



HAL
open science

Regional differences in the influence of Role-Models: Comparing the Entrepreneurial Process of Rural Catalonia

Esteban Miguel Lafuente, Josep Rialp, Yancy Vaillant

► **To cite this version:**

Esteban Miguel Lafuente, Josep Rialp, Yancy Vaillant. Regional differences in the influence of Role-Models: Comparing the Entrepreneurial Process of Rural Catalonia. *Regional Studies*, Taylor & Francis (Routledge), 2007, 41 (06), pp.779-795. 10.1080/00343400601120247 . hal-00514640

HAL Id: hal-00514640

<https://hal.archives-ouvertes.fr/hal-00514640>

Submitted on 3 Sep 2010

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



**Regional differences in the influence of Role-Models:
Comparing the Entrepreneurial Process of Rural Catalonia**

Journal:	<i>Regional Studies</i>
Manuscript ID:	CRES-2005-0094.R2
Manuscript Type:	Main Section
JEL codes:	B52 - Institutional Evolutionary < B5 - Current Heterodox Approaches < B - Schools of Economic Thought and Methodology, M13 - Entrepreneurship < M1 - Business Administration < M - Business Administration and Business Econ; Marketing; Accounting, R58 - Regional Development Policy < R5 - Regional Government Analysis < R - Urban, Rural, and Regional Economics
Keywords:	Informal Institutional Factors, Role-Model, Rural Entrepreneurship

SCHOLARONE™
Manuscripts

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Regional differences in the influence of Role-Models: Comparing the Entrepreneurial Process of Rural Catalonia

Esteban Lafuente

Universitat Autònoma de Barcelona

Department of Business Economics

EDIFICI B. 08193 BELLATERRA (BARCELONA). SPAIN

Tel. +34 93 581 1209, Fax: + 34 93 581 2555

Email: Esteban.Lafuente@uab.es

Yancy Vaillant*

Universitat Autònoma de Barcelona

Department of Business Economics

EDIFICI B. 08193 BELLATERRA (BARCELONA). SPAIN

Tel. +34 93 581 1209, Fax: + 34 93 581 2555

Email: Josep.Rialp@uab.es

Josep Rialp

Universitat Autònoma de Barcelona

Department of Business Economics

EDIFICI B. 08193 BELLATERRA (BARCELONA). SPAIN

Tel. +34 93 581 1209, Fax: + 34 93 581 2555

Email: Yancy.Vaillant@uab.es

Abstract

The paper examines the impact of entrepreneurial Role-Models upon the entrepreneurial process in rural areas with strong entrepreneurial history versus those that are not necessarily characterised by such a tradition. To attain this objective, we adopt a socio-cultural institutional approach to entrepreneurship. We carry out a Rare Events logit model using a robust Spanish dataset from 2003. The main contribution of the study indicates that the difference between entrepreneurial activity levels in rural Spain is in large part explained by the presence of entrepreneurial Role-Models favouring entrepreneurial activity in rural Catalonia, an area with strong entrepreneurial tradition.

JEL classification: M13, B52, R58.

Keywords: Rural entrepreneurship, informal institutional factors, Role Model.

* Corresponding author.

1. Problem Statement

Contrary to the configurations found in the rest of Spain and in most of Europe (REGIDOR, 2000; TÖDTLING and WANZENBÖCK, 2003; WAGNER and STERNBERG 2004), many parts of rural Catalonia benefit from better economic performance than do urban areas of Catalonia. The average per capita income in many parts of rural Catalonia is higher than that found in its main urban areas¹. More importantly for the purpose of this study, in Catalonia, entrepreneurial activity levels in rural areas more than triple those found in urban areas. Entrepreneurial activity in rural Catalonia is also significantly greater than levels found in rural areas of the rest of Spain².

The findings in rural Catalonia support the links identified in the entrepreneurship literature between entrepreneurial activity and economic growth (STOREY, 1994; WENNEKERS and THURIK, 1999). Catalonia's rural counties experiencing greatest entrepreneurial activity benefit from highest disposable family incomes per capita, and they also show the most dynamic economies³.

Entrepreneurship is no longer an abstract concept. It has now become a common objective that has entered the agendas of most policy makers of all administrative echelons, up to the most remote rural localities. There is increasing demand and interest in placing 'Entrepreneurship' (new business formation) as a key element within the development and revitalisation process of lagging European areas. This preoccupation has made its way to the public departments responsible for rural development (ROSELL et al., 2001). The entrepreneurial spirit, enterprise creation, and modernisation and expansion of existing businesses have become key topics within rural development

1
2
3 policy, which has changed from a sector specific to a territorial approach (BRYDEN
4 and HART, 2004). This has mostly developed from an endogenous shift in perspectives
5
6 towards rural development resulting from the realisation that important relocation of
7
8 businesses and industry towards rural areas could hardly be achieved (BECATTINI et
9
10 al., 2002). Employment and entrepreneurial development in rural areas must
11
12 fundamentally come as a result of the initiatives of the local inhabitants (ROSELL and
13
14 VILADOMIU, 2001).
15
16
17
18
19
20
21

22 Emphasis on entrepreneurship as a possible tool for rural development efforts is the
23
24 result of a recent transformation in the nature, content, and administration of rural
25
26 policies in many EU and OECD countries in what has been called the New Rural
27
28 Paradigm (OECD, 2006). This transition has largely been triggered by the realisation
29
30 that agriculture, which was previously the main focus of rural policy, is losing its
31
32 relative economic and social significance. Rural areas are now believed to have an
33
34 *'increasingly important environmental and recreational function to fulfil'* (EUROPEAN
35
36 COMMISSION, 1997b: 8). More specifically, the measures addressing new business
37
38 formation assistance in rural areas are found in the European Commission document
39
40 (1997b) and implemented under the article 33 of the Council Regulation (EC) No
41
42 1257/1999 of May 17, 1999, on support for rural development from the European
43
44 Agricultural Guidance and Guarantee Fund.
45
46
47
48
49
50
51
52

53 The diversification of the productive base of rural areas has therefore become one of the
54
55 best-established objectives of rural development policy in Europe (EUROPEAN
56
57 COMMISSION, 1997a). Through diversification, it is primarily aimed to maximise
58
59 local natural, cultural, and human resource utilisation with rural population outflow
60

1
2
3 prevention through employment and income generation being a subsequent objective.
4
5 As a consequence, special attention is placed on the determinant factors in the creation
6
7 and development of alternative activities to agriculture, together with the maintenance,
8
9 modernisation, and growth of these alternative activities (FRANCES, 2002). It is in this
10
11 environment that the role of the entrepreneur gains a particular relevance, since the
12
13 farmer is called upon to become an entrepreneur by widening the farm's activities (on
14
15 and off the farm): "from the agrarian farm to the rural enterprise" (EUROPEAN
16
17 COMMISSION, 1997b: 8).
18
19
20
21
22
23

24
25 But just as the European Union is finally beginning to pay more attention to rural
26
27 development beyond simple agricultural support, and just as the opinion is beginning to
28
29 install itself that business creation and development may be the best strategy for rural
30
31 development, new reports from different international sources are now questioning the
32
33 benefits of entrepreneurship support for the economic development of rural areas. The
34
35 2002 Global Entrepreneurship Monitor (GEM) report for the USA (NECK et al. 2003)
36
37 concluded that entrepreneurship was mainly an urban phenomenon, where the highest
38
39 entrepreneurial density is to be found. The authors of the report concluded that
40
41 'entrepreneurship in rural areas may not be the best mechanism for economic growth'
42
43 (NECK et al. 2003: 31). In a scenario where politicians and policy makers need to see
44
45 quick and positive results to public investments, such doubt, coupled with the generally
46
47 slow, gradual, and often intangible benefits of entrepreneurship support policy, may just
48
49 be enough to break the momentum that rural entrepreneurship support had gathered.
50
51
52
53
54
55
56

57
58 Classical and contemporary economic thinking has consistently portrayed urban
59
60 agglomerations as the preferred setting for conducting business. It has been argued that

1
2
3 urban centres offer greater division of labour (SMITH, 1776), larger ('pooled') labour
4 market supply (MARSHALL, 1920), greater provision of non-traded inputs
5 (MARSHALL, 1920), easier and cheaper access to markets (HOOVER, 1948), greater
6 availability of complimentary services (MYDRAL, 1957), better infrastructures
7 (JACOBS, 1969), and greater volumes of demand (KRUGMAN, 1981, 1991).
8 However, improvements in transport infrastructure, communication, and information
9 technologies have brought about an important reduction in the physical and psychic
10 distance separating rural and urban areas. Although much of the formal institutional and
11 infrastructural disadvantages in Europe have been alleviated, most rural areas have not
12 experienced the appropriate and consequent convergence towards the entrepreneurial
13 activity levels found in urban areas. Evidence is beginning to mount which would
14 indicate that many rural areas are 'entrepreneurial laggards' not just because of their
15 physical disadvantages, but also because of the inappropriate socio-cultural traits of
16 their informal institutional framework making them non-conducive for effective
17 entrepreneurial activity (FORNAHL, 2003).
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40

41 A recent study (OECD 2003) of the influence of entrepreneurship over local economic
42 development conducted by Alister Nolan for the OECD involving 30 countries
43 concluded that stimulating entrepreneurship can provide an alternative to paying
44 unemployment insurance in rural areas, but that the direct employment and growth
45 effects in these areas are modest and often favour specific segments of the population.
46 According to the study, there are many obstacles that hinder entrepreneurship in rural
47 areas, influencing both the extent and form of entrepreneurial activity and its prospects
48 for survival. The study concludes that informal institutional factors, such-as the lack of
49 positive entrepreneurial examples (Role-Models) and limited networks are some of the
50
51
52
53
54
55
56
57
58
59
60

1
2
3 most important barriers that restrain rural entrepreneurship (OECD 2003). In the
4
5 absence of entrepreneurial Role-Models, economic agents are not as propelled to take
6
7 the different decisions needed to become an entrepreneur.
8
9

10
11
12 This view, however, which would tend to dilute the impact of entrepreneurship in rural
13
14 areas, does not appear to be consistent with the experience of rural Catalonia.
15
16

17
18
19 Would it then be that, contrary to the conclusions of the OECD mentioned above, rural
20
21 Catalonia benefits from an institutional framework which includes entrepreneurial Role-
22
23 Models that other laggard regions lack? Could it be that entrepreneurial Role-Models
24
25 affect entrepreneurial activity in rural Catalonia in ways that differ from other rural
26
27 areas? Can Role-Models be behind the exceptional entrepreneurial performance of rural
28
29 Catalonia?
30
31
32
33

34
35
36 Thus, the main objective of this research is to follow-up on the determination and
37
38 comparison of the levels of entrepreneurial activity in rural Catalonia versus that of
39
40 rural areas for the rest of Spain. We want to determine whether entrepreneurial Role-
41
42 Models have the same impact, across regions, upon the different stages of the
43
44 entrepreneurial process. Consequently, we aim to evaluate the specific influence that
45
46 entrepreneurial Role-Models are having upon the superior entrepreneurial activity levels
47
48 found in rural Catalonia.
49
50
51
52

53
54
55 The main contribution of the study indicates that there is a significant difference
56
57 between entrepreneurial activity levels in rural Catalonia, an area characterised by a
58
59 strong industrial tradition. We report that the distinctions in the case of rural Catalonia
60

1
2
3 are mainly due to the presence of informal institutional factors, emphasising the impact
4
5 of positive entrepreneurial examples (Role-Model effect) upon entrepreneurial decision
6
7 process.
8
9

10
11
12 The paper is organised as follows. Section 2 presents the theoretical framework and the
13
14 literature review. Data and research methodology are introduced in section 3. A
15
16 discussion of the results is offered in section 4 and; final conclusions are displayed in
17
18 section 5.
19
20
21

22 23 24 2. Theoretical Framework and Literature Review

25 26 27 2.1 Institutional approach to entrepreneurship research

28
29 A growing number of academics are demonstrating that a theoretical framework based
30
31 on a socio-cultural and institutional approach may be more appropriate for the study of
32
33 entrepreneurship and SMEs than conventional economic and psychological approaches
34
35 (GRANOVETTOR, 1985; NORTH, 1990; GNYAWALI and FOGEL, 1994;
36
37 MAILLAT, 1996; URBANO and VECIANA, 2001; UHLANER and THURIK 2004).
38
39 The main hard-core common to the theories falling under this approach is the basic
40
41 belief that the decision to create a new enterprise, and therefore to become an
42
43 entrepreneur, is conditioned by external or environmental factors. In other words, the
44
45 institutional framework and its socio-cultural factors are important determinants of the
46
47 levels of entrepreneurial activity in a specific time and place.
48
49
50
51
52

53
54
55 Examples of theories that adopt a socio-cultural or institutional approach have been
56
57 compiled and described in VECIANA (1999). In the mentioned article, the theories
58
59 under this and the other main approaches used for the study of entrepreneurship are
60

1
2
3 described in much greater length. We will therefore not venture into this task within this
4
5
6 paper.

7
8
9
10 Of the theories within the socio-cultural or institutional approach, the Institutional
11
12 Economic Theory, developed mainly by DOUGLASS NORTH (1990), is one of the
13
14 most general, which encloses most of the specificities of the other theories falling under
15
16 the same approach. Together with the theoretical amplitude that the institutional
17
18 economic theory offers, the historical perspective and institutional embeddedness
19
20 argument which it offers are especially ideal for the objective laid out for this study, and
21
22 was therefore used as the theoretical backbone guiding our research.
23
24
25
26
27
28

29 Institutional economic theory develops a very wide concept of 'institution'. NORTH
30
31 (1990: 3) proposes that 'institutions are the rules of the game in a society, or more
32
33 formally, institutions are the constraints that shape human interaction'. Institutions can
34
35 be either formal - such as political rules, economic rules and contracts - or informal -
36
37 such as codes of conduct, attitudes, values, norms of behaviour, and conventions, or
38
39 rather the culture of a determined society. Since the main function of institutions in a
40
41 society is to reduce uncertainty by establishing a stable structure for human interaction,
42
43 NORTH attempts to explain how institutions and institutional framework affect
44
45 economic and social development.
46
47
48
49
50
51
52

53 According to NORTH (1995), formal institutions are subordinate to informal ones in the
54
55 sense that they are the deliberate means used to structure the interactions of a society in
56
57 line with the norms and cultural guidelines that make up its informal institutions. Policy
58
59 making that attempts to change the formal institutions of society will therefore have
60

1
2
3 little success if it does not first adjust the informal institutions in a compatible way. The
4
5 difficulties rise from the fact that, whereas a governing body can influence the evolution
6
7 of a society's formal institutions in a rather direct way, informal institutions are much
8
9 less tangible and usually fall outside the direct influence of public policy. They can be
10
11 moulded, but tend to resist change and take time to evolve towards new social norms.
12
13
14

15
16
17 This institutional evolution is especially important for the purpose of this study since
18
19 one of the main distinctions between rural Catalonia and rural areas of the rest of Spain
20
21 lies in the industrial history and entrepreneurial tradition of rural Catalonia, shared by
22
23 very few other rural areas of Spain. NORTH (1981, 1990) explains using an
24
25 institutional approach how there can exist 'radically differential' performance of
26
27 economies over long periods of time, due to the interactions between institutions and
28
29 organisations (economic, political, or social) that shape the direction of institutional
30
31 change.
32
33
34
35
36
37
38

39 Institutions determine the opportunities of society and in response organisations are
40
41 created to take advantage of these opportunities. As the organisations evolve, they alter
42
43 the institutions. The resultant path of institutional change, according to this author, can,
44
45 on the one hand, lead to a stagnant situation where institutions come to serve the sole
46
47 purpose and interests of maintaining existing organisations, or on the other hand, can
48
49 lead to a 'lock-in that comes from the symbiotic relationship between institutions and
50
51 evolving organisations as a consequence of the incentive structure provided by those
52
53 institutions and the dynamic feedback process by which human beings perceive and
54
55 react to changes in the opportunity set' (NORTH, 1990: 7).
56
57
58
59
60

1
2
3 NORTH followed-up his path dependency argument by describing the embedded
4 character of informal institutions as a result of their cultural content. PILON and DE
5
6 BRESSON (2003) recently reinforced a similar argument in their study of innovative
7 districts identifying local cultural ‘anchoring’ based on cultural similarities, cultural
8 cohesiveness, and historical particularism and heritage making certain geographical
9 areas more conducive to innovative entrepreneurial activity. Leaving the innovative
10 character of entrepreneurship aside, the same argument holds within the theoretical
11 framework established within the institutional economic theory.
12
13
14
15
16
17
18
19
20
21

22
23
24 Following SHAPERO (1971), VECIANA (1980), and SHAPERO and SOKOL (1982),
25 who remarked the importance of positive examples over the decision to become an
26 entrepreneur, FORNAHL (2003) proposed that amongst the institutional factors
27 influencing entrepreneurial activity, the role of positive entrepreneurial examples is
28 especially important in a rural (regional) context. The presence of entrepreneurial Role-
29 Models, be it in a rural or urban setting, strongly influences the cognitive representation
30 of economic agents and strongly influences their behaviour through the different
31 decisions needed to become an entrepreneur (KRUEGER, 1993). The argument is that
32 the ‘development and the related likelihood of discovering entrepreneurial opportunities
33 and increasing the willingness to start a new firm is strongly influenced by positive
34 examples, so-called Role-Models’ (FORNAHL, 2003: 50). These positive examples
35 have two main effects, first, it may make it easier to discover and act upon
36 entrepreneurial opportunities if other similar and successful business opportunities,
37 identified by others, can serve as references. Second, entrepreneurial example leads to a
38 (re-) allocation of cognitive attention to certain opportunities or business conceptions
39 affecting the direction of the active search, and perception, of opportunities as well as
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 the confidence in ones own entrepreneurial possibilities. A positive example leads to an
4
5 increase in the likelihood that other agents also become entrepreneurs (SPEIZER,
6
7 1981), since the internal reaction of an individual influenced by a role-model is that “if
8
9 she/he can, why can’t I?” (VECIANA, 1980).
10
11

12
13
14
15 Thus, the higher the number of entrepreneurs, the higher the likelihood that other
16
17 agents, within a socially tight context, will change their propensity towards an
18
19 entrepreneurial career (GIBSON, 2004). Once a critical mass is overcome, the local
20
21 institutional framework evolves to include a new social cognitive perception that is
22
23 more fertile for entrepreneurial activity. Regions therefore differ in their entrepreneurial
24
25 propensity, according to FORNAHL (2003), because of ‘small historical singularities’
26
27 that lead to a situation in which regions develop different common cognitive
28
29 perceptions, influencing the diffusion of new positive examples (Role-Models). As a
30
31 consequence, the acceptance of entrepreneurial activity within the region becomes
32
33 socially embedded. The promotion of an entrepreneurial culture and positive attitudes
34
35 towards entrepreneurship can be encouraged by “providing role-models through the
36
37 ‘showcasing’ of success stories” (EUROPEAN COMMISSION, 2003: 21).
38
39
40
41
42
43
44
45

46 FORNAHL (2003) went on to develop a theoretical model of the entrepreneurial
47
48 process in a regional context based on the assumption that the entrepreneurial event is
49
50 more than just a one-off decision, but rather is the result of ‘a development process
51
52 along different stages that are all important to explain entrepreneurial activities and their
53
54 change over time’ (FORNAHL, 2003: 48).
55
56
57
58
59
60

1
2
3 Many different versions of the entrepreneurial process can be found in the literature and
4 these models have been developed from many different perspectives and applied to
5
6 many different contexts. Not only do the different stages of the process differ from one
7
8 author to another, but the objectives of the entrepreneurial process analysis also vary.
9
10 Whereas the entrepreneurial process has been used in research to expose the critical
11
12 points and key success factors of the business creation process (BRUYAT and JULIEN,
13
14 2001), others have used it to illustrate the different activities and functions that must be
15
16 carried out at every step of the process (HISRICH et al., 2005). Recently the
17
18 entrepreneurial process has been used to identify the different factors influencing
19
20 decision-making throughout the process (FAYOLLE, 2004) as well as the success of
21
22 entrepreneurs with their new business venture (GREENE and STOREY, 2004).
23
24
25
26
27
28
29
30

31
32 BYGRAVE (1995) developed an entrepreneurial process model with the aim to
33
34 determine the critical factors that give birth to new enterprises. The entrepreneurial
35
36 process is placed at the centre of a framework composed of personal, sociological, and
37
38 environmental factors that influence the different steps of the entrepreneurial process
39
40 and consequently the creation of new enterprises. Nevertheless, the importance of
41
42 informal institutional factors stands-out, especially in the earlier stages of the process.
43
44
45
46
47

48
49 One of the most consistent factors included within BYGRAVE's entrepreneurial
50
51 process model is the presence of entrepreneurial Role-Models because, according to this
52
53 model, they play an important part in facilitating opportunity detection and business
54
55 idea generation within the Innovation stage of the model. Role-Models also can act as a
56
57 stimulus within the Triggering Event stage. Finally, the presence of positive
58
59 entrepreneurial examples, according to BYGRAVE (1995) is very important during the
60

1
2
3 Implementation stage since 'knowing successful entrepreneurs makes the act of
4 becoming one yourself seem much more credible'. Someone who is in close contact
5 with an entrepreneurial Role-Model is more likely to develop the desire and confidence
6 to create their own business.
7
8
9
10
11

12
13
14
15 A model applying a socio-institutional approach, and more specifically the institutional
16 economic theory developed by NORTH (1990), to the entrepreneurial process has been
17 developed by AHMADI (2003) in his study of immigrant entrepreneurship in Sweden.
18 This simplistic model illustrates how the entrepreneurial process is influenced by both
19 formal (regulative) and informal (cognitive/cultural) institutions throughout all stages of
20 the process. The influence, according to this author, between institutions and process are
21 bi-directional, in the sense that at the same time as the process is guided by the
22 institutional environment, the process can modify the framework's institutions.
23
24
25
26
27
28
29
30
31
32
33

34
35
36 In order to carry out the empirical analysis included in this study, a new model has been
37 constructed by placing the entrepreneurial process model developed for rural areas by
38 FORNAHL (2003) within an institutional framework, as was done by AHMADI (2003).
39 In order to better adjust to the objectives of this study, we will specifically limit our
40 institutional framework to the influence over the business creation process of
41 entrepreneurial Role-Models, (BYGRAVE, 1995; FORNAHL, 2003).
42
43
44
45
46
47
48
49
50
51

52
53 The entrepreneurial process, according to this stage model, recognises that agents differ
54 in their knowledge and capabilities, their personal characteristics, their access to
55 information and/or their cognitive representation (FORNAHL, 2003).
56
57
58
59
60

1
2
3 --- Insert Figure 1 approximately here ---
4
5
6
7

8 The model starts by recognising that not all individuals have intentions of becoming
9 entrepreneurs and only a fraction of economic agents intend to become entrepreneurs in
10 the short to medium term. The main difference between economic agents and those with
11 entrepreneurial intentions is that those from the latter group are actively searching for
12 entrepreneurial opportunities.
13
14
15
16
17
18

19
20
21
22 The decision to actively act upon an identified entrepreneurial opportunity marks the
23 second stage of the entrepreneurial process. At this stage agents undertake specific
24 activities aimed at establishing their own business. Access to this stage is not limited
25 only to those with entrepreneurial intention, as many economic agents who may not
26 have had any particular entrepreneurial intention may be forced into entrepreneurial
27 activity because of the lack of labour market alternatives, equivalent to the 'push theory'
28 of entrepreneurship (AMIT and MULLER, 1994). Another reason why entrepreneurial
29 activity is not exclusive to those who are deliberately searching for opportunities is that
30 often these opportunities can emerge and offer themselves to those economic agents
31 who previously had not contemplated an entrepreneurial career (SHANE, 2000).
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47

48 The third and final stage occurs when the actual business is founded and the agents take
49 the jump and become active entrepreneurs. The entrepreneurial stage model considers
50 several important factors explaining the development of the entrepreneur across the
51 different stages until the entrepreneurial event actually occurs, but mostly contemplates
52 socio-institutional factors and their effect upon individuals throughout the process.
53
54
55
56
57
58
59
60

1
2
3 Although there are many elements influencing the development of agents across the
4 different stages of the entrepreneurial process, in a rural context with a tight social
5 construct, positive entrepreneurial examples, Role-Models, act as an important stimulus
6 leading agents through the different stages of the process. Consequently, Role-Models
7 influence the cognitive perception of agents and leads to an imitative learning process
8 that can influence the pass-over into each new stage of the model (FORNAHL, 2003).
9
10
11
12
13
14
15
16
17
18
19

20 The first decision influenced by Role-Models within the entrepreneurial process is that
21 represented by block 'A' in Figure 1, which indicates a greater likeliness of economic
22 agents to adopt entrepreneurial intentions when they have close personal knowledge of
23 individuals who have recently become entrepreneurs. The presence of an
24 entrepreneurial Role-Model, either in their family or in their direct social environment,
25 can lead an economic agent to contemplate such a career alternative and help change
26 their cognitive attention towards the search for possible entrepreneurial opportunities
27 (SHANE, 2000). This leads to formulate the first hypothesis:
28
29
30
31
32
33
34
35
36
37
38
39
40

41 **H₁:** If a rural agent personally knows a recent entrepreneur, he/she will be more
42 likely to have entrepreneurial intentions.
43
44
45
46
47

48 The second step is initiated when an entrepreneurial opportunity is found. As previously
49 mentioned, entrepreneurial opportunities are not exclusive to those agents with
50 entrepreneurial intention, therefore this step can originate either from the group with
51 entrepreneurial intention, therefore this step can originate either from the group with
52 entrepreneurial intention or from the remaining economic agents in general. The stage,
53 represented by block 'B' in Figure 1, is initiated when the agent becomes actively
54 involved in entrepreneurial activities aimed at exploiting this opportunity by
55
56
57
58
59
60

1
2
3 establishing a business. Entrepreneurial Role-Models again play a key role in this stage
4
5 as it helps agents focus the attention of agents towards specific opportunities brought to
6
7 the surface by the Role-Model's activities, as well as it helps modify the cognitive
8
9 perceptions of the agents in a way that can favour the agent's decision to actively
10
11 undertake entrepreneurial activities aimed at establishing their own business
12
13 (VENKATARAMAN, 2004). From this argument comes the second hypothesis:
14
15

16
17
18
19
20 **H₂:** If a rural agent personally knows a recent entrepreneur, he/she will be more
21
22 likely to engage in entrepreneurial activities aimed at creating a business.
23
24

25
26
27 Finally, the decision to actually establish a new business, where the agent takes the
28
29 jump and becomes a new entrepreneur, represented by block 'C' in Figure 1, is again
30
31 largely influenced by entrepreneurial Role-Models. According to FORNAHL (2003:51)
32
33 'the cognitive representation and the comparison with other existing entrepreneurs
34
35 influence the evaluation of the founding option'. The final decision to actually start-up a
36
37 new business is not always based on the objective results of market tests and feasibility
38
39 studies, (when these exist), but rather is most often based on the subjective evaluation of
40
41 the founding decision against other alternative career and life options (GIBSON, 2004).
42
43 'Positive entrepreneurial examples can lead to a bias in the evaluation and to an increase
44
45 in the likelihood of starting up a firm' (FORNAHL, 2003: 51). Consequently, the third
46
47 hypothesis emerges:
48
49
50
51

52
53
54
55 **H₃:** If a rural agent personally knows a recent entrepreneur, he/she will be more
56
57 likely to start-up a business.
58
59
60

1
2
3 Therefore, rural areas may differ in the functioning of the described process in the way
4 that historical singularities can lead to a situation where a particular region accumulates
5 a critical mass of entrepreneurial Role-Models that can modify the informal, and
6 consequently the formal institutional framework allowing entrepreneurial activity to
7 have greater affect upon economic development.
8
9

10
11 We will apply this model to the rural Spanish context to test whether the influence of
12 entrepreneurial Role-Models across the different stages of the entrepreneurial process
13 affects economic agents of rural Catalonia in ways that differ from agents from rural
14 areas of the rest of Spain.
15
16
17
18
19
20
21
22
23
24
25
26
27
28

29 2.2 Distinctiveness of Catalan institutional framework

30
31 The decision to concentrate our analysis and contrast the rural areas of the Spanish
32 autonomous community of Catalonia against rural areas in the rest of Spain has been
33 based on several indications that rural Catalonia has a particular institutional
34 framework, different from those found elsewhere in Spain. First, Catalonia has been
35 historically the focus of industrialisation in Spain because of its diversified and strongly
36 open industry (COSTA-I-FONT and TREMOSA-I-BALCELLS, 2003). Second,
37 Catalonia has a distinct history that has placed it upon a different institutional
38 evolutionary path than the rest of Spain. This distinctiveness is commonly recognised
39 and was institutionalised within the Catalan Statutes of Autonomy (SPANISH CODE
40 OF INTERNATIONAL LAW, 1979).
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57

58 Although the Catalan government has been the main responsible of the industrial
59 policies through its Ministry of Industry, Catalonia has claimed higher political self-
60

1
2
3 government to reinforce its industrial policies. In fact, this has been recently attained
4 within the reforms to the Catalan Statutes of Autonomy. In fact, the first article of
5 Catalonia's proposed Statute of Autonomy, which was backed by 90% of the Catalan
6 parliament, states that 'Catalonia is a nation exercising self-government through its own
7 institutions' (PARLAMENT DE CATALUNYA, 2005). The preamble to the mentioned
8 document highlights the specificity of Catalonia's institutional history. Furthermore,
9 AHEDO (2006) and BUESA et al. (2006) consider the Catalan distinctiveness to
10 evaluate the industrial development and innovation capacity in Spain.
11
12
13
14
15
16
17
18
19
20
21
22
23

24 NORTH and THOMAS (1973) recognised that 'history matters' in economic growth,
25 mainly because of the path dependence of institutions. The distinctive history of
26 Catalonia, as compared to the rest of Spain, has set it upon its own particular
27 institutional evolution, which may influence the propensity of Catalans towards
28 entrepreneurial activity in different ways than what can be found in the rest of Spain.
29
30
31
32
33
34
35
36
37
38

39 Related to, and consequent, of Catalonia's particular historical evolution is Catalonia's
40 proper cultural specificity. Apart from the clear cultural difference of rural Catalonia
41 coming from the distinct Catalan language, commonly used by over 50% of the Catalan
42 population, spoken by some 74% and understood by over 95% of Catalans, Catalonia is
43 characterised by differential cultural traits (BUSQUETS I DURAN 2001). The value
44 scale of Catalans differs from that found in the rest of Spain. The results of a recent
45 study reported in BUSQUETS I DURAN (2001) determining the values considered as
46 important to instil in children showed how the most important value for Catalans is
47 independence, whereas, to the contrary, it is obedience in the rest of Spain. Other
48 important values for Catalans are predisposition toward working hard, and a sense of
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 economics and saving, which is not the case in the rest of Spain. Contrary to Catalonia,
4
5 religious values and faith stand out as important in the rest of Spain. The same study
6
7 also reported differences in the religious, leisure and social practices of Catalans as
8
9 compared to the rest of Spaniards.
10
11

12
13
14
15 The distinctive cultural heritage of Catalonia, as compared to the rest of Spain,
16
17 translates to a different informal institutional construct, which may influence the
18
19 propensity of Catalans towards entrepreneurial activity in different ways than what can
20
21 be found in the rest of Spain. In fact, business creation in rural Catalonia is more
22
23 dynamic than its urban counterpart. Table 1 shows how the growth in the number of
24
25 enterprises over the five-year period from 1996 to 2001 has been far greater in rural
26
27 Catalonia (25.7%) than it has in urban areas of Catalonia (10.4%).
28
29
30
31
32
33

34 --- Insert Table 1 approximately here ---
35
36
37

38
39 An analysis of the most recent census results (2001) show that whereas the proportion
40
41 of the Catalan population living in rural municipalities was of 11.9%, these same rural
42
43 areas accounted for 12.9% of Catalan enterprises. As a result, we find that enterprise
44
45 density is greater in rural areas than it is in urban areas of Catalonia (7.5 as compared to
46
47 6.7 enterprises per 100 inhabitants, respectively). More importantly, when we analyse
48
49 the recent evolution in the number of enterprises, we clearly see how rural areas have
50
51 been more dynamic when it comes to entrepreneurial activity than have been urban
52
53 areas of Catalonia.
54
55
56
57
58
59
60

1
2
3 Finally, the entrepreneurial character and propensity of rural Catalonia clearly contrasts
4 with that found in rural areas in the rest of Spain. According to the results of the GEM
5 entrepreneurship observatory (VECIANA, et al., 2004), the proportion of the adult
6 population of rural Catalonia involved in entrepreneurial activities in 2003 stood at
7 11.44%, more than three times superior than the proportion found in rural areas of the
8 rest of Spain (3.43%). Whereas rural Catalonia is more entrepreneurial than its urban
9 counterpart (3.83% of the adult population of urban Catalonia), rural areas in the rest of
10 Spain have an entrepreneurial activity level that is inferior to that registered for urban
11 areas (4.30%).
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

27 3. Data and Methodology

28 3.1 Data selection

29
30 The data used to carry out this study come from the Catalan Global Entrepreneurship
31 Monitor (GEM) for the year 2003. The GEM project began in 1998 as a joint initiative
32 of the London Business School and the Babson College to create an international
33 entrepreneurship research network. Today, more than 40 different countries have taken
34 part in the research initiative, making it a world reference for research into the
35 entrepreneurship phenomenon and a highly valued source of information for
36 professionals and policy makers in each of the participating countries.
37
38
39
40
41
42
43
44
45
46
47
48
49
50

51 A recent article by REYNOLDS et al. (2005) offers a comprehensive description of the
52 GEM project and its methodology. Concerning empirical applications that use GEM
53 data, WENNEKERS and THURIK (1999), STERNBERG and WENNEKERS (2005),
54 and WONG, et al. (2005) evaluate the relationship between entrepreneurship and
55 economic growth. From a micro perspective, STERNBERG and LITZENBERGER
56
57
58
59
60

1
2
3 (2004), WAGNER (2004), and WAGNER and STERNBERG (2004) study
4
5 entrepreneurship, its determinants, and the policies that enhance this behaviour.
6
7
8
9

10 The sample used for this study was built based on a multiple stage sampling method.
11
12 The Kayser criterion (KAYSER, 1990) was used to identify rural and urban areas. This
13
14 criterion is based on demographic figures and it considers as rural those municipalities
15
16 that have a population of less than 5000 inhabitants. Using the Bellview Fusion
17
18 computer assisted telephone interview (CATI) system, the survey was conducted by a
19
20 leading professional market investigation and public opinion service firm selected and
21
22 monitored directly by the International GEM Consortium. First, a random selection of
23
24 municipalities was collected according to the mentioned population quotas. In a second
25
26 stage, telephone numbers corresponding to the different municipalities were randomly
27
28 obtained from the annually updated 'España Office v5.2' fixed and mobile telephone
29
30 database. Finally, persons between the ages of 18 and 65 (inclusively) were randomly
31
32 selected by the mentioned software.
33
34
35
36
37
38
39
40

41 The original database used to reach the aim of this research contained 1243 observations
42
43 from rural areas in Spain, including 292 (23.49%) and 951 (76.51%) from Catalonia and
44
45 the rest of Spain, respectively. However, in the interest of following a rigorous
46
47 methodology, only individuals for whom a complete dataset of the independent
48
49 variables can be constructed are included. Thus, data availability limits the rural sample
50
51 to 843 observations, 201 (23.84%) from Catalonia and 642 (76.16%) from the rest of
52
53 Spain.
54
55
56
57
58
59
60

3.2 Determinant factors

Entrepreneurial Intention measured within the GEM framework is determined by the declaration of intention by the respondents of the study's adult population survey. All respondents declaring their intent to create their own business over the next three years are included within our dependent variable. The level of entrepreneurial intention of rural Catalonia is higher than that of rural areas of the rest of Spain, but this difference is not statistically significant. The proportion of agents with entrepreneurial intention in rural Catalonia stands at 5%, as compared to a proportion of 3.3% for rural areas of the rest of Spain (Table 2).

The GEM study distinguishes between two types of entrepreneurial activity, pre and post start-up entrepreneurial activity. The dependent variable used to test our second hypothesis is based on the proportion of respondents who are involved in pre start-up activities. A person is said to be involved in pre start-up activities if he/she has undertaken over the previous 12 months any concrete efforts, (such as the development of a business plan, the search for finance, the establishment of a team of founding partners, etc.) aimed at starting a business without receiving any pecuniary reward for doing so. From Table 2 we observe that the level of pre start-up entrepreneurial activity in rural Catalonia (6.97%) is significantly higher than that of rural areas of the rest of Spain (2.65%).

The variable used to test our third hypothesis identifies the respondents who are involved in post start-up entrepreneurial activities. A person is considered to be involved in post start-up entrepreneurial activities if he/she is owner or co-owner of a business that has been paying salaries for a period of no more than 42 months. The level

1
2
3 of post start-up entrepreneurial activity in rural Catalonia (4.98%) is significantly higher
4
5 than that of rural areas of the rest of Spain (0.9%) (Table 2).
6
7
8
9

10 --- Insert Table 2 approximately here ---
11
12
13
14

15 To determine the entrepreneur's profile we consider a set of independent variables
16 commonly found in models trying to explain entrepreneurial activity (JOHANSSON,
17 2000; UUSTITALO, 2001; DOUGLAS and SHEPARD, 2002; and WAGNER, 2004).
18
19
20
21
22
23

24 First we consider the individual's gender. Gender is an important factor explaining the
25 different propensity levels of individuals towards entrepreneurial activity. Gender
26 distribution of entrepreneurship also determines the character and societal impact of the
27 resulting entrepreneurship (OECD, 2004). Depending on the gender system of an
28 economy, women entrepreneurial activity levels are usually lower than men's and, at the
29 same time, women's entrepreneurship tends to have a different industrial configuration
30 than men's entrepreneurship (CARTER et al., 2001). Women also start and manage
31 firms in different ways and for different motivations than do men (BRUSH, 1992).
32
33 Women often have access to "fewer resources, less knowledge and have in many
34 countries a lower societal position than men" (OECD, 2004: 30), nevertheless, women's
35 entrepreneurship has been recognised during the last decade as an important untapped
36 source of economic growth (OECD, 2004). Thus, in our models we introduce a dummy
37 variable for gender, taking a value of one if the individual is a man, and zero otherwise.
38
39 As it can be seen in Table 2, there is a statistically significant difference in the
40 proportion of men in rural Catalonia as compared to those from rural areas of the rest of
41 Spain.
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 The second factor considered is the individual's age. According to SINGH and VERMA
4 (2001) the decision to become an entrepreneur is affected by different factors along an
5 individual's life cycle. Labour economists, using income-leisure choice models, have
6 usually attributed the choice of leisure to older workers (SINGH and DENOBLE,
7 2003). This would indicate a gradual decline in the propensity of individuals towards
8 entrepreneurial activity as they become older. This decline usually starts past a climax
9 point around the late thirties, at which point most entrepreneurs enter into
10 entrepreneurship following a period of labour activity (KATZ, 1994). The link between
11 age and entrepreneurial activity is double sided, whereas older individuals usually have
12 greater tangible and intangible resources essential for successful business creation,
13 younger individuals often have the greater drive and the needed ambition to persevere
14 through the entrepreneurial process. Therefore, we introduce individual's age, expressed
15 in years, as well as its quadratic term, aiming to determine both the relation between age
16 and the entrepreneurial process, and to test whether or not there is an inflexion point
17 beyond which the probability to be involved in the different stages of the
18 entrepreneurial process changes (non linear relationships).
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42

43 It is widely recognised that education influences people's attitudes towards starting their
44 own business (DONKELS, 1991; KRUEGER and BRAZEAL, 1994). Individuals with
45 lower education levels may see in entrepreneurship an opportunity to advance,
46 economically and socially, beyond the constraints imposed by their formal education
47 (DONKELS, 1991). However, individuals with lower formal education may have a
48 narrower scope of entrepreneurial opportunities available to them (KRUEGER, 1993).
49
50
51
52
53
54
55
56
57
58
59
60 As for individuals with higher educational attainments, on the one hand, they tend to
have greater technical and managerial skills that open up a larger array of possible

1
2
3 entrepreneurial opportunities (KRUEGER, 1993). On the other hand, greater formal
4 education levels have also been associated with greater employment opportunities,
5 leading to a higher opportunity cost of entrepreneurial activity (JOHANSSON, 2000).
6
7 Regarding the variable definition, formal education is considered using dummy
8 variables distinguishing people who finish secondary and those who did not, as well as
9 people with university studies.
10
11
12
13
14
15
16
17
18
19

20 Furthermore, we consider the self-confidence in one's own entrepreneurial skills as a
21 dummy variable, taking a value of one if the person makes a positive assessment of
22 his/her entrepreneurial skills, and zero otherwise. Several studies have recently used this
23 variable in substitution, or together with, formal business training. These studies have
24 found that entrepreneurial self-confidence explains an important part of the decision to
25 become an entrepreneur (KRUEGER and BRAZEAL 1994, ARENIUS and MINNITI
26 2004, KÖLLINGER et al. 2004, LEE et al. 2004). Respondents from rural areas of
27 Catalonia demonstrate a statistically significant greater proportion of entrepreneurial
28 self-confidence than what is found with respondents from rural areas of the rest of Spain
29 (Table 2).
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45

46 In addition, a second set of two dummy variables associated with the informal
47 institutional framework of an area has been added. The informal institutional variables
48 used are: 1) the belief in the existence of a social stigma over entrepreneurial failure;
49 and, 2) the presence of entrepreneurial Role-Models, who have created new businesses
50 over the past two years, within one's personal social circle.
51
52
53
54
55
56
57
58
59
60

1
2
3 The social stigma associated with business failure is an informal institutional factor that
4 can act as an important obstacle to entrepreneurial activity (SIMON et al., 1999). We
5
6
7
8 have therefore added this variable to our model to see if the perception of social fear of
9
10 failure acts as an obstacle to entrepreneurial activity and whether this obstacle is
11
12 uniform across the analysed territories.
13
14

15
16
17 The Role-Model effect is a sociological phenomenon that has been widely studied
18
19 (SHAPIRO et al., 1978; GIBSON, 2004) and has been applied to entrepreneurship as an
20
21 informal institutional factor that can act as stimuli to entrepreneurial activity (SCHEIN,
22
23 1978; VENKATARAMAN, 2004). It should be mentioned that whereas most of the
24
25 literature on Role-Models considers that the positive effects of the phenomenon come
26
27 from multiple and cumulated contacts with positive entrepreneurial examples, our
28
29 analysis will limit itself to the personal knowledge of at least one recent entrepreneur.
30
31 The effect of the presence of a personal acquaintance that has successfully created a
32
33 business over the past two years should act as stimuli along the different steps of the
34
35 entrepreneurial process. Our model will try to determine if this is so and whether the
36
37 effect is equal amongst the different territories being analysed.
38
39
40
41
42
43
44

45
46 A significantly greater proportion of rural Catalan respondents have entrepreneurial
47
48 Role-Models within their personal social circles. To the contrary, no significant
49
50 difference is found between rural Catalonia and rural areas of the rest of Spain in what
51
52 relates to the perception of the existence of a social stigma towards business failure
53
54 (Table 2).
55
56
57
58
59
60

3.3 Method

To become an entrepreneur can be understood as a positive decision in a binary choice model. Thus, to identify the differentiating characteristics that affect the likelihood to become an entrepreneur in Catalonia and in the rest of Spain, one can perform a logit regression model estimated by maximum likelihood method expressed as follows (GREENE 2003),

$$\hat{p}_i(Y = 1, \text{Entrepreneurial decision process}) = \frac{e^{\hat{b}_0 + \hat{a} \hat{b}_n x_{ni}}}{1 + e^{\hat{b}_0 + \hat{a} \hat{b}_n x_{ni}}} = L(b'x) \quad [1]$$

After a logarithmic transformation, equation [1] can be expressed as a linear function of

the odds to become an entrepreneur $\hat{W}_i = \frac{\hat{p}_i}{1 - \hat{p}_i}$. The resulting expression follows:

$$\ln \hat{W}_i = \hat{b}_0 + \hat{a} \sum_{n=1}^N \hat{b}_n x_{ni} + e_i \quad [2]$$

where,

\hat{b}_0 = constant term

\hat{b}_n = vector of parameters to be estimated for the n th independent variables.

x_{ni} = vector of observed value for the n th independent variables and the i th cases.

e_i = logistic distributed error term for the i th cases.

Nevertheless, as shown in Table 2 for the total sample, the individuals that express intention of creating their own business over the next three years, as well as those involved in pre start-up activities is only 3.68%. Also, only 1.90% of all persons considered in the total sample are involved in post start-up entrepreneurial activities.

Consequently, the fact that a person is involved in one of the different stages of the entrepreneurial process can be considered as a rare event⁴.

Therefore, the application of traditional logit models in samples where the binary dependent variable has much fewer ones (positive response) than zeros (no response) may lead to biased results due to the underestimation of the parameter estimates. Recently, KING and ZENG (2001a, and 2001b) developed a method for computing estimates in logit models that correct for the presence of rare events or small samples. This procedure, labelled rare events logit model, is based on the standard logit model, as presented in [1] and [2], but it uses an estimator that generates a lower root mean square error for coefficients.

Considering the characteristics of the three dependent variables used in this study, we make use of the rare events logit model with clustered observations for estimating the parameter estimates. To test whether the presence of entrepreneurial Role-Models have an influence upon the different decisions of the entrepreneurial process we carry out the following model:

Entrepreneurial

$$\begin{aligned}
 \text{decision process}_i = & \hat{b}_0 + \hat{b}_1 \text{Control Variables}_i + \hat{b}_2 \text{Social Fear}_i \\
 & + \hat{b}_3 \text{Social Fear}_i \text{ ' Catalonia} + \hat{b}_4 \text{Role Model}_i \\
 & + \hat{b}_5 \text{Role Model}_i \text{ ' Catalonia} + e_i
 \end{aligned} \quad [3]$$

Control variables correspond to the entrepreneur's profile, i.e., gender, age, education, and the self-confidence in entrepreneurial skills. The variable Catalonia takes a value of one if the respondent resides in rural Catalonia, and zero otherwise. Further empirical

1
2
3 evidence on the impact of the informal institutional framework upon entrepreneurial
4 activities using rare events logit models can be found in WAGNER (2004).
5
6
7
8
9

10 Parameters estimated from the rare events logit model only indicate the direction of the
11 effect of each explanatory variable on the response probability. To obtain a better
12 understanding of the results, we also calculate the first difference, which is the change
13 in the probability as a function of a specific change in a variable holding the rest of
14 variables constant at their means. First differences for the variables related to the
15 informal institutional factors are estimated as $\hat{\gamma}_x = \Pr(Y = 1|X = 1) - \Pr(Y = 1|X = 0)$. In
16 accordance with our framework, we will accept the hypothesis linked to each of our
17 dependent variables if $\hat{b}_s > 0$ and demonstrates acceptable levels of statistical
18 significance.
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34

35 Finally, we also calculate the proportion of correctly classified (predicted) observations.
36 This is done for the full sample as well as for those observations that have positively
37 embarked in the considered steps of the entrepreneurial process (adopter) and those that
38 have not (non-adopters).
39
40
41
42
43
44
45
46

47 4. Empirical Findings

48 This section presents the results of the rare events logit models. The first set of three
49 columns considers entrepreneurial intention as dependent variable. The second set
50 considers pre start-up entrepreneurial activity as dependent variable. Finally, the last set
51 presents the results for the rare events logit models when post start-up entrepreneurial
52 activity is the dependent variable. The first model in every set does not take into
53 consideration the individual's geographical origin in the analysis. Model two adds into
54
55
56
57
58
59
60

1
2
3 the analysis a dummy variable that distinguishes those respondents residing in
4 Catalonia. Finally, specification three considers the joint impact of Catalonia and the
5
6 informal institutional factors (social fear of failure and the presence of entrepreneurial
7
8 Role-Models) upon the different dependent variables considered in the analysis of the
9
10 entrepreneurial process. Models 2 and 3 allow for assessing whether pre start-up and
11
12 post start-up entrepreneurial activities increase when considering the fact of residing in
13
14 rural Catalonia, as well as when this distinctiveness is considered within the informal
15
16 institutional factors.
17
18
19
20
21
22
23

24
25 When analysing the results for entrepreneurial intention, the included variables for the
26
27 individual's educational level have a negative impact on the decision to become an
28
29 entrepreneur, and this effect is statistically significant in the case of primary studies
30
31 (Table 3). Because the omitted variable is university studies, the evidence indicates that
32
33 individuals with higher levels of education are more likely to show entrepreneurial
34
35 intention (DONKELS, 1991; KRUEGER and BRAZEAL, 1994). Also, we see that the
36
37 presence of Role-Models and self-confidence in entrepreneurial skills exert a positive
38
39 and statistically significant impact upon individual's entrepreneurial intentions. From
40
41 Table 4 we observe that, holding other variables constant at their means, the positive
42
43 perception about entrepreneurial skills increases the probability of entrepreneurial
44
45 intentions by 2.728% ($\hat{\gamma}_5 = 2.728\%$). In the case of the Role-Model, we know
46
47 that $\hat{\gamma}_8 = 3.413\%$, i.e., holding the rest of variables constant, the presence of a Role-
48
49 Model increases the probability of entrepreneurial intention by 3.413%. This is
50
51 consistent with previous studies having use similar variables (ARENIUS and MINNITI,
52
53 2004; KÖLLINGER et al., 2004; LEE et al., 2004; WAGNER, 2004).
54
55
56
57
58
59
60

1
2
3 --- Insert Table 3 approximately here ---
4
5
6
7

8 The second column of the series that uses entrepreneurial intention as dependent
9 variable reveals that residing in rural Catalonia does not yield any statistically
10 significant influence over their entrepreneurial intention. From the third model it can be
11 observed that the personnel knowledge of recent entrepreneurs has a positive and
12 statistically significant influence upon entrepreneurial intention. The result for the first
13 difference shows that this impact is equally strong in both Spanish and Catalan rural
14 areas. Thus, holding the rest of variables constant, the knowledge of a recent
15 entrepreneur increases the probability for entrepreneurial intention by
16 3.122% ($\hat{\gamma}_8 = 0.03122$). We therefore confirm H_1 for the entire sample under analysis,
17 including the Catalan observations.
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33

34 --- Insert Table 4 approximately here ---
35
36
37
38

39 As for the findings for pre start-up entrepreneurial activity, it can be seen in the first
40 model that the only significant factor that positively affects the decision to be involved
41 in pre start-up entrepreneurial activity in rural areas of Spain is entrepreneurial self-
42 confidence. From model 1 in Table 4 we observe that, holding the rest of variables
43 constant, the presence of entrepreneurial self-confidence increases the probability of
44 being involved in pre start-up activities by 6.771% ($\hat{\gamma}_5 = 0.06771$).
45
46
47
48
49
50
51
52
53
54
55

56 Nevertheless, the third column of this series indicates that, the influence of personnel
57 knowledge of Role-Models upon the decision to be involved in pre start-up
58 entrepreneurial activities is relatively greater for individuals residing in rural Catalonia
59
60

1
2
3 as compared to those living in rural areas of the rest of Spain (Table 3). Empirical
4
5 findings indicate that holding other variables constant $\hat{\gamma}_9 = 0.04163$, meaning that the
6
7 probability of being involved in pre start up entrepreneurial activities increases by
8
9 4.163% for individuals residing in Catalonia who know a recent entrepreneur (Table 4).
10
11 Consequently, we confirm H_2 in the case of Catalonia, and reject this same hypothesis
12
13 in the case of rural areas in the rest of Spain.
14
15
16
17
18
19

20 The third series of columns in Table 3 uses post start-up entrepreneurial activity as
21
22 dependent variable. The results indicate that young individuals are more likely to be
23
24 involved in post start-up entrepreneurial activities. However, and in accordance with
25
26 KATZ (1994) the parameter estimates for both age and the squared term for age indicate
27
28 that the relationship between age and post start-up entrepreneurial activities is inverted
29
30 U-shaped. Given the results we can assert that age exerts a positive and statistically
31
32 significant effect upon post start-up entrepreneurial activities up to the threshold of 37
33
34 years old. For people over 37 years old the probability to be involved in post start-up
35
36 entrepreneurial activities decreases respect to age, and this result is also statistically
37
38 significant (Table 3).
39
40
41
42
43
44
45

46 From column 2 it can be observed that residing in rural Catalonia exerts a statistically
47
48 significant influence over the decision to participate in post start-up entrepreneurial
49
50 activities. This shows that there is a geographical distinctiveness of rural Catalonia over
51
52 post start-up entrepreneurial activity. The results emerging from Table 4 indicates that,
53
54 holding the rest of variables constant, the probability of getting involved in post start-up
55
56 entrepreneurial activity increases by 0.544% when the respondents live in rural
57
58 Catalonia as compared to those living in rural areas of the rest of Spain.
59
60

1
2
3 Finally, from the third column of this set it is possible to observe that the influence of
4 the personnel knowledge of recent entrepreneurs upon the decision to be involved in
5 post start-up entrepreneurial activities is relatively greater for individuals residing in
6 rural Catalonia as compared to those living in rural areas of the rest of Spain (Table 3).
7
8 The result for the first difference shows that $\hat{\gamma}_9 = 0.01181$. This indicates that, holding
9 the rest of variables constant, residing in rural Catalonia and knowing a recent
10 entrepreneur increases the probability to be involved in post start up entrepreneurial
11 activities by 1.181% (Table 4). We therefore confirm H_3 in the case of Catalonia,
12
13 whereas we reject this same hypothesis in the case of rural areas in the rest of Spain.
14
15
16
17
18
19
20
21
22
23
24
25
26
27

28 5. Concluding remarks

29
30 Albeit the upward trend researching entrepreneurship, little is known of the factors that
31 influence the decisions included in the entrepreneurial process in rural areas. Using a
32 sample for the year 2003 of 843 Spanish individuals, 201 and 642 from rural Catalonia
33 and rural areas in the rest of Spain, respectively; we performed a rare events logit model
34 with clustered observations in order to identify the influence of entrepreneurial Role-
35 Models upon the different stages in the entrepreneurial process.
36
37
38
39
40
41
42
43
44
45

46 The main contribution of this paper indicates that there is a significant difference in the
47 influence of entrepreneurial Role-Models upon the different decisions of the
48 entrepreneurial process in rural Catalonia as compared to rural areas of the rest of Spain.
49
50 The results from our first hypothesis indicate that entrepreneurial Role-Models have a
51 significant positive effect upon entrepreneurial intentions (the first phase of the
52 entrepreneurial process) of rural individuals throughout Spain. To the contrary, in the
53 case of our second and third hypotheses measuring the influence of Role Models over
54
55
56
57
58
59
60

1
2
3 'pre' and 'post' start-up entrepreneurial activities (second and third phases of the
4 entrepreneurial process), we found that the personnel knowledge of recent entrepreneurs
5 only has a statistically significant positive influence over rural Catalans. Another
6 important finding is that self-confidence in entrepreneurial skills appears as a
7 statistically significant factor influencing all stages of the entrepreneurial process.
8
9

10
11
12
13
14
15
16
17 The academic implications of these findings lay mostly in the strong support in favour
18 of a greater use of an institutional approach to the study of entrepreneurship, especially
19 in what concerns differences in entrepreneurial activity levels across regions. From this
20 research it can be concluded that informal institutions are the underlying backbone to
21 entrepreneurial decision-making. Even in areas bounded by relatively homogeneous
22 formal institutions and policy, entrepreneurial activity is often unevenly distributed as a
23 consequence of varying informal institutional structures, mostly linked to historical
24 events that set different areas upon distinct institutional evolutionary paths. This paper
25 gives empirical support to a growing number of theoretical works that lay the basis for a
26 similar premise. Regions with different informal institutional frameworks will react
27 differently to identical formal institutions and policies.
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45

46 This brings about important implications of the findings of this paper for policy-makers.
47 Basically, the conclusions of the study leads to recommend that entrepreneurship
48 support policy at local level must first establish the necessary informal institutional
49 foundation within a community before attempting to apply formal institutional measures
50 for the promotion of entrepreneurial activity. Formal support may be vain in the
51 presence of an inappropriate informal institutional framework.
52
53
54
55
56
57
58
59
60

1
2
3 The results of the study specifically highlight the importance of entrepreneurial Role-
4
5 Models in an individual's personal social circle as a positive stimulus explaining uneven
6
7 entrepreneurial activity levels across different geographical areas. This would tend to
8
9 imply that entrepreneurship support policy should lay the grounds for a greater social
10
11 interaction on the part of existing entrepreneurs, promoting networking possibilities
12
13 with potential entrepreneurs, glorifying the role of the entrepreneur in the community,
14
15 as well as socially celebrating the entrepreneurial successes of existing entrepreneurs.
16
17 The local administrations must magnify the visibility of positive entrepreneurial
18
19 examples within their communities. Entrepreneurial Role-Models can help instil the
20
21 appropriate entrepreneurial atmosphere within a community's informal institutional
22
23 framework that will then permit formal entrepreneurship support policy to have a much
24
25 more potent impact upon local entrepreneurial activity levels.
26
27
28
29
30
31
32
33

34 For the entrepreneur, the implications of the study indicate that in all institutional
35
36 frameworks, entrepreneurial self-confidence is a driving force leading individuals
37
38 through the different stages of the entrepreneurial process. Entrepreneurial self-
39
40 confidence is a natural consequence of prolonged exposure to positive entrepreneurial
41
42 examples. An individual with entrepreneurial ambitions can gain the necessary
43
44 confidence in his/her own entrepreneurial skills by being in close personal contact with
45
46 individuals who have themselves successfully established their own businesses.
47
48
49
50
51
52

53 As with any cross-sectional study, the limitations of this paper lies in both the absence
54
55 of a longitudinal analysis that could have given a greater evolutionary perspective to the
56
57 study, and in the lack of sample diversity, limiting the analysis to only two
58
59 geographically bounded samples. A greater number of informal institutional variables,
60

1
2
3 as well as the introduction of certain formal institutional variables could have
4
5 complimented our analysis of entrepreneurial Role-Models. As a consequence, further
6
7 research should not only attempt to replicate a similar analysis in a different geographic
8
9 and territorial context, but should also attempt to enrich the institutional content of the
10
11 model as well as its longitudinal/historical perspective.
12
13
14

17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

References

- ACS, Z., ARMINGTON, C. (2004) Employment growth and entrepreneurship in cities,
Regional Studies 38 (8), 911-927.
- AHEDO, M. (2006) Business System and Cluster Policies in the Basque Country and
Catalonia (1990 – 2004). *European Urban and Regional Studies* 13 (1), 25 – 39.
- AHMADI, A. (2003) The entrepreneurial process: An institutional perspective. FE
report 2003-396, Fösetagsekonomiska Institutionen, Göteborg, Sweden.
- AMIT, R., MULLER, E. (1994) 'Push' and 'Pull' Entrepreneurship, in BYGRAVE,
W.D., et al (editors), *Frontiers of Entrepreneurship Research*, Babson College
Conference: 27-42
- ARENIUS, P., MINNITI, M. (2004) A cross-country study of gender differences in
self-employment. Paper presented at the first GEM Research Conference, 1 – 3
April 2004, Berlin.
- ARMINGTON, C., ACS, Z. (2002) The determinants of regional variation in new firm
formation, *Regional Studies* 36, 33-45.
- AUDRETSCH, D., FRITSCH, M. (1994) The geography of new firm births in
Germany, *Regional Studies* 28 (4), 359-365.
- BECATTINI, G., COSTA, M.T., TRULLÉN, J. (2002) *Desarrollo local: teorías y
estrategias*. (Civitas, Diputación de Barcelona, Barcelona).

- 1
2
3 BRUSH, C. 1992. Research on women business owners: Past trends, a new perspective
4
5 and future directions. *Entrepreneurship Theory and Practice* 16 (4), 5 – 30.
6
7
8 BRUYAT, C., JULIEN, P.A. 2001. Defining the field of research in entrepreneurship,
9
10 *Journal of Business Venturing* 16(2), 165 – 180.
11
12
13 BRYDEN, J., HART, J. 2004. A New Approach to Rural Development in Europe:
14
15 Germany, Greece, Scotland and Sweden, Mellen Studies in Geography Volume 9,
16
17 The Edwin Mellen Press: Lewiston NY.
18
19
20 BUESA, M., HIEJS, J., MARTINEZ, M., BAUMERT, T. (2006) Regional system of
21
22 innovation and the knowledge production function: the Spanish case. *Technovation*
23
24 26, 463 – 472.
25
26
27 BUSQUETS I DURAN, J. (2001) Cultura i valors, in Òmnium Cultural, *Catalunya i*
28
29 *Espanya, Fets i actituds diferencials*, (Barcelona: Enciclopedia-Catalana) 86-108.
30
31
32 BYGRAVE W. D. (1995) ‘Theory building in the entrepreneurship paradigm’. In
33
34 Entrepreneurship Perspectives on Theory Building, ed. I Bull, H Thomas, G
35
36 Willard, pp. 129-158. Oxford, UK: Elsevier.
37
38
39 CARTER, N. 1997. Entrepreneurial processes and outcomes: The influence of gender.
40
41 In Reynolds, P., White, S. (eds.), *The entrepreneurial process: economic growth,*
42
43 *men, women, and minorities*. Westport, US: Quorum Books.
44
45
46 CARTER, S., ANDERSON, S., SHAW, E. 2001. Women’s business ownership: A
47
48 review of the academic, popular and internet literature. Report to the Small Business
49
50 Service, RR 002/01 at: <http://business.king.ac.uk/research/kbssbs/womsbus.pdf>
51
52
53 COSTA-I-FONT, J., TREMOSA-I-BALCELLS, R. (2003) Spanish Regions and the
54
55 Macroeconomic Benefits of the European Monetary Union. *Regional Studies* 37 (3),
56
57 217 – 226.
58
59
60

- 1
2
3 DONKELS, R. 1991. Education and entrepreneurship experiences from secondary and
4 university education in Belgium. *Journal of Small Business and Entrepreneurship* 9
5
6 (1), 7 – 21.
7
8
9
- 10 DOUGLAS, E.; SHEPARD, D. (2002) Self – Employment as a Carrer Choice:
11 Attitudes, Entrepreneurial Intentions, and Utility Maximization, *Entrepreneurship*
12 *Theory and Practice* 26 (3), 81 – 90.
13
14
- 15 EUROPEAN COMMISSION (2003) *Green Paper: Entrepreneurship in Europe*,
16 Communication from the Commission to the Council, the European Parliament, the
17 European Economic and Social Committee and the Committee of the Regions,
18 COM (03) 27.
19
20
21
22
23
24
25
- 26 EUROPEAN COMMISSION (1997a) *Rural Developments, CAP2000 Working*
27 Document, V/1117/97, July.
28
29
30
- 31 EUROPEAN COMMISSION (1997b) *Agenda 2000: For a stronger and wider Union*.
32 Bulletin of the European Union, Supplement 5/97.
33
34
35
- 36 EVANS, D., JOVANOVIC, B. (1989) An Estimated Model of Entrepreneurial Choice
37 under Liquidity Constraints. *Journal of Political Economy* 97, 808 – 827.
38
39
40
- 41 EVANS, D., LEIGHTON, L. (1989) Some Empirical Aspects of Entrepreneurship.
42 *American Economic Review* 79, 519 – 535.
43
44
45
- 46 FAYOLLE, A. 2004. *Entrepreneuriat – Apprendre á entreprendre*. Dunod, Lyon.
47
- 48 FORNAHL, D. (2003) Entrepreneurial activities in a regional context, in FORNAHL,
49 D. and Brenner, T., *Cooperation, Networks and Institutions in Regional Innovation*
50 *Systems* (Northhampton, UK: Edward Elgar), 38-57.
51
52
53
- 54 FRANCÉS, G. (2002) *Teoría de redes y turismo rural en el desarrollo territorial: el*
55 *agroturismo*, Doctoral Thesis, University of Barcelona.
56
57
58
59
60

- 1
2
3 GIBSON, D. (2004) Role-Models in career development: New directions for theory and
4
5 research, *Journal of Vocational Behavior* 65, 134 – 156.
6
7
8 GNYAWALI, D., FOGEL, D. (1994) Environments for entrepreneurship development :
9
10 Key dimensions and research implications, *Entrepreneurship Theory and Practice*
11
12 18 (4), 43 – 62.
13
14
15 GOULD, A., KEEBLE, K. (1984) New firms and rural industrialization in East Anglia,
16
17 *Regional Studies* 18, 189-202.
18
19
20 GRANOVETTER, M. (1985) Economic actions and social structure: The problem of
21
22 Embeddedness, *American Journal of Sociology* 91, 481 – 510.
23
24
25 GREENE, W. (2003) *Econometric Analysis*. Fifth edition, (Upper Saddle River. New
26
27 Jersey, USA: Prentice – Hall).
28
29
30 GREENE, F. G., STOREY, D. J. (2004) An assessment of a venture creation
31
32 programme: the case of Shell LiveWIRE. *Entrepreneurship and Regional*
33
34 *Development* 16, 145 – 159.
35
36
37 HISRICH, R., PETERS, M., SHEPHERD, D. (2005) *Entrepreneurship*. 6th ed.,
38
39 McGraw-Hill Irwin, New-York.
40
41
42 HOOVER, E. (1948) *The Location of Economic Activity*. McGraw-Hill, New-York.
43
44
45 JACOBS, J. (1969) *The Economy of Cities*. Vintage Books, New York.
46
47
48 JOHANSSON, E. (2000) Self-employment and Liquidity Constraints: Evidence from
49
50 Finland, *Scandinavian Journal of Economics* 102 (1), 123 – 134.
51
52
53 KATZ, J. (1994) Modeling entrepreneurial career progressions : Concepts and
54
55 considerations. *Entrepreneurship Theory and Practice* 19 (2), 23 - 36.
56
57
58 KAYSER, B. (1990) *La Renaissance Rurale, sociologie des campagnes du monde*
59
60 *occidental*, (France: Édition Armand Colin).

- 1
2
3 KING, G., ZENG, L. (2001a) Logistic Regression in Rare Events Data, *Political*
4 *Analysis* 9 (2), 137 – 163.
5
6
7
8 KING, G., ZENG, L. (2001b) Explaining Rare Events in International Relations,
9 *International Organization* 55 (3), 693 – 715.
10
11
12 KÖLLINGER, P., MINNITI, M., SCHADE, C. (2004) “I think I can, I think I can”: A
13 cross-country study of entrepreneurial motivation. Paper presented at the first GEM
14 Research Conference, 1 – 3 April 2004, Berlin.
15
16
17
18
19
20 KRUEGER, N. (1993) The impact of prior entrepreneurial exposure on perceptions of
21 new venture feasibility and desirability. *Entrepreneurship Theory and Practice* 18
22 (1), 5 – 21.
23
24
25
26
27 KRUEGER, N., BRAZEAL, D. (1994) Entrepreneurial potential and potential
28 entrepreneurs. *Entrepreneurship Theory and Practice* 18 (3), 91 – 104.
29
30
31
32 KRUGMAN, P. (1991) *Geography and Trade*. Leuven University Press, Belgium.
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
- KRUGMAN, P. (1981) Trade, accumulation, and uneven development. *Journal of*
Development Economics 8, 149 – 161.
- LEE, L., WONG, P., HO, Y. (2004) Entrepreneurship propensities: the influence of
self- efficacy, opportunity perception, and social networks. Paper presented at the
first GEM Research Conference, 1 – 3 April 2004, Berlin.
- MAILLAT, D. (1996) Regional Productive Systems and Innovative Millieux. In OCDE,
Networks of Enterprises and Local Development, (OCDE, Paris).
- MARSHALL, A. (1920) *Principles of Economics*, Macmillan, London.
- MYRDAL, D. (1957) *Economic Theory and Underdeveloped Regions*. Duckworth,
London.
- NECK, H., ZACHARIAS, A., BYGRAVE, W., REYNOLDS, P. (2003) Global
entrepreneurship Monitor, National Entrepreneurship Assessment, United States of

- 1
2
3 America, 2002 Executive Report. Kansas City, MO: Kauffman Center for
4
5 Entrepreneurial Leadership at the Ewing Marion Kauffman Foundation.
6
7
8 NORTH, D.C. (1995) Structural change of institutions and the process of
9
10 transformation. *Prague Economic Papers* 3, 229 – 234.
11
12
13 NORTH, D.C. (1990) *Institutions, Institutional Change and Economic Performance*,
14
15 (Cambridge, Cambridge University Press).
16
17
18 NORTH, D.C. (1981) *Structure and Change in Economic History*, (New-York: Norton).
19
20
21 NORTH, D.C., THOMAS, P. (1973) *The rise of the Western World: A New Economic*
22
23 *History*, (Cambridge: Cambridge University Press).
24
25
26 OECD (2006) *The New Rural Paradigm: Policies and governance*, gov/tdpc/rur, (Paris:
27
28 OECD).
29
30
31 OECD (2004) *Women's entrepreneurship: Issues and policies*. By Delmar, F.,
32
33 Holmquist, C. for the 2nd OECD conference of ministers responsible for SMEs,
34
35 Promoting Entrepreneurship and Innovative SMEs in a Global Economy. Istanbul,
36
37 3-5 June.
38
39
40 OECD (2003) *Entrepreneurship and Local Economic Development: Programme and*
41
42 *Policy Recommendations*, (Paris: OECD).
43
44
45 PARLAMENT DE CATALUNYA (2005) Proposal for reform of the statute of
46
47 autonomy of Catalonia, www.gencat.cat
48
49
50
51 PILON, S., DE BRESSON, C. (2003) Local cultural and regional innovative networks.
52
53 In T. Brenner and D. FORNAHL eds. *Cooperation, Networks and Institutions in*
54
55 *Regional Innovative Systems*. (Cheltenham, UK: Edward Elgar) 15-37.
56
57
58 REGIDOR, J. (2000) *El futuro del medio rural en España*, (Madrid: CES).
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

- 1
2
3 REYNOLDS, P., BOSMA, N., AUTIO, E., HUNT, S., DE BONO, N., SERVAIS, I.,
4
5 LOPEZ, P., CHIN, N. (2005) Global Entrepreneurship Monitor: Data collection
6
7 design and implementation 1998-2003. *Small Business Economics* 24, 205 – 231.
8
9
10 ROSELL, J., VILADOMIU, L. (2001) Empresariado y Políticas de Apoyo a las
11
12 Empresas en una Zona Rural con Tradición Industrial. Paper presented at the 73rd
13
14 EAAE Seminar. Zaragoza, Spain.
15
16
17 ROSELL, J., VILADOMIU, L., FRANCES, G. 2001. Entrepreneurship in the
18
19 mountainous areas of southern Europe. EMASE, CEC project N° FAIR6-CT98-
20
21 7666.
22
23
24 SCHEIN, E. (1978) *Career dynamics: Matching individual and organizational needs*.
25
26 (Reading, MA: Addison-Wesley).
27
28
29 SHANE, S. (2000) Prior knowledge and the discovery of entrepreneurial opportunities,
30
31 *Organizational Science* 11, 448 – 469.
32
33
34 SHAPIRO, E., HASELTINE, F., ROWE, M. (1978) Moving up: Role-Models, mentors,
35
36 and the “patron-system”. *Sloan Management Review* 19, 51-58.
37
38
39 SHAPERO, A. (1971) An action program for entrepreneurship: the design of action
40
41 experiments to elicit technical company formation the Ozarks Region, Austin, US.
42
43 As referred to in VECIANA, 1980, Un concepto empírico de empresario. *Revista*
44
45 *Económica Banca Catalana*, 56 (marzo), 10 – 25.
46
47
48 SHAPERO, A., SOKOL, L. (1982) The Social dimensions of entrepreneurship. In
49
50 KENT, C.A., SEXTON, D.L., and VESPER, K.H. *Encyclopedia of*
51
52 *Entrepreneurship*, 1982, 72-90, Englewood Cliffs, N.J.
53
54
55 SHAVER, K., SCOTT, L. (1991) Person, process, choice: The psychology of new
56
57 venture creation. *Entrepreneurship Theory and Practice* 16 (2), 23 – 45.
58
59
60

- 1
2
3 SIMON, M., HOUGHTON, S., AQUINO, K. (1999) Cognitive biases, risk perception,
4
5 and venture formation: How individuals decide to start companies. *Journal of*
6
7 *Business Venturing* 15, 113 – 134.
8
9
- 10 SINGH, G., VERMA, A. (2001) Is there life after career employment? Labour market
11
12 experience of early retirees. In MARSHALL, V., HEINZ, W., KRUEGAR, H.,
13
14 VERMA, A. (eds.), *Restructuring work and the life course*. Toronto: University of
15
16 Toronto Press.
17
18
- 19 SINGH, G., DENOBLE, A. (2003) Early retirees as the next generation of
20
21 entrepreneurs. *Entrepreneurship Theory and Practice* 28 (2), 207 - 226.
22
23
- 24 SMITH, A. (1776) *An Inquiry into the Nature and Causes of the Wealth of Nations*.
25
26 British Encyclopedia, 1952. London.
27
28
- 29 SPANISH CODE OF INTERNATIONAL LAW (1979) *Estatuto de Autonomía de*
30
31 *Cataluña Ley Orgánica 4/1979, coming into force the 18th of December*. Modified
32
33 by Law 31/1997.
34
35
- 36 SPEIZER, J. (1981) Role models, mentors, and sponsors: The elusive concepts. *Signs*.
37
38 *Journal of Women in Culture and Society* 6, 692 – 712.
39
40
- 41 STERNBERG, R., LITZENBERGER, T. (2004) Regional Clusters in Germany – Their
42
43 geography and their relevance for entrepreneurial activities. *European Planning Studies*
44
45 12 (6), 767 – 791.
46
47
- 48 STERNBERG, R., WENNEKERS, S. (2005) Determinants and Effects of New
49
50 Business Creation using Global Entrepreneurship Monitor Data. *Small Business*
51
52 *Economics* 24 (3), 193 – 203.
53
54
- 55 STOREY, D.J. (1994) Employment. In STOREY, D.J. *Understanding the Small*
56
57 *Business Sector*, Cap.6, 160 – 203. Routledge, London.
58
59
60

- 1
2
3 TÖDTLING, F., WANZENBÖCK, H. (2003) Regional differences in Structural
4 characteristics of Start-Ups. *Entrepreneurship and Regional Development* 15 (4),
5
6 351 – 370.
7
8
9
10 UHLANER, L., THURIK, R. (2004) Post-materialism: A cultural factor influencing
11 total entrepreneurial activity across nations. Paper presented at the first GEM
12 Research Conference, 1 – 3 April 2004, Berlin.
13
14
15 URBANO, D., VECIANA, J.M. (2001) Institutions and Support Programmes to
16 Entrepreneurship in Catalonia: an Institutional Approach. Paper presented at RENT
17 XV, 2001, 22 - 23 November, Turku, Finland.
18
19
20
21
22
23
24
25 USSMAN, A.M. (2004) *Empresas Familiares*. Sílabo, Lisboa.
26
27 UUSITALO, R. (2001) Homo entrepreneurus. *Applied Economics* 33, 1631 – 1638.
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
- VECIANA, J.M. (1980) Un concepto empírico de empresario. *Revista Económica Banca Catalana* 56 (marzo), 10 – 25.
- VECIANA, J.M. (1988) ‘Empresario y proceso de creación de empresas’, *Revista Económica de Catalunya* 8 (may – august).
- VECIANA, J.M. (1999) Creación de empresas como programa de investigación científica. *Revista Europea de Dirección y Economía de la Empresa* 8 (3), 11 – 36.
- VECIANA, J.M., VAILLANT, Y. GENESCA, E., URBANO, D. (2004) GEM-Catalunya: Informe Anual 2003, Departament d’Economia de l’Empresa, Universitat Autònoma de Barcelona, Spain.
- VENKATARAMAN, S. (2004) Regional transformation through technological entrepreneurship, *Journal of Business Venturing* 19, 153 – 167.

- 1
2
3 WAGNER, J. (2004) Are Young and Small Firms Hothouses for Nascent
4
5 Entrepreneurs? Evidence from German Micro Data. *Applied Economics Quarterly*
6
7 50 (4), 379 – 391.
8
9
10 WAGNER, J., STERNBERG, R. (2004) Start – up activities, individual characteristics,
11
12 and the regional Milieu: Lessons for entrepreneurship support policies from German
13
14 micro data. *The Annals of Regional Science* 38, 219 – 240.
15
16
17 WENNEKERS, S., THURIK, R. (1999) Linking Entrepreneurship and Economic
18
19 Growth. *Small Business Economics* 13 (1), 27 – 56.
20
21
22 WONG, P.K., HO, Y.P., AUTIO, E. (2005) Entrepreneurship, Innovation and
23
24 Economic Growth: Evidence from GEM data. *Small Business Economics* 24 (3),
25
26 335 – 350.
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Endnotes:

¹ Over half of Catalonia's rural counties benefit from a disposable family income per capita figure that surpasses that found in the Barcelonès (IDESCAT, Rbfd figures for 2000).

² Based on results from the GEM-Catalunya entrepreneurship observatory for the year 2003 for rural and urban municipalities using the Kayser criterion for determining rurality.

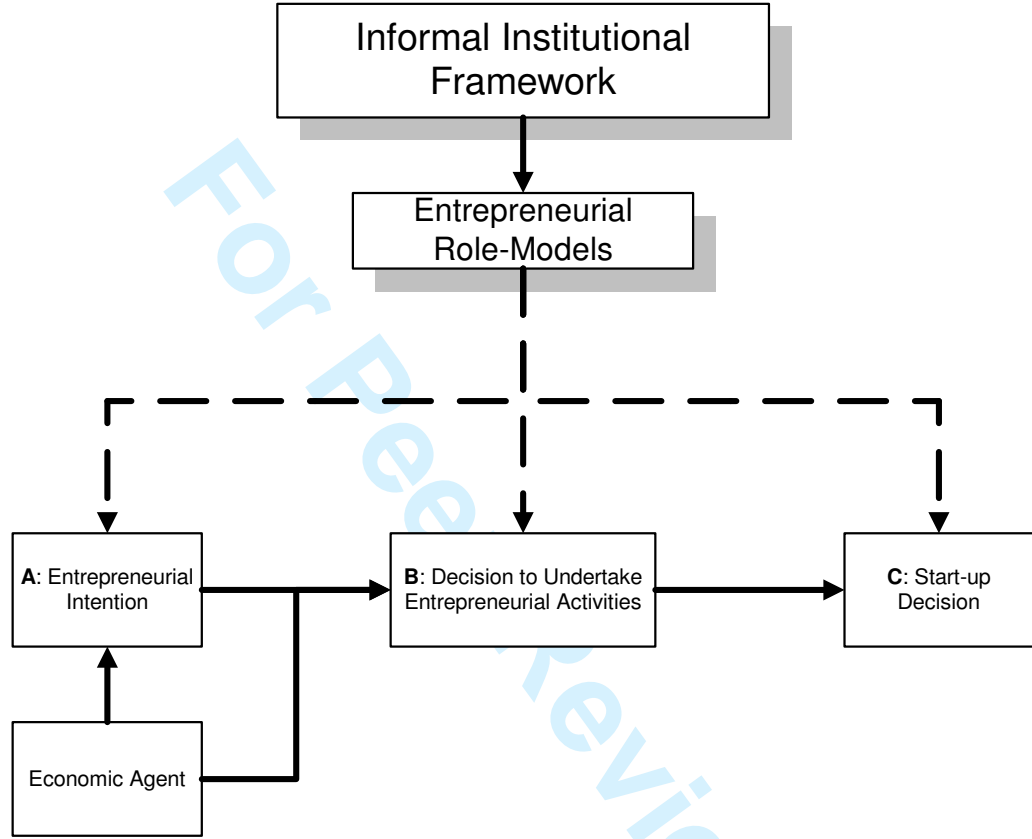
³ Based on latest GDP figures for Catalonia measured at county level, IDESCAT.

⁴ We gratefully acknowledge one of the anonymous referees for remarking the importance on the use of a more accurate estimation method when in the data set the proportion of events can be considered as rare.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

APPENDIX: List of Figures and Tables

Figure 1: Stage model of entrepreneurial process



Source: Self-devised

Table 1. Evolution in the number of enterprises in Catalonia (1996 – 2001)

	Enterprise density 2001 ^(a)	Net growth ^(b) 1996 – 2001	Growth rate ^(c) 1996 – 2001
Catalonia	6.8%	47305	12.3%
Urban Areas	6.7%	35440	10.4%
Rural Areas	7.5%	11865	25.7%

(a) Enterprise density is the ratio of total enterprises to total population. (b) Difference between the number of enterprises in 2001 and 1996. (c) Net increase in the number of enterprises from 1996 to 2001 over the number of enterprises 2001. Rurality measured according to the Kayser criterion at municipality level, (Kayser, 1990).

Source: self-devised from Catalan Statistics Institute (IDESCAT).

Table 2. Descriptive statistics of selected variables

Variables	Rural Catalonia	Rural areas of the rest of Spain	Full sample	Kruskal Wallis chi-test (medians)
Rural Catalonia	1.0000	0.0000	0.2384 (0.4264)	n.a.
Entrepreneurial intention	0.0498 (0.2180)	0.0327 (0.1780)	0.0368 (0.1883)	1.253
Pre start-up entrepreneurial activity	0.0697 (0.2552)	0.0265 (0.1607)	0.0368 (0.1883)	8.046 (***)
Post start-up entrepreneurial activity	0.0498 (0.2180)	0.0093 (0.0963)	0.0190 (0.1365)	13.407 (***)
Gender (1 for men, 0 otherwise)	0.8905 (0.3130)	0.4595 (0.4987)	0.5623 (0.4964)	115.421 (***)
Age (years)	42.2935 (12.9745)	41.7570 (12.6952)	41.8849 (12.7566)	0.387
Primary studies	0.3980 (0.4907)	0.3988 (0.4900)	0.3986 (0.4899)	0.000
Secondary studies	0.3831 (0.4874)	0.3769 (0.4850)	0.3784 (0.4853)	0.025
University studies	0.1990 (0.4002)	0.1636 (0.3702)	0.1720 (0.3776)	1.349
Self – confidence in entrepreneurial skills	0.5473 (0.4990)	0.3972 (0.4897)	0.4330 (0.4958)	14.025 (***)
Social fear for entrepreneurial failure	0.3483 (0.4776)	0.3988 (0.4900)	0.3867 (0.4873)	1.644
Personnel knowledge of recent entrepreneur	0.3682 (0.4835)	0.2944 (0.4561)	0.3120 (0.4636)	3.876 (**)
Number of observations	201	642	843	

Values in brackets represent the standard deviation. n.a. = non-applicable.

*, **, *** = Significant at the 0.10, 0.05, and 0.01 level, respectively (two-tailed).

Table 3. Rare Events Logit Results: Impact of Role-Model on entrepreneurial process in rural areas

Independent Variables	Entrepreneurial intention			Pre start-up entrepreneurial activity			Post start-up entrepreneurial activity		
	1	2	3	1	2	3	1	2	3
Rural Catalonia (1 if positive, 0 otherwise)		0.2860 (0.4103)			0.5438 (0.4101)			1.4448 (**) (0.6748)	
Gender (1 for man, 0 otherwise)	-0.0546 (0.3797)	-0.1542 (0.3880)	-0.1330 (0.4009)	0.5253 (0.3969)	0.3018 (0.4401)	0.2627 (0.4225)	0.7518 (0.6597)	0.1612 (0.7284)	0.3713 (0.7098)
Age (years)	-0.1090 (0.0871)	-0.1116 (0.0872)	-0.1109 (0.0896)	0.1293 (0.1196)	0.1227 (0.1226)	0.1275 (0.1273)	0.6815 (***) (0.2028)	0.8333 (***) (0.2611)	0.8337 (***) (0.2635)
Age squared (years)	0.0012 (0.0010)	0.0012 (0.0010)	0.0012 (0.0011)	-0.0016 (0.0015)	-0.0015 (0.0015)	-0.0016 (0.0015)	-0.0092 (***) (0.0028)	-0.0113 (***) (0.0036)	-0.0112 (***) (0.0035)
Primary studies	-0.9805 (*) (0.5070)	-0.9870 (*) (0.5068)	-0.9952 (*) (0.5099)	-0.3449 (0.4709)	-0.3435 (0.4637)	-0.4325 (0.4695)	1.6436 (1.1549)	1.8131 (1.2480)	1.6587 (1.2648)
Secondary studies	-0.3924 (0.4356)	-0.3963 (0.4381)	-0.3908 (0.4363)	-0.3007 (0.4964)	-0.3149 (0.5052)	-0.2876 (0.5041)	1.0336 (1.1067)	1.1694 (1.1767)	1.2175 (1.1689)
Self-confidence in entrepreneurial skills	0.9941 (***) (0.4357)	0.9676 (***) (0.4427)	0.9755 (***) (0.4590)	2.6063 (***) (0.7354)	2.5416 (***) (0.7266)	2.6001 (***) (0.7471)	2.2324 (***) (1.0309)	2.0413 (***) (1.0286)	2.1383 (***) (1.0576)
Social fear for entrepreneurial failure	-0.6382 (0.4441)	-0.6369 (0.4430)	-0.5878 (0.5379)	0.0967 (0.3991)	0.0834 (0.3974)	0.3493 (0.4841)	-0.6904 (0.6844)	-0.6361 (0.6887)	-0.2575 (0.8687)
Catalonia \times Social fear for entrepreneurial failure			0.0328 (0.9452)			-0.4704 (0.7559)			-0.5123 (1.6078)
Personnel knowledge of recent entrepreneur	1.0759 (***) (0.3785)	1.0592 (***) (0.3761)	0.9775 (***) (0.4235)	0.4338 (0.3820)	0.3955 (0.3706)	-0.1712 (0.5103)	1.0734 (*) (0.5757)	0.9385 (0.5940)	0.2766 (0.7593)
Catalonia \times Personnel knowledge of recent entrepreneur			0.3463 (0.5276)			1.3364 (**) (0.6311)			1.6772 (*) (0.9299)
Intercept	-1.2547 (1.6681)	-1.1881 (1.6611)	-1.1516 (1.6572)	-7.6737 (***) (2.7128)	-7.4967 (***) (2.7636)	-7.4535 (***) (2.8434)	-18.9746 (***) (4.0457)	-21.7516 (***) (5.2866)	-21.4740 (***) (5.3816)
Pseudos R ²	0.1207	0.1222	0.1221	0.1640	0.1706	0.1840	0.2905	0.3337	0.3256
Log Likelihood	-116.7783	-116.5861	-116.5982	-111.0343	-110.1541	-108.3771	-56.2443	-52.8237	-53.4629
LR (chi2)	24.66 (***)	25.83 (***)	26.67 (***)	26.91 (***)	28.23 (***)	33.59 (***)	46.90 (***)	52.06 (***)	46.03 (***)
Correctly predicted (Adopters)	0.6774	0.6774	0.6774	0.8367	0.8710	0.9032	0.8750	0.9375	0.8750
Correctly predicted (Non-adopters)	0.7094	0.7229	0.7278	0.6170	0.6281	0.6355	0.8041	0.8198	0.8210
Correctly predicted (Full Sample)	0.7082	0.7212	0.7260	0.6251	0.6370	0.6453	0.8055	0.8221	0.8221
Number of cases	843	843	843	843	843	843	843	843	843

Robust standard errors are presented in brackets. Catalonian sample size = 201. Rest of Spain sample size = 642. *, **, *** = Significant at the 0.10, 0.05, and 0.01 level, respectively.

Table 4. Rare Events Logit Model: First differences in the probability to be involved in the Entrepreneurial Process

Symbol	Independent Variables	Entrepreneurial intention			Pre start-up entrepreneurial activity			Post start-up entrepreneurial activity		
		1	2	3	1	2	3	1	2	3
$\hat{\gamma}_1$	Rural Catalonia (1 if positive, 0 otherwise)		0.00867			0.01049			0.00544	
$\hat{\gamma}_2$	Gender (1 for man, 0 otherwise)	-0.00155	-0.00389	-0.00247	0.00845	0.00500	0.00500	0.00236	0.00025	0.00096
$\hat{\gamma}_3$	Primary studies	-0.02297	-0.02290	-0.02463	-0.00516	-0.00602	-0.00733	0.00736	0.00590	0.00630
$\hat{\gamma}_4$	Secondary studies	-0.00861	-0.00911	-0.00981	-0.00474	-0.00498	-0.00501	0.00395	0.00328	0.00410
$\hat{\gamma}_5$	Self-confidence in entrepreneurial skills	0.02728	0.02681	0.02802	0.06771	0.06588	0.06669	0.01141	0.00739	0.00899
$\hat{\gamma}_6$	Social fear for entrepreneurial failure	-0.01564	-0.01546	-0.01511	0.00148	0.00154	0.00569	-0.00226	-0.00124	-0.00064
$\hat{\gamma}_7$	Catalonia ´ Social fear for entrepreneurial failure			0.00138			-0.00562			-0.00089
$\hat{\gamma}_8$	Personnel knowledge of recent entrepreneur	0.03413	0.03362	0.03122	0.00793	0.00669	-0.00242	0.00464	0.00274	0.00063
$\hat{\gamma}_9$	Catalonia ´ Personnel knowledge of recent entrepreneur			0.01191			0.04163			0.01181
	Number of cases	843	843	843	843	843	843	843	843	843

(a) The first difference represents the change in the probability as a result of a discrete change from zero to one in the independent variable, i.e. $\hat{\gamma}_x = \Pr(Y = 1|X = 1) - \Pr(Y = 1|X = 0)$.
 Catalanian sample size = 201. Rest of Spain sample size = 642.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Regional differences in the influence of Role-Models: Comparing the Entrepreneurial Process of Rural Catalonia

Esteban Lafuente

Universitat Autònoma de Barcelona

Department of Business Economics

EDIFICI B. 08193 BELLATERRA (BARCELONA). SPAIN

Tel. +34 93 581 1209, Fax: + 34 93 581 2555

Email: Esteban.Lafuente@uab.es

Yancy Vaillant*

Universitat Autònoma de Barcelona

Department of Business Economics

EDIFICI B. 08193 BELLATERRA (BARCELONA). SPAIN

Tel. +34 93 581 1209, Fax: + 34 93 581 2555

Email: Josep.Rialp@uab.es

Josep Rialp

Universitat Autònoma de Barcelona

Department of Business Economics

EDIFICI B. 08193 BELLATERRA (BARCELONA). SPAIN

Tel. +34 93 581 1209, Fax: + 34 93 581 2555

Email: Yancy.Vaillant@uab.es

Abstract

El documento examina el impacto que tiene la presencia de recientes y exitosos emprendedores (Role-Model) sobre el proceso emprendedor en áreas rurales con una fuerte tradición emprendedora respecto de aquellas áreas rurales que no muestran dicha característica. Para alcanzar este objetivo se adopta un enfoque institucional y socio cultural hacia la creación de empresas, y se utiliza un modelo logit ajustado para eventos extraños sobre una base de datos española para el año 2003. La principal contribución del trabajo indica que la diferencia entre los niveles de actividad emprendedora en la España rural es en gran medida explicada por la presencia de modelos emprendedores que favorecen la actividad emprendedora en áreas rurales como Cataluña, una región que cuenta con una alta tradición emprendedora.

JEL classification: M13, B52, R58.

Keywords: Rural entrepreneurship, informal institutional factors, Role Model.

* Corresponding author.