DO MORE HEAVILY REGULATED ECONOMIES HAVE POORER PERFORMING NEW FIRMS? EVIDENCE FROM BRITAIN AND SPAIN[1]

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Abstract

This paper examines new firm performance in two countries, Britain and Spain, with radically different regulatory environments. Britain is the fifth least regulated out of 85 countries, whereas Spain is in fifty fifth place. We compare factors which influence start-up size and those that influence subsequent employment change of new businesses over five years. Data was collected by face-to-face interviews with 231 English and 182 Spanish firm founders using the same questionnaire in the two countries. In order to provide a full explanation of start-up size and employment change, explanatory variables are based on conditions observable at the pre-, at- and post-start stages. First, a multiple regression analysis is estimated to identify the determinants of initial size of the firm. Second, four groups of firms are subsequently identified in terms of their employment change in both countries. The determinants of these four groups are then analysed using an ordered probit model. The key finding is that new firms appear to be almost identical in both economies, both in terms of numbers and post start up performance. This raises questions over the economic merits of public policies intended to ease the process of new venture start up.

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1. INTRODUCTION

Countries vary markedly in the way in which they regulate and provide an environment for enterprise. Djankov et al. (2002) document the stark differences between, for example, Italy and Canada. In the former an individual wishing to start a five employee business has to follow 16 different procedures, pay the equivalent of nearly $4,000 US and wait 62 days for the necessary permits. In Canada, the procedures can be completed in two days by paying $280 US.

Djankov et al's conclusion was that these types of regulation were not in the public interest. They found that countries where regulations were most burdensome were less likely to be democratic, more characterised by official corruption, had larger unofficial economies and lower levels of wealth. Similarly, in the case of a single country, Bertrand and Kramarz (2002) find the entry restrictions imposed by regional zoning boards in France lead to slower retail employment growth. The case for lowering the barriers to establishing new businesses seems clear.

But regulation may affect not only the starting of businesses. It may also influence their subsequent survival and growth. For example, business owners may choose not to grow their business beyond a given size threshold for fear of triggering eligibility for employee rights or other forms of legislation (Pryor, 2000). Support for the impact of such legislation on the growth of new firms is provided by the highly influential work of Scarpetta et al. (2002). They showed that "burdensome regulations" on entrepreneurial activity explained why, in the US, entrant firms started smaller than those in European Union countries, but those which survived grew faster and quickly surpassed them in size. The European Green Paper on Entrepreneurship (European Union, 2002) embraced this finding with enthusiasm. The EU now uses this research to drive forward its efforts to reduce "bureaucratic burdens" on firms as one element in its efforts to close the productivity gap between Europe and the United States.

However, neither the academic nor the policy literature has yet sought to model the mechanism by which the regulatory environment influences the formation and growth of new and small firms (NSFs), in order to address the question: what differences would we expect to see in NSFs in a heavily regulated (HR) economy, compared with a lightly regulated (LR) economy?

This paper does address this question using data from Britain – or more accurately England – and Spain. These countries are chosen to reflect clear differences in their regulatory regimes. According to the Djankov et al. index, Great Britain can be considered to be the fifth least regulated economy in the world for NFS. In contrast, Spain is a much more heavily regulated economy, occupying position 55 out of the 85 countries. Other reviews of overall regulatory approaches adopted by countries, by Nicoletti and Scarpetta (2003) and by Kaufman et al (1999), also point to wide differences between GB and Spain[4].

Given these sharp differences in the regulatory approaches of the two countries it might be expected that there would be equally stark differences between the characteristics of their NSFs. The paper reports the results of a parallel survey of new firms in the two countries using, in so far as possible, identical research approaches.

Perhaps surprisingly, new firms in the two countries show much greater similarities than differences. In both countries the firms were, on average, between four and five years old. The initial start up size of the firms was not significantly different in the two countries and neither was their current size. Furthermore, the pattern of employment growth was also strikingly similar, as were the factors that 'explained' this growth. In both countries initial start up size exerted a negative influence on growth, whereas training, planning and owner management skills were associated with faster growth.

The paper concludes by speculating on the reasons why these results differ so markedly from the theory and empirical findings of some economists. It concludes that the focus of prior work has been on new "registered" or official businesses, whereas the current work includes a high proportion of new firms that are below the size threshold at which internationally comparable statistics are collected. The fact that such firms begin, and often remain, below the radar screens of officialdom mean they are more likely to be influenced by local conditions and attitudes rather than by the official regulatory regime. This calls into question recent EU moves seeking to generate more dynamic, growth-orientated smaller enterprises through reducing regulations. Instead, our findings are compatible with an explanation that sees the regulatory framework as a 'second division' influence upon the performance of new and small firms. Of greater significance are the characteristics of new and small firm owners. Their skills and determination appear to transcend national boundaries and, by implication, regulatory regimes.

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[4] However it is important to note that, since 2002, a number of large high income countries, most notably France, have sought to reduce the time and cost of business start up. Nevertheless the most recent World Bank data on *Doing Business in 2005* indicates that, whilst it takes 18 days to start a business in the UK it takes 108 in Spain. Equally the cost of starting a business in the UK is 0.9% of Gross National income per capita in the UK, compared with 16.5% for Spain.

The paper is organised as follows. Section 2 examines previous empirical research on NSFs growth. Section 3 sets out the procedures used for data collection. Section 4 presents models and variables and describes samples. Section 5 shows the empirical results and the implications of the findings are considered in Section 6.

2. LITERATURE REVIEW

A unique theoretical model that explains initial size and subsequent growth of new firms does not exist. In order to explain and compare the determinants of start-up size and employment change, Storey's (1994b) analytical framework is used in this paper. Storey (1994b) proposes a framework with three main factors that can be considered as a variety of different elements. These are the starting resources of the entrepreneur, the firm and strategy. The entrepreneur's background and the firm characteristics are likely to explain start-up size (Mata, 1996). Employment growth will depend not only on these factors, but also on the strategies employed by the businesses after the start-up (Romanelli, 1989). Storey (1994b) points out that all three components need to combine appropriately in order the firm achieve rapid growth. The three components may be considered as overlapping or intersecting circles and they cannot be considered as wholly independent influences. This paper divides these three factors into pre-start factors, such as human capital, at-the-start factors, such as incorporation and sector, and post-start factors, such as strategy.

The characteristics of the entrepreneur and his/her access to resources can be identifiable prior to the start of the business. Evidence suggests that new firm size increases with entrepreneurs' human capital. Mata (1996) found that start-up size increases with the age of the entrepreneurs, although at decreasing rates, and that education also increases the size of the new venture. Human capital is also an important factor that determines the speed of growth. The human capital endowment of the founder contributes to the explanation of fast growth (Almus, 2002). There looks to be some support for the view that the age of the entrepreneur when the business is established is an influence on the growth rate of that business. Age^2 of the founder has been found to have a negative effect on growth (Bruderl and Preisendorfer, 2000). A positive effect of education on firm survival and growth has been extensively reported (Cooper et al., 1994; Gimeno et al., 1997; Burke et al., 2000). Prior experience has been shown to influence firm growth too. Entrepreneurs with some managerial experience (normally in their previous job) tend to form firms, which grow faster than individuals without such experience (Storey, 1994b). If the founder is unemployed prior to starting a business, that firm is unlikely to grow as rapidly as where the founder is employed (Reid and Smith, 2000).

Other factors prior to set up the business may positively influence growth, such as the use of external advice (Robson and Bennett, 2000).

'At-the-start' factors can be considered elements relating to the firm itself, such as sector and legal form, and reflect decisions observable immediately the business starts to trade. Studies have consistently shown that limited companies experience more rapid growth than sole propiertorships (Storey, 1994a, Almus, 2002; Davidsson et al., 2002). The sector in which the firm operates is also a very important factor for consideration when examining initial size and firm growth. Industry characteristics matter for the scale of entry. Evidence shows that larger firms are created in larger industries and in those with high minimum efficient scale (Mata and Machado, 1996; Gorg et al., 2000). Many studies report industry as a significant variable when examining firm growth (e.g. Almus and Nerlinger, 1999; Brixy and Kohault, 1999; Davidsson et al., 2002). Size and age are other elements that refer explicitly to the characteristics of the firm and are not related to either the entrepreneur or the strategy. The size of the firm is the most studied factor as a determinant of growth. Although Gibrat's law theorizes that both small and large firms will on average have the same rates of growth (Gibrat, 1931)[2], empirical evidence has not confirmed this theory (Evans, 1987, Wagner, 1992; Audrestch et al., 1999; Almus and Nerlinger, 2000). The general pattern observed in previous research is that smaller firms grow more rapidly than faster (Storey, 1994b). Age of firm is also widely used as an independent variable to explain firm growth. Evidence suggests that younger firms grow more rapidly than older firms (e.g. Almus and Nerlinger, 1999, Davidsson et al., 2002).

'Post-start factors' are related to the strategy of the firm. 'Strategic' variables are considered actions taking by the business owner once in business, such as new product introduction, formal planning, workforce training and external equity. First, an important element to be considered is the introduction of new products. Evidence shows that the more rapidly growing firms are more likely to have made new product introductions (Bruderl and Preisendorfer, 2000). Second, although formal planning procedures appears to be more characteristic of larger businesses, Reid and Smith (2000) found that forward planning appears to enhance new firm performance. Delmar and Shane (2003) provide empirical evidence that business planning enhances new venture survival, product development and organising activity in new ventures. Growing firms might also be expected actively to encourage workforce training to a greater extent than slow-growth or no-growth firms. Evidence also suggests that entrepreneurs who are prepared to invest in training their employees are better equipped to compete in the market (Basu and Goswami, 1999). Finally, the sources used for financing a business are likely to be an influence upon its growth (Storey, 1994b).

From an extensive review of fourteen multivariate studies conducted in many countries we conclude that pre- and at-the-start variables have been more employed by researchers than post-start factors to explain new firm growth. Thus, very few studies have incorporated information on all three components together (the background of the entrepreneur, firm characteristics and strategy).

3. DATA AND METHODOLOGY

Data for this study were obtained from two surveys of wholly new independent firms conducted separately in selected areas of Spain and England. Spain will be taken as the HR economy and Great Britain, and specifically England, is taken as an LR economy[5]. A key purpose is to select not only new firms that appear in official statistics, but also to include those which are below the minimum size threshold and hence are omitted from official statistics. It is also to select geographical areas within the countries that can be regarded as broadly representative of those countries.

The GB survey was conducted in 2001 in three English counties, Buckinghamshire, Shropshire and Tees Valley (the former county of Cleveland plus Darlington). The three counties were specifically chosen to reflect high, medium and low firm entry rates, by the standards of official statistics[6]. [For more details see Greene et al. (2004) and Mole et al. (2004)]. This survey used the identical approach of two previous studies on new firms founded in the county of Cleveland, one undertaken in 1980 and one in 1991 (Storey, 1982; Storey and Strange, 1993). One key benefit of the approach was its success in surveying new firms that were not registered for VAT and hence never appeared in any UK official statistics. [7]

The UK study was replicated in 2003 in Spain. A geographical and administrative area (*comarca*) called Valles Occidental (adjacent to Barcelona) with comparable economic characteristics to the English counties by national standards was selected. In particular Valles Occidental exhibits a firm density which is similar to the Spanish national level (63.1 firms per 1,000 inhabitants)[8].

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[5] Although Djankov et al (2002) refer to Great Britain, their data are derived for London, the capital city of England. Great Britain comprises England, Wales and Scotland, but not Northern Ireland.

[6] Using the measure of new VAT Registrations per 10,000 population the rates for Tees Valley, Shropshire and Buckinghamshire in 2001 were 18, 32 and 52 respectively. The English average was 33. Equally importantly, as shown by Mole et al (2004), whilst formation rates do vary with the economic cycle, Tees Valley is always low, Shropshire is always average and Buckinghamshire is always high, over the period 1980-2001.

[7] Storey and Strange (1993) found that only 50% of the new firms were registered for VAT. Of the unregistered 50% of firms, 16% had sales below the VAT threshold and so were not required to register. 4% had sales above the limit, and the remaining 30% refused to disclose their sales!

The population of the selected areas in both countries is also quite similar. The population of Valles Occidental was approximately 740,000 in 2001. The number of inhabitants in Tees Valley was 640,000 in the same year. Buckinghamshire had 480,000 inhabitants. In Shropshire this figure was 440,000. Valles Occidental has a lower GDP per head than the three English areas[9], reflecting national differences[10]. The unemployment rate is higher in the Spanish area than in the English counties (7.1 in Valles Occidental, 5.4 in Tees Valley, 1.9 in Shropshire and 1.4 in Buckinghamshire, all in year 2001). This broadly reflects unemployment rates in each country (5.1 in the UK and 10.5 in Spain for the year 2001).

Neither Britain nor Spain has a single, comprehensive and publicly available list of new firms. Existing lists of limited companies, which are publicly available, exclude numerous small start-ups and so are of no value in this context. The VAT data is not publicly available but even this excludes firms with sales of less than £56,000. Our reservations about private data bases for Great Britain is their greater focus on firms seeking credit than on other starts means they risk being a biased sample. For Spain these data bases are recognised to be even more imperfect.

Databases, appropriate for the purpose, were therefore constructed by the researchers in each country. The English study compiles a list of new firms in the same way as in the two previous Cleveland studies. A list of new firms was derived through comparisons of BT telephone directories for 2000 with those from 1995. Those firms in the directories for 2000, but not present in 1995, were considered to be potential new firms to the area. In the Spanish area an initial list of new firms was derived using three sources of information in order to include both limited and non limited companies. A list of new firms based on local tax payments, the Chambers of Commerce and Industry directory and a commercial database based on the Official Register of Enterprises was compiled. A careful analysis of these lists was made and overlaps between the three databases were detected. From this cross-checking process, a list of potential new firms, which were defined as those founded between 1998 and 2000, was obtained.

Having then derived a list of potential new firms, identical procedures were used in England and Spain to produce lists of new firms. Researchers contacted businesses by phone in order to determine whether they were wholly new independent firms. The study excluded firms that were 'in-moves' to the area, subsidiaries, affiliates and firms created for reducing tax burdens. Face-to-face interviews

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[8] Unfortunately start-up rates are available in Spain only at national level. Firm density is therefore used as the best measure of entrepreneurial activity at regional and county levels.
[9] The GDP per head is higher in Buckinghamshire than in Shropshire and Tees Valley.
[10] In 2001 the Spanish GDP per head was $20,155 compared with $25,479 in the UK.

were then conducted with new firm founders, on the grounds that the researcher was certain these were "real" businesses. The questionnaire was initially designed in English and was translated for the Spanish study. The Spanish questionnaire was tested through a series of extended interviews. During this process it became clear that some questions were not applicable in the Spanish context, and these were eliminated. In addition some questions were asked only of the Spanish firms, but the vast majority of questions were common to both countries. The questionnaire took around an hour to complete and was administered at the normal place of work of the respondent.

The final sample consists of 624 new firms in England[11] and 182 in Spain. However only 231 English firms provided data on employment at start up, whereas this was provided by all Spanish firms, and it is these responses that are used in this paper.[12]

4. MODELS AND VARIABLES

The first model to be tested is a multiple linear regression analysis for start-up size. The number of jobs at the start was not used in this model because this variable has a non-normal distribution that makes it unsatisfactory as a dependent variable in multiple regression analysis. The logarithm transformation of the initial number of jobs is therefore used as a dependent variable.

Table 1 provides means, standard deviations and the range (min, max) for employment variables in each sample. The table clearly shows that the firms examined are small. They had three jobs on average at the start-up. At the time when surveys were carried out, the firm size was around six in both samples. Although mean employment change values are not significantly different in the two samples, standard deviations are higher in the English sample than in the Spanish one for both start-up and 'current' size.

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[11]Given the multi-stage processes necessary to identify this group of new firms, there is no single statistic which is an ideal measure of "response rate". The Tees Valley results illustrate the issue. A total of 2490 "new firms" were identified from the Telephone Directory., and contact was attempted with 2112. Of these, 791 were ineligible on grounds of age, ownership or sector. 278 had ceased trading or moved outside the area, implying an eligible population of 1043. In total 320 firms were interviewed. One estimate of response rate is therefore 320/1043, implying a response rate of 32%. However a total of 336 telephone lines were either disconnected or re-allocated which is likely to be a powerful sign that the business has ceased. If these are also assumed to be "dead" businesses, and the denominator only includes businesses known to be eligible at the time of the Survey, then the response is 320/707 or a rate of 45%. Our, highly subjective, judgement is that the real response rate is likely to be around 40% for Tees Valley. For Buckinghamshire the response rate, comparable to the Tees Valley figure of 45% is 69%, and for Shropshire the comparable figure is 75%. For the Valles Occidental (the Spanish area), the comparable estimation of the response is 182/404, implying a rate of 43%.

[12] The reason for this discrepancy is the English survey asked about employment one, three and five years prior to the interview, but did not ask a specific question about start up. Where the available data corresponded with the year of start up this data was used, but clearly it was not appropriate to use it for all cases. There were no significant differences

Table 1: Employment variables

Variable	English counties					Spanish area				
	N	Mean	Std. Dev.	Min.	Max.	N	Mean	Std. Dev.	Min.	Max.
Start-up size	231	3.39	4.37	1	44	182	3.26	2.65	1	16
Ln (start-up size)	231	.86	.76	0	3.78	182	.40	.31	0	1.20
'Current' size	231	6.11	10.00	1	109	182	5.87	5.16	1	34
Absolute change	231	2.72	8.03	-8	91	182	2.61	4.16	-6	26

The second model considers the factors that influence the probability of a firm having positive, neutral and negative employment change. The ordered probit model provides a method of estimating this probability. In order to look at the different patterns of employment change a categorical variable with ordinal outcomes was constructed. Absolute change was preferred to use for defining the categories instead of relative change because of the very small size of the businesses in both data sets. Within the group of businesses with job gains, a conscious decision was made to separate the fast-growing firms from the firms with a slow employment growth. A cluster analysis was employed to explore the cut point between slow and fast growers. Results showed that fast-growing firms were those with more than four jobs created since the start. This classification is consistent with previous studies trying to isolate rapidly growing firms from the rest of new businesses (e.g. Almus, 2002). Therefore, a categorical dependent variable with four outcomes according to the absolute employment change is used in the second model. The four groups of firms are as follows:

1. Decliners. Firms with negative employment change i.e. firms with job losses.

2. Statics. Firms with no change in the number of jobs.

3. Slow growers. Firms which experience a positive employment growth but only with a small gain of jobs.

4. Fast growers. Firms which have created at least five additional jobs over time.

Table 2 presents descriptive statistics for these four categories of employment change. Perhaps surprisingly, the proportion of firms losing jobs (i.e. decliners) is exactly the same in the two samples (8.2 per cent). The group of fast growing firms represents about 16 per cent in the English sample and about 19 per cent in the Spanish one. The group of statics has the biggest number of firms in the English dataset, whereas slow growers constitute the category with more observations in the Spanish case. Significant differences are found between the four groups of new firms regarding their employment change, as shown in table 2. We will turn to the characteristics of the four groups and especially to their patterns of change over time in the results section.

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between the 624 and 231 cases in terms of sector, age or geography. For Spain a specific question on number of employees at start-up was used.

Table 2: Categories for employment change

Category	English counties[a]						Spanish area[b]					
	N	%	Mean	Std. Dev.	Min.	Max.	N	%	Mean	Std. Dev.	Min.	Max.
Decliners	19	8.2	-2.00	2.05	-8	-1	15	8.2	-2.13	1.77	-6	-1
Statics	99	42.9	.00	.00	0	0	50	27.5	.00	.00	0	0
Slow growers	75	32.5	2.06	1.08	1	4	83	45.6	2.24	1.16	1	4
Fast growers	38	16.4	13.42	15.71	5	91	34	18.7	9.47	4.57	5	26
Total	231	100.0	2.71	8.03	-8	91	182	100.0	2.61	4.16	-6	26

[a] Anova F = 45.088 ***, [b] Anova F = 160.702***

According to the theoretical framework presented in the second section, regressors used in the two estimations can be separated into four main categories, as follows:

- Pre-start variables. Foundation age and age squared of the entrepreneur and three dummy variables for formal qualifications, previous managerial experience and unemployment prior to set up the business give us an insight into the human capital of the new firm founder. Moreover, dummies for using external advice and having a formal business plan before the start-up as well as sources of capital are included as pre-start independent variables.

- At-the-start variables. To consider the legal form of the business, we use a dummy for limited companies. In this paper there are nine industrial dummies that correspond to SIC sections (the omitted variable is other social and personal services). As three geographical areas were included in the English survey, we employ two dummies for the counties of Shropshire and Buckinghamshire.

- Post-start variables. We employ dummies for the introduction of new products, workforce training and formal planning. The 'current' sources of finance and the use of external advice during the first year of operation are also included as dummy variables in the estimation. We use a variable that is a self-reported measure of the owner managerial skills on a five-point scale.

- To control for the different ages of the firms in the databases we introduce age of the firm.

Table 3 provides definitions of all explanatory variables employed in the empirical analysis as well as mean values of these variables in the two samples. In terms of general features of the databases, the firms examined are not only small, but also young: about five years in the Spanish sample and four years in the English one. The full range of sectors by SIC is represented at main section level. The best represented industries in both samples are wholesale and retail trade, manufacturing and business activities.

Table 3: Variable definition and characteristics of the samples

Variable		English counties	Spanish area
Pre-start			
Male	= 1 if male; 0 if female	.76	.69
Age of founder	= age of founder in years when started the business	39.14	38.24
Age^2 of founder	= (age of founder in years when started the business)^2	1629.51	1555.18
Formal qualification	= 1 if founder has formal qualifications; 0 otherwise	.89	.72
Manager	= 1 if founder was a manager prior to the business starting; 0 otherwise	.65	.40
Unemployed	= 1 if founder was unemployed prior to the business starting; 0 otherwise	.22	.24
Support	= 1 if founder used external advice before start-up; 0 otherwise	.85	.70
Business plan	= 1 if founder had a formal written business plan prior to the business starting; 0 otherwise	.58	.43
Start-up personal savings	= 1 if firm used personal savings to establish the firm at start-up; 0 otherwise	.80	.78
Start-up clearing bank loan	= 1 if firm used loans or overdrafts to establish the firm at start-up; 0 otherwise	.27	.36
Start-up friends or relations	= 1 if firm used loans from friends/relations to establish the firm at start-up; 0 otherwise	.20	.09
Start-up public organisations	= 1 if firm had finance from public organisations to establish the firm at start-up; 0 otherwise	.12	.02
At-the-start			
Limited co	= 1 if firm is a limited company; 0 otherwise	.38	.77
Manufacturing	= 1 if firm is in manufacturing; 0 otherwise	.19	.21
Construction	= 1 if firm is in construction; 0 otherwise	.08	.10
Trade	= 1 if firm is in wholesale and retail trade; 0 otherwise	.17	.26
Hotels and restaurants	= 1 if firm is in hotels and restaurants; 0 otherwise	.10	.03
Transport	= 1 if firm is in transport and communication; 0 otherwise	.02	.04
Financial intermediation	= 1 if firm is in financial intermediation; 0 otherwise	.02	.02
Business activities	= 1 if firm is in renting, real state or business activities; 0 otherwise	.25	.18
Education	= 1 if firm is in education; 0 otherwise	.02	.03
Health	= 1 if firm is in health and social work; 0 otherwise	.03	.03
Shropshire	= 1 if firm is in the county of Shropshire; 0 otherwise	30.7	
Buckinghamshire	= 1 if firm is in the county of Buckinghamshire; 0 otherwise	23.8	
Age			
Firm age	= number of years the firm has been trading	3.77	4.88
Post-start			
New products	= 1 if firm has introduced new products since founding; 0 otherwise	.64	.54
Formal plan now	= 1 if firm has a formal written business plan; 0 otherwise	.38	.37
Formal training for workers	= 1 if firm conducts formal training for employees; 0 otherwise	.55	.43
1st year support	= 1 if firm has used external advice during first year of operation; 0 otherwise	.68	.20
Lower prices	= from 1 (much worse than competition) to 5 (much better than competition)	3.33	2.99
Owner managerial skills	= from 1 (much worse than competition) to 5 (much better than competition)	4.09	3.18
Personal savings	= 1 if firm uses personal savings as a 'current' source of finance; 0 otherwise	.19	.17
Clearing bank loan	= 1 if firm uses bank loans or overdrafts as a 'current' source of finance; 0 otherwise	.29	.43
Friends or relations	= 1 if firm uses loans from friends/relations as a 'current' source of finance; 0 otherwise	.07	.01
Public organisations	= 1 if firm uses finance from public organisations as a 'current' source of finance; 0 otherwise	.04	.02

Significant differences between the two samples are found with regard to certain characteristics of the entrepreneur. There are more entrepreneurs with formal qualifications in the English sample. In addition, English surveyed entrepreneurs have a higher managerial experience than their Spanish counterparts. The use of external advice both before and after the start-up is also higher in new firms located in the three English counties. The proportion of limited companies is significantly higher in the Valles Occidental data set than in the English one. Strategic variables such as introduction of new products and formal workforce training are also found to be different. Finally, it is observed that new firms in the Valles Occidental sample use more bank loans or overdrafts in financing the business than in the English counties.

The first two sets of variables (i.e. pre- and at-start) are used as explanatory variables in the regression analysis for start-up size. The strategic factors are introduced in the ordered probit for employment change. It is important to note that firm size at the foundation is also included as independent variable in the probit estimation in order to capture the potential effect of start-up size on subsequent growth. Initial size is measured as the logarithm transformation of the initial number of jobs, as it was in the first equation. The econometric method followed in the estimations is that of a general-to-specific approach. This means that the first model is a very general one including all possible variables. Then the insignificant variables are gradually eliminated in stages in order to obtain a simpler model. In addition, given the interest in the international comparison, separate estimation results by country are reported.

5. RESULTS

Results of the regressions for start-up size are shown in table 4. The explanatory power of the models is rather strong, especially in the regression analysis using the Spanish data. Different human capital variables explain start-up size in the two samples. Perhaps surprisingly, entrepreneurs without formal qualifications are more likely to establish larger firms at the start in the English sample. However, prior managerial experience has a positive effect on the initial size of the firm. Gender is significant in the Valles Occidental equation, indicating that firms created by female entrepreneurs are larger. Start-up size is negatively influenced by unemployment.

Table 4: Multiple regression analysis for start-up size

Variable	English Counties [a]					Spanish area			
	General model		Specific model			General model		Specific model	
	Coef.	t	Coef.	t		Coef.	t	Coef.	t
(Constant)	-.140	-0.16	.997	5.99***		.248	.750	.114	1.505
Male	.080	0.63				-.118	-2.333**	-.109	-2.538**
Foundation age	.038	0.96				-.003	-.174		
Foundation age2d	-.000	-0.81				.000	.042		
Qualification	-.363	-2.83***	-.392	-3.19***		.029	.265		
Manager	.112	1.25	.186	2.07**		.010	.198		
Unemployed	-.010	-0.19				-.099	-1.836*	-.124	-2.635***
Support	.122	0.93				-.031	-.565		
Formal written business plan	.007	0.08				.120	2.482**	.133	3.347***
Start-up personal savings	.130	1.00				-.051	-.998		
Start-up clearing bank	.222	1.98**				.043	.853		
Start-up friends or relatives	.115	0.92				-.023	-.302		
Start-up public organisations	-.130	-0.75				.105	.673		
Shropshire	-.241	-1.97*	-.253	-1.94*					
Buckinghamshire	-.311	-2.54**	-.319	-2.71***					
Incorporated new firm	.294	2.30**	.372	3.10***		.267	4.404***	.263	5.438***
Manufacturing	.277	1.45	.312	1.67*		.275	3.304***	.279	3.712***
Construction	.083	0.39	.068	0.34		.222	2.289**	.220	2.577**
Trade	-.250	-1.40	-.246	-1.65		.081	1.002	.093	1.278
Hotels & restaurants	.508	2.28**	.547	2.69***		.354	2.335**	.282	2.156**
Transport	-.250	-0.93	-.175	-0.61		.098	.797	.116	1.020
Financial intermediation	-.484	-2.21**	-.381	-2.07**		.022	.145	.033	.233
Business activities	.054	0.28	.025	0.14		.014	.171	.017	.219
Education	-.443	-1.61	-.487	-1.88*		.082	.577	.147	1.208
Health	.641	1.55	1.001	2.36**		.185	.1.340	.165	1.270
R^2	.252		.252			.376		.369	
Adjusted R^2	n/a		n/a			.280		.321	
F	4.00***		5.89***			3.93***		7.57***	
Ramsey RESET test: F	0.40		1.94			1.26		.51	
Cook-Weisberg test: chi2(1)	3.32*		7.49***			1.65		1.07	
Number of cases	214		218			174		182	

[a]Note: Regression with robust standard errors.
Significance levels: *p<0.10, **p<0.05, ***p<0.01.

Consistent results across the two samples are found regarding the effect of legal form on start-up size. As expected, firms founded with a limited liability legal form start bigger than the remaining firms do. Industry sectors also appear to play a significant role in determining start-up size in the two samples. Regressors for manufacturing and for hotels and restaurants have a positive and significant influence on start-up size of both English and Spanish firms. It may reflect the need to reach a minimum efficient size in these industries at entry. Other specific significant industrial effects are found in each sample. In the English counties the dummy variable for the health sector is positively related to initial size, while financial intermediation and education sectors are negatively related to start-up size. Larger firms are also more likely to be created in construction in the Spanish area.

Other specific variables are significant in explaining start-up size. Location matters for the scale of entry in the English case: firms in Tees Valley are more likely to start bigger than in Shropshire and Buckinghamshire. It is observed that having a business plan prior to starting the business increases the size of the surveyed Spanish firms.

In sum, the size of new firms depends on industry characteristics as suggested in previous studies (Mata and Machado, 1996; Gorg et al., 2000), but also depends on entrepreneurs' attributes, legal form and other specific additional variables. Once we have analysed the determinants of initial size of new businesses, now we turn into the patterns of subsequent change in size and their determinants.

The first five rows of table 5 present employment variables of the groups of businesses which were defined according to the change in the number of jobs between the start-up and the time of the survey.

Results show the same patterns of employment change in both English and Spanish new firms. Surprisingly, the largest firms at start-up constitute the group of decliners. They have decreased from seven to five jobs in the Spanish case and from six to four in the English one. Thus, these firms have lost on average two jobs. They represent about 8 per cent of total sample in both countries. Decliners converge over time with the group of slow growers. These firms have grown from three to five jobs over time. They are the biggest group of businesses in Valles Occidental (46 per cent). Neutral employment change is observed in a group of very small businesses. These firms have on average about three jobs in the English sample and about two persons employed in the Spanish one. This group of statics is composed of 43 per cent of the businesses in the English sample, while they are about 32 per cent in the Spanish one. Finally, a specific group of fast-growing firms is also identified in both samples, representing between 19 per cent and 16 per cent. These firms started with less than

five jobs and have about eighteen jobs over four years in the three English counties and fourteen over five years in the Valles Occidental.

To sum up, figure 1 presents the path of each group of new firms considering the number of jobs at the start-up and at the time of the survey, on average. The figure clearly shows that the four patterns of employment change are very similar in both samples of English and Spanish surveyed new firms. Many businesses start small and stay small over time. Others firms decline in size which may indicate that they were overly optimistic at the start. Employment growth is very slow for a significant number of new firms and only a small proportion of new firms grow fast.

Figure 1: Four groups of new firms according to employment change over time

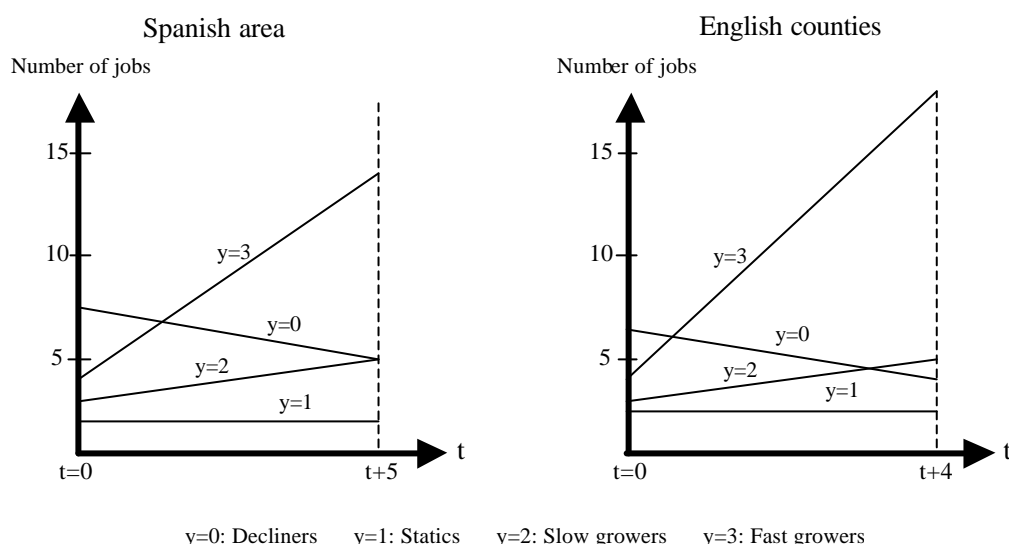y=0: Decliners   y=1: Statics   y=2: Slow growers   y=3: Fast growers

Table 5 also shows the characteristics of each group of new firms in terms of the pre-, at- and post-start factors, classified by employment change rank. Variables representing characteristics of the entrepreneur are found to be very similar, on average, between the four groups. There are no significant differences regarding human capital variables in the English sample and weak significant differences are observed in the Spanish one with regard to age of the founder and unemployment.

Turning to the at-the-start variables, legal form appears to be highly significant. Statics are the group with less proportion of limited companies, both in England and Spain. In other words, this group has a majority of sole owners and partnerships. No sectoral differences are found in the three English counties.

Table 5: Characteristics of the four groups of firms according to employment change

Variable	English counties					Spanish area				
	Decliners	Statics	Slow growers	Fast growers	F-test	Decliners	Statics	Slow growers	Fast growers	F-test
N (%)	19 (8.2)	99 (42.9)	75 (32.5)	38 (16.4)		15 (8.2)	50 (27.5)	83 (45.6)	34 (18.7)	
Employment variables										
Start-up size	6.16	2.71	3.03	4.53	4.568***	7.33	1.92	2.89	4.32	26.232***
Ln (start-up size)	1.58	.71	.73	1.16	10.991***	.82	.19	.38	.57	29.532***
'Current' size	4.16	2.71	5.09	17.95	30.572***	5.20	1.92	5.13	13.79	94.685***
Absolute change	-2.00	.00	2.06	13.42	45.088***	-2.13	.00	2.24	9.47	160.702***
Pre-start variables										
Male	.74	.73	.75	.87	1.039	.53	.68	.73	.68	.848
Foundage	40.42	39.48	38.88	38.11	.299	33.47	39.52	39.16	36.26	2.286*
Foundage2d	1735.47	1660.86	1613.78	1525.05	.373	1170.53	1636.80	1624.16	1438.50	2.004
Formal qualification	.89	.89	.88	.89	.024	.73	.64	.74	.79	.917
Manager	.50	.61	.67	.81	1.931	.33	.29	.43	.53	1.721
Unemployed	.37	.17	.35	.42	1.154	.27	.36	.19	.15	.083*
Support	.78	.86	.85	.86	.285	1.00	.62	.65	.82	3.984***
Business plan	.42	.63	.57	.53	.896	.73	.28	.46	.44	3.636**
Start-up personal savings	.79	.78	.83	.82	.234	.67	.74	.81	.82	.768
Start-up clearing bank	.21	.22	.29	.37	1.189	.40	.24	.42	.35	1.544
Start-up friends/relatives	.21	.23	.15	.24	.751	.20	.02	.12	.09	1.996
Start-up public organisations	.11	.10	.15	.13	.302	.07	.00	.02	.03	.867

Table 5 (cont.): Characteristics of the four groups of firms according to employment change

Variables	English counties					Spanish area				
	Decliners	Statics	Slow growers	Fast growers	F-test	Decliners	Statics	Slow growers	Fast growers	F-test
At-the-start variables										
Limited co	.58	.24	.40	.63	7.702***	.87	.52	.81	1.00	11.326***
Manufacturing	.37	.18	.16	.16	1.578	.33	.12	.18	.35	2.895**
Construction	.05	.07	.09	.11	.258	.13	.14	.05	.18	1.851
Trade	.16	.18	.17	.13	.171	.27	.24	.32	.12	1.866
Hotels and restaurants	.05	.12	.07	.13	.769	.07	.00	.04	.03	.479
Transport	.00	.02	.01	.03	.891	.00	.04	.05	.03	.831
Financial intermediation	.00	.02	.03	.00	.474	.00	.06	.00	.03	.131
Business activities	.21	.22	.25	.32	.477	.07	.20	.24	.06	2.328*
Education	.05	.01	.01	.03	.643	.07	.06	.02	.00	.390
Health and social work	.00	.03	.03	.08	1.033	.00	.00	.01	.12	4.535***
Other services	.11	.13	.17	.03	1.698	.07	.14	.08	.09	.719
Tees Valley	.53	.41	.51	.45	1.821					
Shropshire	.26	.36	.21	.37	.472					
Buckinghamshire	.21	.23	.28	.18	.742					
Age										
Firm age	3.58	3.33	3.97	4.60	3.768**	5.13	4.70	5.05	4.62	.578
Post-start variables										
New products	.47	.60	.67	.76	1.952	.47	.36	.59	.71	3.985***
Formal plan now	.32	.30	.41	.55	2.016	.20	.18	.45	.56	6.023***
Workforce training	.39	.35	.68	.79	11.001***	.47	.08	.53	.71	16.142***
1st year support	.71	.62	.69	.79	1.080	.13	.14	.22	.26	.858
Lower prices	3.29	3.28	3.43	3.26	.363	2.73	3.18	3.02	2.76	.721
Owners managerial skills	3.61	4.03	4.19	4.26	2.418*	2.73	2.94	3.22	3.64	3.483**
Personal savings	.26	.24	.11	.18	1.952	.00	.22	.19	.09	2.018
Clearing bank	.37	.22	.28	.45	2.498*	.60	.26	.45	.59	3.885**
Friends or relations	.05	.10	.00	.13	3.245**	.07	.00	.00	.03	2.309*
Public organisations	.05	.05	.03	.05	.245	.07	.00	.02	.00	1.345

Note: table shows mean values for each variable.
Significance levels: *p<0.10, **p<0.05, ***p<0.01.

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However, manufacturers represent 37 per cent of firms in the group of decliners, while they are between 16 and 18 per cent in the other three groups. Spanish firms in the health sector are mainly found in the group of fast growers.

Several post-start variables appear to be significantly different between the four groups. In the English sample decliners and statics provide less training to their workforce than slow and fast growers. Similarly, only a low proportion of the static firms provides such training in the Spanish sample. In both samples, it is found that the greater the employment growth, the greater the self reported measures of owner managerial skills and the greater the introduction of new products since founding. Moreover, the proportion of firms with formal planning is higher in growing firms than in the rest of businesses. In both samples the two financial variables that are significantly different between the four clusters are loans or overdrafts from bank and loans from friends or relations.

We have identified four patterns of employment change since founding and we have presented the characteristics of each group of new firms. Now we turn into the factors that determine negative, neutral, slow and fast growth of new firms.

Tables 6a and 6b show marginal effects for our preferred specification of the ordered probit estimation in each sample. Results indicate that almost all signs of the significant variables are the same for decliners and statics, while opposite signs are found in the estimations of the two remaining groups (slow and fast growers). Therefore, these results suggest a basic split between the determinants of new firms with job gains and those of new firms with neutral or negative employment change.

In both samples same results are observed regarding a number of variables. First of all, start-up size is highly significant in explaining employment change, thus providing evidence on the previously discussed patterns of change over time. For firms with negative or no change in employment, initial size has a positive effect and a negative and significant effect is found for growing firms. These results agree with other researchers' findings regarding the influence of size on business growth.

Turning to the strategic variables, the second same result in both samples is observed in the human resource strategy variable relating to workforce training. This variable is significant with a high coefficient and is positively associated to a positive change in employment. This may indicate that firms who invest in training their employees are better prepared to grow or that training is a signal of growth.

Table 6a: Ordered probit model, marginal effects. English Counties

Variable	Decliners (y = 0)		Statics (y = 1)		Slow growers (y = 2)		Fast growers (y = 3)	
	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
Male[a]	-.043	-1.43	-.108	-1.83*	.078	1.54	.073	1.91*
Manager	-.036	-1.99**	-.113	-2.10**	.065	2.05**	.083	2.19**
Formal written business plan	.035	1.98**	.110	2.15**	-.055	-1.79*	-.078	-2.17**
Shropshire	-.002	-0.12	-.008	-0.12	.005	0.12	.006	0.12
Buckinghamshire	.028	1.04	.076	1.23	-.052	-1.08	-.052	-1.27
Incorporated new firm[a]	-.013	-0.72	-.043	-0.72	.016	.52	.031	0.71
Manufacturing[a]	-.028	-1.22	-.108	-1.05	.051	1.61	.085	0.95
Construction[a]	-.027	-1.26	-.115	-0.98	.052	2.80***	.093	0.86
Trade[a]	-.018	-0.73	-.066	-0.65	.051	1.78*	.050	0.61
Hotels & restaurants[a]	-.025	-1.15	-.101	-0.94	.041	1.25	.080	0.84
Transport[a]	-.047	-3.24***	-.375	-5.10***	-.145	-.79	.567	2.21**
Financial intermediation[a]	-.037	-1.88*	-.209	-1.12	.001	.01	.204	0.80
Business activities[a]	-.011	-0.42	-.038	-0.39	.040	1.00	.028	0.38
Education[a]	.033	0.34	.078	0.46	-.001	-.01	-.051	-0.49
Health[a]	-.044	-3.00***	-.278	-2.46**	.034	.62	.307	1.56
Training[a]	-.093	-3.28***	-.246	-4.67***	.136	3.51***	.183	4.49***
New products[a]	-.036	-1.66*	-.101	-1.96*	.054	1.55	.070	1.99**
Plan now	-.031	-1.85*	-.100	-1.97*	.054	1.80*	.071	1.98**
Owner managerial skills	-.019	-2.00**	-.062	-2.12**	.030	1.79*	.044	2.14**
Firm age	-.009	-2.05**	-.029	-2.23**	.017	2.17**	.020	2.24**
Start-up size	.034	2.52**	.109	2.75***	-.066	-2.56**	-.077	-2.79***

[a] dy/dx is for discrete change of dummy variable from 0 to 1
Significance levels: *p<0.10, **p<0.05, ***p<0.01.

Table 6b: Ordered probit model, marginal effects. Spanish area

Variable	Decliners (y = 0)		Statics (y = 1)		Slow growers (y = 2)		Fast growers (y = 3)	
	dy/dx	z	dy/dx	z	dy/dx	z	dy/dx	z
Support[a]	.036	2.41**	.142	2.68***	-.054	-2.19**	-.124	-2.32**
Incorporated new firm[a]	-.151	-2.70***	-.261	-4.78***	.255	3.35***	.157	4.65***
Manufacturing[a]	-.028	-1.50	-.116	-1.39	.041	1.90*	.103	1.16
Construction[a]	-.018	-0.93	-.075	-0.81	.028	1.34	.065	0.69
Trade[a]	.022	0.69	.067	0.79	-.043	-0.69	-.046	-0.84
Hotels & restaurants[a]	-.032	-2.20**	-.174	-1.72*	-.013	-0.12	.219	1.01
Transport[a]	-.010	-0.32	-.037	-0.28	.017	0.36	.030	0.26
Financial intermediation[a]	.093	0.73	.169	1.41	-.173	-0.86	-.090	-1.83*
Business activities[a]	.064	1.22	.151	1.81*	-.123	-1.33	-.091	-2.09**
Education[a]	.175	1.14	.217	3.82***	-.281	-1.61	-.111	-3.54***
Health[a]	-.040	-2.86***	-.273	-6.98***	-.365	-1.69*	.678	2.97***
1st year support[a]	-.027	-2.01**	-.113	-1.97**	.039	2.01**	.102	1.65*
Training[a]	-.058	-2.66***	-.196	-3.55***	.092	2.56**	.161	3.23***
Plan now[a]	-.036	-2.20**	-.131	-2.48**	.059	2.21**	.108	2.22**
Owner managerial skills	-.020	-2.49**	-.070	-2.92***	.039	2.35**	.052	2.92***
Public organisations[a]	.352	1.25	.196	1.81*	-.427	-2.40**	-.121	-4.48***
Firm age	-.002	-0.47	-.005	-0.47	.003	0.47	.004	0.47
Start-up size	.102	2.73***	.049	3.75***	-.193	-2.47**	-.259	-3.28***

[a] dy/dx is for discrete change of dummy variable from 0 to 1
Significance levels: *p<0.10, **p<0.05, ***p<0.01.

Third, formal planning has a positive and significant marginal effect on employment growth. Moreover, new firms with business plan are more likely to be decliners in the English sample. As suggested in previous research, merely writing a business plan has little implication for growth and what counts is how you use that plan to look ahead (Reid and Smith, 2000).

Fourth, the variable measuring owner managerial skills is also positively and significantly related to growth. This result may indicate that an entrepreneur's skills and competencies are an important form of expert power that facilitates the implementation of the entrepreneur's vision and strategy (Baum et al., 2001). In general, these entrepreneurial skills may serve as sources of competitive advantage that rivals find difficult to identify and imitate.

Results show that there are sector-related differences for the probability of having negative, neutral and positive growth. Strong significant effects are observed in a number of industries in each sample. However, different industries are found to have a significant effect. Construction firms are more likely to be slow growers, while businesses in transport and business activities are less likely to be decliners in the English counties. Health sector has a positive effect and education sector a negative effect in the specification for fast growing firms in the Valles Occidental.

Results also indicate that several significant variables in the ordered probit estimations are country-specific. Turning to the starting resources of the entrepreneur and pre-start factors, results show that employment growth is positively correlated with previous managerial experience of the founder only in the English Counties. Male entrepreneurs are more likely to create fast-growing businesses and less likely to become statics, but the effect of this variable is only at a 90 per cent level of confidence. Founder-specific characteristics don't appear in the specific model for Valles Occidental.

In the English case there is no significant relationship between employment change and the use of external advice, as previous findings in the UK indicate (Westhead and Birley, 1995). On the contrary, those Spanish founders establishing either a fast or slow growing business (i.e. positive employment change) are more likely to use external advice once the firm operates in the market, while decliners and statics are more likely to use advice prior to start-up.

We find that new firms introducing new products more often advance to fast flying businesses in the English sample. Interestingly, location is not significant for employment change (i.e. dummies for the English counties are not significant), while this variable has appeared in the start-up size model. No effects are found with regard to sources of finance.

As expected, firms with limited liability realise higher growth than firms in which the founder is liable with their private fortune. This result is observed only in the Spanish sample of new firms. Finally, findings of special interest for public institutions are found in the Spanish case regarding sources of finance used by new firms. Those firms which 'currently' use finance from public organisations are more likely to be statics and less likely to become fast growers.

To sum up, results of the ordered probit have shown that start-up size, sector and three strategic factors are highly relevant for employment change in both samples. Other factors, pre-, at- and post-start, appear to influence growth only in one of the two countries.

6. CONCLUDING REMARKS

This study has focused on the determinants of initial size and employment change of new businesses in Britain and Spain. These countries were selected on the grounds that the former could be viewed as a clear lightly regulated (LR) economy, whereas Spain was a clear heavily regulated (HR) economy. In a world "league table", Britain was in fifth place and Spain in fifty-fifth place, out of eighty-five countries. The paper argued that the effect of these differences in regulatory framework would influence the characteristics of those founding new businesses, and so also influence their subsequent growth.

The key findings of the paper, however, point to similarities rather than differences in new firms established in LR and HR economies. Not only are the firms of similar size at start up, and after four to five years of life, but the factors that explain initial size and subsequent growth are also broadly similar. These findings may be explained by the fact that the current study includes a high proportion of new firms that do not appear in official statistics for Spain and Britain, whereas prior work has focused on new "registered" or official businesses.

Our results show that initial size is strongly influenced by human capital variables. In both economies the background and starting resources of the entrepreneur are very important in determining start-up size. A particularly interesting result is that limited liability legal form has a significant and positive effect on start-up size in both countries, yet it is this legal form which might be expected to deter entrepreneurs in a HR economy.

Results on growth in new firms also show striking similarities between the LR and HR economies of England and Spain. The proportion of new firms that become *growers, statics and decliners* is very

similar. It is also the case that patterns of growth are very similar, as are the factors explaining that growth. Positive effects found with regard to the self-reported measure of skills suggest that firm growth may depend on the entrepreneur's ability to acquire skills through learning-by-doing. Considering that management skills are key elements for employment growth, public policy should try to enhance entrepreneurial vitality by equipping entrepreneurs with the necessary skills.

There are, of course, some differences between the LR and HR economies. For example, founder-specific characteristics, some industrial sectors and the use of external advice and sources of finance differ between the countries. We find that finance from public organisations is a significant variable explaining employment change in the Spain. The use of external advice by the Spanish businesses, which is provided mainly by public agencies, is also positively and significantly related to employment change. This contrasts with the English firms where it is non significant.

Our overall judgement therefore is that the simplistic view that a HR economy produces smaller, slower growing firms in comparison with a LR economy is not supported by the evidence in this paper. It does not imply that regulation is irrelevant to the formation and growth of SMEs, but perhaps suggests that for developed democratic economies such as Spain and England the dfferences appear less than might have been expected.

This not-proven verdict points to the need in future research, as a minimum, to extend the range and number of countries included. It is also necessary to monitor the performance of the firms, rather than conduct snapshots. But, given the importance of the topic to those currently formulating public policy, our view is that the not-proven verdict should be a cause for policy makers in the European Union to look again at the real impact that regulation has on small and new firms.

REFERENCES

Almus, M. (2002), What Characterizes a Fast Growing Firm, *Applied Economics*, Vol. 34, pp.1497-1508.
Almus, M., Nerlinger, E.A., (1999), The Growth of New Technology-based Firms: Which Factors Matter? *Small Business Economics*, Vol. 13, pp.141-154.
Almus, M., Nerlinger, E.A., (2000), Testing "Gibrat's Law" For Young Firms – Empirical Results For West Germany, *Small Business Economics*, Vol. 15, pp. 1-12.
Audretsch, D.B., Acs, Z.J., (1994), New Firm Start-Ups, Technology, and Macroeconomic Fluctuations, *Small Business Economics*, Vol. 6, pp. 439-449.
Basu, A., Goswami, A. (1999), Determinants of South Asian Entrepreneurial Growth in Britain: A Multivariate Analysis, *Small Business Economics*, Vol. 13, pp. 57-70.
Baum, J.R., Locke, E.A., Smith, K.G., (2001), A Multidimensional Model of Venture Growth, *Academy of Management Journal*, Vol. 44, No. 2, pp. 292-303.
Bertrand, M and Kramarz, F., (2002), "Does Entry regulation hinder job creation? Evidence from the French Retail Industry", *Quarterly Journal of Economics*, Vol. 117, No.4, November, pp1369-1413

Brixy, U and Kohaut, S. (1999), Employment Growth Determinants in New Firms in Eastern Germany *Small Business Economics*, Vol.13, No.2, September, pp.155-170.

Bruderl, J and Preisendorfer, P. (2000), Fast Growing Businesses: Empirical Evidence From A German Study, *International Journal of Sociology*, Vol. 30, No 3, pp.45-70.

Burke, A.E., FitzRoy, F.R.., Nolan, M.A. (2000), When Less Is More: Distinguishing between Entrepreneurial Choice and Performance, *Oxford Bulletin of Economics and Statistics*, Vol. 62, No 5, Dec, pp.565- 587.

Cooper, A.C., Gimeno-Gascon, F.J. and Woo, C.Y. (1994), Initial Human and Financial Capital As Predictors Of New Venture Performance, *Journal of Business Venturing*, Vol. 9, No 5, pp. 371-395.

Davidsson, P, Kirchhoff, B, Abulnassor, H,J, Gustausson, H. (2002) Empirical Analysis of Business Growth Factors Using Swedish Data, *Journal of Small Business Management*, Vol. 40, No 2, October, pp. 332-349.

Delmar, F., Shane, S. (2003) Does Business Planning Facilitate the Development of New Ventures, *Strategic Management Journal*, Vol. 24, pp. 1165-1185.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., Shleifer, A. (2002), The regulation of entry, *Quarterly Journal of Economics*, Vol. CXVII, Issue 1, pp. 1-37.

Evans, D.S. (1987), Tests of Alternative Theories of Growth, *Journal of Political Economy*, Vol. 95, No. 4, pp. 657-674.

Gibrat, R. (1931), *Les Inégalités Économiques*, Dunod: Paris.

Gimeno, J., Folta, T., Cooper, A., Woo, C. (1997), Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming forms, *Administrative Science Quarterly*, Vol. 42, pp. 750-783.

Gorg, H., Strobl, E., Ruane, F. (2000), Determinants of Firm Start-Up Size: An Application of Quantile Regression for Ireland, *Small Business Economics*, vol. 14, pp. 211-222.

Greene, F.J., Mole, K.F., Storey, D.J. (2004), Does More Mean Worse? Three Decades of Enterprise Policy In The Tees Valley, *Urban Studies* Vol. 41, no. 7, pp. 1207-1228.

Kaufmann, D., Kray, A. and Zoldo-Lobaton, P. [1999], 'Aggregating Governance Indicators', www.worldbank.org/wbi/governance

Mata, J. (1996), Markets, Entrepreneurs and The Size of New Firms, *Economic Letters*, Vol. 52, pp. 89-94.

Mata, J., Machado, J.A.F. (1996), Firm Start-up Size: A Conditional Quantile Approach, *European Economic Review*, vol. 40, pp. 1305-1323.

Mole, K., Greene, F.J., Storey, D.J. (2002), Entrepreneurship in Three English Counties, Paper presented at the 25th ISBA Conference, Brighton.

Nicoletti, G. and Scarpetta, S. (2003), 'Regulation, Productivity and Growth: OECD Evidence', World Bank. New York.

Pryor, F.L. (2000), "Quantitative notes on the extent of governmental regulations in various OECD nations", *International Journal of Industrial Organization,* Vol. 20, pp. 693-714

Reid, G.C and Smith, J.A. (2000) What Makes a New Business Start-Up Successful?, *Small Business Economics,* Vol.14, No.3, pp.165-182.

Robson, P.J.A. and Bennett, R.J. (2000), SME Growth: The Relationship with Business Advice and External Collaboration, *Small Business Economics*, Vol. 15, No. 3, pp. 193-208.

Romanelli, E. (1989), Environments and Strategies of Organization Start-up: Effects of Early Survival, *Administrative Science Quarterly*, Vol. 34, pp. 369-387.

Scarpetta, S, Hemmings, P, Tressel, T and Woo, J. (2002), "The role of policy and Institutions for Productivity and Firm Dynamics: evidence from Micro and Industry data", Economics Dept Working Paper, No. 329, OECD, Paris

Storey, D.J. (1982), *Entrepreneurship And The New Firm*, London: Croom Helm.

Storey, D.J. (1994a), The Role of Legal Status in Influencing Bank Financing and New Firm Growth, *Applied Economics*, Vol. 26, pp.129-136.

Storey, D.J. (1994b), *Understanding the Small Business Sector*, London: Routledge.

Storey D.J. and Strange, A. (1993), *Entrepreneurship in Cleveland 1979-1989: A Study of the Effect of the Enterprise Culture*, Employment Department Research Series No.3, January.

Wagner, J. (1992), Firm Size, Firm Growth, and Persistence of Change: Testing Gibrat's Law with Establishment Data from Lower Saxony, *Small Business Economics*, Vol. 4, pp. 125-131.

Westhead, P., Birley, S. (1995), Employment Growth In New Independent Owner-Managed Firms in Great Britain, *International Small Business Journal*, Vol. 13, No. 3, pp. 11-34.