"PATTERNS OF ENTRY AND SURVIVAL OF WORKER COOPERATIVES" [*]

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ABSTRACT

In this study, we examine the effect of market environment, agglomeration economies and firm resources/strategy on market entry and business survival. More specifically, a comparative analysis is conducted to identify the determinants of entry and performance of three associative legal forms at firm start-up: worker cooperatives, public-owned and limited-liability companies. On the one hand, our results suggest that market entry of cooperatives is sensitive to market structure. On the other hand, the survival rate of cooperatives is explained by internal factors of the organisation such as initial firm size. Furthermore, our study confirms that a strong cooperative culture in a local economy not only contributes to the formation and development of cooperative firms, but also has a positive influence on the entry of other legal forms of organisation (i.e. public owned companies), adding greater corporate diversity and enhancing the economic development of the local region.

KEYWORDS

firm entry, survival, agglomeration economies, worker cooperatives

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1. INTRODUCTION

Over recent decades , the subject of business demography has attracted the attention of numerous scholars. Studies conducted in this field have attempted to reveal the influential factors for the formation, survival and death of venture firms. To our knowledge, the linkage between corporate culture and business demography has not been sufficiently explored in the literature. Although measuring cooperative culture in its full scope is not an easy task, we consider that the legal form under which a firm operates partly describes the culture and raison d'être of an organisation. Our aim is to fill the gap in the literature, and thereby, to examine the determinants of market entry and business performance of organisations with distinct associative legal forms: worker cooperativ e, limited-liability and public-owned companies. More specifically, we will centre our attention to worker cooperative firms due to the lack of studies on this type of companies.

The worker cooperative business model is not very widespread in capitalist economies. In France, cooperatives represent no more than 0.5% of firms (Pérotin, 2004a), while in Spain this figure rises to 0.9% (INE – Spanish Institute of Statistics – 2000). The Basque Country is a European region with a relatively high percentage of worker cooperatives, which in our opinion merits further analysis. In certain areas of the Basque region this percentage is twice or even three times higher than that in Spain or in France (i.e., the percentage of cooperatives is between 1% and 3% over the entire population of Basque firms). Undoubtedly, the cooperative tradition in the Basque economy makes this area an interesting region for the study of the relationship between a cooperative corporate culture, and the formation and survival of these firms.

Jones (1979) defined worker cooperatives as companies in which the majority of workers are stock-owning members, who take part in the management and control of the organisation and share out both the profits

and losses generated by the cooperative. Staber (1989) adds that the main purpose of cooperatives is to generate employment and to keep business control in hands of the workers. These characteristics contribute to the development of a corporate culture that, to a large extent, may contribute to prolonging business endurance.

Carroll and Hannan (2000) state that the entrepreneurial capacity of a region is partly determined by its organisational diversity. However, very few studies have been conducted on the way in which cooperative culture determines the formation and survival of firms. The scant studies conducted by authors such as Ben-Ner (1988), Staber (1993) and Pérotin (2004a) focus on analysing the relationship between the formation, death and survival of cooperatives and macroeconomic factors. As Staber (1993) indicates, the results obtained are incomplete and often contradictory. Our study is an attempt to shed some light to the aforementioned puzzling results of the literature, and to contribute with new findings to this unexplored area.

In particular, we aim at examining how corporate culture influences the formation and survival of worker cooperatives. Moreover, we take a step further, and study the relationship between corporate culture and firm demography of other associative legal forms, such as public-owned and limited-liability companies. The choice at firm start-up of any of these legal forms is justified by the fact that business owners acquire rights and obligations that vary from one legal form to another. We expect that the personal contribution and commitment of venture owners at business inception determine the corporate culture embedded in an organisation which, in turn, influences the formation and survival of firms.

The paper is organised into five sections. Section two draws on industrial organisation theory and the resource based view (RBV) literature to describe the determinants of business formation and survival. Data and methods applied in our study are explained in section three. After interpretation of results, we outline main conclusions and implications in the last section of the paper.

2. LITERATURE REVIEW

In recent years, several theoretical and empirical studies have observed patterns of business behaviour and demography that are constantly repeated across industry sectors and geographical areas. The seminal work by Geroski (1995) identifies a series of stylised facts which summarize these general trends. First, market entry of new firms is a common economic process, where entry rates seem to be higher than penetration rates. Secondly, market entry and exit rates are highly and positively correlated, suggesting that a large number of new market entrants displaces a large number of old firms and the total number of firms does not vary significantly. Lastly, this displacement effect has a negative impact on business survival. Together with age, company size is positively correlated to the survival of firms. We have noticed that all these premises are applicable to Basque worker cooperatives.

Static industrial organisation theory states that market entry depends mainly on the profits expected by a new entrant. Dynamic models, in contrast, defend that the process of firm entry and exit depends on the Schumpeterian mechanism of innovation (i.e., creative destruction). Under this perspective, we have distinguished three groups of factors widely examined in the literature, which determine business formation and survival: market environment, agglomeration economies, and firm internal resources/strategy.

2.1 Market Environment

The majority of studies that have analysed the effect of the economic cycle on firm creation have emphasised the pro-cyclical nature of market entry. During periods of economic expansion, more firms are created while, in times of crisis, the number of new ventures decreases. Yamawaki (1991) concluded that Japanese manufacturing companies were sensitive to economic cycles. The net market entry of manufacturing firms was positively associated with economic growth. Mata and Portugal. (1994) reached similar conclusions in a more recent study.

Theoretical models relating economic cycle to the formation of cooperatives, however, make special mention of the counter-cyclical nature of new entrants, which sets them apart from other firms. According to

Ben-Ner (1988), the formation of worker cooperatives increases in times of recession and declines during periods of economic growth.

Pérotin (2004a) demonstrated the counter-cyclical nature of new French cooperatives. Economic recession had a positive influence on cooperative formation, although the level of significance was not very high. On the other hand, in a study conducted on all cooperatives in Maritime Canada during 1900-1987, Staber (1993) found that the formation of cooperatives was independent of the economic cycle.

The unemployment rate can also determine the entry of new firms on the market. Lack of access to the local labour market can drive an unemployed person into starting-up a new company. In turn, the formation of new companies has a positive effect on employment in the region, thus reducing the rate of unemployment. Nonetheless, a high unemployment rate can also trigger a reduction in aggregate demand, which can slow down the creation of new activities (Storey, 1991). Nonetheless, there is no conclusive evidence about this relationship in the literature. While some empirical studies confirm a positive relationship between high unemployment rates and the formation of new firms (Armington and Acs, 2002), others find a weak support of this linkage (Vivarelli, 2001; Morales, 2005), or even a negative effect (Reynolds et al 1995).

As far as cooperatives is concerned, again, we find mixed results in the literature. Staber (1993) found that unemployment rate does not determine the formation of new cooperatives. However, Pérotin's study (2004a) on French cooperatives claims that they actively respond to the rate of unemployment.

The relative entry rate registered in a local industry can also determine the formation of new firms. According to Geroski (1995) high entry rates are often associated with high rates of innovation and high competition, factors that always offer possibilities to create new firms. Therefore, entrepreneurs find innovative industries with high entry rates more attractive than others. Similarly, the relative entry rate in the sector also determines the survival of firms. Entrepreneurs who start up their business in sectors with high entry rates face greater competition, which makes survival difficult (Mata et al. 1995). In fact, Geroski (1995) states that the displacement effect in dynamic sectors mainly affects young companies. Along these lines, Audretsch and Mahmood (1995) concluded that highly innovative sectors characterised by strong competition revealed a higher

risk of company death. Therefore, greater competition has a positive effect on the formation of new firms, but a negative effect on survival. The new cooperatives are also attracted to dynamic sectors in which other cooperatives have entered and managed to compete. Nonetheless, this greater dynamism and turbulence of markets will also have a negative influence on the survival of new worker cooperative entrants.

According to the industrial organisation literature, the degree of market concentration may increase or reduce the sector's attraction in the eyes of potential new entrants. According to Shapiro and Khemani (1987), there is a higher probability that established companies detect new competitors in very concentrated sectors, and use aggressive strategies in response to their entry, indicating that concentration acts as a barrier for entry into the sector. In other words, atomistic markets favour entry, whereas market concentration deters entrants. Following this line of thinking, Aranguren (1999) found a negative relationship between sector concentration and gross and net entries in the sector. Acs and Audretch (1989) showed that a high sector concentration considerably slows down the entry of small enterprises, while large companies have more resources to overcome entry barriers.

High entry rates are also observed in sectors with high exit rates (Geroski, 1995). Entry and exit seem to be a part of the same process, where the new firm fills the place that the previous company has abandoned. These gaps, which entrepreneurs observe in the market, encourage the formation of new firms. This substitution process can be registered between companies with identical legal form (i.e. a new cooperative replaces a previous cooperative), but substitution processes between companies with different legal forms are also registered, what suggest that there is also a cultural replacement. Thus, based on the above mentioned arguments, we propose the following hypotheses:

> **Hypothesis 1a:** An adverse market environment, low sector concentration, and a strong substitution process will have a positive effect on market entry rates of worker cooperatives.

> **Hypothesis 1b**: A higher atomism of markets and heavier market competition will have a negative effect on cooperative firm survival.

2.2 Agglomeration Economies

Conventional wisdom states that even companies operate in the same industry sector, their behaviour and business performance is usually different. Hence, factors describing industry sector characteristics are not the only determinants to explain firm demography (i.e., market entry and survival). Rather, we need to take into account the effect of other external factors to the firm, such as the existence of agglomeration economies within a specific location.

In the 1990s, the theory of geographic economics gained popularity largely due to the contribution of authors such as Krugman. We often witness the concentration of industries in specific regions. The concentration of companies generates positive externalities and encourages knowledge spillovers. Positive externalities determine company dynamism as they attract companies that expect to obtain profits by being located in this particular setting as opposed to an other (Morales and Peña, 2003).

Moreover, the degree of specialisation of the population of a local area can also help with the transfer of knowledge in that region. For example, if an area has a university specialising in technical studies, this can attract firms that are intensive users of technical resources (i.e., Sillicon Valley, Stanford University and the semiconductor industry). Similarly, entrepreneurs who used to work in a specific industry sector can decide to start-up a company in the same economic activity and the same location, using the knowledge they acquired and accumulated in the past (Vivarelli, 2001).

The dilemma is knowing whether these spillovers occur most in specialised or diversified regions. According to Glaeser et al. (1992), knowledge spillovers flow more easily in regions with heavy sector concentration (the so-called Marshall-Arrow-Romer externality). In contrast, Jacobs argues that the positive effects of externalities are due to the exchange of knowledge between companies from different sectors. Empirical studies draw ambiguous conclusions. Reynolds et al. (1995) conclude that areas with greater diversity have a higher company formation rate. In contrast, Alañon et al. (2005), conclude that the specialisation of labour in a particular region attracts new companies to that location.

The economic literature does not explain how district specialisation can influence the formation and survival of cooperatives. Nonetheless, we believe that the agglomeration economies deriving from the specialisation of the employed population of a region will have a similar influence on cooperatives as it has on organisations with other associative legal forms.

Additionally, the cooperative business culture embedded in a given region could generate positive externalities contributing to the formation of new firms that inherit the same corporate culture. Certainly, the formation of a specific type of company could be determined by its external environment, as this is what legitimates the cooperative model (Pérotin, 2004a, Staber, 1993). Thus, we can confirm that, in locations with a high density of cooperatives whose inhabitants have received cooperative training, new cooperative companies can benefit from the externalities offered by the culture of their environment.

In fact, as indicated in the Statement on Cooperative Identity of the International Cooperative Alliance, cooperatives try to strengthen the cooperative movement by working together using local, national, regional and international structures. That is to say, they try to generate positive externalities that will contribute to the expansion and reinforcement of this business model. Moreover, empirical studies confirm that "cooperatives benefit by being located in a district, sector or value chain with many cooperatives." (Smith, 2001) and positive externalities are generated in environments with a heavy cooperative density (Halary, 2006), thanks mainly to collaboration agreements between different cooperative organisations.

Nevertheless, if the density of certain type of companies (i.e. worker cooperatives) is very high in the local area, the entrepreneurs can expect a saturation of this business model, what reduces the possibilities to obtain environmental positive externalities. Thus, as Pérotin (2004a) suggests there may be a quadratic relationship between business culture and the creation of organizations of the same culture. All of this leads us to our second hypothesis:

> **Hypothesis 2:** Both the deeper cooperative culture embedded in a specific location and the greater sector specialisation of the employed population in that local area, are positively associated with the formation rate and survival of cooperative firms, whereas a saturation of the cooperative culture is negatively related to the creation of worker cooperatives.

2.3 Firm Resources/Strategy

The resource based view of the organisation (RBV) suggests that the key to success lies inside the company. Firm internal endowment of assets and their specific attributes can determine business performance (Barney, 1991). We could classify internal resources as tangible and intangible resources. Tangible resources include physical assets. One way to measure the asset endowment of a firm is by looking at its size. The economics literature has paid special attention to the relationship between the company's initial size and market entry. In fact, as defended by Arauzo and Segarra (2005), the determinants of entry are not independent of size.

Similarly, initial size can also affect the survival of a firm. In fact, companies of a considerable initial size can compete more efficiently than small companies, due to competitive advantages attributable to large corporations (i.e., such as economies of scale and economies of scope). Segarra and Callejón (2000), Audretch and Mahmood (1995) and Mata et al. (1995) empirically demonstrated the positive relationship between the initial size of the firm and its likelihood of survival.

In addition to the internal resources, the strategy implemented by a firm can influence venture survival. Barney (1991) states that companies benefit from sustainable competitive advantages by implementing successful strategies which deploy internal resources and develop core competencies over time. Many new companies enter the market with a lower-than-optimum initial size and frequently adopt growth strategies in order to reach the minimum efficient size. Because of the importance of reaching the minimum efficient scale in some economic sectors, the economic literature has studied in depth the relationship between firm size and growth.

Geroski (1995) concluded that the survival and growth of firms depended on their size, which means that the dynamism of small companies differs from that of large companies. Gibrat's Law (known as the Law of proportional effect) states that the probability of distribution of growth rates is the same for all sizes. Therefore, if Gibrat's Law holds true, there will be no differences in the mean and variance of the growth rate of firms of different sizes. However, there are countless empirical studies demonstrating that Gibrat's Law does not hold

true for small companies (i.e. small companies have higher growth rates than large companies), suggesting that small companies with a rapid growth can reduce the risk of death (Dunne and Hughes, 1994).

Nonetheless, we cannot disregard the fact that an unbalanced company growth can lead to disastrous consequences for new companies. As indicated by Arias et al. (2005), if a company "fails to seize its production capacity, forcing it into debt to respond to an overestimated firm growth rate, and does not recover enough as to justify the initial capital investment, it may fail in the end, even though the market conditions are favourable".

There may also be companies that, instead of using a strategy of expansion in the same economic sector and geographical location, decide to change their business and launch a sector diversification strategy or to transfer their business to a different location with better conditions for carrying out the same business. Regardless of the reasons leading the company to take these decisions, they will always respond to a strategy for adaptation and improvement of the current situation, which will allow them to survive longer.

In a way, corporate culture can determine a company's strategy. For example, one of the aims of most cooperatives is to create jobs, which encourages the growth of cooperative companies. At the same time, the cooperatives work to ensure sustainable development in their communities by member-approved policies, which to a large extent, retain firms in the local area. Due to the gap in the literature on this phenomenon, we consider an important research task to examine the relationship between firm resources, the market adaptation strategy adopted by cooperatives, and their survival.

> **Hypothesis 3:** As firm initial size and the number of attempts to adapt to market conditions increases (i.e., diversification strategies which include changes in economic activity, in location and business expansion), the survival period of worker cooperatives becomes longer.

To sum up, Figure 1 exhibits our conceptual framework from which hypotheses are formulated. Market entry and survival of cooperative firms are influenced by variables related to the market environment, agglomeration economies and the firm's resources–internal strategies.

Insert *Figure 1* here
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3. DATA AND METHODS

We use the DIRAE database supplied by EUSTAT (the Basque Institute of Statistics) for the years 1993-2003, which contains approximately a population of 160,000 firm start-ups in the Basque region. We define two units of analysis for our study: the market (i.e., to examine market entry) and the firm (i.e., to examine business survival). Our database contains the following information for each firm: year of firm formation, year of business closure, start-up location, industry sector of the firm both at inception and closure, the legal form of the firm, and firm size measured by employment categories.

3.1 Sample

Our sample includes 67,594 observations, which corresponds to firms that started-up between 1993 and 2003 with one of the following associative legal forms: worker cooperative, limited-liability and public-owned companies. We did not include personal firms (i.e., self-employment) nor other associative legal forms such as religious or government organisations because they are not the focus of our study.

Insert *Table 1* here

As illustrated in Table 1, the vast majority of companies were set up with the legal form of limited-liability companies. About 4 % of entrepreneurs decided to start-up worker cooperative companies. We also observe differences in the participation of each associative legal form between the three provinces of the Basque Country. While in Gipuzkoa worker cooperatives represent 5% of the associative companies, in Bizkaia are not

more than 3,4%. Contrarily, the participation of public-owned companies is lower in Gipuzkoa than in the other provinces. Limited liability companies represent the majority of the companies in all three provinces.

3.2 Dependent Variables

Firstly, we analyse the factors determining market entry (i.e., firm start-up) of the diverse types of legal association. We created three dependent variables, one for each associative legal form, that measure the relative entry rate by type of firm in the location i, sector j and year t. These variables are $TERC_{i,j,t}$ for cooperatives (number of cooperatives formed in location i, sector j, and year t / total number of cooperatives in location i, sector j, year t), $TERL_{i,j,t}$ for limited-liability companies (number of limited-liability companies formed in location i, sector j, and year t / total number of limited-liability companies in location i, sector j, year t) and $TERA_{i,j,t}$ (number of public-owned companies formed in location i, sector j, and year t / total number of public-owned companies in location i, sector j, and year t) for public-owned companies.

Secondly, we look in detail at the factors influencing survival of the different types of firm (i.e., worker cooperatives, limited-liability and public-owned firms). For this purpose, we create a single dependent variable, SUPERVIV, which measures the number of years from firm inception to closure, or until the end of its registration in the database.

3.3 Independent Variables

In order to explain the processes of entry and survival of the different types of firm, three groups of explanatory variables were chosen, which are related to the explanatory factors discussed in our literature analysis section: market environment, agglomeration economies and the internal strategy/resources of the firm.

- Variables related to the market environment: this group includes variables describing the evolution, structure and level of competition of the market. For market evolution, we created three independent

variables, GR-1$_t$, UNEMPL-1$_{i,t}$ and TER$_{ijt}$. The GR -1$_t$ variable refers to the rate of economic growth in the Basque Country with a one-year time lag, while the UNEMPL-1$_{i,t}$ variable measures the rate of unemployment in the local area, with a one-year lag. The use of these variables is common in studies relating the economic environment to the formation of cooperatives (Pérotin 2004a and Staber 1993). Sector rivalry is measured through diverse variables. The TER$_{ijt}$ variable refers to the general relative creation rate in a concrete industry and location area. In survival analysis we include three more independent variables that measure sector rivalry depending on the legal form of the firm. For the analysis of cooperatives, the variable TERC$_{ijt}$ is used, for limited-liability companies we used TERL $_{i,j,t}$ and for public-owned companies, we used TERA $_{i,j,t}$. These variables are independent in survival analysis and dependent in entry analysis. To measure the structure of the sector, the ATOM$_{j,t}$ variable was created, which refers to the percentage of firms with less than 10 employees out of the total firms in the sector j and year t.

Lastly, to measure the market opportunities created by the empty niches that generate the exit of established companies, the following variables are used: for worker cooperatives TSRC$_{i,j,t}$ (Number of cooperatives closed down out of the total cooperatives in location i, sector j and year t). For limited-liability companies, TSRL $_{i,j,t}$ (Number of limited-liability companies closed down out of the total limited-liability companies in location i, sector j and year t) and for public-owned companies TSRA $_{i,j,t}$ (Number of public-owned companies closed down out of the total public-owned companies in location i, sector j and year t).

- Variables related to agglomeration economies: to measure the positive externalities generated by the external environment, five variables were created. The ESPGEO$_{i,j,}$ variable, which measures the relative specialisation of a location in an activity sector through registered employment [(number of employees in the sector j, location i / number of employees in location i)/ (number of employees in the sector j, in the Basque Country / number of employees in the Basque Country)], indicating that the specialisation of

the employed population in technical fields may contribute to the generation of agglomeration economies in local areas where the cooperative movement is important. The cultural externalities favouring the development of the cooperative model are measured using the CULTURGEO$_{i,t}$ and the CULTURGEO2$_{it}$ variables, which are defined as the number of cooperatives out of the total firms in location i, and year t and the square of variable CULTURGEO$_{it}$. PROV 1 and PROV 2 are dichotomic variables that indicate the Basque province where the firm is located. Since the Basque Country is divided in three provinces (Gipuzkoa, Araba and Bizkaia), we have created two dichotomic variables to describe the location of the new firm. PROV1 takes value 1 when the new company is situated in Gipuzkoa and value 0 when is located elsewhere. Similarly, PROV2 takes value 1 when the company is situated in Araba and 0 when is situated elsewhere.

- Variables related to the internal resources/strategy of firms: the independent variable related to internal resources is INSIZE, which measures the initial size of the firm. It is a dichotomic variable that differentiates firms with an initial size of less than 10 employees (INSIZE=1) from those with a larger initial size (INSIZE=0).

As regards market adaptation strategy variables, three dichotomic variables were created to measure growth (CREC), sector diversification (DIVERSIF), and geographical mobility (MOBILITY). In the CREC variable, firms entering a higher size category than they had at the start are given a value of 1, while those that remain the same or decrease are given a value of 0. For sector diversification and geographical mobility, the value of 1 is given to firms that decide to change their economic activity or geographical location during their time in business, while those that remain stable are given the value of 0.

3.4 Methodology

In order to identify the determinants of market entry, a linear OLS regression analysis is conducted for each type of associative legal form which, in general terms, responds to the following model:

$$y = f\left(MarketEnviroment, AgglomerationEconomies\right) + e$$

More specifically, each model will consist of the following variables:

Market entry of worker cooperative firms:

$$TERC_{ijt} = a + b_1 GR - 1_t + b_2 UNEMPL - 1_{it} + b_3 TER_{ijt} + b_4 ATOM_{jt} + b_5 TSRC_{ijt} + b_6 TSRL_{ijt} + b_7 TSRA_{ijt} + b_8 CULTURGEO_{it}$$
$$+ b_9 CULTURGEO2_{ijt} + b_{10} ESPGEO_{ij} + b_{11} PROV1 + b_{12} PROV2 + e$$

Market entry of limited-liability companies:

$$TERL_{ijt} = a + b_1 GR - 1_t + b_2 UNEMPL - 1_{it} + b_3 TER_{ijt} + b_4 ATOM_{jt} + b_5 TSRC_{ijt} + b_6 TSRL_{ijt} + b_7 TSRA_{ijt} + b_8 CULTURGEO_{it}$$
$$+ b_9 CULTURGEO2_{ijt} + b_{10} ESPGEO_{ij} + b_{11} PROV1 + b_{12} PROV2 + e$$

Market entry of public-owned companies:

$$TERA_{ijt} = a + b_1 GR - 1_t + b_2 UNEMPL - 1_{it} + b_3 TER_{ijt} + b_4 ATOM_{jt} + b_5 TSRC_{ijt} + b_6 TSRL_{ijt} + b_7 TSRA_{ijt} + b_8 CULTURGEO_{it}$$
$$+ b_9 CULTURGEO2_{ijt} + b_{10} ESPGEO_{ij} + b_{11} PROV1 + b_{12} PROV2 + e$$

For the survival analysis, we apply a Cox regression method. Survival analysis is concerned with the time-to-occurrence of a critical event such as the death of a firm and Cox regression is a method for modelling time-to-event data in the presence of censored cases. Cox regression uses the hazard function to estimate the relative risk of failure. The hazard function, $h(t)$, is defined as the potential for death at a particular instant, given that the case has survived until that instant. A general model relating explanatory variables (i.e., the X vector) to the dependent variable (i.e. death of the firm) can be represented in terms of the hazard function:

$$h(t) = \left[h_0(t)\right] e^{b_1 X_1 + b_2 X_2 + \ldots + b_n X_n)}$$

where $h_0(t)$ is the baseline hazard function (i.e., when the values of X are set to 0). If one divides both sides of the equation by $h_0(t)$, the hazard ratio can be obtained. The hazard ratio indicates the increase or decrease in risk incurred by the effect of a particular explanatory variable, and can be represented as:

$$\ln\left[\frac{h(t)}{h_0(t)}\right] = \boldsymbol{b}_1 X_1 + \boldsymbol{b}_2 X_2 + ... + \boldsymbol{b}_n X_n$$

If the right hand side of this equation is set equal to Y, then the new expression resembles an ordinary regression equation with the general form Y= βX. The parameter $\boldsymbol{b}$ is the estimated coefficient and can be interpreted as the predicted change in the log hazard for a unit increase in the explanatory variable. Our study will use a Cox regression model for each legal form. The general form of the expression to be estimated is:

$$Y = f\left(MarketEnviroment, AgglomerationEconomies, Firm\operatorname{Re}sources/Strategy\right)$$

The equations for the various legal forms a re:

Cooperative firm survival:

$$Y_c = \ln\left[\begin{array}{l} \boldsymbol{a} + \boldsymbol{b}_1 TER_{ijt} + \boldsymbol{b}_2 TERC_{ijt} + \boldsymbol{b}_3 ATOM_{jt} + \boldsymbol{b}_4 ESPGEO_{ij} + \\ \boldsymbol{b}_5 CULTUREO_{it} + \boldsymbol{b}_6 CREC + \boldsymbol{b}_7 DIVERSIF + \boldsymbol{b}_8 MOBILITY \end{array}\right]$$

Limited-liability company survival:

$$Y_L = \ln\left[\begin{array}{l} \boldsymbol{a} + \boldsymbol{b}_1 TER_{ijt} + \boldsymbol{b}_2 TERL_{ijt} + \boldsymbol{b}_3 ATOM_{jt} + \boldsymbol{b}_4 ESPGEO_{ij} + \\ \boldsymbol{b}_5 CULTUREO_{it} + \boldsymbol{b}_6 CREC + \boldsymbol{b}_7 DIVERSIF + \boldsymbol{b}_8 MOBILITY \end{array}\right]$$

Public -owned company survival:

$$Y_A = \ln\left[\begin{array}{l} \boldsymbol{a} + \boldsymbol{b}_1 TER_{ijt} + \boldsymbol{b}_2 TERA_{ijt} + \boldsymbol{b}_3 ATOM_{jt} + \boldsymbol{b}_4 ESPGEO_{ij} + \\ \boldsymbol{b}_5 CULTUREO_{it} + \boldsymbol{b}_6 CREC + \boldsymbol{b}_7 DIVERSIF + \boldsymbol{b}_8 MOBILITY \end{array}\right]$$

3.5 Descriptive Statistics

Table 2 summarises the descriptive statistics of the variables used in the study. Differences can be observed between the three different types of firm. In fact, worker cooperative firms have a higher relative entry rate than public-owned companies and lower than limited-liability companies. On the contrary, worker cooperatives have much lower exit rate than the rest of the legal forms.

Insert *Table 2* here

Concerning to location we observe that 42% of the worker cooperatives are created in PROV1 (Gipuzkoa) and 15% in PROV2 (Araba). Similarly, 35% of limited-liability companies are created in Gipuzkoa and 11% in Araba, while 31% of public-owned companies are formed in Gipuzkoa and 13% in Araba.

We also observe that cooperatives have a higher average initial size than public-owned companies, though lower than limited-liability companies. In the variables measuring business strategy, we see that almost all associative firms do not relocate out of the place where they were set up. Companies that change sector during their time in business amount to no more than 0.05%, and cooperatives are the most reluctant to undergo sector diversification. Lastly, the Table 2 shows that cooperatives and public-owned companies undergo greater growth than limited-liability companies.

Our correlation analysis shows that there is no risk of multicollinearity problems among the independent variables for the different models that we estimate (See Table 3). More specifically, we conduct three correlation tests for each sub-sample: worker cooperatives (n_1=1,185 observations), limited-liability companies (n_2=37,380 observations), and public-owned firms (n_3=10,567 observations). The Pearson correlation coefficients (i.e., statistically significant coefficients for the three sub-samples) do not have high positive or negative values.

Insert *Table 3* here

Therefore, we proceed with both the Ordinary Least Square and Cox regression analyses mentioned earlier. Since multicollinearity does not seem to be an issue, we include all the independent variables in our different empirical models to be tested.

4. RESULTS

4.1 Determinants of Market Entry

The results of the OLS regression analyses suggest that the explanatory factors for the formation of associative firms vary according to their legal form. Table 4 shows that, as suggested in the literature, worker cooperative firms are susceptible to economic cycles. The negative sign of the $GR\text{-}1_t$ variable indicates that cooperatives are a valid option during economic recession. This result supports previous findings by Pérotin (2004a) and the arguments claimed by Ben-Ner (1988). However, the formation of cooperatives during 1993-2002 does not actively respond to situations of unemployment. Cooperatives are not the only valid business model in recession cycles. Limited-liability companies respond positively to economic crises, and also, to high unemployment rates. On the contrary, public-owned companies, respond positively to economic expansions and negatively to unemployment rates.

Insert *Table 4* here

Table 4 also shows that industries and locations with high relative entry rate are more attractive. Concretely, a high creation ratio induces the formation of new cooperatives.

According to our results, the creation of worker cooperative firms and economic growth are inversely related (i.e., contrary to what happens with public-owned firms). Furthermore, worker cooperative start-up rates

are not determined by high local unemployment rates (i.e., contrary to what happens with limited-liability organisations) and are susceptible to industry and local entry rates. This leads us to think that worker cooperative firms seem to be created, to a large extent, by opportunity-driven rather than necessity-driven entrepreneurs.

Companies typically enter atomistic markets, regardless of their initial associative legal form. This is largely due to the presence of lower entry barriers in atomistic markets. In light of this result, we notice that this is particularly true for worker cooperative firms. The estimated coefficient for the variable $ATOM_{j,t}$ is 0.43 in the worker cooperative model, whereas only 0,01 and 0,19 in the limited-liability and public-owned firm models respectively.

Contrarily, the exit rate of firms with the same legal form (i.e., $TSRC_{i,j,t}$, $TSRL_{i,j,t}$ and $TSRA_{i,j,t}$) has a negative influence on market entry of worker cooperatives and public-owned firms, which contradicts previous findings by Morales and Peña (2003) and suggests that the formation of these firms do not represent a displacement effect of obsolete companies, but responds to a substitution process. The exist rate of firms of a concrete legal form generally has a positive influence on different type firm formation rate what reveals that there exists a replacement process between different associative forms. Specifically, this substitution effect is more pronounced between limited-liability and public-owned companies, but public-owned companies also replace worker cooperatives. If we take into account all these results linking market environment factors to entry rates, overall, we find support for Hypothesis 1a.

As regards agglomeration economies, a deep-rooted cooperative culture in a given location has a positive influence on the formation of new cooperatives, which confirms previous findings by Pérotin (2004a), Smith (2001) and Halary (2006). The estimated coefficient for the variable $CULTURGEO_{i,t}$ result leads us to believe that new cooperative companies expect to receive economic advantages, management facilities, and a transfer of knowledge from the rest of cooperatives in that location, probably due to the collaboration that normally take place among firms that share this culture. Nevertheless, as the variable $CULTURGEO2_{it}$ indicates the expected economic advantages diminish when the entrepreneurs notice that the market is saturated of worker cooperatives, having a negative influence on the formation of new worker cooperatives.

The location of the new firm also determinates the formation rate of the associative companies. For worker cooperatives being located in PROV1 (Gipuzkoa) and PROV2 (Araba) has a negative influence on the formation of new cooperatives. Finally, we found a statistically significant and negative result for the variable ESPGEO $_{i,j}$. Bearing this in mind, we find partial support for Hypothesis 2.

Nonetheless, it is interesting to note that a deep-rooted cooperative culture does not only contribute favourably to the formation of cooperatives, but that it also has a positive effect on the formation of public-owned companies. The positive externalities generated in a location with a high proportion of cooperatives are also attractive to this form of company. Contrarily, the location variable PROV2 (Araba) has a negative effect on the creation of new public-owned companies, so entrepreneurs find Bizkaia more attractive than other locations to create public-owned companies.

Finally, a rooted cooperative culture has a negative effect on the creation of limited liability companies. Only when the market is saturated of cooperatives, limited liabilities find good possibilities to enter the market in territories where the cooperative movement is legitimated. Contrarily to other legal forms, being located in Gipuzkoa (PROV1) and Araba (PROV2) affects positively the creation of limited-liability companies. Hence, according to location variables, worker cooperatives and limited-liability companies are complementary legal forms, while the creation of worker cooperatives and public-owned companies is influenced by the same geographical patterns.

4.2 Determinants of Survival

We made a preliminary analysis to test survival rates among the three types of companies with different associative legal forms. After the first year from inception, the surviving companies close their businesses at a rate of around 5% or 8%, depending on the type of firm. During this initial period, between the first and third year of activity, new cooperatives have a higher probability of survival than public-owned or limited-liability companies (See Figure 2).

Insert *Figure 2* here

Immediately after firm start-up, all firms undergo a learning phase in which they adapt to the rules of the market. In this phase, firms tend to prioritise learning over economic results and may decide to delay their decision as to whether to carry on or close down the business. As confirmed by Pérotin (2004b), this learning phase is crucial for cooperatives because the organisation must guarantee the interaction of objectives of all of its worker-owners. This author understands that the learning period during the initial years of activity is more complicated for cooperatives, due to their democratic nature. Moreover, they can also be more vulnerable to possible capital supply constraints. Nonetheless, these limitations are usually compensated by the increased enthusiasm and motivation to carry out a common project and by the capacity to adapt labour costs when faced with unfavourable situations in order to guarantee survival of the business. In connection with this idea, the studies carried out by Staber (1993) and Russell and Hanneman (1995) underline the fact that cooperatives have a lower risk of death in their adolescence, while the work carried out by Ben-Ner (1988) for companies in the United Kingdom suggested the opposite.

Contrary to our expectations, limited-liability companies have a greater capacity for survival than cooperatives beyond the third year, and this difference is maintained until the last period studied. Public-owned companies, however, have a lower survival rate than cooperatives, which indicates that they are not so flexible, and because the responsibilities of shareholders are much more involved, critical situations cannot be drawn out for too long.

Table 5 shows that cooperative firms formed in dynamic environments with intense inter-cooperative competition have a lower probability of survival, even though their effect is minimal. This allows us to accept the first hypothesis proposed for survival. For instance, a high entry rate of limited-liability companies, TERA $_{i,j,t}$ has a negative impact on business survival. Unexpectedly, a higher market entry rate has a positive influence on firm endurance of public-owned firms.

Insert *Table 5* here

While agglomeration economies generated in the local territory are not significant for cooperative survival, they are beneficial for limited-liability companies. The specialisation of the employed population, ESPGEO $_{i,j}$, has a positive influence on the survival of limited-liability companies, indicating that the knowledge spillovers generated between workers of the same sector contribute to the development of limited-liability firms in the local area.

At the same time, a deep-rooted cooperative culture generates agglomeration economies while favouring the longevity of limited-liability companies (i.e., negative coefficient for the variable CULTURGEO$_{i,t}$). Thus, the cooperative model facilitates the exchange of experiences and knowledge among companies of the same location, whether they are cooperatives or other companies. This smooth communication not only encourages and guarantees the formation and survival of cooperatives, but its expansive effect is extended to other forms of company, thus contributing to the economic development of the region.

Lastly, cooperatives with larger initial size and resources are better at overcoming the barriers to survival. This positive relationship between initial size and survival is supported by empirical studies such as those by Segarra and Callejón (2000), Audretsch and Mahmo od (1995), and Mata and Portugal. (1994). However, worker cooperatives that opt for a growth strategy once they have entered the market have a lower likelihood of survival. This conclusion confirms the result obtained by Arias et al. (2005) in a study based on a sample of 1,839 Spanish companies confirming that companies with an unbalanced growth had a greater probability of failure.

Nonetheless, the difficulty in managing growth not only affects cooperatives – limited-liability and public-owned companies face similar problems. This leads us to believe that economic agents (banks and legal institutions, public organisations…) encourage the formation of new companies but fail to provide the services they need for successful growth. And perhaps, entrepreneurs are not sufficiently prepared to manage successfully

business expansion. Therefore, the analysis of the relationship between internal strategy/resources and survival allows us to accept the third hypothesis for internal resources, though not for the strategy part.

4. CONCLUSIONS AND IMPLICATIONS

This study is based on the premise that corporate culture, measured by legal form, determines firm start-up and business performance. One of the unique cultural features of the Basque economy is the high proportion of worker cooperative firms in that region. The aim of this paper has been twofold: firstly, to offer a deep analysis of the factors determining the formation and survival of cooperatives, and secondly, to compare this with the dynamism of other associative legal forms that, together with cooperatives, have the greatest impact on regional economic development.

Results on cooperative firm entry indicate that cooperative firm start-up is very sensitive to external factors such as the market environment. In particular, an atomistic sector structure and greater competition have a more pronounced effect on the formation of new cooperatives than on the rest of legal forms.

Worker cooperatives are also attractive in locations where this corporate culture has a long tradition, since new cooperatives expect to benefit from the networks and relationships typical of the cooperative environment. The expansion of this business culture to other locations could facilitate the generation of agglomeration economies, which could have a positive effect on both the formation and survival rates of firms in general.

From the survival analysis, we can conclude that internal rather than external factors determine cooperative firm survival. Cooperatives that initially have significant resources have greater probabilities of survival. However, it is noted that all companies had major expansion and market adaptation problems (i.e., perhaps due to an unsatisfactory diversification strategy implementation).

A deep-rooted cooperative culture contributes not only to the formation and evolution of cooperatives, but also to the development of other legal forms of association, which suggests the organisational diversity acclaimed by organisational ecology theory. Apparently, the cooperative model does not compete with other associative legal form models, but rather it lives in harmony with them, and even contributes positively to the profitability of other business cultures.

Despite the limitations and shortcomings of our study, such as its regional concentration in the Basque region and the availability of a reduced number of variables, we believe that our findings provide interesting insights for the academic community, business practitioners and policy makers. For the academic community, the study offers a deeper understanding of the relationship between corporate culture and the formation and survival of firms. It also opens up a new research avenue relating resource based view notions and geographic economics theory to the business demography of different associative legal forms of organisations (i.e., start-up and survival). Considering that the dynamism of manufacturing companies differs from that of services companies, it would be interesting to break the sample down into these two sub-samples to ascertain whether the behavioural differences between the various forms of legal association are perceived in these two economic sectors.

Notwithstanding the above, our conclusions would be more precise if we had data to accurately calculate the variables describing agglomeration economies, business growth and sector atomization. Future research will require a more exhaustive data search.

As far as implications for business practitioners is concerned, we notice that locations with a deep cooperative culture are attractive places to start-up and nurture companies owned by founding teams (i.e. worker cooperatives and public-owned companies). Entrepreneurs endowed with more abundant resources, and probably with competencies yielding to sustainable competitive advantages, are more likely to survive longer, whereas those that implement diversification and growth strategies seem to face a market adaptation crisis.

Lastly, policy makers should take into account that an established cooperative culture contributes to the formation and survival of different legal forms of association and, given that these have the greatest impact on

regional development, it could be of interest to public institutions to promote a cooperative culture committed to its environment that could also encourage the development of other associations (i.e., limited-liability and public-owned firms).

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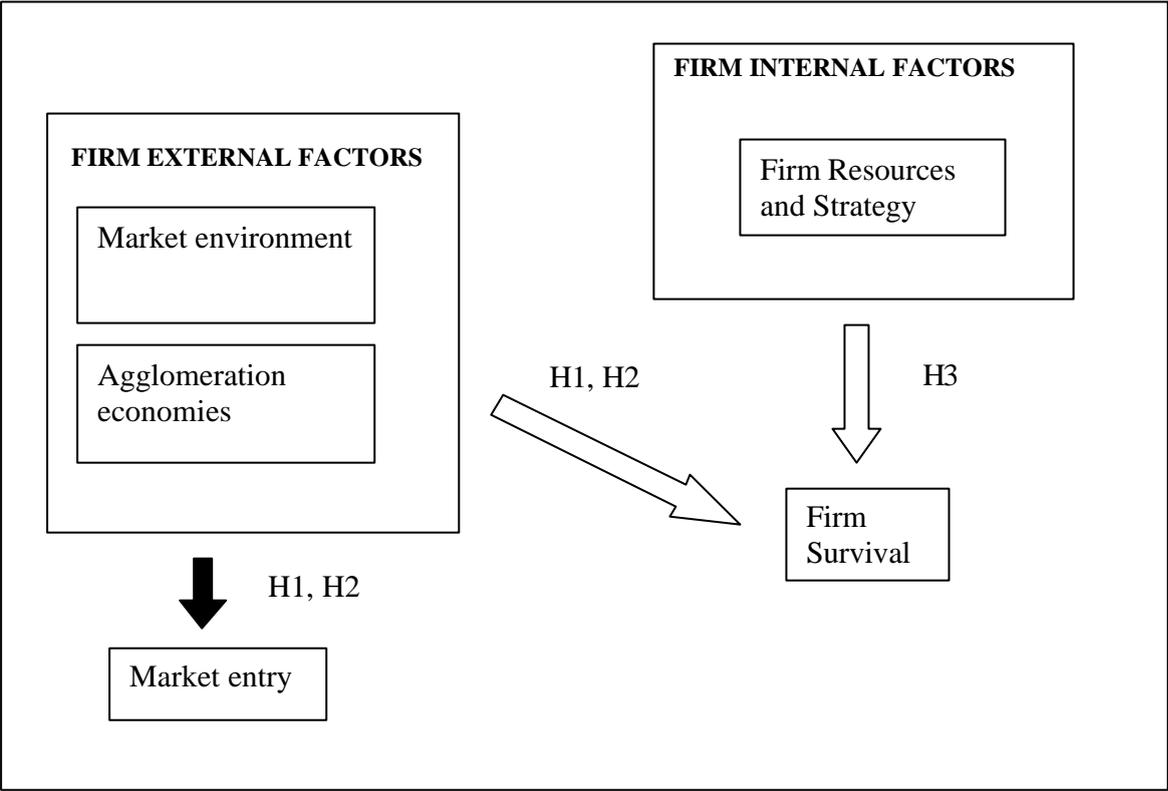
Figure 1. Conceptual Framework
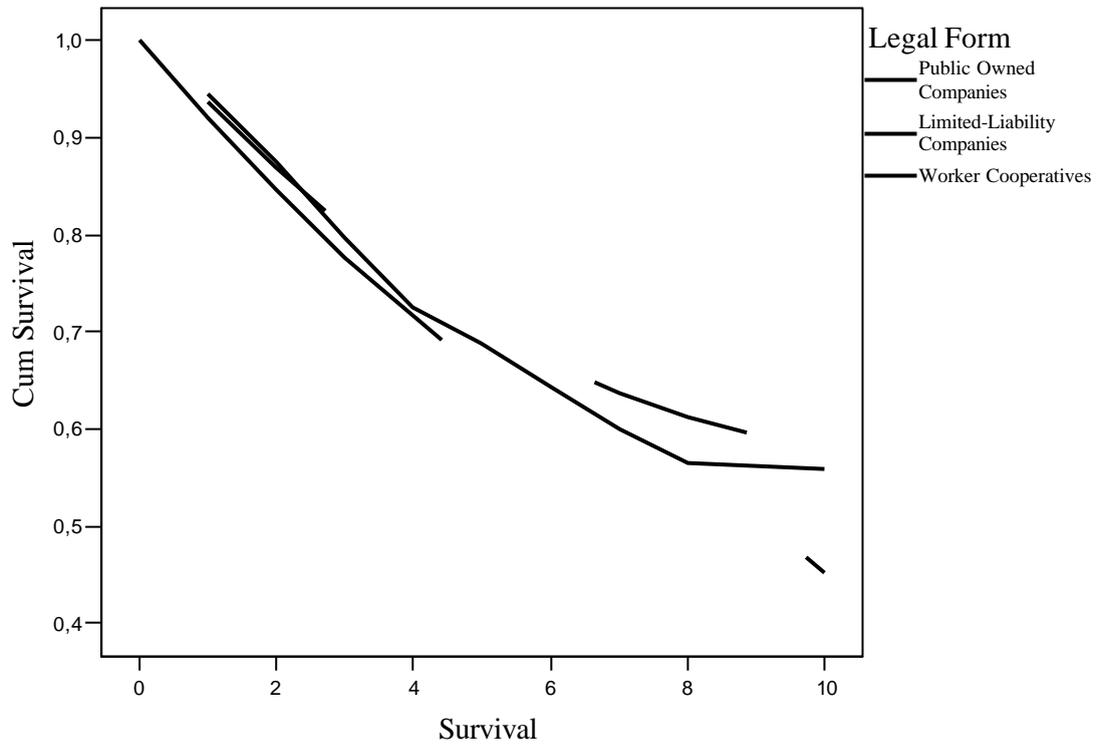
Figure 2. Survival of new companies

Table1. Characteristics of the Sample

LEGAL FORM	CAPV		GIPUZKOA		ARABA		BIZKAIA	
	Created Firms		Created Firms		Created Firms		Created Firms	
	1993-2003	%	1993-2003	%	1993-2003	%	1993-2003	%
Worker Cooperatives	2.760	4,1	1.091	5,0	433	4,8	1.236	3,4
Limited Liability Companies	52.755	78	17.350	78,9	6.809	75,4	28.596	78,2
Public Limited Companies	12.079	17,9	3.553	16,1	1.794	19,9	6.732	18,4
Total (N)	67.594	100	21.994	100	9.036	100	36.564	100

Table 2
Descriptive Statistics

	Worker Cooperatives		Limited Liability Companies		Public Owned Companies	
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
GR-1	3,15	1,99	3,71	1,78	3,43	1,87
UNEMPL-1	19,39	5,27	18,77	5,37	19,56	5,14
ATOMjt	90,56	8,41	93,07	7,08	93,11	6,89
TERijt	13,50	6,90	13,57	5,74	13,35	6,68
TERCijt	21,11	19,43				
TERLijt			22,18	5,14		
TERAijt					10,28	6,88
TSRCijt	4,54	6,60	5,74	8,14	5,82	7,80
TSRLijt	8,30	5,06	8,57	3,74	8,67	4,63
TSRAijt	9,78	8,52	9,50	7,58	10,36	7,99
ESPGEOij	1,02	0,28	1,05	0,23	1,06	0,24
CULTURGEOit	1,06	0,61	0,88	0,39	0,88	0,40
CULTURGEO2it	1,50	2,22	0,91	1,28	0,94	1,34
GIPUZKOA	0,42	0,49	0,35	0,48	0,31	0,46
ARABA	0,15	0,35	0,11	0,31	0,13	0,33
INSIZE	0,81	0,39	0,92	0,26	0,76	0,43
MOBILITY	0,00	0,04	0,00	0,03	0,00	0,04
DIVERSIF	0,02	0,15	0,03	0,17	0,04	0,20
CREC	0,17	0,38	0,12	0,33	0,17	0,37

Table 3
Correlation Analysis
Correlation Analysis of Worker Cooperatives

	TERC*ijt*	GR-1	UNEMPL-1	TER*ijt*	TSRC*ijt*	TSRL*ijt*	TSRA*ijt*	*ATOM*jt	CULTURGEO*it*	CULTURGEO2*it*
GR-1	-0.05									
	0.1									
UNEMPL-1	-0.02	-0.32(**)								
	0.44	*0*								
TER*ijt*	0.33(**)	-0.032	0.01							
	0	*0.25*	*0.87*							
TSRC*ijt*	-0.16(**)	-0.18(**)	0.283(**)	-0.03						
	0	*0*	*0*	*0.32*						
TSRL*ijt*	0.10(**)	-0.20(**)	0.15(**)	0.17(**)	0.12(**)					
	0	*0*	*0*	*0*	*0*					
TSRA*ijt*	0.03	-0.47(**)	0.21(**)	0.40(**)	0.21(**)	0.32(**)				
	0.29	*0*	*0*	*0*	*0*	*0*				
ATOM*j*t	0.20(**)	0.04	-0.02	0.04	0.03	.16(**)	0.13(**)			
	0	*0.18*	*0.43*	*0.14*	*0.32*	*0*	*0*			
CULTURGEO*it*	0.16(**)	-0.01	-0.16(**)	-0.01	-0.23(**)	-0.05	-0.08(**)	-0.11(**)		
	0	*0.817*	*0*	*0.84*	*0*	*0.11*	*0.01*	*0*		
CULTURGEO2*it*	0.11(**)	-0.01	-0.15(**)	-0.01	-0.22(**)	-0.03	-0.08(**)	-0.09(**)	0.98(**)	
	0	*0.89*	*0*	*0.79*	*0*	*0.30*	*0.01*	*0.01*	*0*	
ESPGEO*ij*	-0.25(**)	0.01	0.07(**)	-0.01	0.02	-0.01	-0.01	-0.12(**)	-0.09(**)	-0.08(**)
	0	*0.85*	*0.01*	*0.64*	*0.44*	*0.70*	*0.74*	*0*	*0.01*	*0.01*

** Correlation is significant at the 0.01 level (2-tailed).

Correlation analysis of Limited Liability Companies

	TERL*ijt*	GR-1	UNEMPL-1	TER*ijt*	TSRC*ijt*	TSRL*ijt*	TSRA*ijt*	ATOM*jt*	CULTURGEO*it*	CULTURGEO2*it*
GR-1	-0.50(**)									
	0									
UNEMPL-1	0.50(**)	-0.28(**)								
	0	*0*								
TER*ijt*	0.04(**)	-0.04(**)	0.01							
	0	*0*	*0.09*							
TSRC*ijt*	0.08(**)	-0.14(**)	0.29(**)	0.01(*)						
	0	*0*	*0*	*0.02*						
TSRL*ijt*	0.20(**)	-0.27(**)	0.21(**)	-0.14(**)	0.18(**)					
	0	*0*	*0*	*0*	*0*					
TSRA*ijt*	0.34(**)	-0.46(**)	0.19(**)	0.33(**)	0.15(**)	0.39(**)				
	0	*0*	*0*	*0*	*0*	*0*				
ATOM*jt*	0.01(*)	0.07(**)	-0.01	0.02(**)	0	0.20(**)	0.07(**)			
	0.02	*0*	*0.16*	*0*	*0.93*	*0*	*0*			
CULTURGEO*it*	0.03(**)	-0.06(**)	-0.09(**)	0.01	-0.11(**)	-0.13(**)	-0.02(**)	-0.12(**)		
	0	*0*	*0*	*0.52*	*0*	*0*	*0*	*0*		
CULTURGEO2*it*	0.02(**)	-0.05(**)	-0.08(**)	-0.01	-0.11(**)	-0.10(**)	-0.02(**)	-0.1(**)	0.97(**)	
	0.01	*0*	*0*	*0.88*	*0*	*0*	*0*	*0*	*0*	
ESPGEO*ij*	0.01(*)	-0.01	0.04(**)	-0.01	0.02(**)	0.03(**)	-0.03(**)	0	-0.08(**)	-0.06(**)
	0.04	*0.28*	*0*	*0.18*	*0*	*0*	*0*	*0.97*	*0*	*0*

** Correlation is significant at the 0.01 level (2-tailed).

	TERA*ijt*	GR-1	UNEMPL-1	TER*ijt*	TSRC*ijt*	TSRL*ijt*	TSRA*ijt*	ATOM*jt*	CULTURGEO*it*	CULTURGEO2*it*
GR-1	0.02									
	0.10									
UNEMPL-1	-0.04(**)	-0.30(**)								
	0	*0*								
TER*ijt*	0.08(**)	-0.09(**)	-0.01							
	0	*0*	*0.55*							
TSRC*ijt*	-0.04(**)	-0.15(**)	0.33(**)	-0.01						
	0	*0*	*0*	*0.14*						
TSRL*ijt*	-0.03(**)	-0.26(**)	0.20(**)	-0.13(**)	0.19(**)					
	0.01	*0*	*0*	*0*	*0*					
TSRA*ijt*	-0.05(**)	-0.41(**)	0.16(**)	0.68(**)	0.26(**)	0.41(**)				
	0	*0*	*0*	*0*	*0*	*0*				
ATOM*jt*	0.04(**)	0.07(**)	-0.03(**)	0.05(**)	0.03(**)	0.17(**)	0.10(**)			
	0	*0*	*0.01*	*0*	*0.01*	*0*	*0*			
CULTURGEO*it*	0.09(**)	-0.04**)	-0.14(**)	0.01	-0.15(**)	-0.08(**)	-0.05(**)	-0.13(**)		
	0	*0*	*0*	*0.78*	*0*	*0*	*0*	*0*		
CULTURGEO2*it*	0.08(**)	-0.02	-0.13(**)	-0.01	-0.14(**)	-0.06(**)	-0.05(**)	-0.09(**)	0.97(**)	
	0	*0.06*	*0*	*0.53*	*0*	*0*	*0*	*0*	*0*	
ESPGEO*ij*	-0.04(**)	-0.01	0.02	-0.01	0.06(**)	0.01	-0.02	00.01	0.03(**)	0.04(**)
	0	*0.29*	*0.09*	*0.11*	*0*	*0.62*	*0.09*	*0.14*	*0.01*	*0*

Correlation analysis of Public Owned Companies

** Correlation is significant at the 0.01 level (2-tailed).

Table 4
Determinants of Entry

	Worker Cooperatives (TERC$_{ijt}$) n= 1,185		Limited-Liability Companies (TERL$_{ijt}$) n= 37,380		Public-Owned Companies (TERA$_{ijt}$) n= 10,567	
	B	t-Student	B	t-Student	B	t-Student
Constant	-41.72**	-5.59	12.33***	37.52	-12.75***	-11.4
Market Environment:						
Evolution:						
GR-1	-1.04***	-3.37	-0.84***	-65.85	0.13***	3.45
UNEMPL-1	-0,06	-0.51	0.52***	120.61	-0.25***	-17.31
TER$_{ijt}$	0.75***	9,97	0.06***	18.14	0.32***	33.99
Structure:						
ESTRSEC$_{jt}$	0.43***	7.00	0.01***	4.08	0.19***	21.17
Substitution process:						
TSRC$_{ijt}$	-0.35***	-3.99	0.00	1.10	0.04***	4.68
TSRL$_{ijt}$	0.03	-0.29	0.01	1.36	0.03**	2.30
TSRA$_{ijt}$	-0.01	-0,07	0.07***	23.76	-0.10***	-10.69
Agglomeration Economies:						
CULTURGEO$_{it}$	49.52***	10.09	-2.52***	-11.02	10.95***	14.59
CULTURGEO2$_{it}$	-12.93***	-9.78	0.55***	8.33	-2.13***	-9.99
ESPGEO$_{ij}$	-12.03***	-6,88	0.39***	4.58	-1.16***	-4.54
GIPUZKOA	-0.15	-0.1	4.03***	74.01	-0.61***	-3.49
ARABA	-6.60***	-3.74	3.46***	45.12	-3.60***	-15.24
R2 (%)	27.0		50.0		22.5	
R2-Adj (%)	26.0		50.0		22.4	

 * Significant at the 10% significance level

 ** Significant at the 5% significance level

 *** Significant at the 1% significance level

Table 5
Determinants of survival

	Worker Cooperatives (TERC*ijt*) n= 1,242		Limited-Liability Companies (TERL*ijt*) n= 41,661		Public-Owned Companies (TERA*ijt*) n= 11,560	
	B	**Exp(B)**	**B**	**Exp(B)**	**B**	**Exp(B)**
Market Environment:						
Rivalry:						
TER*ijt*	0.01	1.00	0.01	1.00	0.01	1.00
TERC*ijt*	0,01*	1.00				
TERL*ijt*			0.02**	1.02		
TERA*ijt*					-0.01**	0.99
Agglomeration Economies:						
CULTURGEO*it*	-0.03	0.97	-0.21**	0.81	-0.02	0.98
ESPGEO*ij*	-0.05	0.95	0.08**	1.08	0.01	1.01
Firm Resources and Strategy:						
Tangible Resources:						
INSIZE	0.56**	1.75	0.19**	1.21	0.26**	1.30
Firm Strategy:						
MOBILITY	-0.60	0.55	-0.03	0.97	-0.17	0.84
DIVERSIF	-0.35	0.71	0.5**	1.65	0.57**	1.76
CREC	1.17**	3.24	1.05**	2.87	1.15**	3.15
-2 Log Likelihood	5402.08		262742.73		72189.57	

* Significant at 5% level
** Significant at 1% level