

## HOW IMPORTANT ARE FAMILY BUSINESSES IN THE ECONOMY? A NEW METHODOLOGY APPLIED TO SPAIN

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### Abstract

Despite family business (FBs) account for a large percentage of all firms worldwide, estimations of their importance in terms of wealth and employment are scant. Main barriers to identify FBs and measurement of their economic activity have been addressed to develop a methodology applied to the Spanish case. Our definition of FBs is based on the proposal of the European Commission and the data comes from SABI database containing business information about finance and corporate governance. The results of our estimation show that approximately 90% of Spanish firms could be considered as FBs, contributing about 60% of the country's Gross Value Added and two-thirds of private sector employment

### 1. INTRODUCTION

The study of family business (FBs) has evolved rapidly in recent decades (Short, Sharma, Lumpkin, & Pearson, 2016; Evert, Martin, McLeod, & Payne, 2016) but they remain some unanswered question such as the existence of reliable and complete estimations of the relevance of FBs in national economies. On the one hand, there are several academic works that has tried to address this issue. A first group of academic papers used data from listed companies (e.g. La Porta, López-de-Silanes, & Shleifer, 1999 or Villalonga & Amit, 2010), but these works offer only a limited view of the real importance of FBs. There have been also some attempts to obtain a global transnational idea of FBs relevance (IFERA, 2003) but this is built summing-up data from very different nature and reliability. Finally, there are a small number of academic works that have addressed a full estimation of the relevance of FBs in their national economies. In the USA context, we find the seminal work of Shanker and Astrachan (1996) for the USA economy, updated in Astrachan and Shanker (2003). Also in the USA, other works have attempted to measure the presence of FBs in its economy (e.g. Chang, Chrisman, Chua, & Kellermanns, 2008). In Europe, there is the Bjuggren, Johansson and Sjögre (2011) estimation for Swedish economy. On the other hand, there are some projects launched at government or institutional level (e.g. Flören, Uhlander & Berent-Braun, 2010) among which stand out the action "*Statistics for family businesses*" conducted with the support of the *Programme for the competitiveness of enterprises and small and medium-sized enterprises* (2014-2020) (COSME) (European Commission) by seven European countries (Bulgaria, Denmark, Finland, Italy, Malta, the Netherlands and Poland) and aimed to identify FBs in order to assess FBs relevance, scope and nature.

Three main reasons explain this situation (Astrachan & Shanker, 2003; Bjuggren, Johansson & Sjögre, 2011; Chang, Chrisman, Chua, & Kellermanns, 2008; Shanker & Astrachan, 1996) and the need of institutional initiatives to overcome these problems. Firstly, there is a lack of a generally accepted definition and operationalization of FBs (European Commission, 2009; 2015; Sarkar, Hernández-Linares & Cobo, 2014). Secondly, the lack of government statistics or secondary sources of data that identify FBs as such, whatever the

definition used (Bejuggren et al., 2011; Chang, Chrisman, Chua, & Kellermanns, 2008). Thirdly, and related with the later, the lack of a generally accepted methodology for calculating the indicators to measure the weight of FBs in national economies.

This is the reason why previous works employ different methodologies adapted to the kind of data available in each country (see Appendix 1 and 2). In the case of the United States they used data from diverse statistics and census and calculate the contribution of FBs to GDP and employment (Astrachan & Shanker, 2003; Shanker & Astrachan, 1996) or survey data (Chang, Chrisman, Chua, & Kellermanns, 2008) to estimate the relationship between economic development and the prevalence of FBs in the USA. In the case of the Swedish study, they employ data produced by the Swedish government to identify and tax proprietors of firms besides data from listed companies calculating, also, the FBs contribution to GDP and total employment in Sweden (Bjuggren, Johansson & Sjögre, 2011). Flören, Uhlaner and Berent-Braun (2010) in their report for the Dutch Ministry of Economic Affairs applied a telephone survey to a representative sample of Dutch companies to identify FBs employing the GEEF (European Group of Owner Managed and Family Enterprises) definition of family enterprise<sup>1</sup> following the recommendation of the European Commission<sup>2</sup>. Finally, the seven European countries involved in action “*Statistics for family businesses*” employ the GEEF definition but operationalized in different ways (being ownership the most frequently used) and employing different measuring approaches to identify FBs, analyze its geographical and/or sectoral distribution, its characteristics and, in most cases, its economics significance (see Appendix 2).

In this context, the Instituto de la Empresa Familiar (IEF, Spanish Institute of Family Business) decided to foster a study to directly estimate the reality of FBs in Spain in general and in each of the Autonomous Communities in particular. In this respect, a working group was set up comprised of a number of Directors of Chairs on Family Business and the IEF Study Service, which met for the first time in January 2014 with the aim of establishing a common methodology for conducting the study. The main objectives of the work (Instituto de la Empresa Familiar, 2015) were, first, to estimate the weight of Spanish FBs in the national economy, in terms of Gross Value Added (GVA) and Employment, considering the whole population of Spanish companies and employing a data source that is not provided by the government but is relevant, rigorous, systematic and regularly updated. And, second, to identify the differentiating characteristics of FBs, extending the knowledge of business and family management. To achieve this objective, the collaboration of the network of Chairs of FBs, developed and coordinated by the IEF<sup>3</sup> was very relevant. In this paper we will focus only in the methodology developed to accomplish the first objective.

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<sup>1</sup> According to the GEEF, to be named a ‘family business’, a firm must meet the following criteria: 1) the majority of ownership (directly or indirectly) rests in the hands of a natural person and/or family; and 2) at least one representative of the family or kin is involved in management or administration of the firm. For listed firms, GEEF modifies the first criterion to require only 25% (vs. majority) ownership by one person or family.

<sup>2</sup> European Commission (2009). Final report of the Expert Group. Overview of family-business-relevant issues: Research, networks, policy measures, and existing studies. Enterprise and Industry Directorate-General. <http://ec.europa.eu/enterprise/policies/sme/promoting-entrepreneurship/family-business/>.

<sup>3</sup> This network, possibly the largest in the world in this discipline, is composed of 38 Chairs in public and private universities over the country, where 200 university professors research and train an average of 1,800 students per year (Instituto de la Empresa Familiar, 2015).

In the study, we have attempted to solve the three problems identified, attending to the kind of data available in Spain. In Spain, there is only a government database<sup>4</sup> identifying FBs but only include about 1,800 manufacturing firms. Spain's main source of individual firm data to which can be applied a method for filtering family and non-FBs is the SABI database (Sistema de Análisis de Balances Ibéricos). SABI is a broader version of Amadeus for Spain and Portugal that is distributed by Bureau Van Dijk. It provides online information on over 850,000 Spanish firms, taken from the annual reports lodged with the Mercantile Registers. The database can be searched by various criteria (firm name, tax registration number, location, activity, financial data, stock market data, geographical location, shareholders, administrators, etc.), which enables detailed statistical and comparative analyses of firms and groups of firms, with the sole exception of banks, which are held in a different database (Bankscope). Once chosen the data source, it was necessary to establish a working definition of FBs, bearing in mind the official definition established by European Family Business (EFB) and Family Business Network (FBN), to establish procedures for identifying FBs. The procedure we have chosen acknowledges previous works that have used the same database (including Arosa, Iturralde, & Maseda, 2010; Lopez-Delgado & Diéguez-Soto, 2015), and uses the local knowledge provided by Spain's network of Family Business Chairs.

With the companies separated into groups of family or non-FBs, it was possible to use different indicators to calculate the size, geographical distribution and weight in the principal macroeconomic variables of FBs: their GVA and the employment that they generate.

Using this process, the results of our estimation show that approximately 90% of Spanish firms could be considered as FBs, contributing some 60% of the country's GVA and two-thirds of private sector employment.

This work makes several contributions to the literature. First our study is the first that, without using government statistics, examine most of the FB population in Spain. Second, it is based on an operational definition agreed by the main FBs associations and the GEEF. Third it employs a methodology that allows us to obtain macroeconomic estimators using microeconomic data. Fourth it includes a regional estimation of the same indicators calculated to the national level.

## 2. IDENTIFICATION OF SPANISH FAMILY BUSINESSES AND NON-FAMILY BUSINESSES

One of the main barriers to estimate the weight of FBs in the economy is the lack of a clear, operative, and consensual of what is a FBs. However, there has been some relevant effort to generate a commonly accepted definition. For example, in 2008, the European Family Business (EFB) and the Board of Family Business Network (FBN)<sup>5</sup> established a

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<sup>4</sup> The survey on business strategies (ESEE) is a panel survey of manufacturing firms located in Spain carried out by SEPI Foundation. About 1,800 firms are surveyed each year.

<sup>5</sup> The European Family Businesses Group (EFB) and the Board of the Family Business Network (FBN), the two main international institutions representing family businesses, established in 2008 that "A firm, of any size, is a family business, if: a) The majority of decision-making rights are in the possession of the natural person(s) who established the firm, or in the possession of the natural person(s) who has/have acquired the share capital of the firm, or in the possession of their spouses, parents, child or children's direct heirs. b) The majority of decision-making rights are indirect or direct. c) At least one representative of the family or kin is formally involved in the governance of the firm. d) Listed companies meet the definition of family enterprise if the person who established or acquired the firm (share capital) or their families or descendants possess 25% of the decision-making rights mandated by their share capital."

definition that has been used since that is close to the GEEG definition. Nevertheless, this definition does not offer an operative way to measure all dimensions proposed, allowing to researchers to clearly classify a firm as FBs or non-FBs.

To estimate the weight of FBs in Spain's economy, we worked at two levels. First, we carried out a detailed analysis of Spain's small, medium and large enterprises, identifying which of these were FBs and at the second level we carried out a global estimation of the number of FBs among micro enterprises<sup>6</sup>. The information was taken from the SABI database and DIRCE [Directorio Central de Empresas], the Central Business Register compiled by Spain's National Statistics Institute [INE].

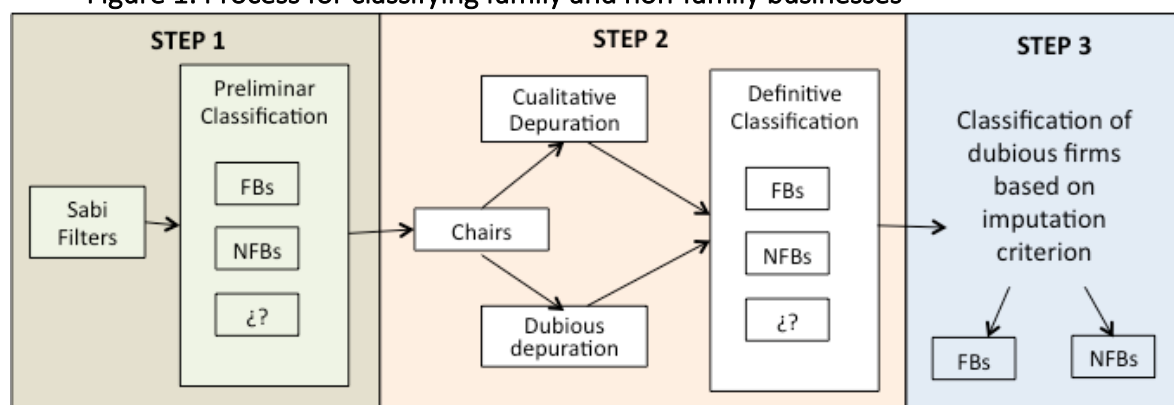
## 2.1. Firms with more than 10 employees or annual turnover above 2 million euros (level 1)

In this first level of analysis, we focus on small-medium-large firms. To enable a detailed analysis of firms, we employed SABI database, which contains economic and financial information on virtually every Spanish registered business, based on the annual reports lodged with Companies Registers. We selected companies individually, rather than consolidating firms that form business groups, to enable us to assign each firm to a region. The following criteria were used:

- Legal status: Public Limited Company (plc) and Limited Liability Company (lrc)
- Operating in 2013
- Minimum size: annual turnover above 2 million euros or a workforce of 10 or more in any of the three years in the period 2011-2013.

Using these criteria, we identified 142,654 firms in the SABI database, and extracted the information required for later analyses. This figure is similar to that provided by the Central Business Register (DIRCE), created by the National Statistics Institute.

Figure 1: Process for classifying family and non-family businesses



To classify the firms identified in SABI as family (FB) or non-FBs (NFB), we followed a three-phase process, shown in Figure 1: (1) to get an automatized preliminary classification of firms according a set of criteria; (2) to filter preliminary classification; and (3) to estimate

<sup>6</sup> We used the classification described by the European Union, which defines micro enterprises as those that employ fewer than 10 employees and whose annual turnover and total assets do not exceed two million euros. In our case, to simplify the criteria, we have only considered number of employees and turnover.

the total number of FBs and NFBs, based on an imputation criterion for the firms that we were unable to classify (dubious).

#### *2.1.1. Phase I. Automated classification using SABI filters*

In the first phase, using automated processes similar to those used in prior investigations (Franks, Mayer, Volpin, & Wagner, 2012; Diéguez-Soto, López-Delgado, & Rojo-Ramírez, 2014; Pindado & Requejo, 2014), we classified the firms within each region<sup>7</sup> according to three categories: FBs; Non-FBs; and “Dubious” Business. This classification was based on the ownership structure and the participation of family members on the Board of Directors. Using this process, we were able to classify 76.1% of the firms. The details of this automated classification process are described below.

One of the fundamental questions when establishing a working definition of a FBs concerns the difference between firms with a highly-dispersed ownership structure and those with a highly-concentrated structure. We do not believe that is appropriate to apply the same percentage to all firms, and we have therefore made a distinction between two major groups:

- A. Firms with a concentrated ownership structure: For this type of firm, we consider firms to be FBs when the family shareholder has a high controlling ownership (50.01%) or when there are shareholder-directors whose holding is above 50.01%. These firms are classified in SABI with an independence indicator C (societies with a registered shareholder with a total percentage or calculated total ownership percentage above 50%) and D (an identified shareholder with direct ownership above 50%).
- B. Firms with a dispersed ownership structure: In this case, it makes sense to use the objective indicators used in Spanish law to be considered as a FBs regarding tax exemptions (an individual with a shareholding of 5% or a family with a shareholding of 20%). Our requirement therefore is that these ownership percentages comply with the SABI category of “one or more physical people or families”. However, when using such broad ownership criteria, it would be useful to be more certain of shareholder participation in the firm’s governing bodies. For firms that meet the ownership criteria, we consider family enterprises to be those that also have shareholder-directors with a holding above 20%, or administrators who are physical persons and shareholders. We also include firms whose principal shareholder is a parent company that also meets the criteria described above. These firms are classified in SABI with the independence indicator A (no shareholder holds more than 25% direct or total ownership), or B (societies where no shareholder’s ownership percentage -direct, total or calculated total- is over 50%, but one or more shareholders have an ownership percentage above 25%). Conversely, any firms that do not meet the ownership criteria are automatically considered to be non-FBs. However, those that meet the criteria for ownership but not for governance are classified as “dubious”, as we cannot be sure that they are non-FBs.
- C. Alongside these two groups are firms with an unknown ownership structure (U). This is the most complex group, however, it is possible to classify some of them. To do this, we took the following steps: First, we established if the shareholders are known, and if yes.

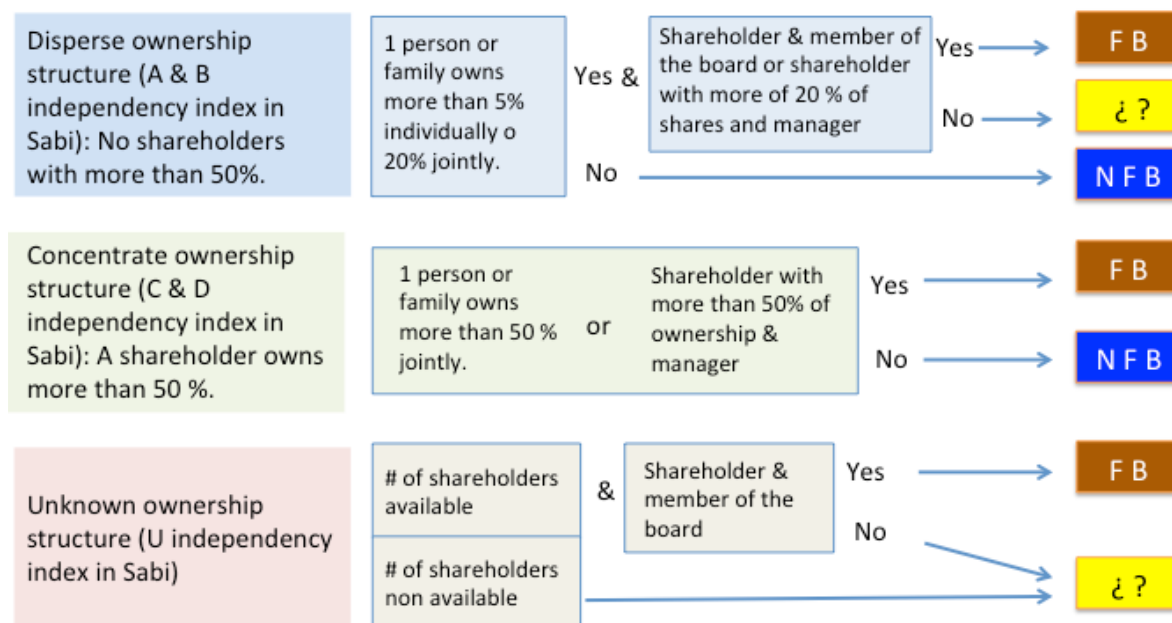
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<sup>7</sup> Spain is administratively divided in 17 regions (Autonomous Communities).

we check whether there are shareholder-directors who participate in the ownership, or administrators who are physical people and shareholders (without indicating their percentages, since there is no information). If the answer is “yes”, they are classified as FB. If the answer is “no”, they are put into the dubious group as they might be a FBs with a single professional administrator. Firms with unknown number of shareholders are also classified as dubious.

The classification using the filtering process is summarised in Figure 2.

**Figure 2: Process for classifying family and non-family businesses**



### 2.1.2. Phase II. Cleaning the initial classification by the IEF's Family Business Chairs<sup>8</sup>

Having obtained the initial classification, the Family Business Chairs of each region or autonomous community (AC) reviewed each of the three lists with a double objective: (a) to attempt to assign companies that were classified as dubious to one of other two lists; and (2) to review the automated assignments.

This second phase enabled us to reduce the percentage of firms that were unclassified in Phase 1 from 23.9% to 16.6%, as well as to correct initial automated classification errors. This adjustment was based on two main criteria: (a) each Chair's knowledge of the business network in its region, providing very important qualitative knowledge; and (b) combining the analysis of the firms' boards of directors and the name of the firm itself. Firms with names that include terms such as “sons of”, “family” and “brothers” were taken to be FBs. FBs also included those whose parent company is another family company, regardless of whether these are foreign firms. The correspondence of surnames on the board of directors also allowed us to identify a high number of FBs. As a result, 118,943 firms (83.5% of the total)

<sup>8</sup> IEF (Instituto de la Empresa Familiar [Spanish Institute of Family Business]) leads a network of Family Business Chairs at Universities, the widest in the world in this area, composed by 38 chairs with more than 200 professors.

were classified, as shown in Table 1, leaving the remainder as dubious and unclassified (23,711 firms; 16.6%). This meant that 94,585 firms were classed as FBs (79.5% of the total number of classified firms), and 24,358 as non-FBS (20.5% of the classified firms).

### 2.1.3. Phase III. Proportional assignment of unclassified businesses

To estimate the total number of family and non-FBs, we used an imputation criterion for the firms that we were unable to classify (dubious). We distributed the dubious firms according to the percentages obtained for each group for the classified firms, on the supposition that their distribution between family and non-FBs would be similar to that of the classified firms. Using this criterion, the total number of family and non-FBs in each region is shown in Table1.

## 2.2. Analysis of micro enterprises (level 2)

To carry out a global estimation of the number of FBs among micro-enterprises, we combined the data obtained from SABI and DIRCE. The procedure only followed Phase I described above, because the high number of this type of firms makes it unfeasible for the Family Business Chairs to carry out the Phase II qualitative review of the lists. First, we selected in SABI the firms that met the size criteria (less than 10 employees and turnover below 2 million euros) and legal status (plc or llc), which provided information on 242,852 firms. To these firms, we applied the same automated filters used for small, medium and large enterprises. Due to a higher level of missing data, these filters were only able to classify 105,873 (43.6%) firms, leaving the rest as dubious (136,979 firms; 56.4%). Of the firms that were classified in the automated process, 90% were classed as family, and 10% as non-FBs. By omitting Phases II and III we are likely to have underestimated the final number of FBs among micro enterprises, but we decided to take the cautious approach and use the figure derived from the automated assignment as our reference percentage.

**Table 1: Classification of firms in SABI after Phase III**

|                 | FBs    | NFBs   | dubious | % FBs in classified | Family dubious | Non-Family dubious | FBs Total      | NFBs Total    | Total   |
|-----------------|--------|--------|---------|---------------------|----------------|--------------------|----------------|---------------|---------|
| Andalucía       | 11.337 | 1.901  | 3.813   | <b>85,6%</b>        | 3.265          | 548                | <b>14.602</b>  | <b>2.449</b>  | 17.051  |
| Aragón          | 3.105  | 1.014  | 477     | <b>75,4%</b>        | 360            | 117                | <b>3.465</b>   | <b>1.131</b>  | 4.596   |
| Asturias        | 2.029  | 404    | 307     | <b>83,4%</b>        | 256            | 51                 | <b>2.285</b>   | <b>455</b>    | 2.740   |
| Baleares        | 2.771  | 427    | 618     | <b>86,6%</b>        | 535            | 83                 | <b>3.306</b>   | <b>510</b>    | 3.816   |
| C. Valenciana   | 10.568 | 1.655  | 2.629   | <b>86,5%</b>        | 2.273          | 356                | <b>12.841</b>  | <b>2.011</b>  | 14.852  |
| Canarias        | 3.341  | 683    | 1.166   | <b>83,0%</b>        | 968            | 198                | <b>4.309</b>   | <b>881</b>    | 5.190   |
| Cantabria       | 1.108  | 115    | 265     | <b>90,6%</b>        | 240            | 25                 | <b>1.348</b>   | <b>140</b>    | 1.488   |
| Cast.-La Mancha | 3.941  | 471    | 685     | <b>89,3%</b>        | 612            | 73                 | <b>4.553</b>   | <b>544</b>    | 5.097   |
| Castilla-Leon   | 4.653  | 1.065  | 977     | <b>81,4%</b>        | 795            | 182                | <b>5.448</b>   | <b>1.247</b>  | 6.695   |
| Cataluña        | 18.989 | 5.682  | 4.272   | <b>77,0%</b>        | 3.288          | 984                | <b>22.277</b>  | <b>6.666</b>  | 28.943  |
| Extremadura     | 1.580  | 250    | 303     | <b>86,3%</b>        | 262            | 41                 | <b>1.842</b>   | <b>291</b>    | 2.133   |
| Galicia         | 5.915  | 918    | 1.369   | <b>86,6%</b>        | 1.185          | 184                | <b>7.100</b>   | <b>1.102</b>  | 8.202   |
| LaRioja         | 859    | 159    | 137     | <b>84,4%</b>        | 116            | 21                 | <b>975</b>     | <b>180</b>    | 1.155   |
| Madrid          | 14.798 | 6.603  | 4.288   | <b>69,1%</b>        | 2.965          | 1.323              | <b>17.763</b>  | <b>7.926</b>  | 25.689  |
| Murcia          | 3.119  | 413    | 737     | <b>88,3%</b>        | 651            | 86                 | <b>3.770</b>   | <b>499</b>    | 4.269   |
| Navarra         | 1.497  | 485    | 357     | <b>75,5%</b>        | 270            | 87                 | <b>1.767</b>   | <b>572</b>    | 2.339   |
| PaísVasco       | 4.975  | 2.113  | 1.311   | <b>70,2%</b>        | 920            | 391                | <b>5.895</b>   | <b>2.504</b>  | 8.399   |
| SPAIN           | 94.585 | 24.358 | 23.711  | <b>79,5%</b>        | 18.961         | 4.750              | <b>113.546</b> | <b>29.108</b> | 142.654 |

**Table 2: Estimated family and non-family micro enterprises**

|                    | Micro-enterprises<br>DIRCE (adjusted) | % FBs/ NFBs  | Family<br>enterprises | Micro-<br>Non-Family<br>Micro-<br>enterprises |
|--------------------|---------------------------------------|--------------|-----------------------|---|
| Andalucía          | 151.604                               | 92,6%        | 140.334               | 11.270  |
| Aragón             | 27.465                                | 89,7%        | 24.627                | 2.838   |
| Asturias           | 16.646                                | 92,3%        | 15.369                | 1.277   |
| Baleares           | 30.812                                | 86,5%        | 26.639                | 4.173   |
| C. Valenciana      | 130.053                               | 91,6%        | 119.191               | 10.862  |
| Canarias           | 48.831                                | 90,2%        | 44.035                | 4.796   |
| Cantabria          | 4.289                                 | 92,6%        | 3.974                 | 315   |
| Castilla-La Mancha | 40.992                                | 95,0%        | 38.924                | 2.068   |
| Castilla-León      | 23.525                                | 92,8%        | 21.831                | 1.694   |
| Cataluña           | 213.738                               | 86,8%        | 185.516               | 28.222  |
| Extremadura        | 15.436                                | 92,2%        | 14.228                | 1.208   |
| Galicia            | 59.876                                | 93,2%        | 55.800                | 4.076   |
| La Rioja           | 6.148                                 | 88,9%        | 5.468                 | 680   |
| Madrid             | 225.595                               | 87,5%        | 197.383               | 28.212  |
| Murcia             | 29.149                                | 93,1%        | 27.137                | 2.012   |
| Navarra            | 12.812                                | 88,0%        | 11.281                | 1.531   |
| País Vasco         | 42.016                                | 87,3%        | 36.662                | 5.354   |
| <b>SPAIN</b>       | <b>1.078.987</b>                      | <b>90,0%</b> | <b>971.071</b>        | <b>107.916</b>                                |

Finally, we projected the percentage of firms classified as FBs onto the total number of micro-enterprises obtained from DIRCE. This extrapolation to the population of micro enterprises in DIRCE is intended to reflect as accurately as possible the Spanish business population. Given its small size, SABI has a very low percentage of the total number of firms that appear in DIRCE. Since DIRCE does not disaggregate firms by regions, according to legal status and employee strata, we have had to estimate this data. We have therefore taken the total number of firms with the legal status of plc or llc in each region, and to this number we applied the percentage of family or non-FBs obtained from the sample of micro enterprises in SABI for each autonomous community. Finally, we subtracted the total number of firms obtained at level 1, described above, to avoid the possible duplication of firms with fewer than 10 employees but with a turnover above 2 million euros, that had been included in the initial analysis. In this way, we calculated the total number of family and non-family micro-enterprises by regions, and their values are set out in Table 2.

### 2.3. Global estimation of the number of family businesses (level 1 + level 2)

By integrating the results obtained at both levels, we obtained a global estimation of the number of FBs and non-FBs plc and llc businesses, regardless of size, by autonomous community. The results are set out in Table 3.

This estimation excludes two blocks of firms. The most important block comprises the so-called autonomous [sole proprietor] firms, with the legal status of a physical person. It is likely that all the firms in this category -the most numerous in terms of the number of firms- could be considered as FBs. The block of “other types”, on the other hand, is the minority, representing only 9.7% of all firms. To summarise, all the calculations for the number and weight of FBs in Spain were made taking a cautious approach, which is likely to have underestimated the number.



**Table 3: Estimation of the total number of FBs & NFBs (plc and llc)**

|               | plc and llc with 10 employees or more |               |                | plc and llc with less than 10 employees (micro) |                |                  | Total firms ( plc and llc ) |                |                  | total % FBs  |
|---------------|---------------------------------------|---------------|----------------|---|----------------|------------------|-----------------------------|----------------|------------------|--------------|
|               | FBs                                   | NFBs          | All            | FBs   | NFBs           | All              | FBs                         | NFBs           | All              |              |
| Andalucía     | 14.602                                | 2.449         | 17.051         | 140.334   | 11.270         | 151.604          | 154.936                     | 13.719         | 168.655          | 91,9%        |
| Aragón        | 3.465                                 | 1.131         | 4.596          | 24.627  | 2.838          | 27.465           | 28.091                      | 3.970          | 32.061           | 87,6%        |
| Asturias      | 2.285                                 | 455           | 2.740          | 15.369  | 1.277          | 16.646           | 17.654                      | 1.732          | 19.386           | 91,1%        |
| Baleares      | 3.306                                 | 510           | 3.816          | 26.639  | 4.173          | 30.812           | 29.946                      | 4.682          | 34.628           | 86,5%        |
| C. Valenciana | 12.841                                | 2.011         | 14.852         | 119.191   | 10.862         | 130.053          | 132.032                     | 12.873         | 144.905          | 91,1%        |
| Canarias      | 4.309                                 | 881           | 5.190          | 44.035  | 4.796          | 48.831           | 48.344                      | 5.677          | 54.021           | 89,5%        |
| Cantabria     | 1.348                                 | 140           | 1.488          | 3.974   | 315            | 4.289            | 5.322                       | 455            | 5.777            | 92,1%        |
| Cast.-Mancha  | 4.553                                 | 544           | 5.097          | 38.924  | 2.068          | 40.992           | 43.477                      | 2.612          | 46.089           | 94,3%        |
| Castilla-León | 5.448                                 | 1.247         | 6.695          | 21.831  | 1.694          | 23.525           | 27.279                      | 2.941          | 30.220           | 90,3%        |
| Cataluña      | 22.277                                | 6.666         | 28.943         | 185.516   | 28.222         | 213.738          | 207.793                     | 34.888         | 242.681          | 85,6%        |
| Extremadura   | 1.842                                 | 291           | 2.133          | 14.228  | 1.208          | 15.436           | 16.069                      | 1.500          | 17.569           | 91,5%        |
| Galicia       | 7.100                                 | 1.102         | 8.202          | 55.800  | 4.076          | 59.876           | 62.900                      | 5.178          | 68.078           | 92,4%        |
| La Rioja      | 975                                   | 180           | 1.155          | 5.468   | 680            | 6.148            | 6.443                       | 860            | 7.303            | 88,2%        |
| Madrid        | 17.763                                | 7.926         | 25.689         | 197.383   | 28.212         | 225.595          | 215.146                     | 36.138         | 251.284          | 85,6%        |
| Murcia        | 3.770                                 | 499           | 4.269          | 27.137  | 2.012          | 29.149           | 30.907                      | 2.511          | 33.418           | 92,5%        |
| Navarra       | 1.767                                 | 572           | 2.339          | 11.281  | 1.531          | 12.812           | 13.047                      | 2.104          | 15.151           | 86,1%        |
| País Vasco    | 5.895                                 | 2.504         | 8.399          | 36.662  | 5.354          | 42.016           | 42.557                      | 7.858          | 50.415           | 84,4%        |
| <b>SPAIN</b>  | <b>113.546</b>                        | <b>29.108</b> | <b>142.654</b> | <b>971.071</b>                                  | <b>107.916</b> | <b>1.078.987</b> | <b>1.084.617</b>            | <b>137.024</b> | <b>1.221.641</b> | <b>88,8%</b> |

### 3. FAMILY BUSINESSES' CONTRIBUTION TO SPAIN'S GVA AND EMPLOYMENT (2007-2013)

#### 3.1. Contribution of family businesses to Spain's GVA

To calculate the weight of FBs in Spanish economy, we have analysed the GVA, a micro variable that is closely linked to the macro variable GDP. GVA was calculated as the sum of labour costs, financial costs, resources devoted to the repayment of assets, taxes and annual profit. As with the previous calculations, to estimate the GVA of Spanish businesses, we have used the firms in SABI, dividing them into two main groups. For the firms with a minimum of 10 employees or annual turnover above 2 million euros, we made separate calculations for the total GVA of FBs and non-FBs in each region. We also calculated the average GVA per firm (again, distinguishing between FBs and non-FBs)<sup>9</sup>. The results are shown in Table 4.

To estimate the GVA of micro-enterprises, first, we calculated the GVA of the micro enterprises whose information can be found in SABI (105,873 firms), individually for each region, and by business category (FBs or non-FBs). Using this value, we then calculated the average GVA for each group of firms. Finally, we applied these average GVAs to the population of Fbs and non-FBs (plc and llc) in each region, using the proportion corresponding to the FBs and non-FBs calculated in the demographics section<sup>10</sup>. This enabled

<sup>9</sup> For this calculation, we excluded the set of firms that were classed as dubious in the initial phases of the study, since there is a wide variation in GVA values in the segment with the larger firms, and therefore the assignation of average values might distort the results.

<sup>10</sup> As with our calculation for the number of firms, in order to avoid the duplication of information, we subtracted from the population of micro enterprises in DIRCE firms with at least 10 employees or turnover above 2 million euros, which were already included in the segment of small, medium and large enterprises.

us to estimate the total GVA of family and non-family micro enterprises in each region. The results are summarised in Table 5. It is now possible to add both segments together to obtain an estimate of the GVA of all of Spain's plc and llc companies. (Table 6).

**Table 4: Gross Value Added (GVA). Firms with more than 10 employees or annual turnover above 2 million euros**

|                    | Average GVA<br>FBs | Average GVA<br>NFBs | #<br>FBs | #<br>NFBs | Total<br>GVA FBs   | Total<br>GVA NFBs  | Total<br>GVA | %.    |
|--------------------|--------------------|---------------------|----------|-----------|--------------------|--------------------|--------------|-------|
| Andalucía          | 1.114              | 3.415               | 11.337   | 1.901     | <b>12.629.418</b>  | <b>6.491.915</b>   | 19.121.333   | 66,0% |
| Aragón             | 1.211              | 2.583               | 3.105    | 1.014     | <b>3.760.155</b>   | <b>2.619.162</b>   | 6.379.317    | 58,9% |
| Asturias           | 1.367              | 8.083               | 2.029    | 404       | <b>2.773.643</b>   | <b>3.265.532</b>   | 6.039.175    | 45,9% |
| Baleares           | 1.626              | 4.335               | 2.771    | 427       | <b>4.505.646</b>   | <b>1.851.045</b>   | 6.356.691    | 70,9% |
| C. Valenciana      | 1.509              | 3.679               | 10.568   | 1.655     | <b>15.947.112</b>  | <b>6.088.745</b>   | 22.035.857   | 72,4% |
| Canarias           | 1.371              | 3.772               | 3.341    | 683       | <b>4.580.511</b>   | <b>2.576.276</b>   | 7.156.787    | 64,0% |
| Cantabria          | 1.076              | 8.308               | 1.108    | 115       | <b>1.192.208</b>   | <b>955.420</b>     | 2.147.628    | 55,5% |
| Castilla-La Mancha | 701                | 3.491               | 3.941    | 471       | <b>2.762.641</b>   | <b>1.644.261</b>   | 4.406.902    | 62,7% |
| Castilla-León      | 1.015              | 2.964               | 4.653    | 1.065     | <b>4.722.795</b>   | <b>3.156.660</b>   | 7.879.455    | 59,9% |
| Cataluña           | 1.606              | 5.389               | 18.989   | 5.682     | <b>30.496.334</b>  | <b>30.620.298</b>  | 61.116.632   | 49,9% |
| Extremadura        | 657                | 1.544               | 1.580    | 250       | <b>1.038.060</b>   | <b>386.000</b>     | 1.424.060    | 72,9% |
| Galicia            | 2.236              | 2.867               | 5.915    | 918       | <b>13.225.940</b>  | <b>2.631.906</b>   | 15.857.846   | 83,4% |
| La Rioja           | 1.139              | 2.533               | 859      | 159       | <b>978.401</b>     | <b>402.747</b>     | 1.381.148    | 70,8% |
| Madrid             | 2.907              | 14.790              | 14.798   | 6.603     | <b>43.017.786</b>  | <b>97.658.370</b>  | 140.676.156  | 30,6% |
| Murcia             | 1.164              | 2.829               | 3.119    | 413       | <b>3.630.516</b>   | <b>1.168.377</b>   | 4.798.893    | 75,7% |
| Navarra            | 1.064              | 6.122               | 1.497    | 485       | <b>1.592.808</b>   | <b>2.969.170</b>   | 4.561.978    | 34,9% |
| País Vasco         | 1.571              | 7.715               | 4.975    | 2.113     | <b>7.815.725</b>   | <b>16.301.795</b>  | 24.117.520   | 32,4% |
| SPAIN              | 1.636              | 7.412               | 94.585   | 24.358    | <b>154.669.699</b> | <b>180.787.679</b> | 335.457.378  | 46,1% |

**Table 5: Gross Value Added (GVA). Micro-enterprises**

|                    | Average<br>GVA<br>FBs | Average<br>GVA<br>NFBs | #<br>FBs<br>(adjusted) | #<br>NFBs<br>(adjusted) | Total<br>GVA FBs<br>(adjusted) | Total<br>GVA NFBs<br>(adjusted) | Total<br>GVA       | %.    |
|--------------------|-----------------------|------------------------|------------------------|-------------------------|--------------------------------|---------------------------------|--------------------|-------|
| Andalucía          | 92                    | 54                     | 140.334                | 11.270                  | <b>12.976.260</b>              | <b>606.515</b>                  | <b>13.582.775</b>  | 95,5% |
| Aragón             | 119                   | 150                    | 24.627                 | 2.838                   | <b>2.939.540</b>               | <b>426.159</b>                  | <b>3.365.699</b>   | 87,3% |
| Asturias           | 108                   | 207                    | 15.369                 | 1.277                   | <b>1.662.314</b>               | <b>264.403</b>                  | <b>1.926.717</b>   | 86,3% |
| Baleares           | 163                   | 172                    | 26.639                 | 4.173                   | <b>4.351.678</b>               | <b>717.749</b>                  | <b>5.069.427</b>   | 85,8% |
| C. Valenciana      | 102                   | 232                    | 119.191                | 10.862                  | <b>12.190.171</b>              | <b>2.523.484</b>                | <b>14.713.655</b>  | 82,8% |
| Canarias           | 111                   | 189                    | 44.035                 | 4.796                   | <b>4.876.128</b>               | <b>906.578</b>                  | <b>5.782.706</b>   | 84,3% |
| Cantabria          | 107                   | 145                    | 3.974                  | 315                     | <b>425.604</b>                 | <b>45.668</b>                   | <b>471.272</b>     | 90,3% |
| Castilla-La Mancha | 76                    | 148                    | 38.924                 | 2.068                   | <b>2.950.975</b>               | <b>306.503</b>                  | <b>3.257.478</b>   | 90,6% |
| Castilla-León      | 98                    | 206                    | 21.831                 | 1.694                   | <b>2.150.271</b>               | <b>348.424</b>                  | <b>2.498.695</b>   | 86,1% |
| Cataluña           | 138                   | 155                    | 185.516                | 28.222                  | <b>25.529.361</b>              | <b>4.360.577</b>                | <b>29.889.938</b>  | 85,4% |
| Extremadura        | 100                   | 70                     | 14.228                 | 1.208                   | <b>1.429.127</b>               | <b>84.766</b>                   | <b>1.513.892</b>   | 94,4% |
| Galicia            | 83                    | 125                    | 55.800                 | 4.076                   | <b>4.625.950</b>               | <b>508.980</b>                  | <b>5.134.930</b>   | 90,1% |
| La Rioja           | 99                    | 184                    | 5.468                  | 680                     | <b>543.597</b>                 | <b>125.321</b>                  | <b>668.918</b>     | 81,3% |
| Madrid             | 112                   | 118                    | 197.383                | 28.212                  | <b>22.064.554</b>              | <b>3.333.762</b>                | <b>25.398.316</b>  | 86,9% |
| Murcia             | 90                    | 82                     | 27.137                 | 2.012                   | <b>2.442.216</b>               | <b>164.547</b>                  | <b>2.606.764</b>   | 93,7% |
| Navarra            | 150                   | 199                    | 11.281                 | 1.531                   | <b>1.697.745</b>               | <b>305.230</b>                  | <b>2.002.975</b>   | 84,8% |
| País Vasco         | 139                   | 214                    | 36.662                 | 5.354                   | <b>5.109.781</b>               | <b>1.147.922</b>                | <b>6.257.703</b>   | 81,7% |
| SPAIN              | 111                   | 152                    | 971.071                | 107.916                 | <b>107.791.905</b>             | <b>16.370.746</b>               | <b>124.162.651</b> | 86,8% |

**Table 6: Gross Value Added (GVA). All companies<sup>11</sup>**

|                    | GVA<br>Micro<br>FBs | GVA<br>Micro<br>NFBs | GVA<br>Rest of<br>FBs | GVA<br>Rest of<br>NFBs | GVA<br>Total<br>FBs | GVA<br>Total<br>NFBs | GVA<br>Total       | % of<br>FBs<br>GVA |
|--------------------|---------------------|----------------------|-----------------------|------------------------|---------------------|----------------------|--------------------|--------------------|
| Andalucía          | 12.976.260          | 606.515              | 12.629.418            | 6.491.915              | 25.605.678          | 7.098.430            | <b>32.704.108</b>  | <b>78,3%</b>       |
| Aragón             | 2.939.540           | 426.159              | 3.760.155             | 2.619.162              | 6.699.695           | 3.045.321            | <b>9.745.016</b>   | <b>68,7%</b>       |
| Asturias           | 1.662.314           | 264.403              | 2.773.643             | 3.265.532              | 4.435.957           | 3.529.935            | <b>7.965.892</b>   | <b>55,7%</b>       |
| Baleares           | 4.351.678           | 717.749              | 4.505.646             | 1.851.045              | 8.857.324           | 2.568.794            | <b>11.426.118</b>  | <b>77,5%</b>       |
| C. Valenciana      | 12.190.171          | 2.523.484            | 15.947.112            | 6.088.745              | 28.137.283          | 8.612.229            | <b>36.749.512</b>  | <b>76,6%</b>       |
| Canarias           | 4.876.128           | 906.578              | 4.580.511             | 2.576.276              | 9.456.639           | 3.482.854            | <b>12.939.493</b>  | <b>73,1%</b>       |
| Cantabria          | 425.604             | 45.668               | 1.192.208             | 955.420                | 1.617.812           | 1.001.088            | <b>2.618.900</b>   | <b>61,8%</b>       |
| Castilla-La Mancha | 2.950.975           | 306.503              | 2.762.641             | 1.644.261              | 5.713.616           | 1.950.764            | <b>7.664.380</b>   | <b>74,5%</b>       |
| Castilla-León      | 2.150.271           | 348.424              | 4.722.795             | 3.156.660              | 6.873.066           | 3.505.084            | <b>10.378.150</b>  | <b>66,2%</b>       |
| Cataluña           | 25.529.361          | 4.360.577            | 30.496.334            | 30.620.298             | 56.025.695          | 34.980.875           | <b>91.006.570</b>  | <b>61,6%</b>       |
| Extremadura        | 1.429.127           | 84.766               | 1.038.060             | 386.000                | 2.467.187           | 470.766              | <b>2.937.952</b>   | <b>84,0%</b>       |
| Galicia            | 4.625.950           | 508.980              | 13.225.940            | 2.631.906              | 17.851.890          | 3.140.886            | <b>20.992.776</b>  | <b>85,0%</b>       |
| La Rioja           | 543.597             | 125.321              | 978.401               | 402.747                | 1.521.998           | 528.068              | <b>2.050.066</b>   | <b>74,2%</b>       |
| Madrid             | 22.064.554          | 3.333.762            | 43.017.786            | 97.658.370             | 65.082.340          | 100.992.132          | <b>166.074.472</b> | <b>39,2%</b>       |
| Murcia             | 2.442.216           | 164.547              | 3.630.516             | 1.168.377              | 6.072.732           | 1.332.924            | <b>7.405.657</b>   | <b>82,0%</b>       |
| Navarra            | 1.697.745           | 305.230              | 1.592.808             | 2.969.170              | 3.290.553           | 3.274.400            | <b>6.564.953</b>   | <b>50,1%</b>       |
| País Vasco         | 5.109.781           | 1.147.922            | 7.815.725             | 16.301.795             | 12.925.506          | 17.449.717           | <b>30.375.223</b>  | <b>42,6%</b>       |
| SPAIN              | 107.791.905         | 16.370.746           | 154.669.699           | 180.787.679            | 262.461.604         | 197.158.425          | <b>459.620.029</b> | <b>57,1%</b>       |

### 3.2. Contribution of family businesses to Spanish employment

To calculate the employment generated by family and non-FBs, we followed a procedure almost identical to the previous one. We have again made the distinction between the two main groups. For firms with more than 10 employees or turnover above 2 million euros, we made separate calculations for the employment generated by all family and non-FBs, and obtained an average number of employees (again, distinguishing between FBs and non-FBs). These calculations provided an estimate of the number of people employed by the firms in this segment<sup>12</sup>. We then estimated the employment generated by micro enterprises, following the same procedure for calculating the GVA. After calculating the total number of employees of the micro enterprises for which information is available in SABI, we obtained the average number of employees for each group of firms. We then applied the average values to the population of micro enterprises in each autonomous community, using the proportion corresponding to the two types of firm (FBs or non-FBs)<sup>13</sup>. This procedure allowed us to estimate the total number of employees of family and non-family micro enterprises in each region. Finally, we add the two groups together to obtain an estimation of the employment generated by all of Spain's FBs and non-FBs plc or llc businesses (Table 7).

<sup>11</sup> The calculations made using the firms' estimated GVA remain below the national and regional GDP (459,620, as opposed to 744,207). This involves a global discrepancy somewhat higher than the missing 30% (although it is very different by AC, among other things, because assigning firms to each region is rather complex. Imagine what is involved in assigning the whole of Telefónica or Repsol to the Community of Madrid). Likewise, the discrepancy could be attributed to the exclusion of all of the firms that we were unable classify as family or non-family and those that are not plc or llc, nor did we include autonomous [sole proprietor] firms.

<sup>12</sup> Because this variable has a higher proportion of data loss, once we had calculated the percentages corresponding to the weight of employment by family and non-FBs for the firms for which we had information, we then proportionally assigned firms without data, to obtain the absolute number of employees by region and type (FBs or non-FBs). However, our calculation did not include dubious firms for the same reason given for the estimation of the GVA; the wide dispersion of the variable in the group of larger firms, which could lead to a considerable distortion of the results.

<sup>13</sup> Again we avoided duplicating firms with fewer than 10 employees and turnover above 2 million euros, using the same procedure for the calculation of the GVA.

**Table 7: Employment created. All firms**

|                    | Employment<br>Micro<br>FBs | Employment<br>Micro<br>NFBs | Employment<br>Rest of<br>FBs | Employment<br>Rest of<br>NFBs | Total<br>Employment<br>FBs | Total<br>Employment<br>NFBs | Total<br>Employment | %            |
|--------------------|----------------------------|-----------------------------|------------------------------|-------------------------------|----------------------------|-----------------------------|---------------------|--------------|
| Andalucía          | 463.893                    | 39.066                      | 294.762                      | 115.961                       | 758.655                    | 155.027                     | <b>913.682</b>      | <b>83,0%</b> |
| Aragón             | 81.079                     | 8.824                       | 83.835                       | 60.840                        | 164.914                    | 69.664                      | <b>234.579</b>      | <b>70,3%</b> |
| Asturias           | 49.303                     | 4.544                       | 68.986                       | 26.260                        | 118.289                    | 30.804                      | <b>149.093</b>      | <b>79,3%</b> |
| Baleares           | 91.538                     | 14.383                      | 96.985                       | 27.755                        | 188.523                    | 42.138                      | <b>230.661</b>      | <b>81,7%</b> |
| C. Valenciana      | 385.818                    | 35.905                      | 369.880                      | 100.955                       | 755.698                    | 136.860                     | <b>892.558</b>      | <b>84,7%</b> |
| Canarias           | 149.641                    | 14.116                      | 116.935                      | 49.859                        | 266.576                    | 63.975                      | <b>330.551</b>      | <b>80,6%</b> |
| Cantabria          | 12.813                     | 1.040                       | 33.240                       | 8.740                         | 46.053                     | 9.780                       | <b>55.833</b>       | <b>82,5%</b> |
| Castilla-La Mancha | 128.564                    | 6.685                       | 74.879                       | 27.789                        | 203.443                    | 34.474                      | <b>237.917</b>      | <b>85,5%</b> |
| Castilla-León      | 72.031                     | 5.471                       | 111.672                      | 62.835                        | 183.703                    | 68.306                      | <b>252.009</b>      | <b>72,9%</b> |
| Cataluña           | 613.535                    | 90.727                      | 626.637                      | 488.652                       | 1.240.172                  | 579.379                     | <b>1.819.550</b>    | <b>68,2%</b> |
| Extremadura        | 47.561                     | 3.855                       | 34.760                       | 10.500                        | 82.321                     | 14.355                      | <b>96.675</b>       | <b>85,2%</b> |
| Galicia            | 175.228                    | 13.950                      | 218.855                      | 48.654                        | 394.083                    | 62.604                      | <b>456.687</b>      | <b>86,3%</b> |
| La Rioja           | 18.685                     | 2.361                       | 21.475                       | 6.678                         | 40.160                     | 9.039                       | <b>49.199</b>       | <b>81,6%</b> |
| Madrid             | 616.187                    | 92.328                      | 961.870                      | 1.201.746                     | 1.578.057                  | 1.294.074                   | <b>2.872.131</b>    | <b>54,9%</b> |
| Murcia             | 92.542                     | 6.769                       | 99.808                       | 26.432                        | 192.350                    | 33.201                      | <b>225.551</b>      | <b>85,3%</b> |
| Navarra            | 37.409                     | 5.660                       | 44.910                       | 41.710                        | 82.319                     | 47.370                      | <b>129.688</b>      | <b>63,5%</b> |
| País Vasco         | 125.039                    | 18.533                      | 174.125                      | 166.927                       | 299.164                    | 185.460                     | <b>484.624</b>      | <b>61,7%</b> |
| SPAIN              | 3.172.450                  | 356.432                     | 3.405.060                    | 2.921.371                     | 6.577.510                  | 3.277.803                   | <b>9.855.312</b>    | <b>66,7%</b> |

#### 4. CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

Despite FBs account for a large percentage of all firms worldwide, estimations of their importance in terms of wealth and employment are scant. Main barriers to identify FBs and measurement of their economic activity have been addressed in this work to set up a methodology appropriated for the Spanish case. The definition of FBs is based on the proposal of the European Commission and the data comes from SABI database containing business information about finance and corporate governance. The estimation of the weight of FBs is based on GVA derived from firms' financial data which is closely linked to the macro variable GDP.

Our analysis is restricted to Public Limited Companies and Limited Liability Companies. Two levels of analysis have been established: small-medium-large (SML) firms (more than 10 employees and/or turnover above 2 million euros) and micro enterprises (less than 10 employees and turnover below 2 million euros). From the available information of the database a set of automatic filters (based on the FBN definition) was established to identify firms as FBs or non-FBs. 76.1% of SML enterprises was automatically classified, 7.3% was manually assigned with the help of the IEF's Family Business Chairs and 16,6% were not classified due to the lack of information in the database. In order to estimate FBs's contribution to employment and GVA, an average profile has been calculated considering size (SML and Micro), family involvement (FBs and non-FBs) and geographical location (17 regions in Spain) which have been extended to the full population.

The lack of knowledge concerning the impact of FBs in national economies and its comparison with non-FBs led us to develop the methodology presented in this work. This work brings several remarkable contributions to the literature with a strong focus on operational purposes. First, the combined use of SABI database and government statistics provide sufficient information (a) to identify FBs (in this study based on European and national criteria), (b) to estimate its contribution in terms of employment and GVA, and (c)

to distinguish level of analysis according to different criteria (size, geographical location, among others). Second, the methodology proposes a set of automatic filters achieving 76.1% of success. Third, at the same time a set of heuristics has been proven to be useful reducing up to 30.5% the dubious cases.

This methodology expands options to research the relevance and idiosyncrasies of FBs. SABI is distributed by Bureau Van Dijk but this company also distributes other products like Amadeus (Europe) or Orbis (worldwide) which may be explored to make international studies. Once FBs are identified objectively through automatic filters other comparisons with non-FBs may be achieved looking for differences according to industry, size, performance, financial behaviours, and etcetera. The availability of data also allows carrying out longitudinal studies. In short, the methodology presented in this work brings objectivity to new international and longitudinal studies depicting the situation and evolution of FBs.

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## Appendix 1 Previous studies

| Studies   | FB operationalization  | Measurement approach                    | Outcomes  |
|---|--|---|---|
| USA (Shanker & Astrachan (1996); Astrachan & Shanker, 2003) | Bull eye 3 levels definition. Global estimation, not identification                    | Data from diverse statistics and census | Calculate the contribution of FBs to GDP & employment                               |
| USA (Chang, Chrisman, Chua, & Kellermanns, 2008)            | Ownership, family involvement in management & intention to pass to the next generation | Survey                                  | Identification, relationship between economic development and the prevalence of FBs |

|  |   |   |   |
|--|---|---|---|
| The Netherlands (Flören, Uhlaner & Berent-Braun, 2010) | Ownership & family involvement in management (GEEF) | Survey (1,500 private firms, not self-employed)     | Identification, sectoral & age distribution, main characteristics, success factors, main outcomes |
| Sweden (Bjuggren, Johansson and Sjögre, 2011)          | Ownership   | Government tax information & data from listed firms | Identification & FBS's contribution to GDP and employment   |

## Appendix 2 “Statistics for family businesses” COSME

| Country  | FB operationalization  | Measurement approach   | Outcomes   |
|--|--|--|--|
| Bulgaria (NSI Bulgaria, 2015)  | Ownership  | Re-design of the current Enterprise Inquiry including additional questions about firms owned by families   | Identification; geographical & sectoral distribution; employ   |
| Denmark (Danmark Statistik, 2014)  | Ownership  | A new administrative register has been established in 2015 holding information about the direct owners of firms  | Identification; geographical, sectoral, size & legal form distribution; employ, value added  |
| Finland (Statistics Finland & The Finnish Family Firm Association, 2014) | Ownership & Governance   | Based upon analysis of Finnish structural business and financial statement statistics & additional scrutiny of each firm by accessing web sites, phone calls or postal inquiry   | Identification; economic significance of FB (GVA, employ, turnover, net investment); sectoral & geographical distribution; financial performance |
| Italy (UCV-EIC, 2016)  | Ownership  | Register of the Chambers of Commerce (legal status) & AID BvD (financial data). Applied to limited Veneto enterprises with turnover bigger than 1 million of Euros and by the family name of all their business partners (22,400 firms). | Identification; geographical & sectoral distribution; age; concentration of ownership; temporal evolution of financial indicators                |
| Malta (National Statistics Office, Malta, 2017)                          | Ownership  | Survey on 2,588 firms  | Identification; sectoral distribution; turnover & employ; legal status   |
| The Netherlands (Statistics Netherlands, 2017)                           | Ownership & Governance   | Combine data from existing registries  | Identification; sectoral, size & regional distribution; turnover, value added & employ   |
| Poland (Lewandowska et al., 2016)  | 5 Level definition model based on Ownership, Identity, Management & succession | Survey on 2,000 firms  | Identification; FBS characteristics (size, age, legal form, attitudes, financial situation, headcount, foreign expansion, succession)            |