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Early Work Experience and the Transition into Entrepreneurship

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We use a simple model to analyze the founding stage of new firms. Our goal is to characterize the directional causality between the expected rewards from entrepreneurship and the length of prior labor market experience that entrepreneurs possess. We test predictions about the timing of the formation of new firms on a sample of Italian entrepreneurs. We obtain three main results. First, the timing of the foundation of new firms is determined primarily by the expectation of higher income and not so much by the perception of risk. Second earlier experience of entrepreneurs in full time employment has a positive impact on the size of newly founded firms. Third, founders who work with family partners establish and control larger firms.

I.   Introduction

The impact of entrepreneurs (and the start-up firms which they establish) has been a topic of interest to economic researchers for a number of years. Most of the research focused on the stage when new firms seek to raise capital from financial investors. Thus, the later stages of the growth of existing small firms have been covered extensively in the literature. In contrast, there is relatively little systematic knowledge about the emergence of new firms. So, questions such as "What types of work experience do entrepreneurs possess?" and "when do they leave the status of paid employment?" justify more research effort.

This article tries to shed some light on the issue of conversion. That is, on the point of decision to become an entrepreneur. In considering the timing issue, of when one moves on to become a business owner, we go a bit deeper then existing empirical works. We provide evidence that the length of previous experience is crucial. This evidence interacts well with existing theories and complements earlier empirical findings. Our goal is to characterize the directional causality between expected rewards from entrepreneurship and the length of prior experience that entrepreneurs possess. We complement the descriptive literature on who become entrepreneurs by using a simple model that is consistent with the economic literature. We then test the prediction of the model on a sample of 178 entrepreneurs who founded new firms in the period 1992- 2004.

In this paper entrepreneurs are defined as the owners of small firms. We adopt the definition of Lazear (2002, 2004) who emphasizes that a unique feature of an entrepreneur is the ability to direct, motivate and manage other workers in the firm. The normal life-cycle process of an entrepreneur begins as a hired-hand. So by the time he/she becomes a business owner he/she already has significant work experience. Evans and Leighton (1989) noted that experience in the labor market, usually in the same industry, is a natural pre-requisite for entrepreneurship.

The model that we use considers an employee contemplating an investment which will make him/her an owner of a start-up firm. This individual will weigh the costs and benefits of such a step. The alternatives are assumed to be twofold: become an owner of a new firm or continue to work at the present job. The consideration will encompass the increased earnings due to entrepreneurship, the alternative and out-of-the-pocket costs and the probability of possible failure. All these he/she must evaluate and weigh against the alternative of keeping the status of an employee

The two main questions that we address are the length of the previous work experience of new entrepreneurs and the factors that motivate them to establish new firms. Our main results can be summarized as follows: First, the timing of the foundation of new firms is determined primarily by the expectations of higher income and not so much by the perception of risk. Second, the length of previous personal experience, of entrepreneurs, in the labor market has a pronounced positive impact on the size of the firms which they found.

The remainder of the paper is organized in several parts as follows. In the next section we provide a review of the literature on the establishment and growth of new firms and the conditions needed for them to flourish. In Section III we use a simple model to investigate the determinants of the level of prior experience that entrepreneurs build up before they open a new business. The model is tested using a sample of recently established new businesses in Italy; Section IV contains a detailed description of the data. In Section V we present the results. Section VI adds information about the size of newly founded firms. Section VII concludes.

II.   Literature review

In the traditional literature about the formation of new firms, the entrepreneur is assumed to conceive an idea for a new product or a newly discovered market. He then looks for funding that is provided by outside investors. The relationship between the entrepreneur and the outside investor, which is the focus of most of these models, is characterized by asymmetric information and moral hazard problems. The sources of the inside knowledge of the entrepreneur who runs the firm are generally not analyzed.

The high rate of the formation of new firms in many western countries is usually explained, in the literature, by an increase in demand for special products and services that require specialization and non-standardized production. The recent increase in the service sector at the expense of industry also has a positive impact because small firms are commonly concentrated in the service sector. This trend is complemented by an increasing tendency to use outsourcing services by both industrial firms and in the public sector. Some of the suppliers of such services come from small businesses. Some researchers such as Barbieri (2001) and Contini and Leombruni (2002), mentioned that the foundation of new firms could be the result of rigid labor markets. That is, self-employment and small firms provide flexibility such that in times of high unemployment they would be willing to reduce their compensation in order to stay at work.

The characteristics of the entrepreneurs have been investigated in the empirical literature on family firms. The importance of family-controlled firms is well documented in the literature. La Porta, Lopez-de-Silanes, Shleifer and Vishny (1999) noted that family control is more common in countries with lower shareholders' protection rights. Faccio and Lang (2002) added that 44 percent of western European firms are family controlled. This is, of course, an average figure around which there is a significant variation. Faccio and Lang (2002) report, for example, that in France and in Germany 65 percent of the firms are family-controlled. In Italy 60 percent of the firms are controlled by family. In contrast, the comparable number in the UK is 24 percent. Most of the research on family business focused on problems that are related to existing firms.

Another strand of the literature that deals with the origins of entrepreneurship provides insights about the desirable qualities and constraints. Dunn and Holtz-Eakin (2000) find that individuals build human capital by learning from their self-employed parents. Intergenerational links provide not only physical capital but also human capital to new owners of new firms. Evans and Leighton (1989) show that the availability and type of financial contracts affect the individual decision on whether to become an entrepreneur.

There is also a large literature that uses surveys and experiments to document the activities and aspirations of entrepreneurs and their personality profile. This is noted, for example, by Davidsson and Honig (2003) and Reynolds (1997). A related group of studies that is reviewed and summarized by Shane (2000) investigate the psychological background of entrepreneurs. This literature focuses on the effect of pressure, on the perceived stigma of failure and on the sense of optimism that entrepreneurs are expected to possess. The idea is to explore the interaction between personal traits, prior education and entrepreneurship. For example, De Mesa and Southey (1996) study the role of personal overconfidence in decision-making. This literature documents the importance of personality traits and prior experience. This last point is also noted by Blau (1987), who found that the probability of becoming an entrepreneur is higher among workers who come from families of entrepreneurs. The reason for this is not only the intergenerational transfer of wealth but also the intergenerational transfers of values, norms and skills.

Recently some authors began to examine the process by which the entrepreneur gains the necessary qualifications needed to create a start-up firm. Lazear (2002) finds that

entrepreneurs possess knowledge in a portfolio of activities and that they are generalists rather that specialists. So, the prior background of the entrepreneur is indeed important. Lazear argues that choosing to be an entrepreneur requires an understanding of a variety of business areas. In his model individuals who become entrepreneurs should have a more balanced human capital than those who become specialists. The idea that the entrepreneurs possess several skills was already noted by Baumol (1990). He shows that entrepreneurs can play several roles: some productive and unproductive. He does not consider, however, the ways of acquiring the capabilities that a person needs in order to become a practicing entrepreneur.

According to Lazear (2002), the most important determinant of becoming an entrepreneur is the number of prior roles held by the individual. Entrepreneurs are multi-skilled either due to their initial endowment or because they acquire the skills that they lack. Our paper complements his. We focus not on the number of roles but on the length of experience before opening a business for the first time. It is reasonable to expect that individuals, who had several years of work as employees, occupied several roles during that time.

III.   The Best Time to Start a New Firm

In order to think about the decision of whether to found a new firm it is useful to compare the possibility of starting a new venture with the alternative of remaining an employee, say, in an existing family firm. This is similar to the classical question of the literature about the formation of new households. Specifically, the question is, when do children leave their parents' home and go on to found a new household. On this issue wide variation by country is observed and Italy is different from most other countries.

Suppose that an individual spends n years as an employee and that N>n is the time horizon such as the working life or the time to retirement. The variable n is determined by risk aversion, expected income and expenditure flows from present and future occupations. This variable will also be influenced by environmental factors such as social support of family and community on one hand and government policy towards business ownership on the other hand.

The variable n is the decision variable in the present analysis. It may be influenced also by the age of the individual, by the nature of the industry and by the cyclicality of the economy. The personal income from business ownership is X_t per period. Let P_t be the probability of success in any given year and $(1 - P_t)$ the probability of business failure. As noted the alternative to the act of founding a new business is to remain as an employee. R_t is the periodical earnings from working as an employee.

Previous research on entrepreneurship has examined the roles of various considerations in a person's decision to become an owner of a business. Typically 'studies have indicated the importance of earning differential between expected income from entrepreneurship and paid employment (Hamilton 2000). The literature also motioned differences in risk attitude. We extend this literature to include also the timing of starting a new business. The value of being an employee who earns R per period is compared with the value of business ownership (and receiving X per period weighted by the probability of success). The person in question wants to choose a value of n that would maximise the difference.

We can assume some reasonable values for the parameters and try to calculate some possible trade-off values. The first trade-off to be considered is $\dfrac{\partial n}{\partial (X/R)} < 0$. Thus, as the

ratio of X/R increases, n becomes smaller. A large ratio of X/R means higher income from ownership relative to an income from the present employment, so the employee will stay only a short time as an employee and switch faster to ownership status.

The second trade-off to consider is $\frac{\partial n}{\partial (F/R)} > 0$. This is positive monotonic function. As the ratio F/R increases it means that the cost of closing the business, should it fail, relative to the salary of an employee is larger. As a result we would expect a him/her to stay longer as an employee. The third trade-off is $\frac{\partial n}{\partial P} < 0$ and it means that as the probability of success increases, n becomes smaller. Correspondingly, $\frac{\partial n}{\partial (1-P)} > 0$ means that as the probability of failure increases, the person would like to stay longer as an employee.

There are a few general conclusions that we can draw from this investment model. <u>First</u>, as the ratio of income from entrepreneurship with respect to the income that an employee receives increases, the advantage from entrepreneurship increases and the worker spends less time as an employee. <u>Second</u>, as the probability of failure increases if the individual is risk averse, the attractiveness of entrepreneurship declines and the individual will spend more time as an employee. <u>Third</u>, as the cost of business failure increases the individual will stay longer as an employee.

IV.   Description of the data
A.   General

We test the theory by using a detailed sample of newly formed firms in northern Italy. Compared to other countries, Italy exhibits the largest share of working population that is categorized as self-employed or as business owners. In addition, the number of newly formed small businesses, in Italy, stays stable over time.

Earlier researchers offered some explanations to this unique Italian phenomenon. For example, Sestito (1989) mentioned the diminishing role of scale economies (and the increasing role of non-standardized production) as one reason. A second reason is the advantages in tax reduction (not to mention outright evasion) that accrue to autonomous workers and entrepreneurs. Rapiti (1997) added the relative advantage of small firms in managing turbulent industrial relations. It is appropriate to note that the tax argument exists also in other countries. All the above may not be reasons that are strictly unique to Italy. However, reasons that exist in other countries are likely operate in a stronger way in Italy. For example, the tradition to rely on environmental networks is very strong in Italy.

B.   Sample selection

We use information from a survey conducted in northern Italy in 2005. The dataset has two advantages compared to other datasets on entrepreneurs. First, it contains information about the number of years of work both before and after becoming an entrepreneur. Second, it includes an easy to understand, and to quantify, measure of monetary payoff. Therefore, we can compare personal earnings of entrepreneurs just before they left their last job with the present earnings as owner-managers of their own firms.

The major source of information on the demography of firms in Italy is the Business Registry known as "Registro delle Imprese". The Register is maintained by the provincial Chamber of Commerce branches. The Business Registry lists firms by legal form and includes some information about the owners. It includes all the existing firms (with or without employees) and new firms are required by law to register. Closures and suspensions

of activities have to be declared within a specified period and then such firms are de-listed. We had information about a sample of registered new firms that had at least 5 employees and which registered in the regions Lombardia, Piemonte and Veneto. According to The Business Registry they were established, in the three regions, between 1992 and 2004. We use a simple definition of birth. Each new firm is assumed to register and when its name is added to the list we call it a new firm.

Our source of information is a survey that was conducted during the second half of 2005. The sample was selected using the following procedures. First, we gathered information on 828 new firms that entered the registration rosters of the three northern Italian regions (Lombardia, Piemonte and Veneto). Second, a sample of 286 firms was selected from the group of firms that had at least 5 employees in 2004 if they belonged to the service or construction sectors and at least 10 employees if they were industrial firms. Third, the firms were contacted and the owner- manager was asked to answer a few questions about his/her "conversion" from an employee to a business owner. The survey questions (English translation), that are of particular interest here, are listed in **Appendix 1.** It covers 178 entrepreneurs. Table I reports the main characteristics of the surveyed entrepreneurs.

A few notes of explanation need to be clarified before we move on. The survey data have the advantage of covering more precisely the question which is of interest in this paper. The information provided, despite its partial nature, is in line with the research design. At the same time we have to note that this survey, as surveys in general, suffers from a few disadvantages. First, we cannot be sure that the respondents understood all the questions and if they did, that they answered all of them truthfully. Second, there is always the problem of a non-response bias. One can never be sure if the answers of those who responded are indeed representative of the views of the general population. Finally we have to admit that, as in many similar cases, the information that we have is prone to survivorship bias. The information that we use is drawn from the successful firms. That is, firms that existed in 2005. Firms that opened in the 1992-2004 period but closed before the survey was conducted were not interviewed.

C.   Measurement of the variables

Income, as defined here, includes only gross salary, in Euros, from which income tax is paid. That is, it includes the amount observed by employees but does not include social contributions that are transferred directly to the social security administration. For the risk variable we use the actual rate of failure (in the given industry) of firms with five or more workers. The presumption here is that the average failure rate is known to those who plan to found new firms and thus it is a good proxy for risk.The next variable is effort which we approximate by the number of weekly hours of work. We use the number of hours per week to measure effort. It is not entirely clear, however, that longer hours always reduce personal utility. Many entrepreneurs emphasize with pride that they work more hours than they used to. We have two variables that measure experience. The first is the number of years that the person worked full time as an employee before deciding to switch. The numbers were rounded up or down in the usual way. A second number is the years since the company was registered and started to operate.

In addition we record information about the number of employees as a proxy for the size of the new firm. Reports on number of employees are considered to be more accurate than financial measures such as sales or size of assets (as defined in the financial statements). We also have partial information about the level of education of our respondents. Education is a 0-1 variable. If the person had a university degree it was

recorded as one and zero otherwise. Unfortunately, many of the respondents did not answer this question.

The firms in our sample belong to eight different industry groups. They are: Manufacturing; Construction (including real estate); Business services (such as maintenance, cleaning etc.); Hospitality (e.g. lodging catering and restaurants); Commerce (retail trades in products such as furniture, clothing durable goods and electronics); Personal services (gardening, education, health beauty, house repairs); Transportation (shipping, packing and storage) and Miscellaneous services.

D.   Descriptive statistics

As noted, an individual entrepreneur is included in the sample if he/she satisfies four criteria: (1) annual income data are reported from both the present occupation as manager-owner, and also income in the last job as an employee;   (2) they founded a new firm, registered in northern Italy, in the period 1992 – 2004; (3) this is the first start-up firms which they founded; (4) the size of the firm is reported. In the service sector a minimum size of five workers or more (in addition to the owners) is required; for industry the minimum size is ten employees.

Table I reports the characteristics of the surveyed entrepreneurs. The respondents accumulated, on average, 8 years of work experience as employees. This finding is consistent with other studies such as Blau (1987) and Hamilton (2000). In 2005 (at the time answering the questionnaire), they had around 7 years of experience as entrepreneurs. Their mean present income is 57,570 € and the mean income, in their last year as employees is close to 39,500 €.

It is worth noting that many entrepreneurs struggle in the first few years of the venture. Owners as other individuals   usually have other sources of income such as interest, dividends or rent. We do not have information about such components. We also do not have information on perks such as use of company car for private purposes. In terms of reported income we noted that for the first two or three years following the establishment of the new firm their income was not much higher than the income as employees. As expected the surveyed entrepreneurs worked considerably more hours than the prescribed average of 36 hours per week that is common for employees in Italy.

V.   Empirical results

We start by investigating the determinants of the length of previous work experience of our respondents. Following the prediction of the choice model we represent the length of experience, prior to becoming an entrepreneur, in years as a function of the income in the two competing occupations. An alternative specification maintains that length of previous experience is a function of the difference between the two income streams and a third one uses the ratio of present to past income as an explanatory variable[1]. The results are presented in **Table II**. We regress the number of years as an employee on three versions of the income variables; they are listed in the first rows of the table. As can be seen in the first 3 columns of Table II, income data are highly significant in determining the length of experience in all three specifications.

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[1] It should be emphasized that the income data that we use are taken with time delays. That is, the income from entrepreneurship is very recent. Some studies including Hamilton (2000) and Lazear (2002) inform that, at the switching year, entrepreneurs have lower initial earnings compared with what they had before they switched. This is due to switching costs and the need to begin operations at an output that is below minimum average cost. Our respondents may have had this experience as well. The data show that in the first two years after switching income form entrepreneurship is rather low.

We have three alternative definitions of income. In the first there are two income variables: R is the earnings from working as an employee and X is the personal income from business ownership. Both are entered in a logarithmic version. Log (R) carries a positive sign. The higher the income as an employee the longer the time she stays in that status. The coefficient of Log (X) has a negative sign confirming the hypothesis that when income from ownership of a business increases, the period as an employee becomes shorter. In the second version, the Log of the difference between the two incomes is used. As expected, the coefficient carries a negative sign (columns 3&4 in Table II). As the income differential becomes larger entrepreneurs start their new firms earlier. Finally, in the third version, we use a ratio of X/R which conforms to the variable used in Section III above. As expected in the theoretical discussion it carries the negative sign. In sum, in all versions, the coefficients of income carry the right sign and are highly significant. That is, as the difference between income from entrepreneurship and income as an employee increase there is a clear tendency to reduce the number of "waiting years".

Risk is measured by actual failure rates of new businesses with more than 5 employees in the three regions. It is noted as the variable "risk year" in Table II. Each entrepreneur was supposed to know the failure rate, of firms in his own industry, in the year just before he opened for business. We expected the sign to be positive on the assumption that as the regional environment becomes more risky people will stay longer as employees. In fact, the coefficient of that variable turns out to be negative but not significant. There are two possible explanations for this. First, willingness to assume risk is a major character trait that entrepreneur possess. In fact, the tendency to take on risk is affecting the decision to become an entrepreneur in the first place. Kihlstrom and Laffont (1979) noted that entrepreneurs are usually less risk averse than the general working population.

A second explanation for the lack of significant response to the risk of failure is also rooted in psychology. The literature in psychology, such as Heath and Tversky (1991) and Camerer and Weber (1992) identify a "competence" effect. When people feel that they are particularly knowledgeable in a given subject they would tend to rely on their own judgement rather than on statistically generated evidence. The competence effect is particularly relevant to the behaviour of would-be entrepreneurs. By and large these are people with years of experience in business situation. In particular they have vast knowledge of the industry in which they operate. Therefore they tend to rely on their own subjective probabilities[2]. That is, their long training make them feel more competent than others. Hence, they are more willing to act on their own interpretation of reality. Our empirical results are consistent with this hypothesis.

We also tried to measure expected effort by a variable named "Hours". This is the average number of hours worked by owners of new firms each week. The sign of this variable is positive. It appears that, the prospect of working long hours keeps individuals longer in the status of employees. Note that the coefficients of "Hours" in equations 1, 3 and 5 are not highly significant. Either effort is not measured properly by hours of work or the expected effort associated with ownership is not a major determinant of the decision to open a new business.

It could be argued that since entrepreneurs work longer hours each week, their income should be scaled down to reflect this fact. In **Table III** we rerun the same equations as in Table II with the income measure adjusted to reflect the hours of work. Not surprisingly, the main results do not change much. The numerical values of the income

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[2] The feeling of competence relies on a self-perceived expertise (or skill) and not necessarily on the true level of skill. The behavioral finance literature on the frequency of trading in the stock market recognized this. Accordingly, it defines overconfidence as an overestimation of the personal ability to process financial information (about the value of financial assets). See Odean (1998) and Gervais and Odean (2001).

coefficients change somewhat but the directions of influence on the decision to become and owner stay the same. Apparently, the decision to become an entrepreneur is influenced primarily by income differences. A noted change is that the coefficient of "Hours" becomes significant. So, after the scaling of income, the longer hours as entrepreneur encourage potential owner to stay longer as employees. The other coefficients also do not change much in the direction of influence or in significance as a result of adjusting the income variables.

VI.   Determinants of size

New firms should possess an ability to reach a minimum efficient scale of production in a relatively short time. Therefore the scale of operation may be used as a proxy for entrepreneurial success. We regress the size of the firm on three variables that, according to our view, should impact success. Personal experience is expected to impact success in a positive way. This is why size is expected to be a positive function of "years as entrepreneurs". Experience as an employee also counts as does the quality of work. We measure the quality of work as the last salary as an employee (i.e before becoming an owner). It is entered in a logarithmic form in the following analysis. The last variable to be included is the number of owners. This is a proxy that measures family involvement in new firms. It is very common for families, in business, to help a younger family member to strike it on his/her own. In that case it is a routine practice to record another family member (and sometimes two members) as a co-owner.

Table IV reports the OLS results. In panel A, size is measured by the number of employees. In panel B, the dependent variable is log of our measure of firm size. There are three significant coefficients in these regressions. The first is with respect to the past income as an employee. It indicates that the quality of personal experience matters. The second is the number of years as a business owner-manager. It shows that the length of experience as a practicing entrepreneur is a positive determinant of the size of the firm. The third variable is the number of owners who take an active role in the management of the firm. It turns out that family support, as measured by family involvement in ownership, is particularly important for new owners-managers, as they expand their operations.

A few words about the role of partnership with family members are in order. The last coefficient, number of owners, raises significantly the explanatory power of the equations that appear in Table IV. This coefficient shows that a significant part of the range in the size of the ventures can be linked to whether the start-up is associated with the existing family business or not. The results suggest that family related firms are greater than non-family companies in the first formative years of operation.

Conventional wisdom suggests that the success of new firms should depend on their production efficiency, organizational design and level of capitalization. Their success is also enhanced if they have business support and social legitimacy when they make their first steps. Family businesses appear to provide these ingredients. New family-owned firms that are connected to existing (same family) firms have few advantages over non-family-related businesses. Presumably they have access to greater family resources and an ability to exploit scale economies (e.g. in purchasing intermediate outputs). Another advantage is that being part of a greater network of family and friends reduces agency costs of adverse selection or moral hazard and allows engagement in efficient risk-bearing practices.

Focusing on family-owned firms is also justified on grounds of importance. Family ownership is widespread and successful in continental Europe and in Asia. Some old family firms are well established today because, evidently, the families that own them managed over the years to transfer controlling stakes to successive generations. In the past the succession usually meant a new head of the family, who also assumed actual control of the

firm. The new emerging trend is to enable younger members of the family to branch out and establish their own firm. Such new firms enable the family business to expand and at the same time allow new members with entrepreneurial skills to be "their own boss". This, in turn, may change the structure of future family firms from a structured single firm to a federation of interconnected business units.

VII.   Summary and conclusions

Understanding the determinants of entrepreneurship is important because of the key roles that entrepreneurs play in the economic growth process and their large contribution to the level of employment. The starting point of this paper was the stylized fact that entrepreneurs are experienced workers who take advantage of start-up opportunities. We then asked how long should one be working as an employee (an accumulate experience) before becoming an entrepreneur. We observe that this length of prior experience, measured in years, is 8 years on the average. We also found out that the length is determined primarily by the expected change in income flows as a result of shift to ownership. We also found that the risk measure used (actual failure rates before opening a new firm) does not appear to have a significant influence on the timing aspect.

With respect to size, the quality of work as an employee has a pronounced positive effect on the size of new firms. Entrepreneurial experience per se has a positive, but lower in size, impact on size. A unique variable enabled us to measure indirectly the effect of family involvement in new businesses. We found that family involvement in the ownership of new firms is associated with larger firm size. Family assistance, which often is reflected also in additional capital, helps young firms to grow faster.

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Table I
Descriptive Statistics

	N valid obs	Mean	Median	Std. Deviation	Min	Max
# owners	171	1.47	1	0.75	1	4
Starting income	39	22696.97	22000	5721.32	11689	40000
Last income as employee (R)	170	39507.30	38550	9222.97	19600	68000
New income as employer (X)	175	57569.52	49000	25851.02	13400	153000
Years as an employee (y1)	173	8.35	8	3.47	1	16
Years as an entrepreneur (y2)	178	6.66	6	3.72	1	20
Education (dummy)	84	0.54	1	0.50	0	1
Hours (weekly)	161	52.24	52	7.82	30	70
Number of employees	177	14.38	10	12.29	5	75
Age	175	45.67	49.5	11.53	29.5	69.5
Income stability (dummy)	86	0.58	1	0.50	0	1

Starting Income is the income from the first job (gainful employment) following entry into the labour force. Earlier lire data was converted to euro at the conversion exchange rate of 1936.27 lire/euro. **Last income as an employee (R)** is the annual gross personal income as an employee expressed in euro. Earlier lire data was converted to euro at the conversion exchange rate of 1936.27 lire/euro.

New income as an employer (X) is the recent, 2004, annual income from ownership of the business. Ownership income includes also management compensation.

Years as an employee (Y1) are the number of years that the manager/owner spent as an employee (in the public or in the private sector) before establishing the present firm. **Years as an entrepreneur (Y2)** are the number of years of ownership/operation of the present firm. **Education** is a dummy variable which takes on one if the founder possesses a university degree and zero otherwise. **Hours (weekly)** is the number of hours worked per week by the owner/manager. **Number of employees** is the number of salaried (non family) employees in the firm at the beginning of 2005. **Age** is the present age of the owner/manager. **Income stability** is a dummy variable. It is the answer to the question "How stable is your annual income over time". The answer was recorded as a dichotomous variable: 1 for stable income and zero for unstable.

Table II
Determinants of previous experience,
incomes variables are measured as recorded
(dependent variables: years as employee)

	1	2	3	4	5	6	7
Constant	8.450	1.874	31.282	29.721	15.176	16.325	16.176
	(0.76)	(0.18)	(10.88)	(9.58)	(7.18)	(13.22)	(8.63)
Log R	7.586	6.583					
	(5.94)	(4.98)					
Log X	-7.500	-5.566					
	(-7.56)	(-5.46)					
Log (X − R)			-2.629	-2.040			
			(-8.66)	(-5.74)			
X/R					-4.653	-3.509	-3.113
					(-7.34)	(-5.04)	(-2.96)
Risk year	-0.235	-0.234	-0.230	-0.280	-0.290	-0.285	-0.260
	(-1.13)	(-1.23)	(-1.17)	(-1.53)	(-1.4)	(-1.5)	(-0.88)
Hours	0.052		0.060		0.029		
	(1.26)		(1.5)		(0.74)		
Years entrepr		-0.193		-0.109		-0.218	-0.320
		(-1.87)		(-1.03)		(-2.08)	(-2.01)
Education							0.305
							(0.45)
R^2	0.387	0.415	0.434	0.408	0.365	0.391	0.394
Adjusted R^2	0.369	0.400	0.419	0.394	0.351	0.379	0.359
Obs	144	159	120	132	144	159	74

Note: the numbers in parenthesis, below the coefficient, are the t values

R is the last annual gross personal income as an employee in euro. Earlier lire data was converted to euro at the conversion exchange rate (1936, 27 lire/euro). **X** is the most recent year (usually 2004) annual income from ownership of the business. Earlier lire data was converted to euro at the conversion exchange rate (1936, 27 lire/euro). **Risk year is** the actual failure rate of new businesses in Piemonte, Lombardia and Veneto with more than 5 employees that failed in the year preceding the establishment of the new firm. **Hours** is the number of weekly hours worked as an entrepreneur. **Years as an entrepreneur are** the number of years of ownership/operation of present firm. **Education** is a 0 − 1 variable. 1 if he/she have university degree, 0 if not.

Table III
Determinants of previous experience, income variables are weighted
by the number of hours of work per week
(dependent variable: years as employee)

	1	2	3	4	5	6	7
Constant	4.461	15.510	23.246	22.832	10.013	15.222	15.012
	(0.56)	(2.07)	(8.71)	(8.39)	(4.12)	(11.89)	(7.49)
Log R	7.354	2.981					
	(5.8)	(2.86)					
Log X	-7.483	-3.233					
	(-7.47)	(-3.66)					
Log (X – R)			-2.985	-1.724			
			(-7.02)	(-3.87)			
X/R					-3.141	-1.545	-1.560
					(-6.89)	(-3.76)	(-2.35)
Risk year	-0.228	-0.369	-0.328	-0.404	-0.362	-0.402	-0.348
	(-1.09)	(-1.76)	(-1.52)	(-1.91)	(-1.72)	(-1.92)	(-1.05)
Hours	0.198		0.103		0.123		
	(3.59)		(2.02)		(2.44)		
Years entrepr		-0.268		-0.256		-0.276	-0.304
		(-2.33)		(-2.15)		(-2.36)	(-1.64)
Education							0.119
							(0.16)
R^2	0.381	0.349	0.340	0.343	0.343	0.341	0.325
Adjust R^2	0.363	0.330	0.324	0.327	0.329	0.327	0.280
Obs	144	144	127	127	144	144	65

Note: the numbers in parenthesis, below the coefficient, are the t values

R is the last annual gross personal income as an employee in euro. Earlier lire data was converted to euro at the conversion exchange rate (1936, 27 lire/euro). **X** is the most recent year (usually 2004) annual income from ownership of the business. Earlier lire data was converted to euro at the conversion exchange rate (1936, 27 lire/euro). **Risk year is** the actual failure rate of new businesses in Piemonte, Lombardia and Veneto with more than 5 employees that failed in the year preceding the establishment of the new firm. **Hours** are the number of weekly hours worked as an entrepreneur Years **as an entrepreneur is** the number of years of ownership/operation of present firm. **Education** is a 0 – 1 variable. 1 if he/she have university degree, 0 if not.

Table IV – Determinants of size

Panel A – Dependent variable: number of employees

	Equation			
	1	2	3	4
Constant	-200.727	-173.777	-188.121	-160.191
	(-6.18)	(-5.54)	(-5.69)	(-5.04)
Log R	19.276	16.177	18.613	15.336
	(6.27)	(5.4)	(5.94)	(5.05)
Years entrepreneur	1.795	1.632		
	(8.66)	(7.98)		
Years entrep squared			0.112	0.102
			(8.14)	(7.55)
# owners		4.777		5.022
		(4.9)		(5.1)
R^2	0.415	0.506	0.394	0.491
Adjusted R^2	0.408	0.496	0.386	0.481
Obs	168	161	168	161

Panel B – Dependent variable: logarithm of number of employees

	Equation			
	1	2	3	4
Constant	-7.120	-5.122	-6.383	-4.323
	(-4.3)	(-3.37)	(-3.68)	(-2.72)
Log R	0.839	0.614	0.803	0.565
	(5.35)	(4.24)	(4.88)	(3.73)
Years entrepreneur	0.108	0.095		
	(10.19)	(9.62)		
Years entrepr squared			0.006	0.006
			(8.95)	(8.39)
# owners		0.316		0.335
		(6.71)		(6.82)
R^2	0.451	0.580	0.397	0.539
Adjusted R^2	0.444	0.572	0.390	0.530
Obs	168	161	168	161

Note: the numbers in parenthesis, below the coefficient, are the t values

R is the last annual gross personal income as an employee in euro. Earlier lire data was converted to euro at the conversion exchange rate (1936, 27 lire/euro).**Years as an entrepreneur** are the number of years of ownership/operation of present firm. **# Owners** Number of firm owners as registered in the documents of incorporation.

Appendix 1
An English translation of the questionnaire

LIST OF QUESTIONS REGARDING ENTREPRENEURSHIP IN ITALY

1. Age group   _____   _____   _____   ____   _____
                    25-34   35-44   45-54   55-64   65-74

2. Industry classification is _____

3. Size of firm: number of employees _____

4. Personal annual income from ownership of the business _____ €

5. Last annual income as an employee _____ €

6. Last job/position before opening your business _____

7. How many years you spent as an employee _____

8. How many years do you own/operate your firm _____

9. Do you have a university degree? _____   _____
                                      Yes   No
10. How many hours a week do you work now _____

11. How stable is your annual income over time _____   _____
                                                 Stable   Unstable