

Are All the Potential Entrepreneurs So Good?

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ABSTRACT. While the vast economic literature on entry has been recently accompanied by a growing literature on the post-entry performance of newborn firms, still few studies propose a connection between the two phenomena.

Exploiting the opportunity of using data concerning potential entrepreneurs, this study attempts to relate *ex-ante* economic, individual and environmental features to both the decision to start a new firm and – in the case of actual foundation – to the post-entry performance exhibited by the newborn firm.

Empirical results based on 365 Italian potential founders show that entrepreneurial projects based on a rich information set, a first-best choice and on self commitment are more likely to develop into actual startups and better post-entry performances.

1. Introduction

Entry can be interpreted as a dynamic process starting from the business idea, passing through the foundation of a new firm and developing into a given post-entry economic performance of the newborn firm.

While the economic literature has studied these three stages separately, few attempts have been done to connect the motivations of the potential founders, the actual foundation of the new firm and the level of the subsequent post-entry performance. This paper will try to correlate the *ex-ante* characteristics and motivations of the potential founder with the actual foundation of a new enterprise (or the giving-up of the business idea) and then with the post-entry performance of the newborn firm. The paper is organised as follows.

In the next section the literature on entry and

post-entry is critically discussed and different approaches are compared. In Section 3 the database is presented and the econometric methodology is clarified. In Section 4 results are commented on, while the conclusive Section 5 tries to summarize the message of the paper and to derive some policy implications.

2. The literature

Entry is an important topic in the studies of industrial organization. In particular, three strands of literature can be singled out.

(1) The first one looks at entry as a process triggered by expectations of extraprofits and hindered by barriers to entry. In this view, a queue of well-informed potential entrepreneurs is supposed to be waiting outside the market and the expected level of profit is the “trigger” factor determining entry (see Khemani and Shapiro, 1986; Acs and Audretsch, 1989a; Geroski, 1991; Geroski and Schwalbach, 1991). However, the maximization of expected profits is discounted by taking into account both exogenous barriers to entry such as scale economies and cost of investment (see Mansfield, 1962; Orr, 1974; Baldwin and Gorecki, 1987, Geroski and Schwalbach, 1991), and industry specific sunk costs such as innovation and advertising expenditures (“endogenous barriers to entry”, see Sutton, 1991).

(2) The second strand of literature focuses its attention not only on the classic “pull factors” – such as profits and barriers to entry – but also on those “push factors” which can be related to the individual and environmental characteristics of the potential founders.

In fact, while a diversification of an existing firm into a new market can be fully explained

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through the consideration of expected profits and (strategic) entry barriers, the study of the foundation of an entirely new small firm by a single entrepreneur requires a wider perspective. On the contrary, in the textbook approach the focus on the market obscures the decision making process at the level of individual (see Winter, 1991) and undervalues the factors shaping the entrepreneur's motivation in starting a new business.

As a complement to the simplified view of entry discussed so far, a different tradition can be singled out in the history of economic thought: namely, Schumpeter (1911), Knight (1921) and Oxenfeldt (1943) drew attention to the subjective features of the actual founder of a new firm. These features include both the founder's personal characteristics – such as age and education – and his/her individual motivations towards entrepreneurship.

This literature is mainly empirical in nature and give interesting insights into analysing the actual process of entry. For instance, according to the results of the surveys carried out by Storey (1982) and Johnson (1986), the founder of a new firm is heavily influenced by his/her own background, with particular reference to his/her previous job experience (see also Bates, 1990; Reynolds et al., 2001, p. 54).

Among personal characteristics of the founder, family backgrounds are also singled out as key factors by econometric estimates which explain new firm formation as an act of self-employment (see Evans and Leighton, 1989 and 1990; De Wit and Van Winden, 1989; for a contrasting empirical evidence, see Vivarelli, 1991). Family background or just the knowledge of another entrepreneur (see Reynolds et al., 2001, p. 54) are both signals of an above-average information set about the different aspects of a start-up experience.

Other studies show that non-economic factors may play an important role in triggering the start-up decision and that sometimes they turn out to be more important than market variables such as profit expectations and entry barriers. According to a large number of studies, the potential entrepreneur is strongly influenced by particular psychological attitudes such as a strong desire to be independent, the search for autonomy in the workplace, the aspiration to a full exploitation of previous experiences and acquired abilities, the

desire to be socially useful and to acquire a better social status (see Creedy and Johnson, 1983; Evans and Leighton, 1990; Blanchflower and Oswald, 1990; Blanchflower and Meyer, 1994). With regard to social status, entrepreneurship as a signal of self-sufficiency and individualism has been traditionally highly valued in the U.S. (see Zacharakis et al., 2000, p. 14), but it is increasingly appreciated in European countries as well (see, as far as Italy is concerned, Minniti and Venturelli, 2000, p. 19).

Finally, a personal motivation to start a new business can be related to a defensive attitude such as the uncertainty about future career perspectives or even the fear to becoming unemployed. This kind of start-up has been called “escape from unemployment” (see Oxenfeldt, 1943, ch. 10; Storey, 1991; for empirical evidence suggesting an important role of job losses in stimulating entry see Storey and Jones, 1987; Foti and Vivarelli, 1994; Audretsch and Vivarelli, 1995 and 1996). Recent results from a multi-country panel study – the Global Entrepreneurship Monitor based on surveys of adult populations in 29 countries (see Reynolds et al., 2001) – reveal that “opportunity entrepreneurs” (pulled by market opportunities) are the majority, but that “necessity entrepreneurs” (pushed by defensive attitudes) represent in any case a considerable portion of potential and actual founders (for instance, in the UK, five people out of one hundred start a firm because of a market opportunity whilst 1.4% do so just because they have no better choices for work, see Small Business Service, 2001, p. 6).

(3) A common thread running throughout both the previous fields of study is that the decision-making horizon essentially is bounded by the point of entry. In other words, the object of the story is simply the entry into a given market.

More recently, a third stream of literature focusing on the post-entry performance of firms has been developed (see, for instance, Reid, 1991; Boeri and Cramer, 1992; Dunne and Hughes, 1994; Audretsch and Mahmood, 1995; Mata et al., 1995; Baldwin and Rafiquzzaman, 1995). These studies have drawn the attention to industry dynamics issues such as post-entry patterns of survival, growth and early exit.

Within this field, it is possible to analysing the

relationship between *ex-ante* features of entry and the post-entry performance of new firms, measured in terms of employment growth, profitability or market penetration. For instance, Dixit (1989) and Hopenhayan (1992) both argue that post-entry performance may be affected by the level of sunk costs in the industry: higher sunk costs should reduce the likelihood of early exit since precommitment can be seen as a signal of superior entrepreneurial capabilities. Other studies are more concerned with industrial rather than firm's characteristics: for example, Audretsch (1995) focuses on the degree of scale economies in a given industry, arguing that new small firms not able to grow and to approach the industry's minimum efficient scale (MES) will presumably be characterized either by bad post-entry performance or even by early exit (see also Acs and Audretsch, 1989b).

However, while these studies are very useful in representing the role of entry in determining evolutionary patterns at the level of industries, they say little about the relationship between the post-entry performance of newborn firms and the initial microeconomic characteristics of the firm and the founder.

With regard to this, other studies discovered a positive relationship between start-up size and survival (see Audretsch and Mahmood, 1995; Mata et al., 1995; for less obvious results, see Audretsch et al., 1999); and a negative relationship between start-up size and post-entry growth (see Hall, 1987; Dunne and Hughes, 1994).

In this paper we will try to go a step further, trying to relate the entire set of initial characteristics (including motivations) both to the actual decision to start a new business and to the post-entry performances of starters.

For example, if the underling motivation to start a new firm is explicitly linked to innovative projects, then a better post-entry performance may be expected than if a new firm is started on the basis of a purely "defensive" motivation, such as the fear of becoming unemployed (for the role of innovation in making a new small firm successful, see Acs and Audretsch, 1990 and Audretsch, 1991; for an empirical evidence showing a positive relationship between innovative motivation and post-entry performance see Vivarelli and Audretsch, 1998; Arrighetti and Vivarelli, 1999).

Similarly, some deeply-rooted psychological motivation, such as the strong desire to be independent, can hinder a rational and objective consideration of actual profit expectations for the new firm and jeopardise future chances of business success.

More generally, it is important to see that both the economic agent's choice to start a new firm and his/her subsequent post-entry economic performance can be influenced by many different factors related to the founder's personal characteristics, his/her previous job experience and informational background and his/her personal ranking of motivations.

Exploiting the opportunity of using data concerning potential entrepreneurs, this study will try to relate *ex-ante* economic, individual and environmental features to both the decision to start a new firm and – in the case of actual foundation – to the post-entry performance exhibited by the newborn firm.

3. Data and methodology

The unique database used in this study includes 365 Italian potential entrepreneurs who were interviewed in the first quarter of 1999. These individuals can be considered "potential entrepreneurs" because they attended – during the '90s – special training courses for people intending to found a new firm (supplied by FORMAPER, a training agency of the Chamber of Commerce of Milano).

Although being a large sample, FORMAPER database cannot be considered representative of the entire population of potential entrepreneurs. Due to the lack of a comprehensive survey of "nascent entrepreneurs" in Italy, one cannot compare FORMAPER sample's characteristics with population's ones (nevertheless, the resulting sample composition shown in Table I is consistent with general findings about potential entrepreneurs in terms of gender, age and educational attainment, see Reynolds et al., 2001, pp. 25ff.).

However, it is important to remind the reader of the purpose of this paper that is not to draw the dominant profile of the "nascent entrepreneurs" (as in – for example – Storey, 1994 and Reynolds, 1997), but to try to relate *ex-ante* entrepreneur's characteristics and motivations to the

actual decision to start a new firm and – if such is the case – to the post-entry performance exhibited by the newborn firm.

Among the 365 ex-participants, at the moment of the interview 215 had actually started a new economic activity (starters), while 150 had definitively given up (renouncers). The questionnaire included several questions concerning start-

up/renounce determinants, individual motivation and post-entry performance. The subjects interviewed had to give a quantitative score to each question. In the following Table I all the relevant variables, their measures and their descriptive statistics are reported.

As it can be seen, the list of the independent variables includes most of the pull and push deter-

TABLE I
Variables and descriptive statistics

Definition	Variable	Measure	Mean	S.D.	OBS.
<i>Dependent variables:</i>					
decision to start or not	START	dummy (1 = start)	0.59*		365
economic performance (subjective)	ECON	score from 1 to 10	6.43	2.10	213
earning capacity vs normal wages	INCOME	score from 1 to 4	2.75	0.90	212
profitability vs competitors	PROF	score from 1 to 5	2.68	0.80	208
<i>Independent variables:</i>					
<i>Characteristics</i>					
founder's gender	GENDER	dummy (1 = male)	0.57*		365
founder's age	AGE	discrete	35.01	8.35	360
level of education	EDUC	discrete from 1 to 6	4.15	0.86	365
years of working experience	WORK	discrete	9.99	8.76	364
free admittance to the training course	FREE	dummy (1 = free)	0.33*		365
writing a business plan	PLAN	dummy (1 = plan)	0.45*		365
determination of startup decision: obliged, defensive, second best, first best choice	CHOICE	score from 1 to 4	2.81	0.74	362
level of information	INFORM	score from 1 to 6	3.23	1.43	362
use of a public subsidy	SUBSIDY	dummy (1 = subsidy)	0.13*		215
role of self-financing	SUNK	score from 1 to 20	13.45	4.41	213
firm's age	FIRIMAGE	discrete	2.25	1.55	215
initial firm size (employees)	SIZE	discrete	3.30	7.63	215
manufacturing	MANUF	dummy	0.17*		215
commercial services	COMM	dummy	0.24*		215
business services	BUSSERV	dummy	0.37*		215
<i>Motivation (ranking)</i>					
search for autonomy in working	SELF	score from 1 to 10	7.31	3.10	364
desire to be independent	INDEP	score from 1 to 10	6.77	3.40	364
satisfaction in working	SATISF	score from 1 to 10	6.72	3.37	364
full exploitation of previous experience	EXPER	score from 1 to 10	6.18	3.45	364
profit expectations	RETURN	score from 1 to 10	5.60	2.96	364
exploitation of an innovative idea	INNO	score from 1 to 10	5.31	3.31	364
penetration into a market niche	MARKET	score from 1 to 10	4.15	3.16	364
unemployment status (or risk of unemp.)	UNEMP	score from 1 to 10	3.84	3.30	364
desire to be socially useful	ZEAL	score from 1 to 10	3.74	2.88	364
to get social status	STATUS	score from 1 to 10	3.14	3.04	364
uncertainty about future career	WORRY	score from 1 to 10	2.85	3.06	364
family tradition	FAMILY	score from 1 to 10	1.62	2.06	364
spin-off from the mother company	SPINOFF	score from 1 to 10	1.39	1.53	364

Note: * in the case of a dummy variable, the average is the percentage of observations equal to 1

minants discussed in the previous section. With regard to the textbook approach, profit expectations and the penetration into a market niche are ranked within the motivation list while the role of self-financing, the possible use of a public subsidy, initial firm size and the three sectoral dummies jointly take into account the important roles of barriers to entry, scale economies and the MES threshold.

With regard to the pushing factors, personal characteristics include gender, age, level of education, years of previous working experience and family tradition of the potential founder.

The escape from unemployment hypothesis is represented by the motivations induced by the uncertainty about future career and the unemployment status (or risk of unemployment). In addition to that, the indicator CHOICE measures the degree of determination of the potential founders dividing them between those induced by defensive determinants such as the escape from unemployment and those pushed by more progressive motivations.

Psychological motivations include the desire to be independent, the search for autonomy, the satisfaction in working, the desire to fully exploit previous job experience, the desire to be socially useful and to get a better social status.

The roles of an innovative motivation and of coming from a mother firm are represented by the two variables INNO and SPINOFF.

In addition to the variables derived from the theories discussed in the previous section, it has been decided to emphasize the role of the information set available to the potential founder (INFORM) since the sample population was characterised by a high degree of heterogeneity (as in the real world where founders go from the top manager to the low skilled blue collar and the unemployed).

Finally, two variables regarding the training courses have been included: the shown ability to prepare an acceptable business plan and the difference between free and fee-paying courses (where the latter signal a higher degree of self-commitment).

Consistently with the purpose of this paper, empirical estimates were used to evaluate the impact of characteristics and motivations upon the start-up decision (START) and – in case of actual

start-up – on the firm's post-entry performance measured in three alternative ways: ECON (a subjective entrepreneur's perception of a good economic performance); INCOME (earning capacity in terms of income comparison) and PROF (profitability in comparison with competitors). The possible additional dependent variable "employment growth" was discarded since the variable had resulted zero inflated.

The empirical test was developed through a two-stage regression analysis.

First, the single and joint impacts of the independent variables on START, ECON, INCOME and PROF were assessed by means of a stepwise algorithm. All the specifications were controlled for sectoral fixed effects (MANIF, COMM and BUSSERV) and heteroskedasticity (consistent covariance matrix), while the performance equations were controlled for firm's age (FIRMAGE: older firms are more likely to exhibit a more stable performance). In Table I, the variables which were significant in at least one of the four estimates have been underlined.

Then, final results were obtained using the selected variables in a sample selection model: since firms' performance can be assessed only across a subset of the examined population (the starters), while the decision to start concerns all the population (starters and renouncers), the appropriate econometric method to deal with this censoring problem is the two-step procedure suggested by Heckman (1979) (see also Amemiya, 1984). This specification introduces an additional explanatory variable (the inverse Mill's ratio) obtained by the corresponding probit model (START as a selection equation) into the maximum likelihood estimation of the post-entry performance equation.

Hence the estimated models have the following common structure:

$$\text{PERF} = \alpha + \beta X + \varepsilon \quad \text{main equation} \quad (1)$$

$$\text{Prob}(\text{START} = 1) = F(\delta + \gamma X + \mu) \quad \text{selection probit equation} \quad (2)$$

where:

PERF = performance indicator (ECON, INCOME, PROF)

X = vector of the independent variables

START = start-up (1) or not (0)

4. Results

Some preliminary descriptive considerations can be derived by the motivational ranking reported in Table I. As it can be seen – and accordingly to the most recent theories and evidences – textbook explanations of entry (RETURN and MARKET) turn out to be less important than psychological pushing factors such as SELF, INDEP, SATISF and EXPER. Moreover, the innovative motivation is in the middle of the ranking, while the defensive determinants, other psychological motivations and family tradition seem to play a minor role. However – as it will be shown – most of the motivational variables do not have a significant impact on the actual decision to start-up and on the subsequent post-entry economic performance.

Table II reports the estimated values and the degree of significance of relevant coefficients,

Breusch-Pagan's test for heteroskedasticity (correction has been necessary in the third model), the degree of correlation between the selection and performance equations (ρ) and the number of observations.

For each of the three models, the first column reports the results for the post-entry performance (main equation) and the second one the results for the entry decision (selection equation). Starting from the six independent variables selected from the stepwise procedure described above, in each model only significant or barely significant regressors (in one or both the model's equations) were included.

Finally, all the equations have been controlled for the three sectoral dummies (not reported) and two models (ECON and INCOME) registered the expected positive impact of firm's age upon post-entry performance.

TABLE II
Determinants of post-entry performance (3 sample selection models)

	ECON	START	INCOME	START	PROF	START
Constant	3.03*** (3.08)	-1.93*** (-5.39)	1.40*** (3.85)	-1.43*** (-3.82)	1.69*** (5.48)	-1.93*** (-5.39)
CHOICE	0.81*** (2.97)	0.18* (1.74)	0.15 (1.49)	0.14 (1.29)	0.20** (2.00)	0.18* (1.74)
INFORM	0.24** (2.21)	0.48*** (7.88)	0.14*** (3.27)	0.44*** (6.99)	0.12*** (2.65)	0.48*** (7.88)
FREE			-0.24* (-1.85)	-0.73*** (-4.24)		
PLAN		0.44*** (2.90)		0.68*** (4.10)		0.44*** (2.90)
ZEAL	-0.11** (-2.35)	0.01 (0.48)			-0.42** (-2.34)	0.01 (0.48)
FIRMAGE	0.23** (2.14)		0.18*** (4.99)			
Breusch and Pagan's test for heteroskedasticity	9.79		10.01		28.29***	
log likel.	-438.72	-190.30	-241.05	-181.18	-232.61	-190.30
ρ	0.97		0.99		0.74	
Sample size	213	359	212	359	208	359

Notes:

- 1) All the regressions have been controlled for sectoral dummies (not reported);
- 2) t-statistics in parentheses;
- 3) * = significant at 10%; ** = significant at 5%; *** = significant at 1%;
- 4) in the third model an heteroskedasticity-consistent covariance matrix has been used.

The overall picture which emerges from Table II can be summarized by the following considerations:

(1) The probability of starting a new firm is partially influenced by the degree of determination exhibited by the potential founder and significantly facilitated by the availability of a rich information set. In addition, potential founders who are not able to write a business plan are less likely to start a new business. In one model, fee-paying pre-commitment makes start-up more likely. Thus, although profit expectations do not seem to play a dominant role in the motivational ranking (see Table I), the textbook view of entry appears to be supported by these results. Within the population of potential entrants the better informed, the most rational (able to write down a consistent business plan) and the better determined and self committed are those most likely to actually start a new enterprise.

(2) Once the potential founder becomes an actual entrepreneur, her/his economic performance is above average when the start-up has been based on a convinced choice, i.e. on a positive entrepreneurial calculation and not on a defensive reason such as the escape from unemployment or the absence of alternatives. The good econometric performance of the CHOICE indicator compensate for the not significant impact of the single motivations in the Table I ranking. In other words, it is shown that founders pushed by rational economic expectations are more likely to succeed than new entrepreneurs pushed by defensive reasons such as the escape from unemployment.

A larger information set not only makes the actual start-up more likely (see previous point) but also induces a better post-entry performance. Differently from the textbook assumptions, in the real world potential founders are not part of an homogeneous queue of well-informed individuals but are characterised by very different information sets; inside the entrepreneurial pool, those who gain access to better and more reliable information are more likely to become successful entrepreneurs.

While the conclusion that the better informed and determined potential entrepreneurs are more likely to start a new firm and to show above-

average economic performances appears not surprising, it is important to underline that these characteristics show not particularly high means and large standard deviations within the examined population (see Table I with regard to the variables CHOICE, INFORM and PLAN). This means that potential entrepreneurs are highly heterogeneous and cannot be treated as a uniform pool. On the contrary, selective policies become necessary (see Section 5).

As expected, non economic motivations – such as the desire to be socially useful – exert an adverse effect on post-entry performance; they probably interfere with the rational assessment of the actual market chances and tend to exaggerate – in the potential founder's mind – the actual potentialities of his/her business idea.

Finally, in one model, fee-paying can be interpreted as self commitment, promising an above-average post-entry performance.

5. Conclusions and policy implications

The evidence presented in this study show that the potential founder's characteristics and motivations do not have a neutral influence both on the decision to actually start a new business and on the subsequent post-entry performance.

For instance, a business idea based on a large and reliable information set and induced by a positive attitude and not by defensive motivations is more likely to actually generate a new firm. Consistently, founders pushed by positive and rational economic expectations are more likely to register an above-average post-entry performance than those pushed by defensive reasons such as the escape from unemployment.

In terms of policy implications, these results support the view that ex-ante heterogeneity matters and that subsidizing entry through incentives *erga omnes* might be very risky in terms of deadweight and substitution effects. On the contrary, the public authority should be able to single out potential entrepreneurs pushed by progressive motivations. While previous studies have suggested the innovative motivation as a way to efficiently discriminate potential entrepreneurs more likely to succeed (see Vivarelli and Audretsch, 1998; Arrighetti and Vivarelli, 1999), this result is not significantly confirmed by the

present analysis. However, the econometric results suggest that the availability of a large information set, the ability to write a consistent business plan, the willingness to some kind of precommitment are all signals of an above-average entrepreneurial talent.

On the contrary, defensive motivations such as concern about a possible job loss and non economic motivations such as the desire to be socially useful appear to be negative marks precluding disappointing post-entry economic performances.

While these conclusions seem to be very close to common sense, they actually contrast with the dominant policy guidelines adopted by many local communities, national laws and international authorities (such as the European Union). Unfortunately – among policy makers – the conventional wisdom is that start-ups are good *per se* and that all the potential entrepreneurs have to be helped. The results of this study suggest to be more cautious and selective in managing public subsidies.

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