T-stat	
ENTREPRENEURSHIP	3.376	(27.21)	17.995	-4.690	(-16.74)	-5.577	(-19.44)	-57.608	(-37.18)	-3.311	(-11.64)	-4.299	(-14.94)	
Individual level controls														
EXPERIENCE	2.530	(454.10)	13.484	-3.559	(-30.03)	-3.765	(-31.19)	-4.167	(-33.82)	-2.639	(-24.26)	-2.745	(-25.04)	
INCOME OF OTHER HH MEMBERS	-0.029	(-22.96)	-0.157											
LABOR INCOME	-0.003	(-21.32)	-0.014											
WEALTH	0.013	(11.21)	0.068	-0.022	(-10.15)	-0.022	(-10.10)	-0.025	(-10.70)	-0.020	(-9.12)	-0.020	(-9.17)	
WEALTH^2	0.000	(-2.62)	-0.001	0.000	(4.55)	0.000	(4.44)	0.000	(4.81)	0.000	(4.15)	0.000	(4.13)	
SHARE OF LIQUID ASSETS IN HH WEALTH	0.008	(5.42)	0.042	-0.004	(-1.19)	-0.004	(-1.43)	-0.005	(-1.76)	0.005	(1.63)	0.004	(1.48)	
AGE	0.067	(33.89)	0.358	-0.088	(-16.50)	-0.093	(-17.17)	-0.076	(-17.30)	-0.063	(-12.06)	-0.066	(-12.53)	
AGE^2	-0.001	(-29.46)	-0.004	0.001	(15.92)	0.001	(16.51)	0.001	(16.54)	0.001	(11.84)	0.001	(12.26)	
MALE	0.180	(35.11)	0.959	-0.060	(-4.74)	-0.072	(-5.58)	-0.087	(-6.62)	0.074	(5.64)	0.066	(4.98)	
MOVER	0.209	(20.92)	1.116	-0.335	(-13.90)	-0.354	(-14.49)	-0.394	(-15.80)	-0.312	(-12.86)	-0.323	(-13.26)	
DUMMY(CHANGES IN FAMILY STRUCTURE)	0.076	(11.56)	0.404	-0.078	(-5.74)	-0.083	(-5.99)	-0.088	(-6.10)	-0.058	(-4.16)	-0.062	(-4.37)	
NUMBER OF CHILDREN	0.006	(2.40)	0.032	0.026	(5.32)	0.026	(5.27)	0.014	(2.77)	0.031	(6.29)	0.031	(6.30)	
MARRIED	0.042	(6.17)	0.221	-0.007	(-0.57)	-0.009	(-0.66)	-0.002	(-0.12)	0.010	(0.76)	0.009	(0.65)	
DIVORCED	-0.077	(-7.01)	-0.408	0.175	(7.93)	0.178	(7.95)	0.188	(8.29)	0.194	(8.59)	0.195	(8.59)	
UNEMPLOYED	-0.124	(-6.04)	-0.660	0.004	(0.08)	0.012	(0.29)	0.028	(0.67)	-0.021	(-0.55)	-0.014	(-0.35)	
IMMIGRANT	-0.030	(-1.60)	-0.158	0.109	(2.95)	0.112	(2.97)	0.102	(2.66)	0.073	(1.98)	0.072	(1.94)	
WAGE PREMIUM	-0.018	(-4.29)	-0.096	0.180	(22.25)	0.180	(21.90)	0.181	(21.46)	0.178	(24.45)	0.179	(24.34)	
DUMMY(CHURCH)				-0.035	(-3.22)	-0.034	(-3.13)	-0.030	(-2.75)	-0.027	(-2.13)	-0.027	(-2.10)	
Municipality level controls														
UNEMPLOYMENT RATE*DUMMY(UNEMPLOYED)	-0.001	(-0.71)	-0.008	0.006	(1.44)	0.006	(1.48)	0.006	(1.48)	-0.002	(-0.43)	-0.002	(-0.45)	
PROPORTION OF IMMIGRANTS * DUMMY(IMMIGRANT)	-0.167	(-0.73)	-0.889	-0.400	(-0.87)	-0.412	(-0.88)	-0.231	(-0.48)	-0.206	(-0.46)	-0.166	(-0.37)	
PROPORTION OF UNEMPLOYED IN ENT. EDUCATION PROGRAMS	-0.010	(-0.33)	-0.051	0.008	(0.13)	0.043	(0.74)	-0.278	(-4.81)	-0.089	(-1.58)	-0.072	(-1.25)	
UNEMPLOYMENT RATE	-0.002	(-0.90)	-0.010	0.014	(3.31)	0.010	(2.40)	0.037	(8.82)	0.021	(5.03)	0.018	(4.13)	
DIVERSITY	0.843	(3.63)	4.492	-0.526	(-1.12)	-0.543	(-1.14)	-0.260	(-2.62)	0.014	(0.03)	0.152	(0.31)	
COMPETITION	-0.054	(-1.10)	-0.285	-0.131	(-1.37)	-0.137	(-1.40)	-0.144	(-11.18)	-0.156	(-1.60)	-0.173	(-1.76)	
PROPORTION OF PUBLIC EMPLOYEES	0.007	(1.15)	0.039	-0.055	(-4.41)	-0.049	(-3.85)	-0.902	(-2.14)	-0.070	(-5.55)	-0.065	(-5.09)	
INCOME PER CAPITA				-0.903	(-2.10)	-0.796	(-1.84)	0.000	(-1.69)	-0.872	(-1.88)	-0.877	(-1.89)	
WEALTH TAX PER CAPITA				0.000	(-1.47)	0.000	(-2.08)	0.000	(3.30)	0.000	(-0.52)	0.000	(-1.18)	
SHARE OF EMPLOYED IN FIN SECTOR				0.000	(2.79)	0.000	(3.43)	-0.173	(-0.36)	0.000	(1.44)	0.000	(2.21)	
BIRTH RATE	1.148	(26.15)	6.120	-1.632	(-16.23)	-1.822	(-17.71)	-1.283	(-14.78)	-0.698	(-8.34)	-0.763	(-9.02)	
DEATH RATE	-0.587	(-11.40)	-3.129	0.393	(3.74)	0.369	(3.43)	0.934	(8.47)	0.796	(7.20)	0.899	(8.05)	
LAMBDA				-1.938	(-31.34)	-2.047	(-32.49)	-2.246	(-35.09)	-1.440	(-26.47)	-1.493	(-27.24)	
Adjusted R2	0.470			0.069		0.069		0.060		0.096		0.095		
Log Likelihood	-167386													
N. obs.	1704373			83276		83276		83276		56642		56642		
Bound-Jaeger-Baker F-test						6914.38	<.0001	154.54	<.0001			640.55	<.0001	

Table 5: The decision to become an entrepreneur and sorting

In Panel A, we report Huber-White estimates of the linear probability model. The dependent variable is a dichotomic variable with a value equal to 1 if individual i becomes an entrepreneur at time t and equal to zero otherwise. Individuals who were already entrepreneurs at time $t-1$ are excluded. In the specification “without peer groups”, ENTREPRENEURSHIP is defined as the proportion of individuals who are entrepreneurs in a municipality; in the specification “with peer groups”, ENTREPRENEURSHIP is the proportion of entrepreneurs among the individuals with a given education level in a given municipality minus the proportion of entrepreneurs among the individuals with a given education level in the whole country times the proportion of individuals with a given education level in the municipality. DIFF(ENTREPRENEURSHIP) is the difference between level of entrepreneurial activity between current municipality of residence and the previous municipality. MOVER is the dummy which is equal to 1 if an individual moved within 1 or 3 years (columns 1 and 2, and 3 and 4, correspondingly). The explanatory variables are defined in Tables 1 and 2. All the equations include year dummies, two education dummies for individuals with high school and university degrees, seven regional dummies and eleven dummies that refer to the sector where an individual is employed. The standard errors are corrected for heteroskedasticity and take into account that observations for the same municipality may be correlated. *T-statistics* are reported in parentheses. The marginal effects have been calculated setting the variables equal to the mean. We also report the Adjusted R-Squared. Estimates for the linear probability model are multiplied by 100.

Panel A: The decision to become an entrepreneur and sorting

Variable	Movers within 1 year				Movers within 3 years			
	Without peer groups		With peer groups		Without peer groups		With peer groups	
	Estimate	T-stat	Estimate	T-stat	Estimate	T-stat	Estimate	T-stat
ENTREPRENEURSHIP	17.44	(26.24)	25.72	(5.87)	15.18	(16.39)	29.33	(5.24)
DIFF(ENTREPRENEURSHIP)*MOVER	-0.46	(-0.28)	-11.06	(-0.73)	0.22	(0.16)	-9.51	(-0.87)
Individual level controls								
INCOME OF OTHER HH MEMBERS	-0.06	(-10.03)	-0.06	(-10.48)	-0.05	(-6.93)	-0.05	(-7.16)
LABOR INCOME	-0.11	(-13.98)	-0.11	(-13.92)	-0.10	(-9.69)	-0.10	(-9.65)
WEALTH	0.07	(14.53)	0.08	(15.12)	0.07	(10.01)	0.07	(10.33)
WEALTH^2	0.00	(-5.95)	0.00	(-6.15)	0.00	(-4.14)	0.00	(-4.30)
SHARE OF LIQUID ASSETS IN HH WEALTH	0.00	(0.30)	0.00	(-0.21)	0.02	(2.52)	0.02	(2.25)
AGE	0.21	(24.45)	0.21	(24.58)	0.17	(15.40)	0.17	(15.42)
AGE^2	0.00	(-23.04)	0.00	(-23.13)	0.00	(-14.60)	0.00	(-14.60)
MALE	1.29	(55.39)	1.29	(55.57)	1.21	(38.58)	1.22	(38.70)
MOVER	0.03	(0.53)	0.03	(0.59)	0.07	(0.91)	0.08	(1.01)
DUMMY(CHANGES IN FAMILY STRUCTURE)	0.06	(2.03)	0.07	(2.10)	0.01	(0.34)	0.02	(0.40)
NUMBER OF CHILDREN	0.04	(3.39)	0.04	(4.01)	0.06	(3.75)	0.06	(4.11)
MARRIED	0.30	(9.99)	0.29	(9.66)	0.31	(7.54)	0.30	(7.34)
DIVORCED	0.11	(2.35)	0.10	(2.21)	0.15	(2.36)	0.14	(2.28)
UNEMPLOYED	0.06	(0.75)	0.02	(0.33)	-0.13	(-0.80)	-0.16	(-0.97)
IMMIGRANT	-0.10	(-1.44)	-0.06	(-0.84)	0.03	(0.31)	0.06	(0.65)
WAGE PREMIUM	-0.35	(-30.88)	-0.35	(-31.08)	-0.30	(-19.52)	-0.30	(-19.61)
DUMMY(CHURCH)	0.03	(0.97)	0.05	(1.50)	0.07	(1.56)	0.08	(1.84)
Municipality level controls								
DIVERSITY	0.20	(0.89)	-0.14	(-0.63)	0.31	(1.05)	0.04	(0.13)
COMPETITION	0.06	(1.95)	0.25	(8.08)	0.05	(1.27)	0.24	(5.86)
UNEMPLOYMENT RATE	0.00	(-0.24)	-0.10	(-10.49)	-0.01	(-0.31)	-0.11	(-6.92)
PROPORTION OF UNEMPLOYED IN ENT. EDUCATION PROGRAMS	0.33	(1.76)	1.62	(8.93)	0.46	(1.88)	1.50	(6.42)
SHARE OF EMPLOYED IN FIN SECTOR	-1.93	(-1.76)	-1.77	(-1.61)	-2.73	(-1.90)	-2.49	(-1.72)
PROPORTION OF PUBLIC EMPLOYEES	0.05	(0.04)	3.06	(2.24)	-0.45	(-0.24)	1.91	(1.04)
INCOME PER CAPITA	0.00	(-1.09)	0.00	(-4.54)	0.00	(-2.12)	0.00	(-4.09)
WEALTH TAX PER CAPITA	0.00	(1.46)	0.00	(5.14)	0.00	(2.04)	0.00	(4.21)
UNEMPLOYMENT RATE * UNEMPLOYED	-0.03	(-4.24)	-0.03	(-3.52)	0.00	(0.03)	0.01	(0.29)
PROPORTION OF IMMIGRANTS * IMMIGRANT	-1.21	(-1.54)	-1.99	(-2.53)	-2.49	(-2.38)	-3.10	(-2.97)
BIRTH RATE	6.74	(32.94)	4.60	(24.61)	6.52	(22.84)	4.83	(18.28)
EXIT RATE	-0.10	(-0.43)	-1.49	(-6.31)	-0.72	(-2.17)	-1.72	(-5.33)
Adjusted R2	0.01		0.01		0.01		0.01	
N. obs.	1370662		1370662		689944		689944	

Panel B: Mobility for entrepreneurs and non-entrepreneurs

	Non-entrepreneurs		Entrepreneurs	
	1 year	3 years	1 year	3 years
Did not move	96.44%	92.60%	97.87%	94.78%
Move to higher entrepreneurship area	1.78%	3.23%	1.03%	2.09%
Move to lower entrepreneurship area	1.78%	4.17%	1.10%	3.13%

Table 6: Robustness of the estimates

Panel A reports the estimates using only young individuals (defined as individuals younger than 18 in 1983). Panel B reports the estimates which use an interactive dummy to separate urban (large) and non-urban (small) municipalities. Identification of municipality as urban vs. non-urban is provided by Statistics Sweden. The observations referring to urban municipalities are approximately 15.5% of the sample. We report the estimates for the linear probability model (as in Table 3) and second stage of estimates for success of entrepreneurial activity (as in Table 4). In Panel B we report the result of Bound-Jaeger-Baker's (1995) test for the quality of instruments separately for entrepreneurship in urban and non-urban municipalities (top and bottom line, respectively). In panel C we use as an instrument the distance from the closest airport. The explanatory variables are defined in Tables 1 and 2. LAMBDA is the inverse Mill ratio.

Panel A: Young People's Entrepreneurial Choice

	Decision to become an entrepreneur				Entrepreneurial income			
	H-White estimates		2SLS estimates		H-White estimates		2SLS estimates	
	Estimate	T-stat	Estimate	T-stat	Estimate	T-stat	Estimate	T-stat
ENTREPRENEURSHIP	6.407	(3.17)	30.049	(3.78)	-6.0038	(-4.05)	-2.8228	(-1.97)
Individual level controls								
EXPERIENCE					-2.8798	(-8.88)	-2.6324	(-8.33)
INCOME OF OTHER HH MEMBERS	-0.059	(-7.86)	-0.058	(-7.75)				
LABOR INCOME	-0.052	(-3.35)	-0.052	(-3.32)				
WEALTH	0.040	(5.65)	0.039	(5.54)	-0.0250	(-4.77)	-0.0248	(-4.84)
WEALTH^2	-0.001	(-1.90)	-0.001	(-1.87)	0.0004	(1.78)	0.0004	(1.94)
SHARE OF LIQUID ASSETS IN HH WEALTH	-0.019	(-1.97)	-0.018	(-1.91)	-0.0136	(-1.73)	-0.0137	(-1.77)
AGE	0.255	(4.65)	0.250	(4.56)	-0.1558	(-2.74)	-0.1294	(-2.32)
AGE^2	-0.003	(-3.29)	-0.003	(-3.20)	0.0022	(2.16)	0.0018	(1.78)
MALE	0.646	(19.89)	0.644	(19.82)	-0.1300	(-3.36)	-0.1079	(-2.87)
MOVER	-0.016	(-0.30)	-0.016	(-0.31)	-0.2753	(-6.52)	-0.2588	(-6.26)
DUMMY(CHANGES IN FAMILY STRUCTURE)	0.142	(3.44)	0.141	(3.43)	-0.1331	(-3.90)	-0.1230	(-3.69)
NUMBER OF CHILDREN	-0.017	(-0.99)	-0.020	(-1.11)	0.0399	(2.66)	0.0367	(2.52)
MARRIED	0.299	(7.12)	0.299	(7.12)	-0.0943	(-2.75)	-0.0869	(-2.60)
DIVORCED	0.010	(0.09)	0.018	(0.16)	0.2525	(2.33)	0.2486	(2.34)
UNEMPLOYED	-0.235	(-2.45)	-0.226	(-2.35)	0.0887	(0.93)	0.0700	(0.74)
IMMIGRANT	0.091	(0.76)	0.105	(0.89)	-0.0502	(-0.55)	-0.0427	(-0.48)
WAGE PREMIUM	-0.089	(-3.85)	-0.089	(-3.85)	0.1251	(7.51)	0.1250	(7.64)
DUMMY(CHURCH)	-0.052	(-0.99)	-0.055	(-1.04)	-0.0865	(-2.53)	-0.0877	(-2.55)
Municipality level controls								
DIVERSITY	-0.008	(-0.03)	0.352	(1.07)	-0.0022	(-0.23)	-0.0022	(-0.24)
COMPETITION	0.147	(3.51)	0.097	(2.16)	1.3957	(1.33)	1.2939	(1.26)
UNEMPLOYMENT RATE	-0.031	(-2.28)	0.002	(0.14)	-0.2131	(-1.42)	-0.2463	(-1.68)
PROPORTION OF UNEMPLOYED IN ENT EDUCATION PROGRAMS	0.381	(2.04)	0.141	(0.70)	0.0288	(2.67)	0.0320	(3.03)
SHARE OF EMPLOYED IN FIN SECTOR	-0.965	(-0.67)	-2.795	(-1.79)	-0.5480	(-0.52)	-0.7223	(-0.70)
PROPORTION OF PUBLIC EMPLOYEES IN POPULATION	2.217	(1.21)	0.956	(0.51)	-0.0402	(-0.16)	-0.0414	(-0.17)
INCOME PER CAPITA	0.000	(-1.77)	0.000	(-0.39)	-0.0716	(-2.20)	-0.0754	(-2.37)
WEALTH TAX PER CAPITA	0.000	(2.19)	0.000	(0.71)	-1.6888	(-1.29)	-1.8256	(-1.40)
UNEMPLOYMENT RATE* UNEMPLOYED	-0.003	(-0.28)	-0.004	(-0.41)	-0.0001	(-1.69)	-0.0001	(-1.34)
PROPORTION OF IMMIGRANTS * IMMIGRANT	-1.327	(-0.95)	-1.497	(-1.07)	0.0001	(1.53)	0.0001	(1.17)
BIRTH RATE	2.292	(8.52)	2.834	(8.81)	-1.1874	(-5.21)	-1.0258	(-4.61)
DEATH RATE	-0.824	(-2.50)	-0.710	(-2.14)	0.5742	(2.07)	0.5442	(2.00)
LAMBDA					-1.5191	(-9.14)	-1.3888	(-8.57)
Adjusted R2	0.0044		0.0042		0.0702		0.0695	
N. obs.	428490		428490		9236		9236	
Bound-Jaeger-Baker F-test			9855.76	<.0001			204.79	<.0001

Panel B: Large and Small Municipalities

	Decision to become an entrepreneur				Entrepreneurial Income			
	H-White estimates		2SLS estimates		H-White estimates		2SLS estimates	
	Estimate	T-stat	Estimate	T-stat	Estimate	T-stat	Estimate	T-stat
ENTREPRENEURSHIP*URBAN	15.657	(15.02)	0.823	(0.06)	-2.191	(-5.12)	2.042	4.8045
ENTREPRENEURSHIP*NONURBAN	16.025	(26.28)	10.423	(2.83)	-4.502	(-16.00)	-3.418	-12.4068
Individual level controls								
EXPERIENCE					-3.561	(-30.05)	-3.373	-28.9167
INCOME OF OTHER HH MEMBERS	-0.054	(-10.09)	-0.055	(-10.19)				
LABOR INCOME	-0.086	(-7.28)	-0.086	(-7.29)				
WEALTH	0.043	(9.11)	0.043	(8.76)	-0.022	(-9.95)	-0.021	-9.7205
WEALTH^2	0.000	(-1.71)	0.000	(-1.49)	0.000	(4.43)	0.000	4.3627
SHARE OF LIQUID ASSETS IN HH WEALTH	0.008	(1.41)	0.009	(1.46)	-0.004	(-1.33)	-0.004	-1.3002
AGE	0.156	(19.46)	0.156	(19.46)	-0.088	(-16.46)	-0.082	-15.727
AGE^2	-0.002	(-16.77)	-0.002	(-16.77)	0.001	(15.86)	0.001	15.1764
MALE	0.882	(40.12)	0.880	(39.97)	-0.059	(-4.66)	-0.046	-3.7163
MOVER	-0.001	(-0.03)	-0.002	(-0.04)	-0.333	(-13.81)	-0.312	-13.0985
DUMMY(CHANGES IN FAMILY STRUCTURE)	0.052	(1.75)	0.052	(1.74)	-0.078	(-5.72)	-0.072	-5.4354
NUMBER OF CHILDREN	0.065	(6.11)	0.065	(6.12)	0.026	(5.31)	0.026	5.3363
MARRIED	0.246	(8.75)	0.239	(8.30)	-0.007	(-0.50)	-0.004	-0.3078
DIVORCED	0.035	(0.81)	0.030	(0.69)	0.176	(8.02)	0.175	8.1077
UNEMPLOYED	-0.025	(-0.33)	-0.016	(-0.22)	0.000	(-0.01)	-0.014	-0.3375
IMMIGRANT	-0.124	(-1.67)	-0.175	(-1.97)	0.122	(3.30)	0.137	3.7693
WAGE PREMIUM	-0.232	(-12.31)	-0.232	(-12.32)	0.179	(22.19)	0.178	22.4169
DUMMY(CHURCH)	-0.059	(-1.90)	-0.065	(-2.03)	-0.033	(-3.02)	-0.031	-2.8372
Municipality level controls								
DIVERSITY	0.395	(1.97)	0.218	(0.89)	0.006	(1.56)	0.007	1.6786
COMPETITION	0.068	(2.38)	0.174	(1.99)	-0.599	(-1.31)	-0.860	-1.9089
UNEMPLOYMENT RATE	-0.007	(-0.71)	-0.003	(-0.22)	-0.009	(-0.16)	-0.065	-1.1695
PROPORTION OF UNEMPLOYED IN ENT EDUCATION PROGRAMS	0.156	(1.23)	0.415	(1.85)	0.008	(1.96)	0.004	0.9851
SHARE OF EMPLOYED IN FIN SECTOR	0.408	(0.33)	9.697	(1.13)	-2.805	(-5.09)	-5.894	-10.8302
PROPORTION OF PUBLIC EMPLOYEES IN POPULATION	1.390	(1.15)	3.016	(1.69)	-0.102	(-1.06)	-0.057	-0.6016
INCOME PER CAPITA	0.000	(-1.21)	0.000	(-1.68)	-0.064	(-5.08)	-0.081	-6.6018
WEALTH TAX PER CAPITA	0.000	(1.56)	0.000	(1.86)	-1.103	(-2.56)	-1.474	-3.4307
UNEMPLOYMENT RATE* UNEMPLOYED	-0.017	(-2.27)	-0.018	(-2.37)	0.000	(-0.80)	0.000	0.6633
PROPORTION OF IMMIGRANTS * IMMIGRANT	-1.340	(-1.51)	-0.546	(-0.46)	0.000	(2.16)	0.000	0.7286
BIRTH RATE	6.162	(31.86)	5.858	(21.77)	-1.685	(-16.71)	-1.580	-15.9743
DEATH RATE	0.064	(0.29)	-0.033	(-0.13)	0.341	(3.24)	0.293	2.8405
LAMBDA					-1.9398	(-31.37)	-1.84077	-30.2405
Adjusted R2	0.01		0.01		0.07		0.07	
N. obs.	1440097		1440097		83276		83276	
Bound-Jaeger-Baker F-test			42452	<.0001			2499.91	<.0001
			190197	<.0001			8641.48	<.0001

Panel C: Economic Instruments

Variables	Decision to become an entrepreneur		Entrepreneurial income	
	Estimate	T-stat	Estimate	T-stat
ENTREPRENEURSHIP	-0.442	(-0.43)	99.069	(23.01)
Individual level controls				
EXPERIENCE			85.923	(53.59)
INCOME OF OTHER HH MEMBERS	-0.014	(-7.16)		
LABOR INCOME	-0.088	(-21.15)		
WEALTH	0.005	(3.01)	0.168	(5.42)
WEALTH**2	0.000	(-0.87)	0.001	(0.52)
SHARE OF LIQUID ASSETS IN HH WEALTH	-0.003	(-1.47)	0.320	(7.73)
AGE	0.026	(9.35)	2.219	(31.24)
AGE**2	0.000	(-9.85)	-0.024	(-28.46)
MALE	0.142	(18.42)	5.227	(27.43)
MOVER	-0.002	(-0.12)	8.114	(28.01)
DUMMY(CHANGES IN FAMILY STRUCTURE)	0.017	(1.63)	2.118	(10.59)
NUMBER OF CHILDREN	0.010	(2.56)	0.012	(0.16)
MARRIED	0.044	(4.42)	0.146	(0.78)
DIVORCED	0.023	(1.52)	-1.974	(-6.37)
UNEMPLOYED	-0.180	(-6.92)	-4.344	(-8.60)
IMMIGRANT	0.071	(2.73)	-0.600	(-1.17)
WAGE PREMIUM	-0.162	(-24.46)	-0.259	(-2.34)
DUMMY(CHURCH)	-0.037	(-3.33)	-0.077	(-2.64)
Municipality level controls				
DIVERSITY	-0.048	(-0.66)	-0.018	(-0.37)
COMPETITION	0.023	(1.52)	-5.925	(-0.94)
UNEMPLOYMENT RATE	-0.010	(-1.58)	-0.142	(-0.17)
PROPORTION OF UNEMPLOYED IN ENTREPRENEURSHIP EDUCATION PROGRAMS	0.084	(1.33)	-0.017	(-0.29)
SHARE OF EMPLOYED IN FINANCIAL SECTOR	-0.010	(-0.03)	27.209	(4.07)
PROPORTION OF PUBLIC EMPLOYEES IN POPULATION	0.456	(1.03)	-1.170	(-0.84)
INCOME PER CAPITA	0.000	(-2.68)	0.192	(1.02)
WEALTH TAX PER CAPITA	0.000	(2.86)	1.472	(0.52)
UNEMPLOYMENT RATE*DUMMY(UNEMPLOYED)	0.002	(0.68)	0.000	(-0.51)
PROPORTION OF IMMIGRANTS * DUMMY(IMMIGRANT)	-0.557	(-1.78)	0.000	(2.04)
BIRTH RATE	0.346	(2.21)	33.260	(22.33)
EXIT RATE	-0.211	(-1.88)	-17.815	(-11.54)
LAMBDA			44.975	(53.86)
Adjusted R2	0.006		0.065	
N. obs.	1440097		83276	
Bound-Jaeger-Baker F-test	61400	<.0001	4633	<.0001