Analysis of the tendency towards entrepreneurship in Spain. A perspective based on the economic and institutional environment

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Abstract
The decision between whether to become self-employed or to work as an employee is a dilemma faced by an increasing number of Spanish professionals. This research investigates the sociodemographic profile of Spanish self-employed workers, and examines the factors in the economic and institutional environment that influence their decision to become self-employed.

The sociodemographic characteristics that make up the profile of entrepreneurs who decide to become self-employed are presented using microdata from the Spanish Labour Force Survey, and based on a logistic regression model. The influence of the economic and institutional environment on this tendency towards entrepreneurship is also studied. The results enable us to conclude that favourable factors for entrepreneurship are previous experience as an entrepreneur, the sector in which the individual wishes to be an entrepreneur, the professional’s age and sex, their marital status, and the maximum age at they completed their education. As for the environmental perspective, the relative size of the economy and the level of bank credit in the autonomous community of Spain where the entrepreneur wishes to do business has a positive influence on the tendency towards entrepreneurship.

Keywords: Entrepreneurship, self-employed workers, economic environment, institutions.

JEL codes: D02, L26, M13.

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从经济及政治环境角度
对西班牙成为自由职业者趋势之分析

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文章摘要
要成为自由职业者或以雇员身份打工是越来越多的西班牙专业人士面临的一个难题。本研究旨在调查西班牙的自由职业人士的社会人口统计特征，同时也分析影响其决定的经济背景和政治制度因素。
研究利用EPA的微数据，并基于逻辑回归模型，得出决定成为自由职业者的企业家的社会人口统计学特征。另外，我们对比了经济背景及政治制度对此倾向的影响。研究结果结指出，拥有创业经验、所从事之行业、专业人士的年龄和性别、其婚姻状况，以及其大学修业年期，对创业是有利的因素。从环境的角度来看，相对的经济规模和其经济活动所在之自治区的银行信贷级别对此趋势有正面的影响。

关键词：创业、自由职业者、经济环境、政治制度。

JEL 分类号: D02、L26、M13。
1. Introduction

The decision to become self-employed as an alternative to working as an employee (in both the private and public sectors) is becoming increasingly common in the Spanish labour market. This entrepreneurship does not only take the form of establishing a trading company, but also becoming a self-employed worker, which is an increasingly important figure in Spain’s business structure.

The decision to become self-employed may be due to various circumstances, which are sometimes voluntary and sometimes due to external factors. Indeed, many entrepreneurial projects begin because those behind them find a market opportunity and decide to exploit it to meet a need (Kirzner, 1973). However, professionals who start a business sometimes do so as the result of a need rather than an opportunity. Territorial factors and the level of competitiveness in the region have a positive influence on entrepreneurship based on opportunity (Crecente et al., 2019). As a result, the current Spanish entrepreneurial ecosystem is experiencing stagnation (GEM, 2020).

However, a completely stable environment is not necessary for the development of an entrepreneurial dynamic (Peters, 2003). Indeed, economic growth and the increase in the number of new companies above the level of equilibrium leads to a reduction in market niches, and therefore a reduction in the expectations of becoming an entrepreneur. The identification of an opportunity may therefore be a consequence not only of the market supply, but may also be due to changes in the local economy or caused by possession of an innovative product or process, or changes in any of the factors in the dynamics of the entrepreneur's relationships with their environment.

Therefore, the decision to start an entrepreneurial activity is conditioned by the personal characteristics of the entrepreneurs. In particular, the entrepreneurship literature has given special importance to factors such as gender differences (Cowling, 2008; Leung, 2011; Álvarez, Noguera and Urbano, 2012; Sullivan and Meek, 2012; Castro and Santero, 2014; Henry, Foss and Ahl, 2016; Teignier, Cuberes and Priyanka, 2017), the previous experience of entrepreneurs (Politis, 2008; Fairlie and Robb, 2009; Ruiz, Camelo and Coduras, 2012; Castro and Santero, 2014; Miralles, Giones and Riverola, 2016), marital status (Teignier, Cuberes and Priyanka, 2017), age (Kautonen, 2008; Álvarez, Noguera and Urbano, 2012; Kautonen, 2013; Teignier, Cuberes and Priyanka, 2017; Gielnik, Zacher and Wang, 2018, Azoulay et al., 2020), training or educational level (Fairlie and Robb, 2009; Álvarez, Noguera and Urbano, 2012; Castro and Santero, 2014; Teignier, Cuberes and Priyanka, 2017), having or not having children (Teignier, Cuberes and Priyanka, 2017, Kolvereid, 2018), the activity sector in which the project is undertaken (Greene, 2003; Castro and Santero, 2014) or the employment of the spouse, although some contributions have been oriented to the concept of “copreneurship” (Blenkinsopp and Owens, 2010). However, and without neglecting the individual’s personal situation, the decision to launch an entrepreneurial project also depends on other external factors.
Indeed, the economic conditions of the country or region where the business activity is to be located, the situation and sectoral perspectives and of course, the institutional situation nature are factors that the literature has highlighted as fundamental in becoming an entrepreneur.

First, as González-Pernía et al. (2018) point out, there are several theoretical arguments and evidence to suggest that entrepreneurship is a regional event, i.e. the contextual factors that affect entrepreneurship are regional in nature, and the impact of the 2008 crisis on entrepreneurship differs not only between countries, but even between regions within the same country.

Second, from the perspective of the economic environment, one of the most interesting relationships is the one that studies the behaviour of the rate of entrepreneurship and economic growth. After including the lagged growth rate in their models, Bowen and De Clercq (2008) conclude that past growth rates are a poor indicator of entrepreneurs’ expectations for future growth. Meanwhile, according to the study by Fuentelsaz et al. (2015), which examines the relationship between macroeconomic and institutional factors and the tendency towards entrepreneurship (due to both opportunity and necessity), GDP growth is not significant when including institutional variables in the estimates. However, Fuentelsaz et al. (2018), whose objective was to study the factors related to the level of entrepreneurship due to opportunity, concluded that there is a positive relationship between economic growth and the level of entrepreneurship due to opportunity.

Likewise, the relationship between the unemployment rate and entrepreneurship has been one of the most extensively studied in the literature on entrepreneurship and factors in the macroeconomic environment. This is evidenced by studies such as those by Blanchflower and Oswald (1998) and Blanchflower (2000), which conclude that there is a negative relationship between the self-employment rate and the unemployment rate in most of the countries studied. Meanwhile, Fuentelsaz et al. (2015) report a negative relationship between the unemployment rate and entrepreneurship due to opportunity, although they also conclude there is a positive relationship between unemployment rate and entrepreneurship due to necessity. Likewise, in the German case, Fritsch, Kritikos and Pijnenburg (2014) point out that the creation of companies behaves in a countercyclical manner, as it is more prevalent during recessions than in periods of growth, and there is a positive relationship between unemployment rates and entrepreneurial activity. Finally, in the Spanish case, and after using the regional unemployment rate in their analysis, González-Pernía, et al. (2018) conclude that a recession has a negative effect on entrepreneurship, and that lower levels of entrepreneurial activity are due to individuals perceiving fewer opportunities in this phase of the economic cycle.

The relationship between entrepreneurship and the state of public finances has also been studied in the literature. Kankanamge (2008) points out that unlike families, entrepreneurs prefer high levels of public debt. Conversely, Olvecká (2013), who examines the environmental conditions for entrepreneurship, reports that high levels
of public debt will require tax increases or spending cuts in the future, which depress aggregate demand and increase unemployment.

From a financial point of view, raising funds is one of the biggest problems that entrepreneurs face when starting a business. Crecente (2011) points out that financial difficulties are greater in the initial phase of a project, in the post-constitution stage or if intangible assets requiring external financing are needed. However, entrepreneurs have to cope with limitations due to the size of their business, their lack of experience, their lack of negotiating capacity and problems of information asymmetry. Fracassi et al. (2012) point out that start-ups that receive funding increase their resilience.

Finally, risk management policies are crucial in entrepreneurial projects. As pointed out by Herce et al. (2012), a poor selection of clients may lead to a high payment default rate, which could lead to the failure of the project if it is not covered with adequate instruments.

In short, there are many economic factors that affect the tendency towards entrepreneurship. However, the institutional factors that influence entrepreneurial activity have also been extensively studied in the literature. Boettke and Coyne (2009) argue that institutions can facilitate economic, political and social interactions and create incentives. In fact, in the case of Spain, the role of business incubators is one of the most efficient initiatives in fostering entrepreneurship (Romero and Blanco, 2017).

Fuentelsaz et al. (2015) and Fuentelsaz et al. (2018) examine the impact on entrepreneurship of various institutional dimensions (both formal and informal), including property rights, business, fiscal and labour freedom, regulatory quality, political stability, control of corruption and whether the culture is more oriented towards individualism or collectivism. Other authors who have made important contributions in this area include Dau and Cuervo-Cazurra (2014), with their analysis of factors such as governance, McMullen et al. (2008), who focused on the study of the impact of property rights, and Bowen and De Clercq (2008), who examined the impact of barriers to entry.

The relationship between regulation and entrepreneurial activity has been studied by Álvarez, Amorós and Ubano (2014) among other authors, who have found that the impact of regulation on entrepreneurial activity depends on the level of development of the countries concerned. Meanwhile, Klapper, Laeven and Rajan (2006) and Chambers and Munemo (2017) point out that business creation is significantly lower in countries which have excessive entry barriers, especially in relation to the increase in the administrative procedures necessary to launch the project.

Finally, the situation related to entrepreneurial activity in the courts is also important. Desai, Gompers and Lerner (2005) show that greater legal interference and formalities in judicial processes are related to a higher rate of entrepreneurship. Meanwhile, García-Posada and Mora-Sanguinetti (2015) point out that in the case of Spain, greater judicial efficiency increases the entry rate of new
entrepreneurs, who are defined as self-employed workers rather than limited liability companies.

2. Working hypothesis

The ultimate objective of this study is to ascertain the influence of the economic and institutional environment on decisions to start an entrepreneurial project. We therefore used sociodemographic variables that can be used as control variables, as well as various economic variables that will enable the hypotheses defined below to be checked.

First, and following the observations of González-Pernía, et al. (2018), the variables to be checked are regional, showing that entrepreneurial activity is a regional event.

Second, a positive effect of economic growth on the tendency towards entrepreneurship is expected, as shown by Fuentelsaz et al. (2018). Accordingly, the following two hypotheses refer respectively to economic growth and the size of the economy, as quantified by GDP.

H1: Economic growth has a positive influence on the tendency towards entrepreneurship.

H2: A larger relative size of the region where the activity takes place within the national total provides more opportunities, and therefore leads to a greater tendency towards entrepreneurship.

Third, given the period used in the analysis, the unemployment rate is expected to have a positive relationship with the tendency towards entrepreneurship, with a greater tendency towards entrepreneurship due to necessity, which is consistent with the findings of authors including Fuentelsaz et al. (2015) and Fritsch, Kritikos and Pijnenburg (2014).

H3: Higher unemployment rates mean higher rates of early entrepreneurship, due to the need for entrepreneurship to meet basic personal needs.

From the perspective of the relationship between entrepreneurship and public finances, and in accordance with the findings of Ölvecká (2013), an increase in public debt is anticipated to have a negative relationship with the tendency towards entrepreneurship, and this behaviour shows that entrepreneurs expect a reduction in aggregate demand in the future, as a consequence of restrictive fiscal policies aimed at reducing the level of public debt.

H4: The growth of regional public debt reduces the tendency towards entrepreneurship.
The importance of financing in the start-up of entrepreneurial projects appears to be beyond all doubt in the literature, and this study adopts the hypothesis that there is a positive relationship between the tendency towards entrepreneurship and the availability of financing, given that an expectation of obtaining financing encourages people to decide to start a business, which is consistent with the findings of authors including Crecente (2011) and Fracassi et al. (2012).

**H5**: The regional availability of bank credit, measured as the level of credit in the entrepreneur’s region of activity compared to the national total, has a positive influence on the tendency towards entrepreneurship.

Finally, and as a consequence of the findings of authors including Herce et al. (2012), an increase in outstanding payments in the economy dissuades potential entrepreneurs from starting their project, and as such:

**H6**: The longer the average period of payment of the debtor in the entrepreneur’s region of activity, the lower the tendency towards entrepreneurship.

The influence of the institutional environment on entrepreneurial activity has in turn been checked using the hypotheses outlined below.

First, the literature review carried out (Klapper, Laeven and Rajan, 2006; Álvarez, Amorós and Ubano, 2014; Chambers and Munemo, 2017) suggests that potential entrepreneurs will not risk starting their project if they think that they will be unable to cope with the regulatory overload, and as such:

**H7**: Regulatory overload negatively affects the tendency towards entrepreneurship.

Second, and according to the previous conclusions of other authors (Desai, Gompers and Lerner, 2005; García-Posada and Mora-Sanguinetti, 2014), the backlog in Spanish courts will dissuade many entrepreneurs from starting a project, given the possible difficulties they may encounter if they need to engage in litigation. The following hypotheses have been defined based on two complementary perspectives. First, the backlog in many commercial courts when concluding cases and second, those courts’ efficiency in terms of time when ruling on cases.

**H8**: A large backlog of cases in the commercial courts negatively affects the tendency towards entrepreneurship.

**H9**: The greater efficiency of the commercial courts in resolving cases positively affects the tendency towards entrepreneurship.
3. Sample and methodology

The microdata records of the Labour Force Survey (LFS) provided by the Spanish National Institute of Statistics were used to examine the hypotheses defined in the previous section. This leverages the potential of this database, which provides socio-demographic information about the professionals who decide to become self-employed entrepreneurs.

The LFS is designed as a quarterly survey of around 65,000 households all over Spain, so that although the questionnaire is completed by one member of the household, information is obtained on all of its members (Garrido, Requena and Toharia, 2000). In short, the sample in this study is nourished by information on the “main individual” in the household and its other members, and amounts to information on approximately 160,000 people per quarter.

Based on the wealth of information provided by this database, the study focused on the main individuals in each household who had decided to become self-employed entrepreneurs over the previous twelve months, compared to professionals who started another type of professional activity as an employee in the previous twelve months. The tendency towards entrepreneurship compared to other professional alternatives was thereby measured.

The reference period used is the fourth quarter of each year from 2008 to 2018, so that information is collected for each calendar year. At the same time, this information shows the prevailing conditions in both a period of economic crisis and in another period of recovery, and as such that a more robust analysis can be performed while avoiding biases arising from covering a single phase of the cycle.

The sample finally consists of a total of 37,146 records, of which 4,150 are for people who decided to start a self-employed professional project in the last year. Given the nature of the variables used in this study, the cases of Ceuta and Melilla were filtered out. This decision was taken as a result of the desire to avoid biases in the results arising from the difficulty involved in comparing the institutional and macroeconomic situations of the two autonomous cities compared to the situations relating to Spain’s autonomous communities. However, the impact on the results is very limited, given that 0.51% of the sample and 0.53% of the entrepreneurs were filtered out.

As for the methodology used, the dichotomous nature of the dependent variable means that using an appropriate econometric technique is advisable. In this case, we decided to use binary logistic regression models.
Table 1. Sample

| Period | Full sample | Ceuta and Melilla | Full entrepreneurs' sample | Ceuta and Melilla entrepreneurs' sample |
|--------|-------------|-------------------|---------------------------|---------------------------------------|
| 2008   | 3.722       | 16                | 389                       | 1                                     |
| 2009   | 3.318       | 20                | 306                       | 2                                     |
| 2010   | 3.199       | 12                | 342                       | 2                                     |
| 2011   | 3.024       | 16                | 325                       | 2                                     |
| 2012   | 2.806       | 10                | 336                       | 1                                     |
| 2013   | 3.055       | 9                 | 409                       | 3                                     |
| 2014   | 3.384       | 13                | 515                       | 2                                     |
| 2015   | 3.556       | 14                | 405                       | 0                                     |
| 2016   | 3.521       | 30                | 406                       | 3                                     |
| 2017   | 3.749       | 23                | 349                       | 2                                     |
| 2018   | 4.004       | 29                | 390                       | 4                                     |
| Total  | 37.338      | 192               | 4.172                     | 22                                    |

Source: Compiled by the authors. Data from the LFS microdata.

This methodology enables modelling of a dichotomous phenomenon that takes values located in the interval \([0,1]\), which in this case are: become an entrepreneur = 1 or work as an employee = 0, with the probability of belonging either group based on independent variables of a sociodemographic, macroeconomic or institutional nature. In a simplified way, and assuming a single independent variable, the model can be represented as follows:

\[
Prob(Y = 1|x) = P_l = \frac{e^{\beta_0 + \beta_1 x_l}}{1 + e^{\beta_0 + \beta_1 x_l}} = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_l)}}
\]

Where \(Y\) is the variable to be explained (become an entrepreneur or not), \(\beta_0\) is the model constant, and \(\beta_1\) is the coefficient that the model assigns to the variable \(X_1\), which is the independent variable.

4. Variables: Definition and data used

After describing the sample in the analysis and the methodology used, this section defines the dependent variable and the explanatory variables, and describes the data sources used and the process involved in the construction of the variables. Table 2 summarises the dependent and independent variables used, with a brief description of them, as well as their data source, for subsequent study in the following subsections.
Table 2. Variables used

| Variable                                               | Description                                                        | Dimension           | Source                          |
|--------------------------------------------------------|--------------------------------------------------------------------|---------------------|---------------------------------|
| Dependent variable: early entrepreneurship as self-employed | Dichotomous variable that shows whether the person has been self-employed over the last twelve months | Take values 1 or 0  | LFS microdata                   |
| Entrepreneur’s previous experience                     | It informs if the person analyzed has had previous experiences as an entrepreneur | Categorical variable | LFS microdata                   |
| Sex                                                    | Sex of the person                                                  | Categorical variable | LFS microdata                   |
| Sector                                                 | Sector of work                                                     | Categorical variable | LFS microdata                   |
| Indicator that indicates whether or not the spouse is employed | Reports on whether the person’s spouse has their own professional activity | Categorical variable | LFS microdata                   |
| Age                                                    | Age of the entrepreneur                                             | Categorical variable | LFS microdata                   |
| Marital status                                         | Marital status of the main person in the household                 | Categorical variable | LFS microdata                   |
| Maximum age at end of education                        | Age at which the reference person reached the highest level of studies | Continuous variable | LFS microdata                   |
| Indicator of children                                 | Indicate if the person of reference has children                    | Categorical variable | LFS microdata                   |
| Rate of year-on-year change in the GDP                 | Rate of year-on-year change in the Gross Domestic Product (in chained volume series) by Autonomous Community | %                   | National Statistics Institute   |
| Relative size of the regional economy where the entrepreneur carries out his activity | GDP (at current prices) in the Autonomous Community where the entrepreneur works compared to the Spanish national total | %                   | National Statistics Institute   |
| Unemployment rate                                      | Unemployment rate by Autonomous Community                           | %                   | National Statistics Institute   |
| Variation in the public debt                           | Variation in the public debt of the Autonomous Community           | %                   | Bank of Spain                   |
| Relative rate of bank credit                           | Level of regional bank credit in which the entrepreneur carries out his activity related to the total level of bank credit nationwide | %                   | Bank of Spain                   |
| Average payment period (in days)                       | Average payment period of debtors in the Autonomous Community (in days) | Days                | CEPYME and Afi                  |
Table 2. (Continuation)

| Variable                | Description                                                                 | Dimension | Source                        |
|-------------------------|-----------------------------------------------------------------------------|-----------|-------------------------------|
| Relative regulatory burden | Relates the regulatory burden of each Autonomous Community with respect to the total Autonomous Communities | %         | CEOE                          |
| Backlog of justice      | Backlog of justice comparing the number of open cases at the end of the year with respect to the beginning of the year | %         | General Council of the Judiciary |
| Efficiency of justice   | Average duration of matters completed in each year                          | Months    | General Council of the Judiciary |

Source: Compiled by the authors.

4.1. Dependent variable: become an entrepreneur or not

Given the nature of the model, as mentioned in the methodology section, the dependent variable of the model is dichotomous, and as such it can take one of the following two values:

- 1: The person studied has decided to start an entrepreneurial project as a self-employed worker in the last twelve months.
- 0: The person studied has started a professional activity as an employee (in the public or private sector) in the last twelve months.

Self-employed entrepreneurs are considered to be those who start their business as a freelance entrepreneur, regardless of its size or whether or not they employ other professionals.

As a result, in order to construct the variable, first, the main person in the household was identified, taking the following two possible cases into account:

- The main person in the household is considered to have started an entrepreneurial activity as a self-employed person if the professional situation in the reference week (Date on which the LFS is carried out.) they must be an “Entrepreneur with salaried employees” or a “Self-employed worker or entrepreneur with no salaried employees”, provided that they have been working on this project for twelve months or less.
- However, the main person in the household is considered to have started another professional activity other than entrepreneurship if the professional situation in the week concerned is other than “Entrepreneur with employees” or “Self-employed worker or entrepreneur without employees” and they have also been working in this job for twelve months or less.
The entrepreneurial situations included in this second classification are primarily salaried workers in the public sector or in the private sector, although there are also other situations such as belonging to a cooperative or working in an already established family business (not established by the professional as a recently established entrepreneurial activity).

In short, having become an entrepreneur in the last twelve months (rate of early entrepreneurship) is studied, with entrepreneurs defined as starting to work as a self-employed entrepreneur with or without employees. Graph 1 therefore shows the rates of early entrepreneurship over the last ten years.

Graph 1. Rate of early entrepreneurship

![Graph 1 showing rate of early entrepreneurship from 2008 to 2018]

Source: Compiled by the authors with data from the LFS microdata.

Two lows in the rate of early entrepreneurship are apparent in 2009 and 2017, while the maximum level is reached in 2014. Given the data, there is no doubt that the economic crisis acted as an incentive in decisions to launch an entrepreneurial project as a self-employed worker, although it is also true that this dynamism began to decline in 2014.

Meanwhile, in order to study the regional distribution of this rate of early entrepreneurship in more depth, graph 2 provides a comparison of the distribution of this dimension by autonomous community for 2008 and 2018.
Graph 2. Early entrepreneurship rate by Autonomous Community

Source: Compiled by the authors with data based on LFS microdata.

Graph 2 shows that Asturias began the economic crisis with the highest early self-employed entrepreneurship rate, with 18.3%, followed by Extremadura and the Balearic Islands with 14.4% and 13.8% respectively. Meanwhile, the lowest rates were in Navarre and Cantabria, with 5.3% and 7% respectively. Other communities with low relative rates were Catalonia, Madrid and Valencia, with rates below 9%.

However, the early entrepreneurship rate in Madrid and Catalonia rose by almost two percentage points, while in the Valencian Community it did so by almost six percentage points. Extremadura had the highest rates of early entrepreneurship in 2018, followed by Cantabria, which saw an increase of more than seven percentage points. However, the autonomous communities with the lowest rates are Aragon (which has seen its rate fall by more than six percentage points over the last ten years) and Navarre (with a fall of just one percentage point compared to 2008).

4.2. Explanatory variables

After clarifying the definition and construction process for the dependent variable, in this section we do the same with the different explanatory variables. In this case, the variables are grouped into three types, so that the variables referring to the entrepreneurs’ socio-economic characteristics, the macroeconomic variables and the variables of an institutional nature are analysed.
4.2.1. Sociodemographic variables of the entrepreneurs

The set of variables described below was used in the models as control variables, and refers to the sociodemographic characteristics of the entrepreneurs themselves.

- **Entrepreneur’s previous experience**: This is a categorical variable that shows whether the person analysed has had previous experience as an entrepreneur. It therefore takes the following values:
  - **YES**: In this case, the main person in the household has experience in professional situations categorised as “Entrepreneur with employees” or “Self-employed worker or entrepreneur without employees”.
  - **NO**: In this case, the main person in the household person of reference does not have any experience in professional situations categorised as “Entrepreneur with employees” or “Self-employed worker or entrepreneur without employees,” and as such they have had no previous experience or have had it as employees (in the public or private sector).

- **Sex of the person.**

- **Sector of work**: A categorical variable that indicates the entrepreneur’s business sector, and takes the following values:
  - **Primary**: includes the agriculture, livestock, forestry and fishing sectors (National Economic Activities Classification 2009: 01, 02 and 03).
  - **Industrial**: includes the food, textile, leather, wood and paper industry sectors (National Economic Activities Classification 2009: 10 to 18), mining industries, oil refining, chemical industry, pharmaceuticals, rubber and plastics industry, electricity supply, gas, steam and air conditioning, water supply, waste management, metallurgy (National Economic Activities Classification 2009: 05 to 09, 19 to 25, 35 and 36 to 39), as well as the machinery construction, electrical equipment and transport material sectors. Industrial installation and repair (National Economic Activities Classification 2009 from 26 to 33).
  - **Construction**: includes construction activities (National Economic Activities Classification 2009: from 41 to 43).
  - **Commercial distribution**: includes wholesale and retail trade activities and their installations and repairs, automobile repair and hospitality (National Economic Activities Classification 2009: 45 to 47, 55 and 56).
  - **Other services**: including transportation and storage, information and communications (National Economic Activities Classification 2009 from 49 to 53 and from 58 to 63), financial brokerage, insurance, real estate activities, professional, scientific, administrative and other services (National Economic Activities Classification 2009: from 64 to 66, 68, from 69 to 75 and from 77 to 82), public administration, education and health activities (National Economic Activities Classification 2009: 84, 85 and 86 to 88), as well as other services (National Economic Activities Classification 2009: from 90 to 93, from 94 to 96, 97 and 99).
• An indicator that indicates whether or not the spouse is employed: a categorical variable constructed from the data for the spouse of the main person in the household, according to their kinship relationship with the main person in the household as reported by the LFS. Accordingly, if the spouse has their own professional activity, the variable takes the value Yes. Otherwise, the value will be No. If the main person in the household does not have a spouse, the variable takes the value Has no spouse.

• Age of the entrepreneur: a categorical variable constructed from the age data of the person, after defining the following categories:
  – 16 to 34 years old; 35 to 59 years old; Over 60 years old.

• Marital status of the main person in the household: a categorical variable that indicates the marital status of the main person in the household, using the following categories:
  – separated, divorced or widowed; married or single.

• Maximum age at end of education: a continuous variable that shows the age at which the main person in the household reached their highest level of education. If this variable is not reported, because the data is not known, the minimum value of the sample, which is 7, is allocated to it.

• Indicator of children: a dichotomous variable that indicates whether the main person in the household has dependent children (value of Yes) or not (value of No).

Table 3. Entrepreneurship rate of socioeconomic variables

| Variable                  | Category | Total | Entrepreneurs | Entrepreneurship rate |
|---------------------------|----------|-------|---------------|----------------------|
| Entrepreneur’s previous experience | Yes      | 4,933 | 3,331         | 67.5%                |
|                           | No       | 32,213| 819           | 2.5%                 |
| Children                  | Yes      | 8,475 | 957           | 11.3%                |
|                           | No       | 28,671| 3,193         | 11.1%                |
| Sex                       | Woman    | 16,053| 1,519         | 9.5%                 |
|                           | Man      | 21,093| 2,631         | 12.5%                |
| Sector                    | Primary  | 2,963 | 235           | 7.9%                 |
|                           | Industry | 4,570 | 276           | 6.0%                 |
|                           | Construction | 4,497 | 584           | 13.0%                |
|                           | Commercial distribution | 9,598 | 1,607         | 16.7%                |
|                           | Other services | 15,518| 1,448         | 9.3%                 |
| Spouse employment         | Yes      | 15,693| 2,018         | 12.9%                |
|                           | No       | 6,325 | 711           | 11.2%                |
|                           | Has no spouse | 15,128| 1,421         | 9.4%                 |
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Table 3. (Continuation)

| Variable             | Category                  | Total  | Entrepreneurs | Entrepreneurship rate |
|----------------------|---------------------------|--------|---------------|-----------------------|
| Age                  | 16 to 34 years            | 10,223 | 961           | 9,4%                  |
|                      | 35 to 59 years            | 25,749 | 3,012         | 11,7%                 |
|                      | More than 60 years        | 1174   | 177           | 15,1%                 |
| Marital status       | Separated, divorced or widowed | 5,146 | 531 | 10,3% |
|                      | Married                   | 19,778 | 2,461         | 12,4%                 |
|                      | unmarried                 | 12,222 | 1,158         | 9,5%                  |

| Maximum age at end of education | Total | Entrepreneurs |
|---------------------------------|-------|---------------|
| Mean                            | 19,12 | 19,56         |
| Median                          | 18    | 18            |
| Mode                            | 14    | 14            |
| Standard deviation              | 6,65  | 6,42          |
| Minimum                         | 0     | 7             |
| Maximum                         | 74    | 62            |

Source: Compiled by the authors.

Finally, and in view of the descriptive analysis shown, it has been decided not to use the variable “Children” in the model, because the entrepreneurship rate is very similar between both categories.

4.2.2. Macroeconomic variables

The variables listed below were used to analyse the influence of the macroeconomic environment on early entrepreneurial activity among self-employed workers, and therefore to check the hypotheses put forward in this study:

- **Rate of year-on-year change in the Gross Domestic Product (in chained volume series) by Autonomous Community**: data obtained directly from the Regional Accounts of Spain for each Autonomous Community in the period selected.
- **GDP (at current prices) in the Autonomous Community where the entrepreneur works compared to the Spanish national total**: data constructed based on those obtained from the Regional Accounts of Spain for each Autonomous Community in the period selected.
- **Unemployment rate by Autonomous Community**: the unemployment rate obtained from the Labour Force Survey for each Autonomous Community in the period selected.
- **Variation in the public debt of the Autonomous Community**: rate of year-on-year change in the autonomous public debt (as a percentage of GDP),
obtained from the Bank of Spain for each Autonomous Community in the period selected.

- **Relative rate of bank credit**: data constructed from the information obtained from the Statistical Bulletin of the Bank of Spain and the Spanish Banking Association, which relates the level of bank credit in the autonomous community in which the entrepreneur works and the total level of bank credit at the national level.

- **Average payment period (in days)**: data obtained from various issues of the *Boletín de Morosidad y Financiación Empresarial* [Bad Debt and Business Financing Bulletin], produced by the CEPYME [Spanish Federation of Small and Medium Enterprises] and Analistas Financieros Internacionales (AFI).¹

The mean distribution of the macroeconomic variables described is presented in Table 4 below:

Table 4. General distribution of macroeconomic variables

| Variable                                             | Mean   | Median | Mode   | Standard deviation | Minimum | Maximum |
|-------------------------------------------------------|--------|--------|--------|--------------------|---------|---------|
| Rate of year-on-year change in the GDP                | 0.0056 | 0.0088 | 0.0064 | 0.0251             | -0.056  | 0.062   |
| Relative GDP                                          | 0.08554| 0.0524 | 0.1362 | 0.0604             | 0.0069  | 0.1917  |
| Unemployment rate                                     | 0.2012 | 0.1916 | 0.1773 | 0.0696             | 0.0663  | 0.3622  |
| Public debt variation                                 | 0.1565 | 0.1168 | 0 | 0.1851             | -0.0819 | 1.7333  |
| Relative rate of bank credit                         | 0.0826 | 0.0391 | 0.1187 | 0.0834             | 0.0041  | 0.3562  |
| Average payment period                                | 88.117 | 86.55  | 113.2  | 11.05              | 69.85   | 128.53  |

*Source:* Compiled by the authors.

4.2.3. **Institutional variables**

The following representative variables for the companies’ institutional environment were used or constructed in order to check the institutional hypotheses:

- **Relative regulatory burden of the Autonomous Communities**: A relative indicator was constructed, in which the regulatory burden of each Autonomous Community is related to the total for Spain’s Autonomous Communities.

¹ CEPYME and AFI (2020): “Boletín de Morosidad y Financiación Empresarial” [Payment Arrears and Business Financing Bulletin]. Number 18 and earlier issues. Available at: https://www.cepyme.es/documentos/
• **Backlog of justice at the regional level**: Data on the number of outstanding cases at both the beginning of the year and the end of the year subject to the jurisdiction of the Commercial Courts, gathered based on the data from the statistics of courts and tribunals of the General Council of the Judiciary, listed in its “Reports by territory on the activity of judicial bodies”. This seeks to measure the efficiency of commercial justice by comparing the number of open cases at the end of the year compared to the figure for the beginning of the year, as reflected in the following ratio:

\[
\text{Efficiency of justice} = \frac{\text{Number of open cases at the end of the year}_{t,i}}{\text{Number of open cases at the start of the year}_{t,i}}
\]

Where \( t \) is the year analysed and \( i \) is the Autonomous Community. A factor greater than 1 therefore reflects an increase in open cases compared to the beginning of the year, and therefore a lower level of efficiency of that administration, while the opposite is true if the factor takes a value below 1.

• **Efficiency of justice at the regional level**: Data representing the average duration of the cases completed each year by the commercial courts, obtained from the public statistics of the General Council of the Judiciary.

Finally, Table 5 shows the main descriptive magnitudes for the above variables.

|                        | Mean   | Median | Mode   | Standard deviation | Minimum | Maximum |
|------------------------|--------|--------|--------|--------------------|---------|---------|
| Relative regulatory burden | 0.0689 | 0.0627 | 0.0634 | 0.033              | 0.0065  | 0.1714  |
| Backlog of justice     | 1.1689 | 1.1186 | 1.7403 | 0.2902             | 0.409   | 2.115   |
| Efficiency of justice  | 12.6835| 12.2251| 8.3060 | 4.4236             | 5.4667  | 29.4692 |
Based on the process outlined above, Table 6 shows the results of the basic model specified, using the entrepreneurs’ sociodemographic characteristics.

Table 6. Logistic regression model with sociodemographic characteristics

| Variable                              | Category                        | Coefficient | Std. Error | Prob significance |
|---------------------------------------|---------------------------------|-------------|------------|------------------|
| Intercept                             |                                 | 22,951      | 1268,114   | 0,986            |
| Entrepreneur’s previous experience    | No                              | -4,642      | 0,058      | 0,000            |
| (Ref.: Yes)                           |                                 |             |            |                  |
| Create employment                     | No                              | -22,402     | 1268,114   | 0,986            |
| (Ref.: Yes)                           |                                 |             |            |                  |
| Sex (Ref.: Man)                       | Woman                           | -1,027      | 0,057      | 0,000            |
| Sector (Ref.: Other services)         | Construction                    | -0,556      | 0,086      | 0,000            |
|                                       | Primary                         | -0,820      | 0,106      | 0,000            |
|                                       | Industry                        | -1,252      | 0,099      | 0,000            |
|                                       | Commercial distribution         | -0,289      | 0,062      | 0,000            |
| Age (Ref.: More than 60 years)        | From 16 to 34                   | -0,348      | 0,140      | 0,013            |
|                                       | From 35 to 59                   | -0,219      | 0,130      | 0,092            |
| Marital status (Ref.: Married)        | Separated, divorced or widowed  | 0,526       | 0,079      | 0,000            |
|                                       | Unmarried                       | 0,382       | 0,062      | 0,000            |
| Maximum age at end of education       |                                 | 0,051       | 0,004      | 0,000            |

Source: Compiled by the authors.

A detailed analysis of the results shown in Table 6 offers some interesting conclusions. First, the intention to create employment is not a significant condition in the decision as to whether to become an entrepreneur. Accordingly, people who decided to start an entrepreneurial project as self-employed workers did not do so based on the consequences for employment, and as such it seems logical to conclude that they begin their activity and then make the decision about whether to hire other professionals, depending on how their project progresses.

Second, age is a factor in the decision to become an entrepreneur. Table 3 shows that there are differences in the rate of early entrepreneurship by age group, with a higher rate in older age groups. According to this analysis, the model’s coefficients indicate a lower tendency towards entrepreneurship among younger professionals compared to the older group.

The more extensive experience of these professionals is related to a greater tendency towards entrepreneurship among the group of older professionals, as well as their higher levels of continuous training. Both of these characteristics were included in the model as possible factors in decisions.
The results are also conclusive for both variables. The tendency to become an entrepreneur among entrepreneurs with no previous experience when starting projects as self-employed workers is lower than among individuals who have that experience. This is not a minor issue, since this conclusion has significant implications: On the one hand, failure in an entrepreneurial activity is not the end, but may instead be the beginning of an entrepreneurial career in which experience becomes a virtue and a source of opportunities.

On the other hand, and related to the previous statement, entrepreneurs with previous experience tend to become entrepreneurs again because they identify opportunities in the market, and not because of a temporary need, which implies entrepreneurship of higher quality (Acs and Varga, 2005; Acs, 2006; Liñán et al., 2013; Fuentelsaz et al., 2015).

The results as regards the significance of continuous training for the tendency towards entrepreneurship are in turn unambiguous, in that professionals who become self-employed entrepreneurs and have more continuous training (represented as the age at which they completed their final studies) are more likely to become entrepreneurs than those without this continuous training (Harms, 2015; Iglesias et al., 2016).

As regards the marital status of self-employed entrepreneurs, the conclusions of the model show that being single, married or separated, divorced or widowed is statistically significant in the decision to undertake a business project. As a result, a single person has a greater tendency towards entrepreneurship than a married person, while this tendency increases among professionals who are separated, divorced or widowed.

Finally, from a gender perspective, women have less of a tendency to self-employed entrepreneurship than men (Coleman and Robb, 2009), while from a sectoral point of view, and taking services not based on commercial distribution as a benchmark, it can be concluded that the least attractive sector for entrepreneurship is the industrial sector, followed by the primary sector, construction, and finally, commercial distribution.

As for the model’s goodness of fit, the data shown in Table 7 show that the model and its explanatory variables are adequate for explaining the tendency towards entrepreneurship. The distribution of cases observed which in reality become an entrepreneur or otherwise are compared with those predicted by the model, and the classification matrix y and the magnitudes \( R^2 \) are used to compare whether or not the model is adequate. It should be noted that the data presented were calculated using the definitive model, i.e. retaining only the statistically significant variables.

In both the classification table and in the model fit indicators (Cox and Snell’s and Nagelkerke’s \( R^2 \)), the fit is adequate and the model classifies with a high percentage of success, which can also be observed in the calculation of the area under the ROC curve, which is apparent in graph 3 and can be summarised as an area of 93%.
Table 7. Classification table and fit of model

| Predicted | Non Entrepreneur | Entrepreneur | Correct percentage |
|-----------|------------------|--------------|--------------------|
| Observed  | 31.563           | 1.433        | 95.7%              |
| Entrepreneur | 1.008          | 3.142        | 75.7%              |
| Overall percentage | 93.4%            |              |                    |
| Cox y Snell R² | 29.4%        |              |                    |
| Nagelkerke R² | 58.5%          |              |                    |

Source: Compiled by the authors.

Graph 3. Area under the ROC curve

Source: Produced by the authors.

After a model with an adequate base has been found, the next phase of the study involves testing the hypotheses defined in section two. To that end, models were specified which included the variable to be studied individually, in order to also test the hypotheses individually, dividing the results into two parts: checking the hypotheses related to the macroeconomic environment and checking the hypotheses related to the institutional environment.

Based on the assumptions above, Tables 8A and 8B present the specified models in order to test the hypotheses related to the macroeconomic environment, showing the odds ratios, which provide a direct interpretation of the coefficient. Model 1 presents the final model specified based on sociodemographic factors and without any macroeconomic variables, including the conclusions presented above.
When the results are considered in detail, the conclusions vary, depending on different aspects in the economic environment. First, model 2 shows that GDP growth is not statistically significant in the tendency to self-employed entrepreneurship, and as such potential entrepreneurs do not make their decisions based on the economic growth conditions of the year in which they begin their project, which therefore means that hypothesis 1 can be rejected. These results are consistent with those of authors such as Fuentelsaz et al. (2015), although they contradict the results of other studies, e.g. those by Fuentelsaz et al. (2018), and once again highlight the lack of consensus in this regard in the literature.

However, the conclusion is radically different for GDP levels, i.e. the size of the economy (in this case of the economy of the region where the entrepreneur’s activity is located), as shown in model 3. A larger relative size of the autonomous community concerned (vis-a-vis the national total) has a positive influence on the tendency towards entrepreneurship, so that larger regions seem to provide more incentives to entrepreneurs when starting a business project, which means that rejecting hypothesis 2 is not possible.

As regards the influence of unemployment on the tendency towards entrepreneurship, despite the possible assumption that higher unemployment leads many professionals to become entrepreneurs (due to necessity), the results presented in model 4 show that the unemployment rate is not statistically significant in the tendency towards entrepreneurship, thereby ruling out hypothesis 3. As a result, and based on the data used in this study, the unemployment rate cannot be demonstrated to be a significant determining factor in the decision to become an entrepreneur, which is not consistent with the observations of authors such as Fuentelsaz et al. (2015) and Fritsch, Kritikos and Pijnenburg (2014).

Meanwhile, model 5 provides interesting conclusions regarding the impact of the growth of public debt on the tendency towards entrepreneurship. These results present a statistically significant negative relationship (an odds ratio of less than 1), so that an increase in the autonomous region’s public debt has no positive effects on the tendency towards entrepreneurship. Among other reasons, this could be explained by an increase in public debt leading to the expectation of higher future taxes on self-employed workers, and this expectation is higher than the expectation of the possible profits arising from the increase in consumption or investment that could result from the higher public spending financed by the debt, as argued by authors such as Ölvecká (2013). Given the data used, there are not therefore grounds to reject hypothesis 4.

As for financing entrepreneurial activity, and financing through bank credit in particular, the results of model 6 could not be more enlightening. From the perspective of the decision to become an entrepreneur, the regions with the highest levels of bank credit (compared to the Spanish total) are the regions in which professionals have the greatest incentives to become an entrepreneur. The volume of bank credit is therefore important when making the decision to start a business project, and hypothesis 5 cannot therefore be rejected.
Finally, delinquency in payments, measured as the delay in payment by debtors (by Autonomous Community) does not appear to be statistically significant in the tendency towards entrepreneurship, as shown by the results of model 7. Accordingly, either due to a lack of information, or because it is not an issue considered by entrepreneurs as part of their financial strategy, any possible delinquency in payment arising from the business is not an important aspect when becoming an entrepreneur, and hypothesis 6 must be rejected. However, it is true that delinquency is the result of poor customer management (Herce et al., 2012), and as such entrepreneurs do not have to take into account the aggregated magnitudes if they believe that they can manage their relationship with their clients correctly.

As for the institutional environment, Table 9 shows the results of the models including the magnitudes that enable hypotheses 7 to 9 to be tested. First, the results of model 8, which tests the influence of the regulatory burden in each autonomous community compared to the Spanish national total, show that this indicator of over-regulation is not significant in the decision to become an entrepreneur. As a result, professionals who decide to become an entrepreneur do not take into account (or are unaware of) the magnitude of regulations that they have to comply with in their autonomous community compared to the national total, and hypothesis 7 can therefore be rejected.

Second, the conclusions of model 9 show that professionals decide to become a self-employed entrepreneurs regardless of the degree of backlog or overloading in the commercial courts in the region where they do business, and as such the variable is therefore not statistically significant, and hypothesis 8 can be rejected. From this result, we can infer that entrepreneurs are not concerned about the situation of justice in terms of backlogs in the courts.

However, the model 10 results allow to obtain a complementary interpretation to those of model 9. In this way, the courts efficiency is significant (and with a positive coefficient) and it allows to conclude that potential entrepreneurs do not worry about the number of cases pending before the courts, but about the speed of their processing. Thus, in the terms defined in this work, hypothesis 9 cannot be rejected, in coherence with that indicated by authors such as Desai, Gompers and Lerner (2005) and García-Posada and Mora-Sanguinetti (2014).
Table 8A. Logistic regression model with macroeconomic variables

| Variable                       | Category                                | Model 1      | Model 2      | Model 3      | Model 4      |
|--------------------------------|-----------------------------------------|--------------|--------------|--------------|--------------|
| Intercept                      |                                         | 2,190***   (0,146) | 2,188***   (0,146) | 1,957***   (0,151) | 2,181***   (0,163) |
| Entrepreneur's previous experience (Ref.: Yes) | No                                      | 0,009***   (0,055) | 0,009***   (0,055) | 0,009***   (0,055) | 0,009***   (0,055) |
| Sex (Ref.: Man)                | Woman                                    | 0,359***   (0,054) | 0,359***   (0,054) | 0,361***   (0,054) | 0,359***   (0,054) |
| Sector (Ref.: Other services)  | Construction                             | 0,589***   (0,082) | 0,590***   (0,083) | 0,592***   (0,083) | 0,590***   (0,083) |
|                                | Primary                                  | 0,410***   (0,104) | 0,410***   (0,104) | 0,413***   (0,104) | 0,410***   (0,105) |
|                                | Industry                                 | 0,315***   (0,093) | 0,315***   (0,093) | 0,317***   (0,093) | 0,315***   (0,093) |
|                                | Commercial distribution                  | 0,843***   (0,059) | 0,842***   (0,059) | 0,846***   (0,059) | 0,842***   (0,059) |
| Age (Ref.: More than 60 years) | From 16 to 34                            | 0,656***   (0,132) | 0,658***   (0,132) | 0,655***   (0,133) | 0,656***   (0,132) |
|                                | From 35 to 59                            | 0,752***   (0,122) | 0,753***   (0,122) | 0,752***   (0,123) | 0,752***   (0,122) |
| Marital status (Ref.: Married) | Separated, divorced or widowed           | 1,607***   (0,076) | 1,606***   (0,076) | 1,609***   (0,076) | 1,607***   (0,076) |
|                                | Unmarried                                | 1,400***   (0,060) | 1,397***   (0,060) | 1,403***   (0,060) | 1,400***   (0,060) |
| Maximum age at end of education |                                         | 1,053***   (0,003) | 1,053***   (0,003) | 1,054***   (0,003) | 1,053***   (0,003) |
| Rate of year-on-year change in the GDP |                                         | 1,697   (0,950) | 1,697   (0,950) | 1,697   (0,950) | 1,697   (0,950) |
| Relative GDP                   |                                         | 3,370***   (0,396) | 3,370***   (0,396) | 3,370***   (0,396) | 3,370***   (0,396) |
| Unemployment rate              |                                         | 1,019   (0,347) | 1,019   (0,347) | 1,019   (0,347) | 1,019   (0,347) |

Standard errors in parentheses; *** p < 0,01, ** p < 0,05, * p < 0,1.
Source: Compiled by the authors.
Table 8B. Logistic regression model with macroeconomic variables

| Variable | Category                        | Model 5                  | Model 6                  | Model 7                  |
|----------|---------------------------------|--------------------------|--------------------------|--------------------------|
| Intercept|                                 | 2,301***                 | 2,038***                 | 2,695***                 |
|          |                                 | (0,149)                  | (0,148)                  | (0,244)                  |
| Entrepreneur's previous experience (Ref.: Yes) | No                          | 0,009***                 | 0,009***                 | 0,009***                 |
|          |                                 | (0,055)                  | (0,055)                  | (0,055)                  |
| Sex (Ref.: Man) | Woman                          | 0,360***                 | 0,361***                 | 0,360***                 |
|          |                                 | (0,054)                  | (0,054)                  | (0,054)                  |
| Sector (Ref.: Other services) | Construction                  | 0,590***                 | 0,594***                 | 0,592***                 |
|          |                                 | (0,083)                  | (0,083)                  | (0,083)                  |
|          | Primary                         | 0,408***                 | 0,417***                 | 0,410***                 |
|          |                                 | (0,104)                  | (0,104)                  | (0,104)                  |
|          | Industry                        | 0,313***                 | 0,318***                 | 0,314***                 |
|          |                                 | (0,093)                  | (0,093)                  | (0,093)                  |
|          | Commercial distribution         | 0,841***                 | 0,847***                 | 0,841***                 |
|          |                                 | (0,059)                  | (0,059)                  | (0,059)                  |
| Age (Ref.: More than 60 years) | From 16 to 34                  | 0,661***                 | 0,655***                 | 0,660***                 |
|          |                                 | (0,132)                  | (0,133)                  | (0,133)                  |
|          | From 35 to 59                   | 0,753**                  | 0,752**                  | 0,753**                  |
|          |                                 | (0,122)                  | (0,123)                  | (0,122)                  |
| Marital status (Ref.: Married) | Separated, divorced or widowed | 1,602***                 | 1,608***                 | 1,607***                 |
|          |                                 | (0,076)                  | (0,076)                  | (0,076)                  |
|          | Unmarried                       | 1,392***                 | 1,399***                 | 1,395***                 |
|          |                                 | (0,060)                  | (0,060)                  | (0,060)                  |
| Maximum age at end of education |                               | 1,053***                 | 1,054***                 | 1,053***                 |
|          |                                 | (0,003)                  | (0,003)                  | (0,003)                  |
| Variation in the public debt |                               | 0,781*                   |                         |                          |
|          |                                 | (0,139)                  |                         |                          |
| Relative rate of bank credit |                               |                          | 2,294***                 |                          |
|          |                                 |                          | (0,284)                  |                          |
| Average payment period (in days) |                               |                          |                          | 0,998                    |
|          |                                 |                          |                          | (0,002)                  |

Standard errors in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1.
Source: Compiled by the authors.
Table 9. Logistic regression model with institutional variables

| Variable                                    | Category                        | Model 8          | Model 9          | Model 10         |
|---------------------------------------------|---------------------------------|------------------|------------------|------------------|
| Intercept                                   |                                 | 2,099*** (0,156) | 2,096*** (0,177) | 1,744*** (0,161) |
| Entrepreneur’s previous experience (Ref.: Yes) | No                              | 0,009*** (0,055) | 0,009*** (0,055) | 0,009*** (0,055) |
| Sex (Ref.: Man)                             | Woman                           | 0,359*** (0,054) | 0,359*** (0,054) | 0,363*** (0,054) |
|                                             | Commercial distribution         | 0,844*** (0,059) | 0,843*** (0,059) | 0,838*** (0,059) |
|                                             | Construction                    | 0,590*** (0,083) | 0,589*** (0,083) | 0,592*** (0,083) |
|                                             | Primary                         | 0,411*** (0,104) | 0,410*** (0,104) | 0,402*** (0,104) |
|                                             | Industry                        | 0,316*** (0,093) | 0,315*** (0,093) | 0,315*** (0,093) |
|                                             | Commerical distribution         | 0,844*** (0,059) | 0,843*** (0,059) | 0,838*** (0,059) |
| Age (Ref.: More than 60 years)              | From 16 to 34                   | 0,657*** (0,132) | 0,655*** (0,132) | 0,667*** (0,133) |
|                                             | From 35 to 59                   | 0,753*** (0,122) | 0,752*** (0,122) | 0,755*** (0,122) |
| Marital status (Ref.: Married)              | Separated, divorced or widowed  | 1,608*** (0,076) | 1,607*** (0,076) | 1,604*** (0,076) |
|                                             | Unmarried                       | 1,400*** (0,060) | 1,402*** (0,060) | 1,395*** (0,060) |
| Maximum age at end of education             |                                 | 1,053*** (0,003) | 1,053*** (0,003) | 1,053*** (0,003) |
| Relative regulatory burden                  |                                 | 1,762 (0,729)    | 1,037 (0,082)    |                  |
| Backlog of justice                          |                                 |                  |                  | 1,018*** (0,006) |
| Efficiency of justice                       |                                 |                  |                  |                  |

Standard errors in parentheses; *** p < 0,01, ** p < 0,05, * p < 0,1.
Source: Compiled by the authors.

Conclusions

For many Spanish professionals, entrepreneurship is synonymous with opportunity, independence or achieving a dream. However, it is no less true that over the last decade, the word entrepreneurship has meant a professional alternative for many people who have had to find an alternative to unemployment. The economic crisis
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has thereby provided a framework for decisions, within which many professionals have decided to become an entrepreneur as an alternative to working as an employee (in the private or public sector).

The present study is a response to the need to determine the characteristics that describe Spanish self-employed entrepreneurs as a group. The objective of this study is therefore twofold. First, it aims to ascertain the profile of the professionals who decide to undertake a business project as self-employed workers by analysing their sociodemographic characteristics, as these characteristics will be the contrast variables that will enable us to study of the hypotheses defined. Second, it seeks to study the factors in the economic and institutional environment that influence the decision to become an entrepreneur compared to working as an employee, and in this area it focuses on the hypotheses providing the basis for the study.

As a result, and based on the information obtained from the microdata of the Labour Force Survey provided by the Spanish National Statistics Institute for the period between 2008 and 2018, the decision to become an entrepreneur (i.e. self-employed, creating employment or otherwise) is studied in comparison to working as an employee for the group that decided to become self-employed entrepreneurs during the twelve months prior to each analysis date. By analysis date, we mean the fourth quarters of each year during the period studied, combining a period of economic crisis and another of recovery, which provides more robust conclusions due to avoiding the biases caused by including a single phase of the cycle.

Using this information, and based on the estimation of binary logistic regression models, the socio-economic profile that characterises Spanish self-employed entrepreneurs was therefore studied first. The results of this analysis are extensive and interesting.

First, it concludes that professionals who have previous experience in starting business projects are more likely to start up other entrepreneurial projects than those with no previous experience, which confirms that experience is a basic asset in entrepreneurship. Related to the above, the results also show that age is a key factor in the tendency to become an entrepreneur, with older professionals being more likely to register as self-employed entrepreneurs.

Second, the fact that job creation is not statistically significant leads to the conclusion that professionals who decide to start a self-employed entrepreneurial project do not do so with creating employment in mind, which suggests that they seek to ensure their business is successful before expanding it by hiring new workers.

Third, and a factor which is crucially important in the current context of continuous change, the results show that professionals who become self-employed entrepreneurs and have higher levels of continuous training (deemed to be the age at which they completed their most recent training), have a greater tendency towards entrepreneurship than those without this continuous training, which shows greater self-confidence when dealing with the challenges of the business environment.

Fourth, marital status was significant in the tendency to become an entrepreneur, in that the probability is higher among single professionals than among
their married counterparts, but above all, among separated, divorced or widowed professionals.

Fifth, an examination of the results from a sectoral point of view shows that compared to services not based on commercial distribution, the least attractive sector for entrepreneurship is the industrial sector, followed by the primary sector, construction and lastly, the commercial distribution sector.

Finally, from a gender perspective, the results show that women have less of a tendency to become self-employed entrepreneurs than men, which suggests that the causes of this situation should be examined in other studies.

Interesting results obtained regarding the influence of economic and institutional factors, which are the cornerstone for the hypotheses of the study. As regards macroeconomic factors, both GDP growth and the unemployment rate turned out not to be statistically significant, and as such the hypotheses related to them were rejected, after concluding that the two magnitudes do not appear to influence a professional's decision to become an entrepreneur. As for GDP growth, the conclusions obtained are consistent with those of authors such as Fuentelsaz et al. (2015), although they contradict the results of other studies, e.g. those by Fuentelsaz et al. (2018). However, the fact that there is a significant positive relationship between the size of the regional economy in which the entrepreneur operates and the tendency to become an entrepreneur should not be overlooked.

The results regarding the unemployment rate are also interesting, as they contradict the results of previous studies such as those by Fuentelsaz et al. (2015) and Fritsch, Kritikos and Pijnenburg (2014). There is no doubt that these results warrant a more in-depth analysis of their causes in future contributions to the literature on the Spanish case.

However, the growth of public debt, which has a negative influence on the tendency towards entrepreneurship, and bank financing, which has a positive influence and which is measured as the level of financing in the region of activity of the entrepreneur compared to the national total, were significant. As a result, professionals are more likely to start a business project if public debt falls (which obviously influences expectations of future tax) and if they obtain more funding from financial institutions operating in the region where they work.

Finally, from an institutional perspective, when making their decision to become an entrepreneur, professionals do not seem to take into account (or they ignore) the regulatory burden in each autonomous community compared to the Spanish national total and the situation of the judicial system in terms of the backlog of cases. However, they do take into account (and are positively influenced by) the efficiency of the commercial courts in resolving cases. Potential entrepreneurs are therefore not so much concerned about the number of outstanding cases in the courts, but instead the speed with which they are resolved, meaning that the results of the study are consistent with previous contributions to the literature (Desai, Gompers and Lerner, 2005; García-Posada and Mora-Sanguinetti, 2014).

In short, our work contributes to shedding light in the literature on the factors related to the tendency towards entrepreneurship, taking into account the microdata
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from the Labour Force Survey (LFS), a database that has not received the attention it warrants in the study of entrepreneurship.

Likewise, our study examines not only to the factors that characterise Spanish entrepreneurs who decide to start their project as a self-employed professional, but also includes the relationship in recent years between the tendency towards entrepreneurship and various macroeconomic and institutional factors at the regional level.

The conclusions of the study in turn enable future lines of research to be examined. These studies will take into account the circumstances arising from the global COVID19 pandemic to confirm the conclusions of the study or to add further conclusions that enable progress in the research. Likewise, the availability of data at a European level would enable the study to be extended to other neighbouring countries, thereby permitting studies with a comparative perspective.

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