

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 enterprise¹ following the recommendation of the European Commission². 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 IEF³ was very relevant. In this paper we will focus only in the methodology developed to accomplish the first objective.

¹ 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.

² 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/>.

³ 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 database⁴ 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)⁵ established a

⁴ 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.

⁵ 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 enterprises⁶. 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].

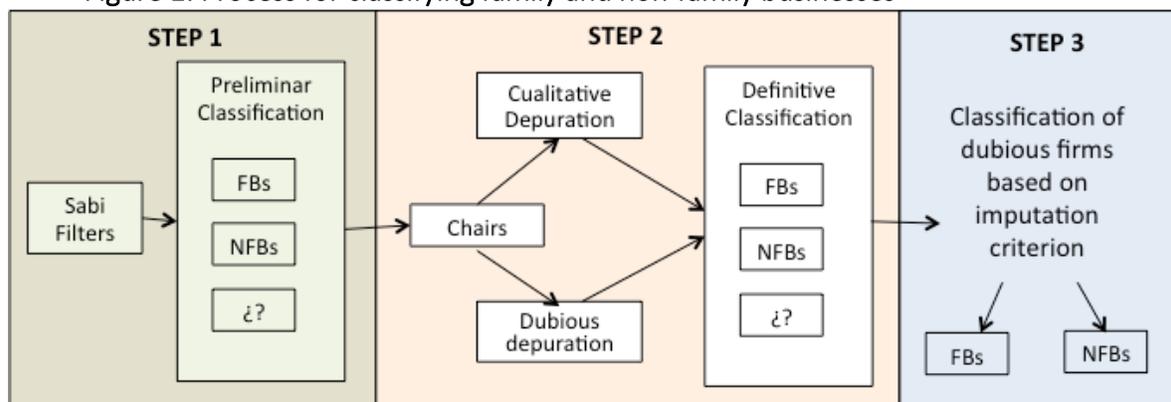
2.1. Firms with more than 10 employees or annual turnover above 2 million euros (level 1)

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

⁶ 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 region⁷ 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:

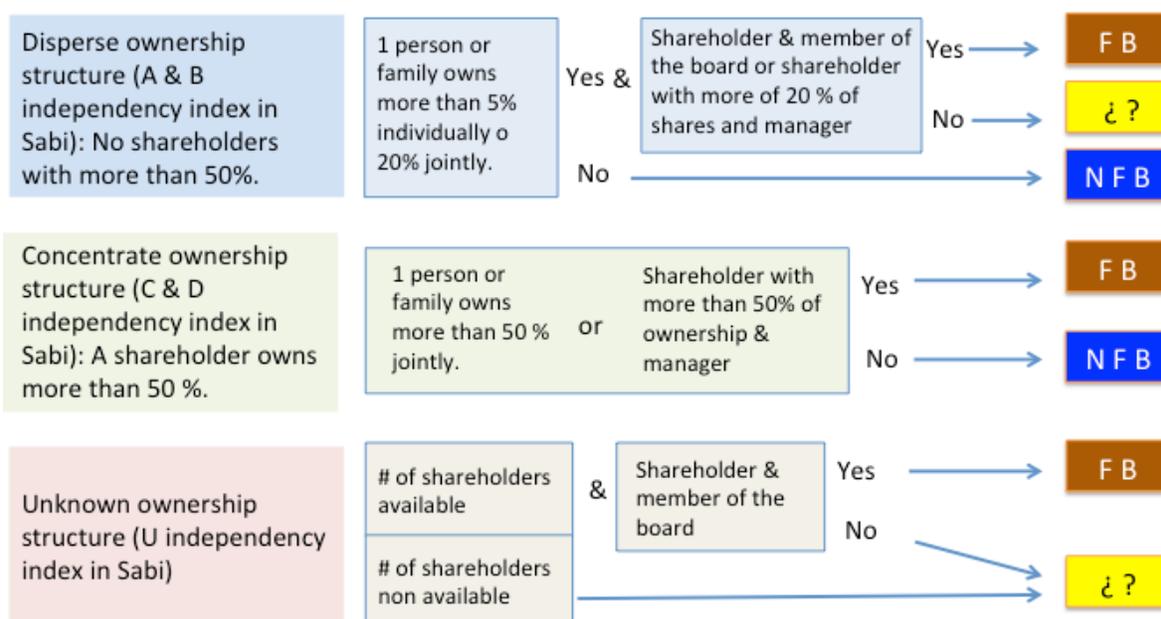
- A. Firms with a concentrated ownership structure: For this type of firm, we consider firms to be FBs when the family shareholder has a high controlling ownership (50.01%) or when there are shareholder-directors whose holding is above 50.01%. These firms are classified in SABI with an independence indicator 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.

⁷ 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 Chairs⁸

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)

⁸ 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	85,6%	3.265	548	14.602	2.449	17.051
Aragón	3.105	1.014	477	75,4%	360	117	3.465	1.131	4.596
Asturias	2.029	404	307	83,4%	256	51	2.285	455	2.740
Baleares	2.771	427	618	86,6%	535	83	3.306	510	3.816
C. Valenciana	10.568	1.655	2.629	86,5%	2.273	356	12.841	2.011	14.852
Canarias	3.341	683	1.166	83,0%	968	198	4.309	881	5.190
Cantabria	1.108	115	265	90,6%	240	25	1.348	140	1.488
Cast.-La Mancha	3.941	471	685	89,3%	612	73	4.553	544	5.097
Castilla-Leon	4.653	1.065	977	81,4%	795	182	5.448	1.247	6.695
Cataluña	18.989	5.682	4.272	77,0%	3.288	984	22.277	6.666	28.943
Extremadura	1.580	250	303	86,3%	262	41	1.842	291	2.133
Galicia	5.915	918	1.369	86,6%	1.185	184	7.100	1.102	8.202
LaRioja	859	159	137	84,4%	116	21	975	180	1.155
Madrid	14.798	6.603	4.288	69,1%	2.965	1.323	17.763	7.926	25.689
Murcia	3.119	413	737	88,3%	651	86	3.770	499	4.269
Navarra	1.497	485	357	75,5%	270	87	1.767	572	2.339
PaísVasco	4.975	2.113	1.311	70,2%	920	391	5.895	2.504	8.399
SPAIN	94.585	24.358	23.711	79,5%	18.961	4.750	113.546	29.108	142.654

Table 2: Estimated family and non-family micro enterprises

	Micro-enterprises DIRCE (adjusted)	% FBs/ NFBs	Family enterprises	Micro-	Non-Family Micro- 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
SPAIN	1.078.987	90,0%	971.071		107.916

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%
SPAIN	113.546	29.108	142.654	971.071	107.916	1.078.987	1.084.617	137.024	1.221.641	88,8%

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)⁹. 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 section¹⁰. This enabled

⁹ 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.

¹⁰ 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 FBs	Average GVA NFBs	# FBs	# NFBs	Total GVA FBs	Total GVA NFBs	Total GVA	%.
Andalucía	1.114	3.415	11.337	1.901	12.629.418	6.491.915	19.121.333	66,0%
Aragón	1.211	2.583	3.105	1.014	3.760.155	2.619.162	6.379.317	58,9%
Asturias	1.367	8.083	2.029	404	2.773.643	3.265.532	6.039.175	45,9%
Baleares	1.626	4.335	2.771	427	4.505.646	1.851.045	6.356.691	70,9%
C. Valenciana	1.509	3.679	10.568	1.655	15.947.112	6.088.745	22.035.857	72,4%
Canarias	1.371	3.772	3.341	683	4.580.511	2.576.276	7.156.787	64,0%
Cantabria	1.076	8.308	1.108	115	1.192.208	955.420	2.147.628	55,5%
Castilla-La Mancha	701	3.491	3.941	471	2.762.641	1.644.261	4.406.902	62,7%
Castilla-León	1.015	2.964	4.653	1.065	4.722.795	3.156.660	7.879.455	59,9%
Cataluña	1.606	5.389	18.989	5.682	30.496.334	30.620.298	61.116.632	49,9%
Extremadura	657	1.544	1.580	250	1.038.060	386.000	1.424.060	72,9%
Galicia	2.236	2.867	5.915	918	13.225.940	2.631.906	15.857.846	83,4%
La Rioja	1.139	2.533	859	159	978.401	402.747	1.381.148	70,8%
Madrid	2.907	14.790	14.798	6.603	43.017.786	97.658.370	140.676.156	30,6%
Murcia	1.164	2.829	3.119	413	3.630.516	1.168.377	4.798.893	75,7%
Navarra	1.064	6.122	1.497	485	1.592.808	2.969.170	4.561.978	34,9%
País Vasco	1.571	7.715	4.975	2.113	7.815.725	16.301.795	24.117.520	32,4%
SPAIN	1.636	7.412	94.585	24.358	154.669.699	180.787.679	335.457.378	46,1%

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

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

Table 6: Gross Value Added (GVA). All companies¹¹

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

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 segment¹². 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)¹³. 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).

¹¹ 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 to classify as family or non-family and those that are not plc or llc, nor did we include autonomous [sole proprietor] firms.

¹² 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.

¹³ 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 Micro FBs	Employment Micro NFBs	Employment Rest of FBs	Employment Rest of NFBs	Total Employment FBs	Total Employment NFBs	Total Employment	%
Andalucía	463.893	39.066	294.762	115.961	758.655	155.027	913.682	83,0%
Aragón	81.079	8.824	83.835	60.840	164.914	69.664	234.579	70,3%
Asturias	49.303	4.544	68.986	26.260	118.289	30.804	149.093	79,3%
Baleares	91.538	14.383	96.985	27.755	188.523	42.138	230.661	81,7%
C. Valenciana	385.818	35.905	369.880	100.955	755.698	136.860	892.558	84,7%
Canarias	149.641	14.116	116.935	49.859	266.576	63.975	330.551	80,6%
Cantabria	12.813	1.040	33.240	8.740	46.053	9.780	55.833	82,5%
Castilla-La Mancha	128.564	6.685	74.879	27.789	203.443	34.474	237.917	85,5%
Castilla-León	72.031	5.471	111.672	62.835	183.703	68.306	252.009	72,9%
Cataluña	613.535	90.727	626.637	488.652	1.240.172	579.379	1.819.550	68,2%
Extremadura	47.561	3.855	34.760	10.500	82.321	14.355	96.675	85,2%
Galicia	175.228	13.950	218.855	48.654	394.083	62.604	456.687	86,3%
La Rioja	18.685	2.361	21.475	6.678	40.160	9.039	49.199	81,6%
Madrid	616.187	92.328	961.870	1.201.746	1.578.057	1.294.074	2.872.131	54,9%
Murcia	92.542	6.769	99.808	26.432	192.350	33.201	225.551	85,3%
Navarra	37.409	5.660	44.910	41.710	82.319	47.370	129.688	63,5%
País Vasco	125.039	18.533	174.125	166.927	299.164	185.460	484.624	61,7%
SPAIN	3.172.450	356.432	3.405.060	2.921.371	6.577.510	3.277.803	9.855.312	66,7%

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, Uhlener & 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)