

Determinants Of Entrepreneurship In Europe

Isabel Grilo And Roy Thurik

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Determinants of entrepreneurship in Europe

Isabel Grilo^b and Roy Thurik^a

^a Centre for Advanced Small Business Economics, Rotterdam School of Economics, Erasmus University Rotterdam, P.O. Box 1738, 3000 DR Rotterdam, the Netherlands, Tel.: +31-10-4081398, EIM Business and Policy Research, P.O. Box 7001, 2701 AA Zoetermeer, the Netherlands and Max Planck Institute for Entrepreneurship, Growth and Public Policy, Jena, Germany.

E-mail: thurik@few.eur.nl

^b DG Enterprise, European Commission, B-1049, Brussels, Belgium, Tel.: +32-2-2951502, GREMARS, Université de Lille 3 and CORE, Université Catholique de Louvain.

E-mail: isabel.grilo@cec.eu.int

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Determinants of entrepreneurship in Europe

1. INTRODUCTION

When defining or measuring entrepreneurship, scholars have proposed a broad array of definitions and measures (Hébert and Link, 1989; Van Praag, 1999). Similarly, the origins and determinants of entrepreneurship span a wide spectrum of theories and explanations (Brock and Evans, 1989; Carree, 1997; Carree, Van Stel, Thurik and Wennekers, 2002; Gavron, Cowling, Holtham and Westall, 1998; OECD, 1998a). Finally, the impact of entrepreneurship on economic development is controversial (Baumol, 1990; Thurik, 1996; Audretsch and Thurik, 2000, 2001 and 2004; Carree, Van Stel, Thurik and Wennekers, 2002). Despite the lack of consensus with respect to different aspects of entrepreneurship scholars appear to agree that the level of entrepreneurial activity varies systematically both across countries and over time (Rees and Shah, 1986; Blanchflower, 2000; Blanchflower and Meyer, 1994; De Wit and Van Winden, 1989).

Scholars seem to have reached consensus about the 1980s being the turning point when entrepreneurship rates reversed their long-term downward trend (Blau, 1987; Acs and Audretsch, 1993; Acs, Carlsson and Karlsson, 1999; Carree and Thurik, 2000a; Carree, Van Stel, Thurik and Wennekers, 2002). Large firms have been subjected to waves of downsizing and restructuring and entrepreneurship has been (re)-discovered (Carree, 1997; Gavron, Cowling, Holtham and Westall, 1998; Thurik, 1999; Wennekers and Thurik, 1999). In the 1990s, careful systematic empirical evidence documented the shift in economic activity that was taking place away from large firms to small, predominantly young enterprises. While it is clear that such a shift has taken place, it is less clear why it has taken place.

Comparing the level of entrepreneurship across nations is difficult for several reasons. *First*, there is no generally accepted definition of entrepreneurship (OECD, 1998a; Van Praag, 1999; Lumpkin and Dess, 1996; Bull and Willard, 1993). Entrepreneurship is a multidimensional concept: its definition depends largely on the focus of the research undertaken. *Second*, and related to the first argument, measurement and comparison of the level of entrepreneurship for different time periods and countries is complicated by the absence of a universally agreed upon set of indicators (OECD, 1998a). In this study we will use the terms business ownership and self-employment as equivalent to entrepreneurship. The term self-employment refers to people who provide employment for themselves as business owners rather than seeking a paid job. A different perspective focuses on the so-called nascent and start-up activity, as well as on the net entry rate and the turbulence rate (total of entry and exit).

In the present paper we address the issue of why variations in entrepreneurship occur, making use of an *Eclectic Framework* of entrepreneurship first introduced in Audretsch, Thurik, Verheul and Wennekers (2002). The purpose of the *Eclectic Framework* is to provide a unified framework for understanding and analyzing what determines entrepreneurship. The *Eclectic Framework* of entrepreneurship integrates the different strands from the relevant fields into a unifying framework. At the heart of the *Eclectic Framework* is the integration of factors shaping the demand for entrepreneurship on the one hand, with those influencing the supply of entrepreneurs on the other hand. The *Eclectic Framework* also creates insight into the role of government policy by identifying the channels through which policy instruments shift either the demand or the supply sides (curves).

In the empirical part of this paper we present a multinomial logit model which estimates the influence of the explanatory variables on various entrepreneurial engagement levels using survey data (2002 and 2003) from the 15 EU member states, Norway, Iceland, Liechtenstein and the US. These engagement levels range from “never thought about starting a business” to “thinking about it”, “taking steps for starting up”, “having a young business”, “having an older business” and “no longer being an entrepreneur”. Other than demographic variables

such as gender, age and education level, the set of explanatory variables used includes the perception by respondents of administrative complexities, of availability of financial support, a rough measure of risk tolerance, the respondents' preference to be self-employed and country specific effects.

2. DETERMINANTS OF ENTREPRENEURSHIP: AN ECLECTIC APPROACH

A broad range of determinants explains the level of entrepreneurship. Moreover, it is generally accepted that policy measures can influence the level of entrepreneurship (Storey, 1994 and 1999; EZ, 1999). Several studies have been conducted to assess and explain the level of entrepreneurship (Reynolds, Hay and Camp, 1999; EIM/ENSR, 1996; Carree, Van Stel, Thurik and Wennekers, 2002; Acs, Audretsch and Evans, 1994). Moreover, several models have been developed that create insights into the origin of entrepreneurship and its consequences. These models include the model developed for the Global Entrepreneurship Monitor by Reynolds et al. (1999 and 2000), the Entrepreneurship Policy Typology proposed by Stevenson and Lundström (2001) and the Country Institutional Profile by Busenitz et al. (2000). Despite substantial differences these models share the purpose of developing a better understanding of cross-country variations in entrepreneurship. The *Eclectic Framework* differs from these models in that it explicitly deals with macro conditions (economic and demographic), the individual decision making process, the market, and government policy. While the GEM model (Reynolds et al., 1999 and 2000) devotes attention to the individual decision making process, making a distinction between opportunities and capacity, the *Eclectic Framework* discusses the process by which an individual deliberates upon different activities in more detail. Moreover, it acknowledges that – when there are market imperfections – the government can intervene in the economic process following different routes. Although the Entrepreneurship Policy Typology (Stevenson and Lundström, 2001) also makes a distinction between different types of government policy influencing entrepreneurship, it does not link policy to other determinants of entrepreneurship, nor does it provide a direct rationale for the government to intervene in the economic process. In the latter respect the *Eclectic Framework* makes a distinction between the actual and the equilibrium rate of entrepreneurship. For a detailed treatment of the different components of the *Eclectic Framework* we refer to Grilo and Thurik (2004) or the earlier version in Audretsch, Thurik, Verheul and Wennekers (2002). We refer to Grilo and Thurik (2004) for an explanation of how the empirical setup using the multinomial Logit model of the present paper relates to the *Eclectic Framework*.

3. DETERMINANTS OF ENGAGEMENT LEVELS IN EUROPEAN AND AMERICAN ENTREPRENEURSHIP

3.1 Observations and variables

This section estimates a multinomial Logit model where the dependent variable is a categorical variable describing different “levels” of engagement in the entrepreneurial process. Data are from two *Entrepreneurship Flash Eurobarometer* surveys conducted in the fall of 2002 and 2003 and covering the 15 EU member states, Norway, Iceland, Liechtenstein and the US. Together, these surveys contain over 20,000 observations.

The following question was used for the dependent variable:

Have you started a business recently or are you taking steps to start one?

- *“It never came to your mind”*
- *“No, you thought of it or had already taken steps to start a business but gave up”*
- *“No, but you are thinking about it”*

- “Yes, you are currently taking steps to start a new business”
- “Yes, you have started or taken over a business in the last 3 years and still active”
- “Yes, you started or took over a business more than 3 years ago and still active”
- “No, you once started a business, but currently you are no longer an entrepreneur”

Each one of these possible answers reflects a different, and increasing, level of involvement in entrepreneurship. Note that the last four options translate an active role in the entrepreneurial world, while the first three have a softer component of varying degrees of interest in the entrepreneurial activities. Respondents belonging to the last group may either have been successful entrepreneurs who retired or transferred their business or entrepreneurs which met with less success and failed.

The explanatory variables used here can be divided into three types.

Socio-demographic variables: Gender, age and level of education. “Age when finished full education” is used to construct three education levels: The first encompasses all those with no education or having left school before the age of 15; the second those who left school between the age of 15 and 21; and the third those having left school past the age of 21.¹ A dummy variable is used for the lower level and another for the higher level so that the intermediary level works as the base.

Perception and preference variables: these include perception of lack of financial support, perception of administrative complexities, preference for self-employment and risk tolerance.

The perception of lack of available financial support, the perception of complexity of administrative procedures and risk tolerance are captured, respectively, by the following questions:

Do you strongly agree, agree, disagree or strongly disagree with the following statements?

- “It is difficult to start one’s own business due to a lack of available financial support”.
- It is difficult to start one’s own business due to the complex administrative procedures”
- One should not start a business if there is a risk it might fail”

For each statement a dummy variable was constructed. The dummy variables take the value “1” in the case of “strongly agree” or “agree” for the first two statements. These first two variables capture, at best, the perception individuals have of the existence of financial or administrative barriers not their actual existence. Most likely these perceptions are the closer to reality the higher the involvement of the respondent in active entrepreneurial activities.

For the third statement the risk tolerance dummy takes value “1” if “disagree” or “strongly disagree”. Clearly, this is a very rough indicator of risk attitudes and calling this dummy “risk tolerance” may be abusive; nevertheless, in the absence of a better measure we believe it gives some useful information on how taking risks is perceived by the respondent.

Preference for self-employment is constructed on the basis of a direct question asking respondents whether they would prefer to be employed or self-employed.

Country dummies: country-specific effects are evaluated using country dummy variables with the US as the base. Therefore the coefficients associated with these variables are to be interpreted as the impact of being in the corresponding country rather than being in the US.

3.2 Estimation results

The factors presented in Table 1 describe the effect of the corresponding variable on the odds (ratio of two probabilities) of the category in question relative to the base category (in our case the base is “It never came to your mind”). A factor above unity implies that the corresponding explanatory variable increases the odds of belonging to the category in

¹ We chose not to treat this information as a continuous variable due to the discontinuity associated with the group “never having attended full time school”.

question relative to the group “It never came to your mind”. Conversely, a factor below unity implies that the variable decrease the odds.

Table 1: Odds relative to “never having considered starting a business”: effect of one unit change in independent variables

Insert Table 1 about here

Below we summarise the main results and will concentrate on the effect of three variables: gender, financial obstacles and administrative complexity. We will also discuss country effects.

Gender

Relative to not thinking about setting up a business, the odds of any other option are higher for men than for women. This is particularly the case when considering the odds of having an active business where, relative to not considering starting one, the odds for men are almost twice those of women for businesses with less than three years and two and a half as high for businesses with more than three years. Remark that these results are obtained from a regression where preferences for self-employment have been accounted for. It therefore suggests that this gender differential goes beyond the often observed lower entrepreneurship preferences of women. This suggests two fronts for action if women are to become equally represented in the entrepreneurial world. Firstly acting at the level of preferences by investigating and addressing the factors responsible for this possible lack of entrepreneurial drive. And secondly, address more directly the obstacles faced by women that may be hindering the materialisation of entrepreneurial spirit into actual entrepreneurship.

Administrative complexities

Relative to never having considered setting up a business, the odds of thinking about it or having thought and given up are not significantly affected by the perception of administrative complexities. However, the odds of other more active entrepreneurial positions such as being in the process of starting a business or actually having started one (whether active for less or longer than three years) are significantly negatively affected by a perception of administrative complexity. It is likely that for the first two categories the recognition of such obstacle is not binding enough to “make” them statistically different from those never having considered an independent status. What is however revealing in these results is the fact that when it comes to a more “engaged” entrepreneurial position these obstacles do play a role and one that hinders entrepreneurship.

Lack of financial support

Regarding the influence of lack of financial support the important result is the lack of significance of this variable across the board. In plain words this result means that the fact of acknowledging a lack of financial support plays no role in one’s entrepreneurial position. Unlike with administrative obstacles, lack of financial support does not seem to discourage an active involvement in entrepreneurial activity; even for those categories reflecting an effective business activity their odds relative to not considering an entrepreneurial activity are not significantly affected by a perception of financial obstacles. The result concerning financial obstacles is in stark contrast with the result for administrative complexities where the expected negative effect is evident for engaged entrepreneurship. Clearly, this somehow

surprising result begs further investigation. In interpreting these results we have to bear in mind that the odds under consideration here are those of each category relative to a lack of interest for entrepreneurship. The obvious question is then whether a lack of financial support may play a role in the odds of other pairs of categories. Could it be the case that this obstacle is important in determining the odds of actually having a business relative to thinking about starting one or relative to having given up? Or, could it play a role in the odds of having an older business relative to having a younger one? Tests along these lines show that this variable has no significant effect on the odds of any pair of categories.

Country dummies

The large amount of individual country dummies for every category prevents an exhaustive discussion. However, the most relevant results are that

- Strikingly, the odds of having considered and subsequently having given up starting a business relative to not having thought about it are much stronger for any European country in the sample than for the US. Giving up rather than even considering an entrepreneurial activity appears to be a characteristic more present in the European population.
- When it comes to thinking about setting up a business as opposed to not considering it at all, the result is just the opposite of the preceding: no European country has higher odds than the US. Most countries have significantly lower odds and a few, such as Denmark, Germany, Greece, Ireland, Austria and the UK, are at par with the US.
- Looking at a more engaged stage in the entrepreneurial process, currently taking steps to start a new business, relative again to showing no interest, the results are the following: with the exception of Denmark and Austria for which the odds are above those for the US and of three countries (Germany, Ireland and Finland) for which the odds are not statistically different than in the US, all other European countries fare less well than the US.
- Relative to not considering an entrepreneurial activity, the odds of having a “young” business (less than three years) are never higher for European countries than for the US (for some countries they are statistically lower and for others they are at par).
- The situation changes dramatically when we look at the odds of having an older business (always relative to not wanting to start one). Here no country scores below the US and with the exception of Belgium, Spain, France and Portugal for which the situation is not statistically different from the US, all other European countries have significant higher odds than the US.
- Finally, it remains to see how nationality influences the odds of having once started a business but not being any longer an entrepreneur, relative to not being interested in such activities. Here no European country has lower odds than the US (some are at par while others are clearly above). This class of “have been entrepreneurs” is of course a rather heterogeneous group which makes it difficult to comment on these results. Its message would have to be tempered by the information on why the respondent is no longer an entrepreneur: has he succeeded in his venture and transferred it or has the business been a failure? Unfortunately we do not possess this type of information.

In the presentation of the results chosen here we have systematically looked at the odds of belonging to a given class relative to the class “It never came to your mind”. Another way of looking at these results would be to look at odds of other pairs of classes. One might for instance want to know what the impact is of a certain explanatory variable on the odds of having an older business relative to having a younger one. The value of these impacts (though not its statistical significance) can be easily obtained by dividing the factor associated with the first class by the corresponding factor for the second class.

4. CONCLUSION

In the last two decades entrepreneurship re-emerged as a key agenda item of economic policy makers across Europe, both for individual nations as well as for the European Union as a whole (OECD, 1998a; European Commission, 1999 and 2004; EZ, 1999). It also returned as a topic of interest in the field of economics, having played a central role in economic theory between the 18th and early 20th centuries (Hébert and Link, 1989, Van Praag, 1999). Moderate economic growth coupled with persistently high levels of unemployment stimulated expectations of entrepreneurship's potential as a source of job creation and economic growth (Acs, 1992; Thurik, 1996; Audretsch and Thurik, 2000; Carree and Thurik, 2003).

This ebb and flow of interest in entrepreneurship is probably due to variations of the role of entrepreneurship over time and across countries. Until the 1970s the proportion of self-employed and small businesses in most developed Western economies declined steadily. During this period, a focus on entrepreneurship was virtually absent from the European economic policy agenda. The exploitation of economies of scale and scope was thought to be at the heart of modern economies (Teece, 1993). Small businesses were considered to be a vanishing breed. This was also a period of relatively well-defined technological trajectories, of stable demand and of seemingly clear advantages of diversification. Neo-classical economics and equilibrium theory left little room for the concepts of initiative, autonomy and the struggle with new ideas and uncertainty. As a result, references to the entrepreneur receded from the microeconomic textbooks (Barreto, 1989; Kirchoff, 1994). Audretsch and Thurik (2001 and 2004) characterize this period as one where stability, continuity and homogeneity were the cornerstones and label it the '*managed economy*'. The last two decades witnessed massive downsizing and restructuring of many large firms built on certainty and the virtues of scale. This move away from large firms toward small, predominantly young firms was a sea-change, not just a temporary aberration. Audretsch and Thurik (2001 and 2004) label this new economic period, based less on the traditional inputs of natural resources, labor and capital, and more on the input of knowledge and ideas, as the '*entrepreneurial economy*'. Paradoxically, the increased degree of uncertainty creates opportunities for small and young firms, and hence leads to higher rates of entrepreneurship. Further study shows that this change does not take place in all developed economies at the same time or to the same degree (Audretsch, Thurik, Verheul, Wennekers, 2002). Hence comparative research may explain these variations.

In spite of this growing interest in comparative research, the understanding of these variations in entrepreneurship at the macro level is limited. A comprehensive framework is needed to provide direction for this research. The goal of the present paper is to provide an overview and further direction for this emerging topic of macro-level analysis of entrepreneurship. To this end an *Eclectic Framework* is used explaining (developments in) entrepreneurship incorporating different streams of literature and spanning different disciplines. It is a framework for understanding and analyzing the determinants of entrepreneurship.

In its empirical part the present paper uses survey data (2002 and 2003) from the 15 EU member states, Norway, Iceland, Liechtenstein and the US to establish the effect of demographic and other variables on various entrepreneurial engagement levels, such as "thinking about it", "taking steps for starting up", "having a young business", "having an older business", etc. A multinomial logit model is used for estimating the influence of the explanatory variables on the various engagement levels. The five channel approach of the *Eclectic Framework* is used to classify the explanatory variables. Four of the five channels of the *Eclectic Framework* are "covered". Demographic variables such as gender, age and education level represent the supply channel, administrative complexities, availability of financial support and the respondents' self declared preference to be self-employed the

preferences channel², a rough measure of risk tolerance the risk reward profile channel, and residual country specific effects (covered by dummy variables) the demand channel.

The most important findings are that

- Relative to “not thinking about it” the odds of any other option are higher for men than for women while this effect is stronger for “having an active business” than for any other category.
- Perception of administrative complexities has no effect on the odds of “currently thinking” or of “gave up” relative to “never thought about it”.
- Perception of administrative complexities plays a negative role for higher levels of “engagement”.
- Perception of lack of administrative support has no discriminative effect across the categories.
- European countries have lower odds than the US for levels of engagement up to “having a young business”.
- European countries have higher odds than the US for the category “having an older business”.

Future research should concentrate on

- The explanation of the country differences: to what extent are cultural aspects, sector composition of economic activity, market legislation, tax environment, bankruptcy law, job security, social security regimes, etc determining factors.
- The role of the level and speed of economic development: to what extent do they have a moderating or mediating influence on the variables used in the present study and to what extent is this influence engagement level dependent.
- The role of the wage level relative to self-employment income: this important variable is not available in the present data set while it is generally assumed to be important in shaping entrepreneurial activity.
- The role of country specific aspiration levels: this role model effect could be captured, for instance, by engagement level averages.

REFERENCES

- Acs, Z.J., 1992, Small business economics; a global perspective, *Challenge* 35, November/December, 38-44.
- Acs, Z.J. and D.B. Audretsch, 1993, Conclusion. In: Z.J. Acs and D.B. Audretsch (eds.), *Small Firms and Entrepreneurship: an East-West Perspective*, Cambridge: Cambridge University Press, 227-231.
- Acs, Z.J., D.B. Audretsch and D.S. Evans, 1994, The determinants of variations in self-employment rates across countries and over time, mimeo.
- Acs, Z.J., B. Carlsson, and C. Karlsson, 1999, *Entrepreneurship, Small and Medium-Sized Enterprises and the Macroeconomy*, Cambridge: Cambridge University Press.
- Audretsch, D.B. and A.R. Thurik, 2000, Capitalism and democracy in the 21st century: from the managed to the entrepreneurial economy, *Journal of Evolutionary Economics* 10 (1), 17-34.
- Audretsch, D.B. and A.R. Thurik, 2001, What is new about the new economy: sources of growth in the managed and entrepreneurial economies, *Industrial and Corporate Change* 10 (1), 25-48.

² Administrative complexities and availability of capital are interpreted as part of the preference channel and not of the resources and abilities channel because these variables are measured at the perception level and no “real” indicator is identified. Alternatively, to the extent that these variables proxy the “real” situation, administrative complexities may be viewed as belonging to type 5 or even type 1 policy channels while availability of capital could be seen as having a relation with type 3 policy channel.

- Audretsch, D.B. and A.R. Thurik, 2004, The model of the entrepreneurial economy, *International Journal of Entrepreneurship Education* (2), forthcoming
- Audretsch, D.B., A.R. Thurik, I. Verheul and S. Wennekers, 2002, *Entrepreneurship: Determinants and Policy in a European-US Comparison*, Dordrecht: Kluwer Academic Publishers.
- Barreto, H., 1989, *The Entrepreneur in Economic Theory; Disappearance and Explanation*, London: Routledge.
- Baumol, W.J., 1990, Entrepreneurship: productive, unproductive and destructive, *Journal of Political Economy* 98 (5), 893-921.
- Blanchflower, D.G., 2000, Self-employment in OECD countries, *Labour Economics* 7, 471-505.
- Blanchflower, D.G. and B.D. Meyer, 1994, A longitudinal analysis of the young self-employed in Australia and the United States, *Small Business Economics* 6 (1), 1-19.
- Blau, D., 1987, A time-series analysis of self-employment in the United States, *Journal of Political Economy* 95 (3), 445-467.
- Brock, W.A. and D.S. Evans, 1989, Small Business Economics, *Small Business Economics* 1 (1), 7-20.
- Bull, I. and G.E. Willard, 1993, Towards a theory of entrepreneurship, *Journal of Business Venturing* 8, 183-195.
- Busenitz, L.W., Gomez, C. and J.W. Spencer, 2000, Country institutional profiles: unlocking entrepreneurial phenomena, *Academy of Management Journal* 43 (5) 994-1003.
- Carree, M.A., 1997, *Market Dynamics, Evolution and Smallness*, Amsterdam: Thesis Publishers and Tinbergen Institute.
- Carree, M.A., A.J. van Stel, A.R. Thurik and A.R.M. Wennekers, 2002, Economic development and business ownership: an analysis using data of 23 OECD countries in the period 1976-1996, *Small Business Economics* 19 (3), 271-290.
- Carree, M.A. and A.R. Thurik, 2000a, Market structure dynamics and economic growth, in: G. Galli and J. Pelkmans (eds.), *Regulatory Reform and Competitiveness in Europe no. 1: Horizontal Issues*, Edward Cheltenham (U.K.): Elgar Publishing, 430-460.
- Carree, M.A. and A.R. Thurik, 2003, The impact of entrepreneurship on economic growth, in D.B. Audretsch and Z.J. Acs (eds.) *Handbook of Entrepreneurship Research*, Boston/Dordrecht: Kluwer Academic Publishers, 437-471.
- EIM/ENSR, 1996, *The European Observatory for SMEs: fourth annual report*, Zoetermeer: EIM Business and Policy Research.
- European Commission, 1999, *Action Plan to Promote Entrepreneurship and Competitiveness*, Directorate-General for Enterprise.
- European Commission, 2004, *Entrepreneurship Action Plan* at http://europa.eu.int/comm/enterprise/entrepreneurship/action_plan.htm
- EZ, 1999, The entrepreneurial society. Entrepreneurship: more opportunities, less threats, Den Haag: Ministry of Economic Affairs.
- Gavron, R., M. Cowling, G. Holtham and A. Westall, 1998, *The Entrepreneurial Society*, London: Institute for Public Policy Research.
- Grilo, I. And A.R. Thurik, 2004, Entrepreneurship in Europe, Papers on entrepreneurship, growth and public policy, no. 30-2004, Max Planck Institute, Jena.
- Hébert, R.F. and A.N. Link, 1989, In search of the meaning of entrepreneurship, *Small Business Economics* 1 (1), 39-49.
- Kirchhoff, B.A., 1994, *Entrepreneurship and Dynamic Capitalism*, Westport, CT: Praeger.
- Lumpkin, G.T. and G.G. Dess, 1996, Clarifying the entrepreneurial orientation construct and linking it to performance, *Academy of Management Review* 21 (1), 135-172.
- OECD, 1998a, Fostering Entrepreneurship, the OECD jobs strategy, Paris: OECD.
- Praag, M.C. van, 1999, Some classic views on entrepreneurship, *De Economist* 147 (3), 311-335.
- Rees, H. and A. Shah, 1986, An empirical analysis of self-employment in the UK, *Journal of Applied Econometrics* 1 (1), 95-108.

- Reynolds, P.D., M. Hay and S.M. Camp, *Global Entrepreneurship Monitor: 1999 Executive Report*, Babson College, London Business School and the Kauffman Center for entrepreneurial leadership.
- Reynolds, P.D., M. Hay, W.D. Bygrave, Camp and E. Aution, *Global Entrepreneurship Monitor: 2000 Executive Report*, Kauffman Center for entrepreneurial leadership and the Ewing Marion Kauffman Foundation.
- Stevenson, L. and A. Lundström, 2001, Patterns and trends in entrepreneurship/SME policy and practice in ten economies, *Entrepreneurship Policy for the Future Series, Vol. 3*, Swedish Foundation for Small Business Research.
- Storey, D.J., 1994, *Understanding the Small Business Sector*, London/New York: Routledge.
- Storey, D.J., 1999, Six steps to heaven: evaluating the impact of public policies to support small business in developed economies, in: D.L. Sexton and H. Landström (eds.), *Handbook of Entrepreneurship*, Oxford: Blackwell, 176-194.
- Teece, D.J., 1993, The dynamics of industrial capitalism: perspectives on Alfred Chandler's scale and scope, *Journal of Economic Literature* 31, 199-225.
- Thurik, A.R., 1996, Small firms, entrepreneurship and economic growth, in: P.H. Admiraal (ed.), *Small Business in the Modern Economy*, Oxford: Basil Blackwell Publishers, 126-152.
- Thurik, A.R., 1999, Entrepreneurship, industrial transformation and growth, in: G.D. Libecap (ed.), *The Sources of Entrepreneurial Activity: Vol. 11, Advances in the Study of Entrepreneurship, Innovation, and Economic Growth*, Stamford JAI Press, 29-65.
- Wennekers, A.R.M. and A.R. Thurik, 1999, Linking entrepreneurship and economic growth, *Small Business Economics* 13 (1), 27-55.
- Wit, G. de and F.A.A.M. van Winden, 1989, An empirical analysis of self-employment in the Netherlands, *Small Business Economics* 1 (4), 263-284.

Table 1: Odds relative to “never having considered starting a business”: effect of one unit change in independent variables

	Gave up		Thinking		Taking steps		Business<3yrs		Business>3yrs		No longer	
	Odds	P-value	Odds	P-value	Odds	P-value	Odds	P-value	Odds	P-value	Odds	P-value
Men	1,505	0,000	1,517	0,000	1,735	0,000	1,930	0,000	2,512	0,000	1,692	0,000
Age	0,998	0,127	0,962	0,000	0,956	0,000	0,986	0,000	1,017	0,000	1,040	0,000
Low education	0,823	0,042	0,724	0,014	0,886	0,367	0,581	0,005	0,666	0,000	0,969	0,722
High education	1,332	0,000	1,439	0,000	1,782	0,000	1,601	0,000	1,420	0,000	1,000	0,997
Preferences	2,414	0,000	4,538	0,000	6,143	0,000	8,366	0,000	9,265	0,000	2,650	0,000
Lack finance	1,028	0,681	0,919	0,254	0,954	0,524	0,872	0,176	0,876	0,077	0,937	0,383
Complexities	1,002	0,979	1,027	0,704	0,757	0,000	0,699	0,000	0,734	0,000	0,786	0,001
Risk tolerance	1,195	0,001	1,349	0,000	1,222	0,002	1,438	0,000	1,279	0,000	1,175	0,010
Belgium	2,728	0,000	0,342	0,000	0,471	0,000	0,444	0,003	1,528	0,064	1,159	0,492
Denmark	6,066	0,000	1,057	0,737	1,496	0,010	0,997	0,989	4,234	0,000	3,142	0,000
Germany	5,433	0,000	1,089	0,538	0,794	0,125	0,901	0,607	2,785	0,000	1,909	0,001
Greece	4,560	0,000	1,194	0,260	0,678	0,030	1,114	0,628	3,215	0,000	3,264	0,000
Spain	2,167	0,000	0,521	0,000	0,384	0,000	0,304	0,000	1,342	0,157	1,411	0,082
France	4,290	0,000	0,493	0,000	0,361	0,000	0,277	0,000	1,153	0,505	1,471	0,041
Ireland	2,310	0,000	0,782	0,114	1,034	0,824	0,685	0,093	1,817	0,005	1,023	0,921
Italy	1,890	0,003	0,387	0,000	0,320	0,000	0,390	0,000	1,713	0,006	1,887	0,001
Luxembourg	5,281	0,000	0,333	0,000	0,464	0,000	0,333	0,000	1,634	0,029	1,325	0,190
Netherlands	4,344	0,000	0,493	0,000	0,558	0,001	0,765	0,254	3,364	0,000	2,540	0,000
Austria	3,296	0,000	1,201	0,255	1,521	0,007	1,369	0,156	3,229	0,000	1,324	0,226
Portugal	2,531	0,000	0,287	0,000	0,427	0,000	0,500	0,005	1,358	0,167	1,045	0,841
Finland	5,038	0,000	0,689	0,040	0,710	0,059	0,748	0,272	4,816	0,000	2,568	0,000
Sweden	1,570	0,070	0,454	0,000	0,558	0,003	0,713	0,174	1,802	0,009	1,086	0,719
UK	2,801	0,000	0,897	0,453	0,643	0,006	0,969	0,871	1,965	0,001	2,189	0,000
Iceland	1,764	0,042	0,535	0,003	0,518	0,002	0,997	0,991	4,908	0,000	3,417	0,000
Norway	4,812	0,000	0,411	0,000	0,560	0,004	1,304	0,244	4,942	0,000	3,524	0,000
Liechtenstein	4,850	0,000	0,529	0,000	0,641	0,009	0,882	0,565	3,701	0,000	1,617	0,032

Note: DK/NA observations have been dropped from the sample. Base category: “It never came to your mind”.

Source: Flash Eurobarometers 134 and 146 (conducted in 2002 and 2003).

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