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Manzaneque Lizano, Montserrat
Banegas Ochovo, Regino
Priego de la Cruz, Alba María

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http://hdl.handle.net/11067/1373

Metadados

Data de Publicação	2015-01-20
Resumo	The events in recent years have pushed many companies to extreme situations, testing their ability to adapt them to a changing and turbulent environment. Especially, if we consider the effect of "firm death" or "cessation of business activities" on numerous socio-economic stakeholders. Based on the ideas of the Stakeholder Theory, and emphasizing social aspects related to employment, this paper verifies empirically the link between "employee job satisfaction" and the rate of failure in an specif...
Palavras Chave	Satisfação no trabalho, Empresas - Falência
Tipo	article
Revisão de Pares	Não
Coleções	[ULF-FET] IJEIM, n. 5 (2013)

EMPLOYEES' SATISFACTION AS EXPLANATORY FACTOR OF BUSINESS FAILURE.
AN INTER-SECTORIAL ANALYSIS FOR SPAIN

Montserrat Manzaneque Lizano
Montserrat.MLizano@uclm.es

Regino Banegas Ochovo
Regino.Banegas@uclm.es

Alba María Priego de la Cruz
AlbaMaria.Priego@uclm.es

Universidad de Castilla-La Mancha
Avenida de los Alfares, 44
16002 Cuenca
969-179100

Abstract: The events in recent years have pushed many companies to extreme situations, testing their ability to adapt them to a changing and turbulent environment. Especially, if we consider the effect of "firm death" or "cessation of business activities" on numerous socio-economic stakeholders. Based on the ideas of the Stakeholder Theory, and emphasizing social aspects related to employment, this paper verifies empirically the link between "employee job satisfaction" and the rate of failure in an specific activity sector , understood as cessation of activity. Also, we analyze the capability of job satisfaction as a variable to predict a future business failure. For this purpose, we examine a sample of nine activity sectors from 2007 to 2010. The results show the importance of information on "employee job satisfaction" as a useful tool for judging the risk of a future situation of cessation, so that it may be useful to researchers and managers.

Key-words: Job satisfaction; business failure; Stakeholders Theory.

JEL codes: M54, M49

1. Introduction

The events in recent years have pushed many companies to extreme situations, testing their ability to adapt them to a changing and turbulent environment. In this context, it is necessary to know the determinant factors of survival chances of a company; especially, if we consider the effect of "firm death" or "cessation of business activities" on numerous socio-economic stakeholders, such as employees, suppliers, customers, owners, financial institutions and the community in general. Therefore, and despite of the large existing body of literature on business failure, it remains an important topic of study because it provides useful information for making decisions aimed at meeting the needs of stakeholders in the future business.

The analysis and evaluation of the situations experienced by "firm death" are essential references in order to identify the possible causes for this situation and the potential explanatory factors that may contribute to its prediction or anticipation. Since the 60s, empirical research developed on this subject of study has revealed many causes that contribute to the failure of a company. Factors such as inefficient

management, excessive borrowing, increase in defaults, profitability losses, lack of liquidity, reduced turnover, productivity losses and inadequate implementation of strategies have been identified as cause of business failure (Argenti, 1976; Datta and Iskandar-Datta, 1995; Gabás, 1997; García Pérez de Lema, Arqués and Calvo-Flores 1997; López, Gandía and Molina, 1997).

In this field of research, numerous failure prediction models have been developed, using a wide range of study periods, industries, geographies, explanatory variables, samples and statistical tools, with the aim of overcoming the limitations observed in previous studies (Manzaneque, Banegas and García Pérez de Lema, 2010). Nonetheless, some issues remain to be readdressed, such as the analysis of the influence of the particular context in which the company operates (climate of relations with stakeholders) and its influence on the likelihood of business failure. In this sense, some researchers (Kane, Velury and Ruf, 2005; Keasey andWatson, 1991; Pajunen, 2006; Porter and Kramer, 2006) have shown the importance of the study of the stakeholders' dependence on the firm. However, only very few studies have provided empirical evidence of its influence on business failure, demonstrating the need for progress in this field of research, in order to contribute to the development of a theory on it.

From the Stakeholder Theory perspective, the firm depends on: the *suppliers* as providers of inputs required for the production of goods or provision of services; the *customers* as the main source of income; the *financial creditors and shareholders*, current and future, as suppliers of financial capital; the *employees*, their skills, knowledge and experience to develop the firm objectives; and the *State* as supplier of security and legal protection, as well as political, economic and social policies for the development of its activity (Suarez, 2007).

In this sense, a good relationship between firm and stakeholders benefits a normal and harmonious activity, since, for example: the employees work harder, increasing the productivity (Dutton, Dukerich and Harquail,1994); the customers increase their demand or pay a higher price for products (Brown and Dacin, 1997); the suppliers will be willing to sell goods to the company at a lower price or give more credit; and the shareholders and financial institutions will be willing to invest or lend more money or do it at lower interest rates.

These behaviors highlight the importance of identifying explanatory factors of firm-stakeholders relation and contrasting, empirically, their influence on the probability of business failure

According to these arguments, the aim of this paper is to test empirically the link between company-employee relationship and the rate of failure in a specific activity sector, understood as the "firm failure" or "firm death" as closure. In others words, the closure of business.

The choice of the employees, within the stakeholder' group, answer the following reasons:

a) The employees are a key group because of their participation in the production process (Fernández, 1997). So, they are important contributors due to their skills, knowledge and experience. These qualities favor the achievement of the firm objectives or purposes as well as reducing the risk

of incurring into a situation of business failure. The academic literature concerning this topic identifies employees as a corporate resource that promotes economic and social performance of the same. Accordingly, a firm-employee successful relationship increases productivity and hence the competitiveness of enterprises.

b) Motivation and availability of employees to renegotiate the terms of their employment contract in business failure situations will depend on their relationship with the company (Kane, et als., 2005). This measure being one of those usually adopted in these circumstances to reduce costs.

So, a good firm-employee relationship gives a great possibility to obtain temporary concessions to achieve the decisive collaboration of employees and to avoid difficult problems in which the business can incur (renegotiation of contract terms and benefits granted to employees), improving the profit margin by reducing costs and declining the risk of financial insolvency.

According to this perspective, the problem lies in whether the relationship between the company and its employees can be a key factor and effective to detect the possibility of incurring into a critical situation.

This issue deserves special attention in the Spanish context, where the characteristics of the labor market, with high rates of temporality (Toharia, 2005) and workplace accidents (Hernanz and Toharia, 2004), low levels of job satisfaction (Ahn and García, 2004) as well as productivity (Maroto and Cuadrado, 2006), are a reflection of their deficiencies. This is the main reason focus to consider this area of study. Also, a business sector perspective has been adopted, in order to determine whether or not firm-employee relations are a characteristic that affects business failure business sector rates. In previous studies, the business sector has been included as a control variable to analyze the characteristics of the failed company (accounting data), ignoring a fact that, in our opinion, should arouse the interest of researchers such as labor market conditions for a specific sector activity. This aspect can influence the rates of failure and it is important to prevent these circumstances.

Specifically, this study examines the association between firm-employee relationship (job satisfaction of employees) and the rate of business failure, defined as cessation of firm, treating the problem from a business sector perspective and for Spanish context.

The results show that job satisfaction, defined according to the hours worked and flex-time, wages and other non-wage compensations, job security, training and promotion chances and social dialogue, reduce the failure rate of a specific business sector, and thus they highlight the need to control the firm-employee relationship as a useful tool to achieve the commitment of future collaborations that avoid business failure.

This fact is even more significant in the case of the health sector (lower levels of satisfaction with working hours, breaks, health and safety in the workplace and training) and building sector (lower levels of satisfaction with social support, stability in the workplace and to receive appropriate training in the workplace in order to be promoted).

Our research, also, provides empirical evidence on the usefulness of "job satisfaction" for prediction models of business failure, showing the importance of the provision of information on stakeholders 'relationship in order to achieve reach a positive evolution of the company.

These results are useful for researchers and business managers, for two reasons: 1) it highlights the importance of the human factor, and their attitude regarding working conditions, in order to evaluate the capacity of survival of businesses in a specific activity sector; and 2) show the validity and usefulness of information on job satisfaction to judge the risk of cessation for business in a difficult economic and financial situation.

The paper is structured as follows: In Section 1 an introduction is made to motivate the work presented. In section 2 we present the different theoretical background underlying the development of the proposed model, referring to both the current status of research on business failure as a measurement model of job satisfaction. In section 3, we present the econometric specification of the model and the description of the sample under study and the methodology used and the variables that are the basis for making the relevant estimates, which are presented and discussed in section 4. Finally, we present the most relevant ideas as a conclusion.

2. Theoretical framework

2.1. Business failure. Research' current status.

Throughout the years, business failure has been defined as a business crisis situation that threatens the objectives or goals of a firm and it forces you to take corrective measures that affect its own future and that of other agents associated with it (Martín, 1986). In this sense, and although usually assigned to the business failure term, a negative connotation (critical situation involving serious harm to the firm), this approach does not fully comply with reality, since the company can develop strategies and actions in order to overcome and adapt to changes caused by this situation and therefore avoid the adverse effects.

So, it is important to clarify that a large majority of the businesses suffer various crises throughout their existence, during these situations the business can achieve its consolidation in the sector or, on the contrary, disappears. It is therefore a normal situation that sometimes leads to the failure to achieve the objectives proposed by the company, renamed as business failure.

However, the previous literature is not unanimous on the conceptual definition of this term, taking different approaches to business failure (Manzaneque, 2006). Regardless of the business failure concept considered, the importance attributed to this phenomenon is evident in the dense literature that exists about it.

Over several decades the causes of business failure have been studied from different perspectives. Faced with the approach taken by the pioneering studies in this regard, as Beaver (1966) and Altman (1968), based on the analysis of

corporate insolvency through quantitative information extracted from the financial statements, other researchers have directed their work towards the analysis of qualitative information on variables representing factors related to the company or its environment. All these, objective and reliable predictors of business failure.

The latter works have focused essentially on aspects as: a) the ability of business managers to make the right decisions when it comes to overcoming the crisis (Argenti, 1976); b) the impact of external factors on the company such as demand or competition (McGahan and Porter, 1997); and c) the general economic situation (Foster, 1986; Lev and Thiagarajan 1990; Rose, Andrews and Giroux, 1982). In this field of study, and trying to contribute to the development of a coherent theory of the process of business failure, a new research area aimed at linking the specific context in which the company operates with the risk incurring future business failure situations has been formed.

Authors such as Argenti (1976), Kane et als. (2005), Keasey and Watson (1991), Ooghe and Waeyaert (2004), and Pajunen (2006), have shown the importance of other stakeholders' dependency for the firm. These studies suggest that, if the company maintains satisfying relationships with stakeholders, it can achieve certain benefits that will impact positively on their performance, reducing their chances of failure in crisis situations. According to this perspective, the company's ability to relate, communicate and balance the needs and demands of its stakeholders, is a relevant factor to judge the probability to suffer business failure situations.

In this regard, there is a large body of literature that advocates stressing the importance of social responsibility and more specifically, the company's relationship with stakeholders on business performance. In short, a large and important literature that shows that maintaining good relations with stakeholders leads to increased financial performance of the company, either by reducing indirect costs associated with not responsible actions (has been developed by Waddock and Graves (1997) in their research. In this way other authors as Hillman and Keim (2001), Ruf, Muralidhar, Brown, Janney and Paul (2001) y Russo and Fouts (1997) claim that by constitute abilities or inimitable and irreplaceable resources that report a sustainable competitive advantage over time, according to the vision of the company based on resources (*resource-based view or RBV*).

2.2. The firm-employee relationship (job satisfaction) and business failure.

Besides the theoretical background that addresses the participation of labor in the production process from a cost perspective (Becker and Gerhart, 1996; Carnoy, 2001; Friedman, 1970; Liu, Combs, Ketchen and Irelan, 2007) a different perspective which refers to the social impact of employee-firm relationship on the economic performance of the company (Dutton, et als., 1994) has been developed.

In the literature on corporate social responsibility, and in terms of cost-benefit, it has been underlined the importance of implicit costs generated by irresponsible actions, leading to a competitive disadvantage in the company and affecting its profitability. Specifically, it has been shown that dissatisfied employees have behaviors such as absenteeism, tardiness, leaving the company and other behaviors

that increase the rate of accidents (Gargallo, 2008). All of this generates costs that affect the economic aspect of firm.

In this sense, a responsible policy with employees reports a low cost compared to loyalty and productivity benefits that the firm would obtain versus competitors who act irresponsibly (Waddock and Graves, 1997).

According to the vision of the company based on resources (*resource-based view or RBV*), the ability of the firm to create value in terms of resources and capabilities depend on its capacity to control stakeholders relationship (management, employees, customers, suppliers, financial institutions, general public, and so on). This is an inimitable and irreplaceable resource which gives sustainable competitive advantage over time to firm, resulting in increased business performance (Choi and Wang, 2009).

In this sense, the retention of qualified employees improves productivity and encourages their link with business objectives, avoiding certain behaviors, such as strikes, boycotts, and so on. Also, it is a unique and inimitable resource that gives a better firm reputation, positively affecting the positioning of the latter on the market and therefore its performance (Hendriks 2008; Ruf et als. 2001).

Consistent with this theoretical perspective, the previous literature has reflected the importance of the relationship between employee satisfaction and performance, productivity and corporate profits (Davis and Newstrom, 1999; Hackman and Oldham, 1980), the stability of the organization (Organ and Ryan, 1995), flexibility to its production processes (Freeman and Soete, 1996) and the increase of their ability to expand their market share.

Specifically, employees play a key role in the processes of business failure because the firm depend on them in order to achieve certain concessions (wage cuts, reduced overtime, reduced allowances, etc.) and favorable attitudes (willingness to compromise, lack of interest in the call for strikes or strikes, efforts to improve productivity, etc.) that promote its recovery in adverse economic and financial conditions (Jones, 1995).

Kane et als. (2005) describe two types of benefits from integration and communication relationships that keep the firm with its employees:

a) *Unconditional benefits*: satisfying relationships with employees increase the business productivity and decrease recruitment costs, regardless of the economic situation that may occur to occur in the environment surrounding the company.

b) *Conditional benefits*: maintaining good firm-employee relations can be seen as a means of obtaining a financial option that could avoid insolvency.

Otherwise, if there isn't a spirit of cooperation between firm and employees, the staff restructuring measures or reduction of wages, can be potentially destabilizing (Robbins and Pearce, 1992) adversely affecting the morale of the employees, their motivation and level of commitment, contributing to the flight of the most talented employees (Greenhalgh, 1983; Hardy, 1987; Sutton, Eisenhardt and Jucker, 1986). These attitudes can aggravate the deterioration of the company (Zatzick and Iverson, 2006), due to the employees sense of insecurity and loss of confidence,

resulting in lower labor productivity and a sales decline that will worsen their financial problems.

The foregoing gives to the human factor a significant role in crisis situations, giving the company a better position against competitors, improving the social and economic performance and reducing the likelihood of incurring a business failure process.

The empirical evidence preceding is limited to Kane et al. (2005) study whose aim is analyze the impact of the strengths and weaknesses inherent to firm-employee relations on a future corporate insolvency. Their work is carried out on a sample of 2,228 companies, from the database KLD (Kinder, Lydenberg and Domini), of which 116 were considered unsuccessful under Altman Model. Data were collected for the period 1991-2001 and a logistic regression model was applied. According to the results, a proper relationship with employees increases the probability of obtaining concessions in periods of difficulty and reduces the business failure risk.

2.3 Job satisfaction as an indicator of the firm-employee relationship.

Previous studies have been limited to defining the firm-employees relationship as "satisfactory" or "unsatisfactory" (Kane, et als., 2005), ignoring specific aspects such as job quality, defined as the set of characteristics that determine the ability of the company to meet certain needs commonly accepted as those factors that lead to the economic, social, psychological and health of workers (Farné, 2003). From a microeconomic point of view, the concept of quality of employment is linked to the satisfaction perceived by the worker (Iglesias, Llorente and Dueñas, 2011), being a subjective measure which is an emotional positive result from an evaluation of workers themselves (Freeman, 1978).

As for what features or dimensions, we can measured the job satisfaction, butthere is no unanimity of opinion in the previous literature (Gamero, 2010; Iglesias et al., 2011; Hamermesh, 1977). Some authors have analyzed the importance of individual conditions or workplace on job satisfaction (Clark and Oswald, 1996; Ahn and Garcia; 2004, Ahn, 2005) or job promotion prospects (Leontaridi and Sloane, 2000), working conditions (Renaud, 2002) or the type of contract (Wooden and Warren, 2004). Other studies have been based on economic utility models of work as Levy-Garboua and Montmarquette (Gamero, 2010).

Also, been made reports and surveys, with diversity of represent dimensions of employ productive factor, which measures the level of job satisfaction, highlighting the importance that has been given to this aspect, both, in Europe (European Community Household Panel Data published by Eurostat) and in our national context (Survey of Quality of Life at Work published by the Ministry of Employment and Immigration).

So, and according to previous studies, the employee is satisfaction, in relation to the characteristics that define the employment relationship and workplace, can be evaluated through the following dimensions, which have been the most used on the literature (Ahn and García, 2004; Clark and Oswald, 1996; Farné, 2003; Iglesias et als., 2011; Lydon and Chevalier, 2002):

a) *Working time (hours worked and time flexibility)*

Hours worked: There is no unanimity in the previous literature on the relationship between hours worked and job satisfaction. Authors like Clark and Oswald (1996), Reinecke and Valenzuela (2000) and Lydon and Chevalier (2002) agree on indicating a negative relationship between the number of hours worked and the satisfaction perceived by employees, fact explained by its effect on physical and mental health of them, and the quality of personal and family life. Under the opposite perspective, Bartel (1981) and Schwochau (1987) note that the time work choice can shed a positive, since more satisfied employees stay longer in their jobs. Meanwhile, Clark (1999) doesn't found a relationship between the two variables.

Overall, it could be proven that employees who work more hours, or less, than they wish , reach a lower satisfaction levels (Ahn and Garcia, 2004).

Time flexibility consists of a series of measures taken in response to the ongoing processes of change in relation to the investment of time that the employee is working, in order to achieve consensus among economic and social interests, and the achievement of increasing an economic efficiency in the firm (Hill, Hawkins, Ferri and Weitzman, 2001). Therefore, there is a variety of working hours, such as flexible working hours or free, uninterrupted work, shift work, free choice, and so on. In this sense, the implementation of measures of labor flexibility allows employees to make compatible the working hours with a number of other personal and social activities, increasing their motivation in relation to the workplace and thereby enhancing the quality, productivity and labor satisfaction.

b) *Salary and other perquisites*

Regarding the individual income earned through the salaries, some authors (Ahn, 2005; Clark, 1999; Farné, 2003; Grund and Sliwka, 2001), show a positive relationship with job satisfaction of employees, indicating that employees who receive low wages show effects of dissatisfaction and, conversely, those who receive higher pay levels show higher levels of satisfaction. According to these assertions, the level of job satisfaction will be greater the higher the level of pay received by the employee in relation to the market wage for the position held (Ahn, 2005; Clark and Oswald, 1996).

Also, according to the proposals of the "*theory of compensated wage differentials*", Farné (2003) and Hamermesh (1999) suggest the possibility of a negative relationship between the level of wages and the level of job satisfaction, arguing that jobs with less attractive qualities must be compensated with higher wages.

It is also important for job satisfaction the role of other perquisites, for example: a) social security affiliation (Farné, 2003) and b) retirement benefits (Bowen, DuCharme, Shores, 1995), among others.

c) *The stability of employment and type of contract (temporary vs. permanent, full-time vs. part-time).*

In connection with this aspect, and as in previous cases, there is no consensus of opinion in the precedent literature. Studies such as those of Clark and Oswald (1996) and Iglesias et als., (2011), argue that high turnover positions, part-time or temporary job and insecurity are linked negatively to job satisfaction and, consequently, with the quality of the job.

In contrast, the work of Clark (1996) and Belfield and Harris (2002) found no relationship between the type of contract and job satisfaction.

This vagueness has been explained by the fact that workers may want temporary contracts and partial time to reconcile work and family life, so these factors would not be linked to job insecurity (Iglesias et als., 2011), resulting in a higher level of job satisfaction.

d) *Training and promotion opportunities for employees (Human Capital).*

The relationship between training and promotion opportunities for employees with labor quality is defined in terms of relevance to the skills requirements of the job. Therefore, it is expected that workers with an educational level appropriate to their job will be more satisfied (Ahn and García, 2004).

In any case, as is true for other dimensions of job satisfaction, there is no scientific unanimity in this respect, since, while authors like Lydon and Chevalier (2002) or Nikolaou, Theodossiou and Vasileiou (2005) agree on indicating a positive relationship between the level of education and job satisfaction. Others like Clark and Oswald (1996) or Gazioglu and Tansel (2002) advocate a negative relationship, which is explained by the aspirations of employees with higher skill levels than those required by their jobs, expectations that result in lower levels of satisfaction.

e) *Social dialogue.*

A great deal of work has focused on analyzing the effect of unionization on job satisfaction (Rodriguez and Prieto, 2008). Authors such as Freeman (1978) show that employees who belong to a union training are less likely to leave their jobs, despite express a higher level of dissatisfaction, an aspect that is derived from the ability to express their dissatisfaction with working conditions. In the same way Clark and Oswald (1996) attribute greater satisfaction to employees outside union formations. Meanwhile, investigations such as Bender and Sloane (1998) and Bryson, Cappellari and Lucifora(2004) do not attribute any relationship between membership in a union organization and job satisfaction.

According to these dimensions of job satisfaction and doctrinal interpretations given above, it follows that higher satisfaction leads to higher levels of professional quality of life for employees, encouraging their connection with business objectives, increasing labor productivity and corporate profitability (Jimeno and Toharia, 1991, Hernando and Valles, 1994). Finally this behaviour contributes to the reduction of the probability of failure and the employees active involvement when corporate crisis may exceedingly occur. Thus, companies in those sectors whose employees are satisfied with the working time, remuneration received, stability and type of

contract, the training and promotion opportunities and social dialogue will have less probability of failure.

3. Econometric specification and sample.

To achieve the objectives in this research, a regression analysis with panel data, has been conducted, taking, as cross-sectional units, 9 sectors (1. Industry; 2. Building business; 3. Trading and repairs; 4. Hotels and restaurants; 5. Transport, storage and communication; 6. Real estate agencies and rental services. Managerial services; 7. Education; 8. health and social work and social services, and, 9. Other social and personal services) as a sample of Spanish firms in period from 2007 to 2010. So, 36 observations have been used (9 sector x 4 years).

Following authors such as Chen and Williams (1999), Liu (2004) and Campbell, Heriot, Jauregui and Mitchell (2012), we have adopted a macroeconomic perspective to try to answer the research questions. So, we have measured the rate of business failure as the number of dead companies in a given sector (closure or cessation of business activity) to the total number of those existing business in the sector.

$$BUSINESS\ FAILURE_{it} = \frac{Number\ of\ dead\ firms_{it}}{Total\ number\ of\ firms_{it}} \quad [1]$$

Where "i" represents the activity sector and "t" is the time period considered. The data for the calculation variables are taken from a secondary source, specifically from the Central Business Directory published by the National Statistics Institute (DIRCE).

Also, according to the theoretical approaches previously shown, we define five dimensions of job satisfaction (Working hours and flexible working hours, wages and other perquisites, job security, training and the promotion chances, employee satisfaction with social dialogue), related to the perception that workers have of their jobs. Thus, it has adopted a subjective view of the quality of employment, called "job satisfaction" (Sat_{it}), based on the view given by respondents for the ECVT about these five dimensions.

The satisfaction rate was obtained as the average of the dimensions (Iglesias et als., 2011):

$$Sat_{it} = \frac{H_{it} + W_{it} + JS_{it} + TP_{it} + SD_{it}}{5} \quad [2]$$

Where:
Sat_{it}: Average level of job satisfaction for sector i in period t.
H_{it}: Job satisfaction with hours worked and time flexibility of sector i in period t.
W_{it}: Job satisfaction with wages and other perquisites of sector i in period t.
JS_{it}: Job satisfaction with job security of sector i in period t.

TP_{it}: Job satisfaction with training and promotion chances of sector i in period t.

SD_{it}: Job satisfaction with social dialogue of sector i in period t.

We also consider a group of control variables related to the particular characteristics of the sector and other business conditions that may contribute to the business failure.

a) *Labor Intensity in the activity sector*: Employees can impact on the probability of business failure but this impact depends on the labor intensity of a given sector. Thus, the most labor intensive activity sectors enjoy greater economic benefits derived from the firm-employee relationship and therefore they have lower probability of failure (Kane et als., 2005). Following authors such as Bowen et als. (1995) and Kane et als. (2005), we calculate the labor intensity as one minus the ratio of gross fixed assets divided by adjusted total assets (total assets plus amortization and impairments). To this end, and following the study methodology adopted in this paper, we use the average of data by activity sectors, obtained from the Central Balance Sheet of the Bank of Spain (Spanish Government Bank).

b) *The average size of firms in the sector*: The size has been defined in previous studies on business failure as a significant variable in explaining this phenomenon, although mixed results have been obtained regarding the direction of this relationship. As summarized by Kane et als. (2005), this fact could be explained because both types of firms (large or small) have advantages that give them skills to avoid a situation of failure.

So, advantages such as experience, competitive position or access to credit, are attributed to large firms, and to small firms, aspects such as openness to change, innovation capacity or flexibility. Under this approach, we have built a control variable that defines the size of the business as the total assets logarithm of firm (LnAT).

c) *Liquidity* (current assets over current liabilities), *Profitability* (Profit on Equity) and *debt* (Debt to Total Assets): Numerous studies have suggested the existence of a certain relationship between these magnitudes and business failure.

This selection of control variables responds the objectives of the research, as it reports information for each activity sector and it also provides a basis about the empirical importance of sectorial characteristics related to job satisfaction on the business failure process. Thus, we use aggregated data at the level of activity sectors, from the DIRCE and ECVT. Also, economic data are taken from the Balance Sheets Central of Spain Bank (Spanish Government Bank).

Table 1 shows a summary of these variables.

Table 1. Dimension, notation, variable and source.

Dimension	Notation	Variables	Source
	Failure	*Business failure rate (ceased operations)*	*Central Companies Directory (National Statistics Institute)*
Job satisfaction (subjective definition of job quality, Sat)			
Working hours and flexible hours (H)	*H1*	*Average level of satisfaction with the working day*	*Survey of Quality of Life at Work (Ministry of Employment and Immigration)*
	H2	*Average level of satisfaction with flexible hours*	
	H3	*Average level of satisfaction with time off during the working day*	
	H4	*Average level of satisfaction with holidays and leave*	
Salary and other remuneration extra-salary (W)	*W1*	*Average level of satisfaction with salary*	
	W2	*Average level of satisfaction with social helps*	
Job security (JS)	*JS1*	*Average level of satisfaction with permanency of the job*	
	JS2	*Average level of satisfaction with health and safety in the workplace*	
Training and promotion probabilities employees (TP)	*TP1*	*Average level of utility received academic training*	
	TP2	*Average level of utility of training received by the company in relation to the work they do*	
Satisfaction with social dialogue	*SD1*	*Average level of satisfaction with their collective agreement or statute regulating*	
Sector control variables			
Labor intensity	*IL*	*Average fixed assets of the sector / Total average assets of the sector*	*Central Balance Bank of Spain*
Average size of the sector companies	*LnAT*	*Ln(Average total assets of the sector)*	
Liquidity	*L*	*Current average assets of the sector / Current average liabilities of the sector*	
Profitability	*RF*	Profit on Equity	
Leverage	*REN*	Debt to total assets	

Source: Own

In short, the proposed model is as follows:

$$BUSINESS\ FAILURE_{it} = \beta_0 + \beta_2 Sat + \beta_3 CV + \xi_i \qquad [3]$$

where the term i represents the activity sector, t is the time period considered, Sat_{it} corresponds to job satisfaction and CV with the control variables.

We have also calculated replicas of the proposed model for the explanatory variables that define each of the dimensions of job satisfaction. Table 2 presents the descriptive statistics of the variables considered.

Table 2. Descriptive Statistics.

Dimension, variablesa and control variables (n= 36)b	Mean	Standard deviation	Minimum	Maximum
FAILURE	0,10	0,04	0,06	0,24
SAT	6,23	0,30	5,82	6,97
H	6,81	0,27	6,22	7,51
W	4,70	0,65	3,81	6,68
JS	7,30	0,26	6,72	7,86
TP	6,92	0,52	6,22	7,86
SD	5,63	0,53	4,00	6,92
H1	7,06	0,33	6,50	7,72
H2	6,41	0,36	5,68	7,21
H3	6,57	0,32	5,74	7,24
H4	7,20	0,54	6,28	7,48
W1	6,06	0,37	5,39	7,01
W2	3,34	0,99	2,02	6,36
JS1	7,20	0,46	6,20	8,21
JS2	7,39	0,19	6,73	7,85
TP1	6,08	1,02	4,35	8,07
TP2	7,77	0,25	7,28	8,41
SD1	5,63	0,53	4,00	6,92
IL	4,20	11,56	0	48,49
LnAT	17,48	2,58	12,99	21,08
L	1,21	0,34	0,76	2,16
RF	9,77	9,53	1,8	41,3
REN	47,98	17,10	6,1	73,9

a. The variables are defined in Table 1.

b. The sample included 9 sectors (1. Industry; 2. Building business; 3. Trade and repairs; 4. Hotel and restaurants; 5. Transport, storage and communication; 6. Real estate agencies and rent. Managerial services; 7. Education; 8. health and social work and social services, and, 9. Other social and personal services) during the period 2007-2010.

The data shows that the average rate of business closure or cessation is 10% of existing businesses, and the highest level of satisfaction is achieved for the utility of training received by the firm, in connection with the work developed (TP2), the satisfaction with health and safety in the workplace (JS2), as well as satisfaction with job tenure (JS1) and satisfaction with holidays and leave (H4). By contrast, the item less valued is the satisfaction with social support (W2).

This behavior moves us to the analysis of dimensions. The most valued is job security (JS) and the probabilities of training and promotion for employees (TP), and, the lowest rated is salary and perquisites (S).

In general, and according to the adopted definition of job satisfaction, the average rate achieved by the sample is 6.23 on a scale of 10. As for the relationship between dimensions and variables defined (see table 3), the bivariant correlations manifest a negative correlation between those which define job satisfaction and business failure, as expected. Also, they show a positive relationship between satisfaction with working hours and breaks during working time, holidays and leave, salary, job tenure and training. This behavior seems to express a general worker mood.

Table 3. Bivariate correlations.

| Dimension and variables[a]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. FAILURE																	
2. SAT (Job Satisfaction)	-0.3770**																
3. H (Working hours and flexible hours)	-0.2191	0.7229***															
4. W (Wages and perquisites)	-0.4570**	0.7978***	0.3084*														
5. JS (Job security)	-0.3105*	0.6673***	0.5792***	0.4128**													
6. TP (Training and promotion probabilities employees)	-0.2514	0.7392***	0.6475***	0.4328**	0.5895***												
7. SD (Satisfaction with social dialogue)	-0.1132	0.6309***	0.3381**	0.4908**	0.1380	0.0636											
Working hours and flexible hours — 8. H1	-0.1253	0.7233***	0.8277***	0.3176**	0.5985***	0.7725***	-03805**										
9. H2	-0.0230	-0.1399	0.1803	-0.1478	-0.2328	-0.1875	0.2614	-0.2361									
10. H3	0.1412	0.2913**	0.7369***	-0.0842	0.1430	0.2181	-0.0048	0.4829**	0.2620								
11. H4	-0.3857**	0.8138***	0.8217***	0.5072***	0.7625***	0.7161***	-0.5487***	0.7960***	-0.2802*	0.3566**							
Salary and other remuneration extra-salary — 12. W1	-0.3033**	0.8112***	0.4091**	0.8641***	0.5043**	0.4138**	-0.5037***	0.4533**	-0.2758	0.0746	0.6023***						
13. W2	-0.4857***	0.7253***	0.2388	0.9757***	0.3385**	0.4049**	-0.5894***	0.2320	-0.0796	-0.1463	0.4234**	0.7326***					
Job security — 14. JS1	-0.4041**	0.7050***	0.5227***	0.5101***	0.9262***	0.6485***	-0.5093***	0.6156***	-0.4064**	0.0326	0.8143***	0.5510***	0.4496***				
15. JS2	0.1533	0.0651	0.2722	-0.1382	0.4126**	-0.0044	0.3911**	0.0988	0.3648**	0.3003	0.0534	0.0054	-0.1892	0.0386			
Training and promotion probabilities employees — 16. TP1	-0.2533	0.7698***	0.6751***	0.5089***	0.5751***	0.9734***	-0.4873***	0.8014***	-0.2328	0.2421	0.7637***	0.4947***	0.4726***	0.6472***	-0.0395		
17. TP2	-0.0023	-0.1008	-0.0918	-0.3099*	0.0867	0.1568	0.4807***	-0.0923	0.1872	-0.0943	-0.1748	-0.3313**	-0.2746	0.0327	0.1509	-0.0737	
Satisfaction with social dialogue — 18. SDA	-0.1132	0.6309***	0.3381**	0.4908**	0.1380	0.0636	1.0000***	0.2733	-0.0315	0.2695	0.3269**	0.5890***	0.4070**	0.1500	0.0033	0.0968	-0.1403

a. The variables are defined in Table 1.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

This analysis also allows us to rule out problems of multicollinearity among dimension and variables defined, since the correlation coefficients have to be under than or equal to 0.8.

4. Analysis of results

4.1. Job satisfaction and business failure. Descriptive analysis by activity sector.

Figure 1 compares the evolution of the business failure rate for each industrial sector considered, during the 2000-2008 period.
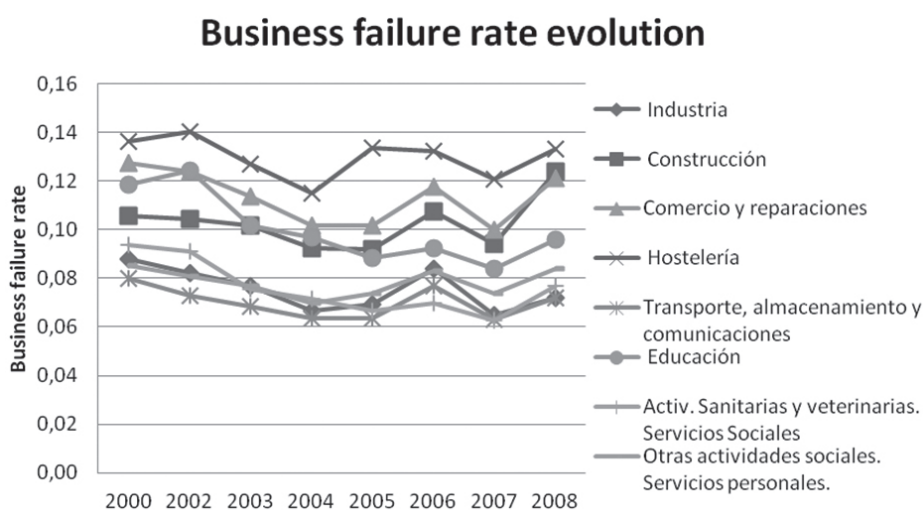
Source: Own elaboration from the CCD data (INE).
* Failure rate = number of companies that have been discharged in a particular sector in the total number of firms in the same in a given year.

Figure 1: Evolution of the business failure rate by sector (2000-2008)

A comparison of sectorial behavior in relation to the variables previously mentioned, evidence differences between industrial sectors or industries considered (see table 4). This behavior is a remarkable differentiator, especially in the case of building firms, trading and repairs and also hotel and catering, whose business failure rates are higher than average. This seems to result in lower levels of job satisfaction on some of the dimensions and variables considered.

Regarding the dimensions that define job satisfaction (see tables 4 and 5), the *building sector* has the lowest levels of satisfaction with pay and perquisites, with job security and training and the promotion chances of employees. Meanwhile, the hotel and catering industry is the least satisfied with the hours worked and time flexibility.

Table 4. Means by sector and significance testing of mean difference between them.

Dimension, variables and control variables[a]	Means	Industry	Building business	Trade and repairs	Hotel and restaurants	Transport, storage and communication	Real estate agencies, and rent. Managerial services	Education	Health and social work and social services	Other social activities. Personal services	Kruskal Wallis Test (p value)
FAILURE	0,10	0,08	0,16	0,13	0,13	0,08	0,09	0,10	0,07	0,10	21.67 (0.006)
SAT	6,23	6,21	6,06	6,09	5,99	6,07	6,13	6,84	6,46	6,20	25.59 (0.001)
H	6,81	6,81	6,66	6,67	6,48	6,55	6,91	7,16	6,89	6,81	24.30 (0.002)
W	4,70	4,64	4,34	4,33	4,39	4,50	4,38	5,36	4,81	4,32	14.47 (0.070)
JS	7,30	7,25	6,87	7,45	7,10	7,23	7,21	7,71	7,36	7,23	26.87 (0.001)
TP	6,92	6,53	6,48	6,66	6,39	6,50	6,79	7,84	7,58	7,38	29.57 (0.000)
SD	5,63	5,80	5,92	5,37	5,59	5,56	5,38	6,12	5,67	5,26	20.48 (0.009)
H1	7,06	7,04	6,95	6,84	6,76	6,74	6,90	7,60	7,40	7,05	23.87 (0.002)
H2	6,41	6,33	6,47	6,48	6,21	6,21	6,89	6,03	6,25	6,68	19.14 (0.014)
H3	6,57	6,52	6,72	6,44	6,27	6,32	6,64	6,75	6,40	6,63	13.96 (0.083)
H4	7,20	7,33	6,51	6,91	6,67	6,92	7,21	8,27	7,52	6,89	30.73 (0.000)
W1	6,06	6,03	5,95	5,93	5,86	5,88	5,87	6,62	6,09	5,74	13.87 (0.085)
W2	3,34	3,25	2,73	2,73	2,92	3,12	2,89	4,11	3,52	2,90	10.47 (0.234)
JS1	7,20	7,22	6,31	7,34	7,02	7,08	6,89	7,98	7,47	7,07	29.71 (0.000)
JS2	7,39	7,27	7,43	7,56	7,18	7,38	7,52	7,45	7,26	7,40	16.93 (0.031)
TP1	6,08	5,38	5,33	5,42	5,02	5,15	5,91	7,97	7,52	6,53	29.67 (0.000)
TP2	7,77	7,69	7,63	7,89	7,76	7,85	7,66	7,70	7,64	8,22	12.30 (0.138)
SD1	5,63	5,80	5,92	5,37	5,59	5,56	5,38	6,12	5,67	5,26	20.48 (0.009)
IL	4,20	0,18	0,23	0,28	0,39	0,23	0,60	43,25	0,08	2,41	33.31 (0.000)
LnAT	17,48	19,24	20,97	18,58	16,53	20,97	17,87	13,70	15,12	13,36	33.20 (0.000)
L	1,21	1,15	1,03	1,01	0,84	1,03	1,71	2,04	1,01	1,26	29.92 (0.000)
RF	9,77	5,06	5,75	12,3	3,93	3	3,13	12,03	8,2	35,1	27.15 (0.001)
REN	47,98	55,34	70,28	70,28	52,4	42	65,73	36,83	54,22	7,08	32.47 (0.000)

a. The variables are defined in Table 1.
In bold are significant variables.
Source: Own elaboration

Table 5. Mean difference between sectors.

Dimension, variables and control variables[a]	S1	S1	S1	S1	S1	S1	S1	S1	S2	S2	S2	S2	S2	S2	S2	S3	S3	S3	S3
	S2	S3	S4	S5	S6	S7	S8	S9	S3	S4	S5	S6	S7	S8	S9	S4	S5	S6	S7
FAILURE	-2.31 *	-2.58 **	-5.95 ***	0.55	-0.58	-1.69	0.92	-0.96	0.92	0.83	2.50 **	1.91	1.90	2.60 **	1076	-0.38	3.04 **	1.65	1.84

	0,82	1,79	2,62	2,64	1,41	-6,04	-4,28	-0,07	1,05	1,89	1,95	0,54	-5,7	-0,62	0,75	0,89	-0,64	-8,07	-6,51
H1		**	**	***	***								*					***	***
	-1,35	-2,03	1,12	1,08	-7,12	1,62	0,63	-1,83	-0,13	2,06	2,01	-4,13	-7,41	1,55	-1,04	2,6	2,51	-5,53	2,45
H2		*			***					*	*	***	***			**	**	***	**
	-1,44	0,61	1,41	0,95	-0,98	-2,42	0,88	-0,51	1,82	2,37	1,78	0,63	2,23	2,04	-1,04	0,84	0,51	-1,45	-2,56
H3						**				**		*	*						**
	9,5	3,56	4,64	3,27	1,54	-9,57	-2,55	4,29	-3,34	-1,14	-3,26	-8,22	-17,82	-13,41	-3,69	1,44	-0,08	-2,51	-10,62
H4	***	***	***	**		***	**	***	***		**	***	***	***	***			**	***
	0,46	1,49	1,11	1,5	1,29	-4,54	-0,61	1,36	0,13	0,44	0,39	0,44	-3,25	-0,73	0,8	0,47	0,49	0,5	-5,19
W1						***							***						***
	1,03	1,07	0,79	0,27	0,79	-1,88	-0,55	0,69	0,01	-0,39	-0,71	-0,29	-2,73	-1,48	-0,31	-0,43	-0,74	-0,31	-2,81
W2													**						**
	12,46	-1,13	2,49	1,52	2,53	-6,98	-4,05	2,35	-10,29	-10,46	-9,09	-4,75	-16,55	-25,49	-14,45	3,04	2,28	3,07	-4,94
JS1	***	**	**		**	***	***	**	***	***	***	***	***	***	***	**	*	***	***
	-1,27	-4,34	0,53	-1,13	-3,24	-2,16	0,14	-1,38	-1,23	1,28	0,36	-0,79	-0,18	1,37	0,23	2,32	2,3	0,86	1,89
JS2		***			**	**										**	**		
	0,27	-0,33	1,22	1,12	-3,61	-19,64	-13,66	-5,37	-0,62	1,01	0,82	-3,55	-17,54	-12,69	-5,31	1,49	1,61	-5,25	-39,26
TP1					**	***	***	***				**	***	***	***			***	***
	0,62	-1,8	-0,51	-0,99	0,32	-0,25	0,45	-6,25	-2,13	-0,83	-1,26	-0,24	-0,87	-0,09	-6,17	0,74	0,19	1,71	1,93
TP2								***	*						***				
	-4.63	3.19	1.74	1.79	5.51***	-7.92	2.20	0.72	4.13	2.80	2.74	7.20	-4.81	4.36	0.89	-1.25	-1.02	-0.09	-5.42
SD1	***	**				***	*		***	**	**	***	***	***					***
	1,65	1,59	3,35	2,47	0,77	-5,88	-1,37	-0,03	-0,04	1,6	0,95	-2,98	-5,82	-2,65	-1,01	1,63	0,98	-2,91	-5,73
H		**	**			***						**	***					**	***
	0,96	1,14	0,92	0,49	0,92	-2,89	-0,59	0,92	0,05	-0,14	-0,46	-0,09	-3,37	-1,43	0,06	-0,21	-0,56	-0,15	-3,89
W						**							**						***
	5,62	-3,03	1,31	0,28	0,66	-6,19	-2,64	0,25	-7,21	-1,98	-4,68	-4,32	-9,66	-7,91	-4,88	2,94	2,87	3,16	-2,98
JS	***	**				***	**		***	*	***	***	***	***	***	**	**	**	**
	0,41	-1,11	1,16	0,28	-2,35	-14,45	-9,95	-6,38	-1,52	0,7	-0,19	-2,73	-14,25	-10,04	-6,61	2,49	1,6	-1,38	-16,49
TP					**	***	***	***				**	***	***	***	**			***
	-4.63	3.19	1.74	1.79	5.51***	-7.92	2.20	0.72	4.13	2.80	2.74	7.20	-4.81	4.36	0.89	-1.25	-1.02	-0.09	-5.42
SD	***	**				***	*		***	**	**	***	***	***					***
	-10,51	-16,28	-23,71	-10,51	-34,32	-19,69	4,03	-10,65	-11,58	-20,74	0	-32,34	-19,66	6,09	-10,41	-13,65	11,58	-19,64	-10,19
IL	***	***	***	***	***	***	***	***	***	***		***	***	***	***	***	***	***	***
	-37,71	20,76	65,38	-37,71	9,66	34,12	30,48	38,85	54,99	87,07	0	21,5	43,81	42,34	49,39	52,98	-54,99	-27,55	30,24
LnAT	***	***	***	***	***	***	***	***	***	***		***	***	***	***	***	***	***	***
	3,3	4,22	5,81	3,3	-7,93	-9,95	2	-2,59	1,08	4,16	0	-10,32	-11,99	0,32	-6,92	3,9	-1,01	-10,87	-12,47
L	**	***	***	**	***	***	*	**		***		***	***		***	***		***	***
	-0,35	-5,11	0,73	2,16	1,55	-3,85	-2,26	-10,39	-3,56	0,94	1,63	1,53	-2,76	-1,35	-9,41	5,95	9,11	8,67	0,16
RF		***		***		**	**	***	**				**		***	***	***	***	
	-7,69	6,96	1,75	3,6	-5,32	8,28	0,98	36,74	13,68	8,87	12,06	2,02	12,91	10,1	36,77	-4,65	1,6	-11,13	3,95
REN	***	***		***	***	***		***	***	***	***	*	***	***	***	***		***	**

a. The variables are defined in Table 1.
*p <0.05; **p < 0.01; ***p <0 .001

This behavior is also reflected in the variables. Thus, the worst score sector is hotel and catering, especially in regard to satisfaction with working hours (H1), with the time off during the working day (H3), with health and safety in the workplace (JS2) and training received (TP2). In economic and financial terms, it is the less profitable (from a financial standpoint, RF) and liquid (L) sector.

Regarding the building sector, the relevant variables are social support (W2), job tenure (JS1) and usefulness of the training in relations to the job performed (TP2), whose values are below average. Trading and repairs sector, also shows a particular behavior with respect to the low levels of job satisfaction in the case

of the variable related to social support (W2). According to these results, we expect a negative relationship between the job satisfaction index defined and the probability of failure.

In comparative terms, the education, and health activities, and health and social work sectors, have higher levels of satisfaction in relation to pay, job security, and training and chances of promotion; showing the previously mentioned variables significant differences according to the applied statistical tests (see table 5). This result is consistent with the fact that most of these activities take place in the public sphere, where jobs are associated with higher levels of education and more stable employments (Rodríguez and Prieto, 2008).

The industrial sector means higher levels of satisfaction on the building industry and hotel and catering, for the holidays and days off, wages and social benefits, job security or training aspects which are related to the fact that this is the less labor intensive sector.

According to these results we have defined two groups of sectors, those with higher business failure rates than average and those with business failure rates below or equal to the average. All this, in order to observe the differences between the two groups for the variables defined (see table 6).

Table 6. Mean differences between companies above and below the mean failure.

Dimension, variables and control variables	Mean failure rate >0.10 (N= 12) 1	Mean failure rate ≤ 0.10 (N= 24) 0	Mean differences	Test univariate (Sig.)
SAT	6.05	6.32	0.27	2.85***
H	6.60	6.86	0.25	3.41***
W	4.36	4.67	0.31	1.80*
JS	7.14	7.33	0.19	2.07**
TP	6.51	7.10	0.59	4.78***
SD	5.63	5.63	0.00	0.02
H1	6.85	7.12	0.27	3.32***
H2	6.39	6.40	0.01	0.11
H3	6.48	6.54	0.07	0.67
H4	6.70	7.36	0.66	4.36***
W1	5.91	6.04	0.12	1.06
W2	2.79	3.30	0.51	1.98**
JS1	6.89	7.28	0.39	2.68**
JS2	7.39	7.38	-0.00	-0.12
TP1	5.26	6.41	1.15	4.68***

TP2	7.76	7.79	0.03	0.37
SD1	5.63	5.63	0.00	0.02

*p <0.05; **p < 0.01; ***p <0 .001
Source: Own elaboration

Thus, and as shown in table 6, the job satisfaction is higher in sectors with failure rates below or equal to the average, as we predicted. Also, this is manifested in the dimensions that define the satisfaction index. All except satisfaction with the collective agreement, have higher average levels in sectors with lower failure rates. As for the variables, satisfaction with working hours, holidays and days off, social assistance, stability in the job and the training are higher in industrial sectors of lower average level of business failure.

These figures confirm the approaches developed in this research, showing a negative relationship between job satisfaction and the business failure rate of a specific business sector.

4.3. Job satisfaction as indicator of business failure.

In order to test the impact of job satisfaction index on prediction models of business failure, various regression models have been estimated (see table 7).

In table 7, Model 1 presents the results using the "Job Satisfaction Index"; model 2 includes the dimensions that define job satisfaction and models 3, 4, 5, 6 and 7 have been developed for each of the variables.

Table 7. Regressions.

Dimension, variables and control variablesa	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
SAT	-0.089*** (0.030)						
H		-0.043 (0.044)					
W		-0.051*** (0.015)					
JS		-0.015 (0.036)					
TP		-0.004 (0.021)					
SD		0.010 (0.014)					
H1			0.017 (0.042)				
H2			-0.024 (0.027)				
H3			0.044 (0.027)				
H4			-0.074** (0.027)				

W1				-0.041 (0.031)			
W2				-0.018 (0.011)			
JS1					-0.049** (0.022)		
JS2					0.042 (0.034)		
TP1						-0.014 (0.011)	
TP2						0.034 (0.035)	
SD1							-0.011 (0.013)
IL	0.002*** (0.000)	0.003*** (0.001)	0.001 (0.000)	0.003*** (0.000)	0.002** (0.000)	0.002** (0.000)	0.002** (0.001)
LnAT	0.000 (0.003)	0.000 (0.004)	-0.002 (0.004)	0.003 (0.003)	-0.001 (0.003)	0.000 (0.004)	0.004 (0.003)
RF	0.002** (0.001)	0.003** (0.001)	0.001 (0.001)	0.003** (0.001)	0.001 (0.001)	0.003** (0.001)	0.001 (0.001)
REN	0.002** (0.000)	0.002** (0.001)	0.001 (0.000)	0.002*** (0.000)	0.001 (0.000)	0.002*** (0.000)	0.002** (0.000)
L	-0.039 (0.023)	-0.031 (0.027)	-0.002 (0.034)	-0.053** (0.023)	-0.054** (0.026)	-0.039 (0.026)	-0.045 (0.027)
Constant	0.589** (0.225)	0.619** (0.309)	0.355 (0.274)	0.304* (0.171)	0.169 (0.295)	-0.187 (0.328)	0.038 (0.117)
R-squared (Adj R-Squared)	0.41 0.29	0.54 0.35	0.47 0.28	0.50 0.37	0.37 0.21	0.32 0.15	0.25 0.09
F test	3.29**	2.83**	2.49**	3.83**	2.29**	1.84	1.59
n	36	36	36	36	36	36	36

a. The variables are defined in Table 1.
Standard errors are in parentheses.
*p <0.05; **p < 0.01; ***p <0 .001
Source: Own elaboration

This table shows the impact of job satisfaction on the likelihood of business failure, defined as closure or cessation of activity.

From the obtained models the positive impact of the labor intensity on the likelihood of business failure, is significant in six of the seven developed models. These results come to corroborate the importance of human factor to prevent the occurrence of business failure situations.

Model 1 confirms the notion that business failure is negatively related to job satisfaction and positively associated with labor intensity of activity sector and the level of indebtedness.

Deepening on the dimensions that define job satisfaction, business failure is negatively related to the level of satisfaction with salary and other perquisites, reflecting the importance of this issue to prevent the closure or cessation of business. Moreover, the employee is satisfaction with the holidays and days off, and training, also appears to have a negative impact on the probability of business failure.

From these results, we can see that the inclusion of dimensions and variables, representing the degree of employee is satisfaction with wages, holidays and days off, and also, training received, as explanatory variables, the explanatory power of

the prediction models of business failure could increase, since the results verify this fact.

5. Conclusions

In this paper, we contrast empirically the link between job satisfaction and the rate of business failure (defined as the closure of the business) in a specific activity sector, adding new evidence in order to contribute to the development of a theory that explains this process, with important implications for both the stakeholders related to the company and the economy in general. To do this, we have used data from the Survey of Quality of Life at Work, Business Central Board of INE and Central Balance Sheet of Spain Bank, for nine sectors during the period 2007-2010.

Following the theoretical approaches of previous studies, and in order to overcome the limitations of previous studies on job satisfaction and business failure we have developed a job satisfaction index whose explanatory variables are broke down into five dimensions (hours worked and flexible hours, salary and other perquisites, job security, training and employees promotion probabilities and satisfaction with social dialogue) and eleven items.

The defined index shows a negative relationship with the probability of business failure. Specifically, the results of this study show: a) that the employee is satisfaction with working hours and flexible hours, wages and perquisites, job security and training, reduces the level of business failure risk of the activity of the company in a given sector, and therefore these issues should capture the interest of business managers, to ensure the cooperation of workers in front of to a potential crisis, b) that the relationship between job satisfaction and business failure is also a sectorial issue so that the sectors in which workers are more satisfied with their working conditions have a lower risk of failure, treated as cessation of activity or firm death, and c) the significance of the information that relates the firm and its employees as a useful tool to assess a future risk of business failure state.

These results are especially useful for researchers and business managers because it emphasizes the importance of the attitude of workers and job satisfaction information on survival of companies which are in an economic and financial difficulty situation.

There are several limitations for this study. Firstly, the research has been carried out considering only the business failure concept from the point of view of "firm death". In this way, it would be important to consider this issue from a broader perspective, taking into account other definitions of business failure, in order to obtain different conclusions. Secondly, and more important, the sample is reduced and limited to the availability of existing data, although it has allowed us to relate the two defined variables (job satisfaction and business failure). A broader source made with primary data, through a questionnaire, would provide more specific information and would make possible to extend the analysis to individual firms. However, it is complex to obtain micro economic data and explanatory variables of job satisfaction for individual firms, due to the strategic importance of this information. Finally, no

evidence has been found, and this is the reason why it is difficult to compare this research with previous empirical results.

Nonetheless, these limitations shouldn´t prevent the authors of this article from a future research.

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