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Daskalopoulou, Irene and Petrou, Anastasia

Department of Economics, University of Peloponnese

2010

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Irene Daskalopoulou and Anastasia Petrou

Department of Economics, University of Peloponnese, Greece

Irene Daskalopoulou, Department of Economics, School of Economics and Management, University of Peloponnese, Terma Karaiskaki Str., 22100 Tripolis, Greece. Tel.: ++30 2710 230137, Fax: ++30 2710 230139, E-mail: daskal@uop.gr.

Anastasia Petrou, Department of Economics, School of Economics and Management, University of Peloponnese, Terma Karaiskaki Str., 22100 Tripolis, Greece. Tel.: ++30 2710 230137, Fax: ++30 2710 230139, E-mail: apetrou@uop.gr.

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Abstract. The study analyzes entrepreneur's expectations regarding future growth by analyzing the relationship between information flows from networks and the perceived risk of decisions associated with the future size of a firm. The main proposition is that growth expectations might be the outcome of superior judgment stemming from privileged information derived from networks. To provide evidence in support of this hypothesis a sample selection model is estimated using a two-step estimation procedure. Cross-section questionnaire data are used in the empirical analysis. Evidence is provided on the role of inter-firm contacts and relationships as a mechanism able to assist entrepreneurs in better assessing and even reduce the risk and uncertainty associated with their present and future decisions regarding firm growth. The study provides evidence on the factors affecting expected growth rates while it explicitly formulates and tests the hypothesis that expectations regarding growth might be the outcome of superior judgment stemming from privileged information derived from networks. Analysis indicates that networks are indeed information mechanisms, however, such information should be specific to problem solving firm processes. Better informed entrepreneurs are those that foresee higher growth in the future, yet they are not blocked in only local networking.

Keywords: small firms; expected growth; networks; information; Greece.

1. Introduction

Small business growth is a major contributor to job creation, the commercialization of new ideas and innovations and the encouragement of entrepreneurial activity (Smallbone and Wyer, 2000; Robbins *et al.*, 2000). In addition, growth benefits business owners through an increased return on their investment (Dobbs and Hamilton, 2007) and higher chances for survival (Phillips and Kirchoff, 1989). Within this context increased research is devoted to the external relationships of small firms as a key mechanism for business development, survival and growth (Street and Cameron, 2007).

A number of alternative theories have been proposed as the conceptual framework of modeling firm growth (Evans, 1987a,b; Jovanovic, 1982) and have been recently identified under six broad groups of approaches by Dobbs and Hamilton (2007). As anticipated, depending on the conceptual framework, analysis has focused on a number of different factors affecting growth and the survival of small firms. From an evolutionary perspective, growth and the survival of firms is subject to a selection process determined by the efficiency of routines developed within each organization (Jovanovich, 1982; Nelson and Winter, 1982). At the course of this process 'fitter' organizations will manage to survive and grow at the expense of 'unfit' organizations that decline and fall (Jovanovich, 1982; Nelson and Winter, 1982). While acknowledging the role of other factors, this strand of thought emphasizes the knowledge incorporated in an organization as the ultimate selection mechanism. Knowledge here takes the form of superior entrepreneurial ability that allows firms to survive and expand, whereas lack of it results into inferior entrepreneurial ability that leads firms to decline (Jovanovic, 1982; Audretsch, 1997).

Knowledgeable entrepreneurs can be thought of as those who possess a larger portion of a number of desirable characteristics that enhance the growth prospects of small firms. The literature identifies a large number of entrepreneurial characteristics as contributing to business growth, e.g. educational and training qualifications, experience, imagination, skills, personal motivation and aspiration reasons, etc. (Smallbone and Wyer, 2000; Dobbs and Hamilton, 2007). Nonetheless, knowledgeable entrepreneurs do not just possess skills. Rather, they have the ability to utilize such skills in a specific context and thus produce measurable benefits for their business. This context is the firm itself, perceived however as the non-physical spatial interaction environment of internal and external to the firm processes.

Network links between interrelated firms are increasingly recognized as a key organizational growth resource while networking activity facilitates knowledge transfer and learning which in turn define the shape and trajectory of a firm's growth (Macpherson and Holt, 2007). Thus, the purposeful involvement in information gathering processes such as networking activity can contribute to a firm's growth. And, the benefits of networking activity can be viewed under the perception of firms as organizations with specific internal competences comprising the spatially available productive stock of knowledge while at the same time they use their internal organizational routines in order to accumulate knowledge that is vital for their growth (Boschma and Lanbooy, 1999). These interactions lead to social capital, which is the product of networks, i.e. of forms of voluntary co-operation wherein entrepreneurs exchange information and other resources (Galaskiewicz *et al.,* 1985). As Castells (2004) argues information, as resulting from a network, can only yield its promise (i.e. productivity, competitiveness, etc.) in the framework of organizational transformations. Similarly, Van Alstyne and Bulkley (2004: 147) argue that '... the efficient use of information is unlikely to be independent of efficient structures for moving it...'. As a result, information is acknowledged as an economic value process originating from networks (Van Alstyne and Bulkley, 2004).

At the empirical level business growth rates are operationalised in different ways (Delmar *et al.*, 2003) while in most cases, growth is defined as a change in a firm's size over any given time period (Glancey, 1998; Johnson *et al.*, 1999; Chaganti *et al.*, 2002; Freel and Robson, 2004; Barringer and Jones, 2004; Locke, 2004). A largely neglected area in the field relates to entrepreneurs' expectations on future growth. The study of entrepreneurial growth expectations however might provide us with important insights as to what small firms plan for their future as well as on how they might cope with the risks associated with decisions regarding their future.

Here we analyze entrepreneur's expectations regarding future growth by analyzing the relationship between information acquisition, on the one hand, and the perceived risk of decisions associated with the future size of a firm, on the other. While accounting for the role of firm and entrepreneur specific characteristics in determining firm growth, the study tests the hypothesis that expectations regarding growth might be the outcome of superior judgment stemming from privileged information derived from networks.

2. Small business growth factors

Of the large number of factors, which affect small business growth, firm and entrepreneur specific characteristics seem to dominate research in the field (Storey, 1994; Dobbs and Hamilton, 2007). Storey (1994) suggests that in the case of small firms there are six factors that significantly contribute to their growth. These are the age of firm, its size, the sector of operation/market, its legal form, its location and its status of ownership. The recent review of Dobbs and Hamilton (2007) also provides a clear picture of the dominant role played by firm and entrepreneur specific characteristics in small business growth studies.

According to the existing empirical evidence in the field, the age of a firm is to be inversely related to growth, that is younger firms are expected to grow faster while older firms are expected to grow more slowly (Glancey, 1998; Almus and Nerlinger, 1999; Terleckyj, 1999; Smallbone and Wyer, 2000; Davidsson *et al.*, 2002; Lotti *et al.*, 2003; Heinonen et al., 2004).

As regards the effect of a firm's size, empirical studies focus on identifying whether Gibrat's (1931) 'law of proportionate effect' holds. According to Gibrat's Law the future size of a firm is independent of its size in the present and thus no significant effects should be expected in terms of this variable. Empirical findings regarding the effect of size on growth are largely in support of a negative relationship thus ground for rejecting the no effect hypothesis. The studies of Evans (1987), Hall (1987), Almus and Nerlinger (1999) and Reichstein and Dahl (2004) all provide evidence that smaller firms experience higher growth rates. Until recently there was little evidence that Gibrat's Law might actually hold. Dunne and Hughes (1994) and Hart (2000) point to that a large portion of unexplained variation in growth rates and the very weak serial correlation of business growth rates found in empirical studies are a direct corollary of Gibrat's Law. Recently, Audretsch *et al.* (2004) argued that the services sector does not mirror that of manufacturing which has been the focus of these studies and provide support over Gibrat's Law in some sub-sectors of the small scale services.

Empirical studies tend to verify the significant effect of industry sector in determining growth rates and the survival of small firms (Phillips and Kirchhoff, 1989; Almus and Nerlinger, 1999). Nevertheless, as Davidsson *et al.* (2002: 335) note the 'blurring of business activities and variations in industry definitions' constitute apparent problems of examining this factor.

The study of a firm's legal form and ownership relates to the means that are available for a firm in order to deal with liabilities and benefit from partnerships. Empirical evidence suggest that firms that have a limited liability legal form will be more willing to undertake risks (Almus and Nerlinger, 1999) while on the other hand, partnerships with other firms correlate with higher growth rates (Rosa and Scott, 1999).

The role of a firm's owner/manager is a distinguishing feature of small businesses as they typically '… maintain a high level of control and oversight of the business operations' (Dobbs and Hamilton, 2007: 307). Barringer and Jones (2004) argue that the characteristics of the entrepreneur are important for firm growth since the founder of a firm usually places his/her personal 'stamp' on the firm while the establishment of a new firm is a personal challenge. In the case of characteristics of the entrepreneur, however, factors that play a dominant role as determinants of firm growth cannot be found in the literature (Smallbone and Wyer, 2000). Education and / or training qualifications of the entrepreneur are commonly found determinants of firm growth usually involving a positive relationship (Smallbone and Wyer, 2000; Barringer and Jones, 2004) although evidence of a negative relationship has also been reported (LeBrasseur *et al.*, 2003).

In the current study apart from the above-mentioned variables, two more variables identified as entrepreneur specific characteristics have been included in the analysis. The one is a variable depicting entrepreneur's age. Entrepreneur's age is typically analysed as a determinant of firm performance (Evans and Leighton, 1989; Cressy, 1996). Finally, a variable is included that relates to the level of entrepreneurs commitment to the business they run. Available literature suggests that an owner's motivation is a critical factor for a firm achieving growth (Smallbone and Wyer, 2000; Hamilton and Lawrence, 2001). Nonetheless, motivation cannot be turned into actual growth (Dobbs and Hamilton, 2007) especially when other concerns such as the well being of the employees for example are at play (Wiklund *et al.*, 2003). To that extent we have decided to include a dummy variable in the analysis to indicate entrepreneurs who also run another business at the same time in order to capture the plausible effects of entrepreneurs devoting time to more than one businesse. In that sense, this variable relates into something identifiable, that is the entrepreneur devotes less time to his/her business under study.

3. Networks and information

In his recent attempt towards an integrated and synthetic theory of the firm, including entrepreneurship as a missing component of leading theories, Casson (2005) highlights the key role of entrepreneurial judgment and of successful decisions in volatile and uncertain environments. In an uncertain world, differential access to information generates radical differences in the perception of the business environment and moreover, entrepreneurs attempt to exploit these differences of perception to their own advantage. As Casson (2005: 328) explicitly argues '…many of the strategic issues encountered by the entrepreneur stem from the fact that he is more optimistic about the prospects of the firm than are the other parties with whom he deals …. This is achieved by sharing information … The entrepreneur needs to know when, and with whom to share information and when to keep it secret instead'. So, the defining characteristic of the entrepreneur is judgmental decision making which is closely allied to risk and uncertainty. The entrepreneur perceives the risk as much lower however, because of the information in his possession.

Networks provide important information regarding entrepreneurial opportunities (Johannisson and Nilsson, 1989) or else they provide individuals with the information needed in order to exploit market discrepancies (Butler, 1991). As Brown and Butler (1993: 103) suggest social networks '… serve as a source of information about improving operational efficiency …'. Analysing in particular, small firm information seeking as a response to environmental threats and opportunities, based on models of organisation information interpretation such as perceived environmental uncertainty, Lang *et al.* (1997) found a positive relationship between perceived opportunities and information seeking. In their study of acquisition, assessment and use of business information by SMEs, Fuellhart and Glasmeir (2003) found that information from other firms is positively related to organisational changes. Such organisational changes referred to scanning for technical and business information as well as changes in the product and customer mixes. As they argue '… it is possible that firms are looking to other business organisations (both competitors and non-competitors) in order to make decisions about how to meet product requirements of customers in the marketplace and how to obtain the technical and business information to meet these needs' (Fuellhart and Glasmeir, 2003: 244).

Thus, a firm might be benefited from networks and the networking activity of entrepreneur if the information and knowledge derived from such activity can be put

into 'problem' solving processes. Analysing SME growth and the effects of external collaboration Robson and Bennett (2000) found that what is crucially important for firms is to access networks that provide specific and relevant information on business processes and markets. In the form of formal hypotheses, Van Alstyne and Bulkley (2004:153-154) argue that it is '…precise information that can lead to improved decisions …' and lead to '…actions that are closer to true risk-neutral levels…'.

In the present study, networking activity is viewed as a primarily information gathering process that ultimately materializes its benefits within the production process. In that sense, we are interested in analysing two important aspects. The first, relates to the type of information sought and exchanged within networks under the premise that it is specific information that can be of most value to an entrepreneur planning future actions such as an adjustment in the scale of his/her business, which is analysed here. The second aspect of networking activity that is analysed here refers to the spatial dimension of networks. Business development presupposes participation of firms in networks evolving beyond their community, i.e. in networks that might be nationally or regionally rooted. Analysing the effect of transnational and transregional networks on business performance Brown and Butler (1993) conclude that they are not as effective as networks that exist locally. In contrast, Cooke and Wills (1999) argue that businesses need external sources of learning and knowledge in order to perform successfully; otherwise, they are locked into blocked development processes. To that extent we analyse networking with local and extra-local firms and we test for the existence of a causal relationship between local/extra-local linkages and business performance.

4. Empirical model

Based on the above the study's main proposition is that: 'Superior judgment stems from privileged information resulting from entrepreneurs' involvement in networks'. To provide evidence in support of this proposition we formulate and test two hypotheses. The first one refers to that entrepreneurial expectations regarding growth are to be positively affected by specific information deriving from networks. The second one refers to that entrepreneurial expectations regarding growth are to be positively affected by the presence of both local and non-local links. Formally stated the following two hypotheses are tested:

8

H1: More specific information derived from networks positively affects entrepreneurial expectations over growth.

H2: A mix of information derived from both local and non-local links positively affects entrepreneurial expectations overgrowth.

Analyzing entrepreneurial expectations over employment growth suggests that the empirical model identified must account for the sub-sample of entrepreneurs who actually foresee growth. That is, the probability of reporting any level of expected growth is a function of reporting positive expectations. In such a case, the equation that determines the sample selection might typically be written as (Greene, 1997; Wooldridge, 2002):

$$z_i^* = \gamma'\mathbf{w}_i + u_i \tag{1}$$

where z_i^* is the selection variable, $\mathbf{w}_i$ is a vector of explanatory variables, γ is a vector of relevant coefficients and u_i is an error term. Employment growth, which is the equation of primary interest, might be written as:

$$y_i = \beta'\mathbf{x}_i + \varepsilon_i \tag{2}$$

where y_i is employment growth, $\mathbf{x}_i$ is a vector of explanatory variables, β is a vector of coefficients and ε_i is an error term.

The selection variable z_i^* is not actually observed. We only observe its sign and thus the sample rule is that y_i is observed only when z_i^* is greater than zero. Since there is no information on the scale of z_i^* the disturbance variance in the selection equation (1) cannot be estimated (Greene, 1997). Assuming that u_i and ε_i have a bivariate normal distribution with zero means and correlation ρ, the model presented by (1) and (2) can be reformulated as: $z_i^* = \gamma'\mathbf{w}_i + u_i$, $z_i = 1$ if $z_i^* > 0$ and 0 otherwise, with $\text{Prob}(z_i = 1) = \Phi(\gamma'\mathbf{w}_i)$ and $\text{Prob}(z_i = 0) = 1 - \Phi(\gamma'\mathbf{w}_i)$, as the selection mechanism, and $y_i = \beta'\mathbf{x}_i + \varepsilon_i$ observed only if $z_i = 1$, with $(u_i, \varepsilon_i) \sim$ bivariate normal $[0, 0, 1, \sigma_\varepsilon, \rho]$, as the regression model (Greene, 1997). This is equivalent to (Greene, 1997):

$$E[y_i | z_i = 1] = \beta'\mathbf{x} + \rho\sigma_\varepsilon\lambda(\gamma'\mathbf{w}) \tag{3}$$

Consistent estimates of the parameters of the selection model presented in (3) can be estimated using Heckman's (1979) two-step estimation procedure, which is

based on the method of moments. The Mills ratio (fitted value of the λ parameter), which accounts for the selection bias, is estimated at the second step of the procedure and equals the product of ρ, the correlation of the residuals in the two equations, and σ_ε the standard error of the residuals of the regression equation.

5. Data and variables

Data were collected through a cross-section questionnaire survey conducted in tourism businesses located in Patras, Greece. Analysis is based on a random sample data set of 95 usable cross-sectional questionnaires containing all the information that is needed for the current analysis. These questionnaires are the result of personal interviews conducted with the owners/managers of tourism businesses. The personal interviews conducted involved three different types of businesses, namely tourist agencies, hotels and restaurants. The structured questionnaire recorded a wide range of information regarding firm specific characteristics, human capital variables, business networking variables and a set of variables depicting local and extra-local networking activity.

The sample consists of micro and small-sized businesses, according to the Commission's definition of Small and Medium-sized enterprises (SMEs) (*Commission Recommendation 2003/361/EC of 6 May 2003*, OJ L124, 2003, p. 36). In particular, the vast majority of the surveyed firms (78,95% of the sample) are micro businesses as they employ less than ten employees while their turnover is far below the 2 million euros threshold defined by the EU. Average employment at these businesses accounts to 4 persons (stdev = 2,39) and average turnover amounts to 262.972,97 euros (stdev = 284.695,08). The rest of the surveyed firms (21,05% of the sample) are small-sized businesses as they satisfy the corresponding employment and financial criteria set by the Commission's definition. Specifically, average employment at these firms accounts to 18 persons (stdev = 9,94) while average turnover amounts to 781.666,67 euros (stdev = 1.088.098,49).

One third of the sample, that is 33.69% of the respondents have reported to foresee employment growth within the next five-year period. Average employment growth as reported by the sub-sample of these entrepreneurs accounts to 9% (st. dev. = 0.1715). It is important that 50% of these firms employ less than one person, 37.5% employ 1 - 2 employees and only 12.5% of firms employ 2 – 3 employees. Also, 81%

of the sub-sample of firms reporting employment growth involves restaurants and only the rest 19% refers to tourist agencies and hotels.

We use five sets of variables referring to firm and entrepreneur specific characteristics, a set of variables to control for the type and size of networks that the entrepreneur belongs to, a set of variables referring to the types of information exchanged within networks, and finally a set of variables depicting the spatial character of the entrepreneurs' networking activity.

Following the available literature in the field we use seven variables to proxy firm and entrepreneur specific characteristics. As regards firm specific characteristics we use four variables namely age, size, type of business and legal form. Entrepreneur specific characteristics are approached with three variables regarding age, training and experience. The set of control variables referring to the type and size of networks that the entrepreneur belongs to includes four variables depicting the size of the business network that the entrepreneur participates in, his/her participation in sectoral associations such as chambers of commerce, tourist development agency etc, his/her participation in common initiatives for the promotion of tourism in the area, and a variable controlling for entrepreneurs who have reported having exclusively or almost exclusively local business links. The set of explanatory variables referring to the type of information that the entrepreneur exchanges within the network includes three dummy variables accounting for, the exchange of information regarding products, services and customer reactions, the exchange of information regarding funding sources and subsidies and the exchange of information regarding employees. Finally, the last set of explanatory variables includes variables reflecting the local – extra-local relations of firms. This set of variables includes four dummy variables accounting for entrepreneurs using both local and non-local suppliers, using both local and non-local consultants, using both local and non-local employees and serving both local and non-local customers. Table 1 presents the definitions of all variables used here.

Table 2 summarizes basic descriptive statistics of the used variables. Descriptive statistics reveal an interesting picture as regards the characteristics that are differentiated between the whole sample and the sub-sample of entrepreneurs who have reported positive expectations. Positive expectations, that is some degree of growth has been reported by younger and better trained entrepreneurs who run only one business that is, in addition, significantly younger compared to the average age of all firms in the sample. As regards the networking activity of entrepreneurs,

11

descriptive statistics show that the sub-sample of entrepreneurs reporting positive expectations differs in that they do not use only local business links, tend to exchange less finance and market related information but more employee related information, while they tend to use a mix of pools to a somewhat larger extent.

Insert Tables 1 and 2 about here

6. Estimation and Results

Consistent estimates of the parameters of the selection model presented in (3) were obtained using Heckman's (1979) two-step estimation procedure. Table 3 presents the results of the selection equation while Table 4 presents the results of the growth equation. The growth model presents a rather satisfactory fit with an *F*-test reporting significance for $\alpha = 0,025$. Results from the growth equation provide evidence of sample selection bias, as the λ parameter is statistically significant. In the estimation of the growth equation only the three sets of variables referring to networks are used. This is done for two reasons. First, there is the need to circumvent the selection bias problem that according to Evans (1987) can be dealt if a set of variables that is included in the selection equation is not included in the growth equation. The second one relates to the small number of the sub-sample of entrepreneurs who have reported having positive growth expectations a fact that affects the degrees of freedom of the growth equation.

Positive growth expectations. Results of the probit model used to identify the determinants of positive expectations on growth are presented in Table 3. Marginal effects of the statistically significant variables showing the magnitude of anticipated effects are reported on the right-hand side of Table 3.

Insert Table 3 about here

Regarding the firm specific variables included in the analysis three out of the four explanatory variables have been found to exert a statistically significant influence on the probability that an entrepreneur has positive growth expectations. In particular, the age of firm is inversely related to the probability of having positive growth expectations. This finding is in accordance with what previous studies in the field suggest (Glancey, 1998; Almus and Nerlinger, 1999; Terleckyj, 1999; Smallbone and Wyer, 2000; Davidsson *et al.*, 2002; Lotti *et al.*, 2003; Heinonen *et al.*, 2004).

A firm's legal form as approximated here through a non-personal firm dummy, which suggests that multiple directorships exist, seems to positively affect the probability of having positive growth expectations. This finding is also anticipated based on what previous studies in the field suggest (Davidsson et al., 2002).

The type of firms which is used here in order to differentiate restaurants from the other two sub-sectors of activities included in the analysis is also found to exert a statistically significant effect on the probability of positive expectations. Perhaps the most interesting finding however refers to the insignificant effect caused by the size of firms' variable. This finding seems to provide evidence of that the Gibrat's Law might hold for sub-sectors in the services as suggested by Audretsch *et al.* (2004).

As regards the entrepreneur specific characteristics analyzed here, results show that training and the age of the entrepreneur variables do not exercise statistically significant effects upon the probability of having positive growth expectations. The only statistically significant effects result from the variable approximating an entrepreneur's time devoted to his/her business. Results show that statistically significant and negative in nature effects are exercised in the probability of having positive growth expectations when the entrepreneurs also run another business and thus divide their time between two businesses.

As regards the networking activity and information variables included in the analysis of positive expectations results indicate that three variables exercise statistically significant effects upon the probability of having positive expectations. In particular, of the control variables used to identify the effects of the type and size of network that the entrepreneur is involved in, only the local business links variable seems to significantly affect the entrepreneurs' growth expectations. More specifically, the probability of positive expectations decreases considerably in the case of entrepreneurs who participate only in local networks. This finding seems to verify the findings of Cooke and Wills (1999) who argue that businesses without external sources of learning and knowledge might be locked into blocked development processes.

As regards the specific types of information that is exchanged within the network results indicate that the probability of positive growth expectations increases for entrepreneurs who exchange information on employees. Finally, as regards the spatial character of the used business links, important and positive effects are

exercised upon the probability of positive growth expectations in the case of entrepreneurs using a mix of both local and non-local employees.

Growth rates. Table 4 presents the results of the growth rates equation. According to these results both hypotheses H1 and H2 have been found to hold thus supporting the study's main proposition of that privileged information derived from networks leads to superior entrepreneurial judgments.

Insert Table 4 about here

In particular, as regards the effect of specific information exchanged within networks, results indicate that expected growth rates are positively affected in the case of entrepreneurs who exchange finance related and employee related information. Thus, hypothesis H1 on the role of more specific information as a factor positively affecting expected growth rates has been found to hold. This finding seems to provide support to the hypothesis that specific information results into improved decisions.

Results regarding the second hypothesis, H2, on the role of a mix of links as affecting expected growth rates provide some interesting findings. Results regarding the local / non-local links of entrepreneurs show that effects are exerted but these are not necessarily positive. As anticipated higher growth rates are expected in the case of businesses using a mix of local and non-local resources as consultants. This finding suggests that the firm might benefit from incorporating outside knowledge into its organizational routines, as well as inside knowledge. On the other hand, a mix of local/non-local suppliers seems to negatively affect the expected growth rates. This finding most probably relates to the increased cost for intermediate inputs that probably constitute a large cost parameter for services businesses.

It seems that the spatial structure of networks depends on a knowledgably-defined set of firm's decisions for successful performance. Economic activity then, results in specific spatial configurations of networks. Finally, as regards the effect of the control variables included in the analysis results show that three out of the four variables exercise statistically significant effects. Participation in sectoral associations is the only variable exercising positive effects upon the growth rates expected by the entrepreneurs. This is consistent with previous findings ssuggesting that success is closely related to knowledgeable entrepreneurs that tend to build defined purposeful networks (Johannisson, 1998; Cooke and Wills, 1999; Huggins, 2000; Van Alstyne and Bulkley, 2004). Expected growth rates decrease in the case of firms that cooperate with only local businesses a fact that is also suggestive of that the lack of

external links seems to negatively affect the development prospects of a firm (Cooke and Wills, 1999). Expected growth rates also decrease in the case of entrepreneurs who engage in common initiatives for the promotion of tourism in the area. According to this, common initiatives are not considered to be a proper strategy for higher growth rates at the firm level. Thought it is difficult to give an exact explanation for this, a relevant argument could be that the effectiveness of such initiatives should probably be measured at the local level and not at the firm level, as outcomes from such initiatives may be cancelled out from other firm specific characteristics.

7. Conclusion

The present study analyzes small business growth in the context of risky and uncertain entrepreneurial decisions. Positive growth expectations and expected growth rates are associated here to decisions that the entrepreneurs take in order to adjust the scale of their business and as such, they are decisions subject to risk and uncertainty. Inter-firm networks are analyzed here, as providing mechanisms of specific information, which reduces such risk and uncertainty, while we are also interest in the spatial configuration of such networks, as different arguments have been stated in the literature regarding the more effective spatial form of networks. In more specific, our study indicates that apart from the factors that are acknowledged as typical determinants of small business growth, networking activity of entrepreneurs is critical for superior entrepreneurial judgments. Analysis indicates that networks are indeed information mechanisms, however, such information should be specific to problem solving firm processes. Better informed entrepreneurs are those that foresee higher growth in the future, yet they are not blocked in only local networking. The meaningful and economically effective networking activity is spatially mixed with both local and extra local partners.

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Table 1. Definitions of used variables

Variable	Definition
Dependent variables	
POSITIVE EXPECTATIONS	Binary variable, 1= positive entrepreneurial expectations regarding employment growth in the next five-year period (observed when employment growth is reported).
GROWTH	Percentage of employment growth within the next five-year period as reported by the entrepreneur.
Firm specific characteristics	
TYPE DUMMY	Dummy variable, 1 = restaurant.
LNAGE	Logarithm of the firm's age in years.
LNSIZE	Logarithm of firm's size in full time employment equivalents.
NON-PERSONAL	Dummy variable, 1= multiple directorships in the firm.
Entrepreneur specific characteristics	
LNEAGE	Logarithm of entrepreneur's age in years.
TRAINING	Dummy variable, 1 = entrepreneur has attended tourism related training courses.
OTHER BUSINESS	Dummy variable, 1 = entrepreneur manages more than one business.
Control variables	
LNNETWORK SIZE	Logarithm of the number of firms that the entrepreneur associates with.
SECTORAL ASSOCIATIONS	Dummy variable, 1 = entrepreneur actively engages in chambers of commerce and other trade associations.
COMMON INITIATIVES	Dummy variable, 1 = entrepreneur engages in common initiatives for the promotion of tourism in the area.
LOCAL BUSINESS LINKS	Dummy variable, 1 = entrepreneur cooperates with only local businesses.
Specific Information	
FINANCE INFO	Dummy variable, 1 = entrepreneur exchanges information with other businesses regarding access to finance.

MARKET INFO	Dummy variable, 1 = entrepreneur exchanges information with other businesses regarding new products, services and / or customers' reactions.
EMPLOYMENT INFO	Dummy variable, 1 = entrepreneur exchanges information with other businesses regarding employees.

Local – Non-local Production Links

SUPPLIERS POOL	Dummy variable, 1 = the business uses a mix of both local and non-local suppliers.
CUSTOMERS POOL	Dummy variable, 1 = the business serves both local and non-local customers.
CONSULTANTS POOL	Dummy variable, 1 = the business uses a mix of consultants (e.g. technical advice and support services) from both local and non-local enterprises.
EMPLOYMENT POOL	Dummy variable, 1 = the business uses a mix of both local and non-local employees.

Table 2. Deceptive statistics of used variables.

	All		Positive expectations	
Variable	**Mean**	**St. Dev.**	**Mean**	**St. Dev.**
TYPE DUMMY	0.6421	0.4819	0.8125	0.3965
LNAGE	18.1578	25.3029	8.8437	10.5863
LNSIZE	4.4526	5.4162	4.1250	5.3385
NON-PERSONAL	0.1789	0.3853	0.2187	0.4200
LNEAGE	42.3157	10.6733	40.5625	9.9448
TRAINING	0.5052	0.5026	0.5937	0.4989
OTHER BUSINESS	0.2631	0.4426	0.1562	0.3689
LNNETWORK SIZE	16.1687	29.8521	17.7812	36.3315
SECTORAL ASSOCIATIONS	0.1157	0.3216	0.0937	0.2961
COMMON INITIATIVES	0.4947	0.5026	0.3437	0.4825
LOCAL BUSINESS LINKS	0.7684	0.2358	0.1125	0.4022
FINANCE INFO	0.4315	0.4979	0.3750	0.4919
MARKET INFO	0.5474	0.5003	0.5000	0.5080
EMPLOYMENT INFO	0.5684	0.4979	0.6875	0.4709
SUPPLIERS POOL	0.5473	0.5004	0.5625	0.5040
CUSTOMERS POOL	0.7474	0.4368	0.7187	0.4568
CONSULTANTS POOL	0.1473	0.3563	0.1875	0.3965
EMPLOYMENT POOL	0.7632	0.4243	0.8594	0.3415

Table 3. Sample selection equation: positive entrepreneurial expectations.

Variable	Coefficient estimate	Asymptotic *t*-ratio	Marginal effect	Asymptotic *t*-ratio
Constant	2.252	0.476		
TYPE DUMMY	1.327**	2.074	0.363**	2.105
LNAGE	-0.504**	-2.283	-0.137**	-2.133
LNSIZE	-0.098	-1.244		
NON-PERSONAL	1.357*	1.743	0.371*	1.648
LNEAGE	-1.299	-1.050		
TRAINING	0.836	1.588		
OTHER BUSINESS	-1.072**	-2.031	-0.293*	-1.938
LNNETWORK SIZE	0.078	0.499		
SECTORAL ASSOCIATIONS	-0.409	-0.579		
COMMON INITIATIVES	-0.021	-0.040		
LOCAL BUSINESS LINKS	-0.672***	-13.171	-0.183***	-4.544
FINANCE INFO	-0.699	-1.448		
MARKET INFO	0.708	1.559		
EMPLOYMENT INFO	1.550**	2.361	0.423**	2.432
SUPPLIERS POOL	0.048	0.096		
CUSTOMERS POOL	0.761	1.223		
CONSULTANTS POOL	-0.194	-0.302		
EMPLOYMENT POOL	1.195*	1.809	0.326*	1.873

Summary statistics: Number of observations = 95; Log-*L* = -37.346; Restricted Log-*L* = -63.602; Chi-square (df) = 52.511 (19); McFadden's ρ^2 = 0.412; % of correctly classified observations = 82.105; *** $p <0.01$; ** $p <0.05$; * $p <0.10$.

Table 4. Growth equation: second stage regression results on degree of growth.

Variable	Coefficient estimate	Asymptotic t-ratio
Constant	0.393	3.193
LNNETWORK SIZE	-0.017	-0.533
SECTORAL ASSOCIATIONS	0.374***	3.510
COMMON INITIATIVES	-0.186***	-3.147
LOCAL BUSINESS LINKS	-0.090***	-2.767
FINANCE INFO	0.149**	2.192
MARKET INFO	0.070	1.125
EMPLOYMENT INFO	0.127**	2.079
SUPPLIERS POOL	-0.158***	-2.688
CUSTOMERS POOL	-0.009	-0.158
CONSULTANTS POOL	0.151**	2.071
EMPLOYMENT POOL	-0.018	-0.240
LAMBDA	0.097**	2.146

Summary statistics: Number of observations = 32; Log-L = 29.833; Restricted Log-L = 4.751; Adjusted R-square = 0.427; $F_{[12,19]}$ = 2.92; ρ = 0.692; ***p <0.01; **p <0.05.