

Spanish firm size and productivity. The forgotten resource of management quality

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1. Introduction

The size of Spanish firms and, more specifically, the fragmentation and excessive weight in the existing business structure of its micro and small firms, emerges repeatedly in academic, business and political forums as one of the main weaknesses of the Spanish economy – see Andrés and Doménech (2015), Banco de España (2015, chapter 2), Consejo Nacional de Competitividad (2015), Fariñas and Huergo (2015) and IVIE (2014, chapter 4). Spain's business structure is overrepresented by small firms and underrepresented by medium and large firms, in comparison that is to the respective representations of small and large firms in neighbouring countries, above all in Germany. In general, comparative statistical evidence across countries shows a positive relationship between the mean size of firms and the average productivity of economies. In particular, the German economy, with more medium and large firms, is more productive, more innovative and more internationalised than the Spanish economy. Within Spain, the productivity, innovation and internationalisation of its firms are positively related to size.

The ultimate corollary is that with a firm size distribution similar to Germany's, the Spanish economy would be significantly more productive, innovative and international than it currently is. However, this argument is incomplete because the distribution of an economy's firm sizes is not the result of chance, but rather responds to the aggregation of decisions taken by its economic agents, mainly its entrepreneurs, as to what to produce (goods and services), who to produce for (markets and customers) and how to produce (with what technology and organisation). If the reasons underpinning these business decisions, and the way in which the restrictions of competition and the institutional framework influence them, are not well

understood, it is not easy to find the means to bring about the desired change. Likewise, directly addressing the size issue by taking economic policy initiatives conditioned by firm size and/or growth might serve to increase their mean size, but at the same time it would leave intact the real barriers to productivity, innovation and internationalisation, which is what really contributes to collective well-being.

This policy brief reports new evidence on Spain's firm size distribution and its relationship with the productivity of the Spanish economy. It examines the causes of the current situation, and makes a number of proposals to bring about change. The evidence presented includes the results obtained from undertaking a comparison of the sizes and productivity of Spanish firms and those of its neighbours, Germany, France and Italy. The report also seeks to include a broader time perspective for these comparisons. Overall, the evidence confirms the positive relationship between firm size and productivity, but exceptions can be found. For example, the average productivity of French firms is higher than that of their German counterparts, despite the fact that France's firm size distribution is similar to that of Spain's; in Italy, micro and small firms are more heavily overrepresented than in Spain, but the average productivity of Italian firms is higher than that of Spanish firms. A cursory interpretation of this empirical evidence, without seeking to understand what underpins it, can lead to errors of appreciation and, above all, to the inference of causal relationships between two variables when what is present is no more than a statistical association, the result of factors invisible to a casual observer.

This brief classifies the reasons that account for firm size and firm productivity in Spain into three groups: those of a technical nature (productive specialisation),

those related to policy (regulations that increase external costs of growth) and those of an organisational nature (management models that raise internal costs of growth); and identifies the relationships between them. For each type of reason or cause, we note the origins of the supposedly positive relationship between firm size and productivity. Finally, in line with the diagnosis proffered, we make some proposals aimed at changing the current size dependent policies, improving the operation of the market of entrepreneurs, and implementing systems of management and internal organisation that can reduce the internal costs of growth.

2. Firm size and productivity: evidence

The highly asymmetric firm size distribution is a characteristic that is repeated in all countries that have reached a certain degree of development. What interests us here is understanding the specific reality of Spain's business structure, its evolution over time and how it compares with that of its neighbours.

Table 1 shows, first and foremost, the bias in Spain's firm size distribution towards the smallest size classes and, secondly, the perpetuation of this situation over at least the last twenty years. Moreover, in the last ten years, coinciding with the severe economic crisis, firms with 10 or more workers have lost relative weight, and within this size class, above all those employing between 10 and 49 workers.

Table 1. Number and distribution of firms (legal entities) by size in Spain

| | | 2015 | 2005 | 1995 |
|-----------------------------------|-------------|--------|--------|--------|
| Without salaried employees | | 55,00% | 51,00% | 57,00% |
| With salaried employees | | 45,00% | 49,00% | 43,00% |
| Micro* | 1 to 9 | 90,75% | 88,00% | 88,00% |
| Small* | 10 to 49 | 7,70% | 10,40% | 10,40% |
| Medium* | 50 to 249 | 1,30% | 1,50% | 1,40% |
| Large* | 250 or more | 0,25% | 0,30% | 0,20% |
| Absolute total (000s) | | 3.187 | 3.064 | 2.519 |

*Distribution by size of firms with salaried employees.
Source: Based on DIRCE data.

In Spain's non-agricultural private sector, there are currently around 3.2 million firms (legal entities). More than half (55%) do not employ any salaried employees (it is presumed that most support the activities of the non-wage earning self-employed, around 1.8 million according to the *Encuesta de Población Activa* or Labour Force Survey, henceforth the EPA). Of the firms that do

employ salaried employees, about 95% employ between 1 and 9 workers. Bearing in mind the number of salaried employees in the non-agricultural private sector (6.5 million in 1995, 11.4 million in 2005 and 11.1 million in 2015, according to the EPA), the average number of salaried employees per firm in each year was 6.3, 7.5 and 8.1, respectively. The number of salaried employees tends to vary more markedly with the economic cycle than does the number of firms, so that the average size tends to behave countercyclically. In short, for some decades now, the average size of firms with salaried employees in Spain has remained stable at between 7 and 8 employees.

Comparison of firm size distributions across countries

Eurostat statistics allows us to compare the firm size distribution in Spain with that of other European countries. Table 2 –distribution of firms by size class– and Table 3 –distribution of the active population in these firms also by size class– compare the situation in Spain with that in Germany, France and Italy, based on the latest available data.

In the four countries, the distribution of firms by size class shows a high degree of asymmetry, with a very high proportion of micro and small firms and a very low proportion of large firms (Table 2). Within this general picture, Germany differs from the other countries with 18% of its firms employing 10 or more workers, whereas in the rest of the countries firms with 10 or more employees barely exceed 5%. Furthermore, the proportion of large firms (250 or more workers) in Germany (0.49%) is three times greater than that in France and four times greater than that in Spain.

The highest proportions of the active population concentrate, in general, in the smallest and largest firm size classes, i.e., micro-firms and large firms (Table 3). Germany again differs from the other countries with a relatively higher percentage of its workers employed in medium-sized enterprises (between 50 and 249 workers). In France, which has a similar proportion of micro-firms to those recorded in Spain and Italy, the proportion of workers employed in micro-firms represents 29% of the total, while in Spain and Italy this proportion exceeds 40% (while in Germany it does not reach 19%). In Germany and France, 37% of their workers are employed by large firms, while in Spain and Italy the proportions stand at just 26.7 and 20.3%, respectively. In Germany, 58% of workers are employed in medium or large firms, in France this figure stands at

51%, whereas in Spain and Italy, the proportions fall to 40 and 33%, respectively.

Transferring the figures in Tables 2 and 3 into average sizes per firm gives the following results: Germany has 12.1 workers per firm; Spain has 4.5; France has 5.1; and Italy has 3.8. Within each size class, the mean number of workers per firm are similar in the cases of Germany, Spain and Italy. France has a mean size per firm that is higher than the rest of the countries in each size class, except in the group of firms with 0 and 9 workers, where the country with the largest mean size per firm is Germany. Therefore, the differences between the total mean sizes by country, especially as regards Germany, are mainly due to differences in the proportions of firms in each size class, rather than to differences in the mean sizes within each size class.

Table 2. Distribution of non-financial and non-agricultural private firms by size class: 2013

| Size | 0 to 9 | 10 to 19 | 20 to 49 | 50 to 249 | 250 or more | Absolute total (000s) |
|---------|--------|----------|----------|-----------|-------------|-----------------------|
| Germany | 82,13% | 10,04% | 4,86% | 2,47% | 0,49% | 2.183 |
| Spain | 94,62% | 3,11% | 1,55% | 0,61% | 0,11% | 2.332 |
| France | 95,09% | 2,48% | 1,58% | 0,67% | 0,15% | 2.975 |
| Italy | 94,95% | 3,21% | 1,25% | 0,49% | 0,08% | 3.746 |

Source: Eurostat.

Table 3. Distribution of workers in non-financial and non-agricultural private firms by size class: 2013

| Size | 0 to 9 | 10 to 19 | 20 to 49 | 50 to 249 | 250 or more | Absolute total (000s) |
|---------|--------|----------|----------|-----------|-------------|-----------------------|
| Germany | 18,77% | 11,07% | 12,16% | 20,24% | 37,75% | 26.430 |
| Spain | 40,83% | 9,06% | 10,14% | 13,29% | 26,67% | 10.524 |
| France | 29,29% | 7,84% | 10,78% | 15,12% | 36,91% | 15.221 |
| Italy | 46,29% | 11,00% | 9,72% | 12,38% | 20,27% | 14.364 |

Source: Eurostat.

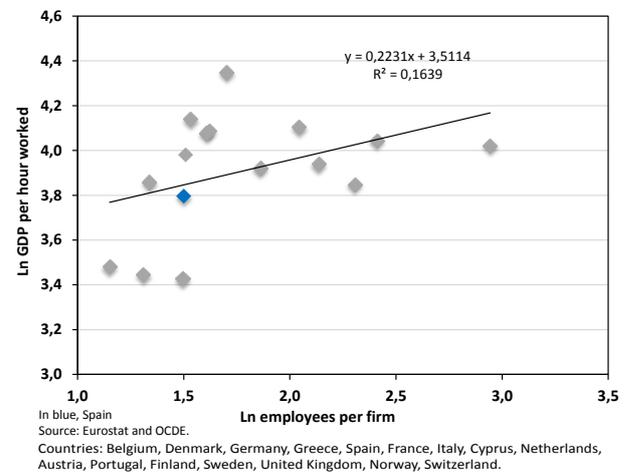
Size and productivity

The analysis of the relationship between firm size and productivity (in this case apparent labour productivity) is first performed with the mean values of the variables for a sample of countries, and then by comparing mean productivities by firm size within the same country.

Figure 1 shows the statistical relationship between apparent labour productivity (GDP per hour worked) and average firm (legal entity) size for a large group of European countries. Figure 2 is similar, but in this case the calculation of the average firm size takes as its reference the number of self-employed, contracted or non-wage earners, generically identified as “entrepreneurs”. The number of salaried employees per entrepreneur is interpreted as a measure of the mean productivity per entrepreneur (entrepreneurs coordinate the allocation of resources and their

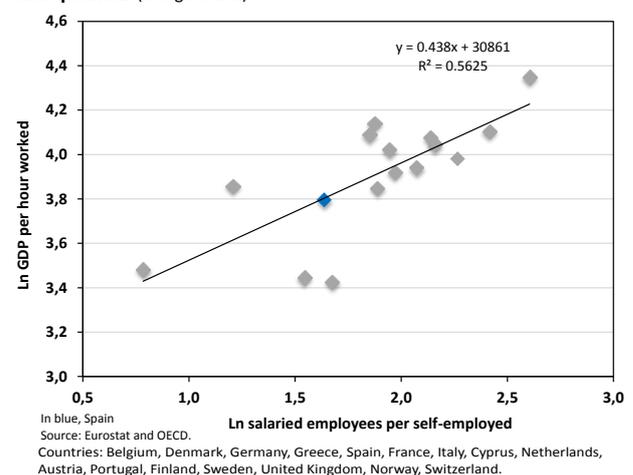
productivity will be higher, the greater the volume of resources that each manages).

Figure 1. GDP per hour worked and average number of employees per firm (in logarithms)



Figures 1 and 2 show the positive relationship between the average productivity of the economy and an indicator of the average size of its firms, albeit that the goodness of fit of the regression line and the estimated elasticity differ according to the indicator of firm size used. In this case, differences in average productivities between countries are best explained by differences in the average productivity of the entrepreneurs than by differences in the number of employees per firm (legal entities only). Specifically, the estimated elasticity of 0.44 between the productivity of the economy and the productivity of the entrepreneurs is twice as high as that estimated with respect to the average firm (legal entity) size. This value means that if the average productivity of entrepreneurs in country A is twice that of country B, within the range of sample values, the average productivity of the economy in country A will be 44% higher than that of country B.

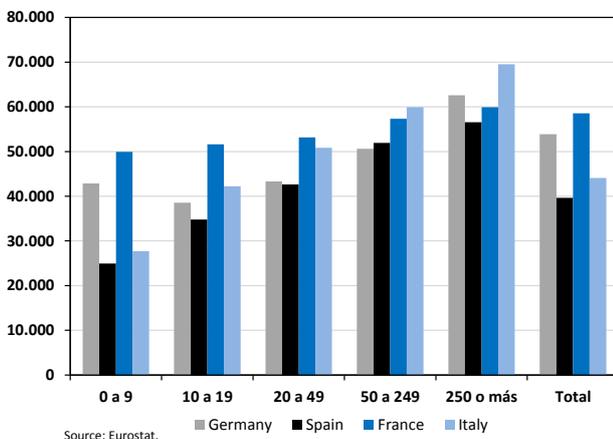
Figure 2. GDP per hour worked and salaried employees per entrepreneur (in logarithms)



Empirical evidence such as that presented in Figures 1 and 2 serves as the basis for the general recommendation, in Spain and in any country, to increase the average size of its firms as a means to achieve a more competitive economy. These proposals are reinforced with complementary evidence about firm size and the productivity of the economy with business data from within the same country.

Figure 3 shows the average productivity in each firm size class and for the aggregate whole, calculated as the gross added value per employee, for firms in Germany, Spain, France and Italy. The group of Spanish firms is the one that shows the lowest average productivity, a little less than 40,000 euros of added value per employee, while that of French firms shows the highest productivity, with 58,500 euros of added value per worker; that is, according to Eurostat data and expressed in current euros, the average French firms are 46.25% more productive than their Spanish counterparts. The German firms are ranked second in terms of average productivity, just behind the French, while the Italians rank third, with an average productivity that is 10% higher than that of Spanish firms.

Figure 3. Average productivities (euros per employee) by firm size and overall, 2013



Within each country, the average productivity of firms in each size class increases as we move from smaller to larger size classes, although the elasticity of productivity by size varies from country to country. Spain is the country with the least productive firms, on average, in all size classes, although the greatest differences between Spanish firms and their French and German counterparts are found in micro firms (from 1 to 9 employees). In the larger size classes, the differences between the firms of the different countries are not so great. Spain and Italy are also the countries

with the greatest differences between the average productivities of their large and small firms. In France, on the other hand, productivity differences between size classes are relatively minor.

It is clear that the high concentration of employment in micro firms represents a considerable handicap to the average productivity of Spanish firms. If we limit the comparison of average productivity with German firms to those with 10 or more employees, it falls to 10%, compared to a 38% difference when the comparison is made across all the firms in the economy. Spain's business structure shows a marked duality, with 40% of all those employed in the non-financial and non-agricultural private sector working in micro firms of very low average productivity; the rest work in small, medium and large firms, with a significantly higher average productivity, although below that of those employed in firms of a similar size in neighbouring countries. The challenge of increasing the productivity of Spanish firms not only involves increasing the weight of its medium and large firms in the economy as a whole, it also means increasing the average productivity of firms in their current size class.

The formula for improving the productivity of Spanish firms based on the previous evidence is usually presented in the form of simple arithmetic. With the current distribution of firms by size classes, raising the average productivity of Spanish firms to the level of their German counterparts in each size class would increase the average productivity of Spanish firms by 23%. Moreover, if the current productivity of Spanish firms in each size class is maintained and the distribution of firms by size approaches that of the size distribution in Germany, the average productivity would increase by 15%. This duality also affects Italian firms, although the largest clearly outperform Spanish firms of a similar size in terms of average productivity. However, this simple arithmetic does not reveal the most important thing: what can be done to increase productivity and/or change the size distribution.

3. Factors that account for firm size and its relationship with productivity

Why are there more small firms in Spain than in Germany? Why do firm size and apparent labour productivity go hand in hand? It is quite evident that a change in firm size distribution and an improvement in

productivity in Spain are not going to be achieved by the pure and simple arithmetic outlined above. Firm size distribution and productivity are the outcome of the decisions taken by entrepreneurs and managers guided by their own personal interests and operating under the constraints of both competition and the legal, institutional and social framework. Only by obtaining a better understanding of the factors that explain why the firm size distribution is the way it is, can we begin to see the options for introducing change and improvement.

There are at least three quite distinct causes that can explain the current firm size distribution in Spain: namely, technical, political and organizational factors. Each of them has its own quite distinct vision of what a firm is and provides different explanations for the apparent positive relationship between firm size and productivity.

Technical explanations

The firm is seen as a *unit of production*, that is, a production plant in which a technology is harnessed to transform the primary resources of capital and labour, and intermediate goods, into goods or services of greater value for customers. It is here that economics highlights the concept of the *efficient scale*, that is, the capacity of the unit of production at which the average cost of production is minimised, like the size to which firms/plants with the same technology converge due to competitive pressures and natural selection among efficient producers. From the perspective of the technical explanation, the differences in firm size distribution between countries are the result of differences in their productive specialisation, as regards both the composition of the basket of goods and services that they produce and the differences between the technologies they use in the production of, perhaps quite distinct, varieties of the same good.

In this same technical context, the relationship between size and productivity could be the outcome of various causes. In the case of apparent labour productivity (the value added per employee), production technologies compatible with basic economic laws imply that apparent labour productivity will increase as capital per worker is intensified. Therefore, if firm size is positively related with more capital-intensive production technologies, a positive relationship between apparent labour productivity and firm size will be observed. Yet, from this perspective, it is more difficult to explain why

large firms have a greater total factor productivity (TFP) than that of small firms (Moral-Benito, 2016). TFP is exogenous in current models and what we know is that when firms compete in the same market, the size distribution and market shares in the competitive equilibrium are directly related to the ex-ante TFP. That is, the differences in TFP are what explain the differences in the firms' sales figures and not vice versa.

To determine whether beneath the differences in the respective firm size distributions of Spain and Germany there lie causes of a technical nature, Table 4 presents productive specialisation, firm size and apparent labour productivity data for the different sectors in the two countries. In each country, average firm (legal entity) sizes clearly differ between productive sectors, as do average productivities. Moreover, the productive structure – the relative weight of each economic sector in the economy as a whole – differs between Germany and Spain: manufacturing has a greater relative weight in Germany than in Spain, while in trade, construction and the hospitality industries the opposite is the case. With the same manufacturing productivity and the same average firm size, the Spanish economy would be less productive and would have a smaller firm size than the German economy only because of the lower weight of manufacturing in the Spanish economy as a whole compared to that in Germany.

But here again, differences in the productive structure of the two countries are not enough to explain the differences in productivity between Spain and Germany. As Table 4 shows, in almost all the sectors, with the exception of the hospitality industry, Spanish firms are less productive than their German counterparts. Achieving a convergence in productivities will require more than changing the productive specialization of the Spanish economy; it will also require increasing the average productivity of the firms within the current productive sectors.

Policy explanations

This line of explanation of firm size distribution takes the perspective of the firm as a *legal entity*, the law granting it the capacity to own assets and to enter into contract with third parties, generally with the legal status of a limited liability company. The firm (or legal entity) is listed in the official registers (in Spain, in the *Directorio central de empresas*), and it presents financial statements recording its assets and liabilities, and the activity generated from them. The size of the

Table 4. Comparison of size and productivity by sector between Germany and Spain

| | Proportion over total GVA | | Size | | Productivity (GVA/workers) | | Comparison | |
|--|---------------------------|---------|-----------|---------|-------------------------------|---------|---------------|--------------|
| | | | (workers) | | | | Germany/Spain | |
| | Spain | Germany | Spain | Germany | Spain | Germany | Size | Productivity |
| Manufacturing | 22,32% | 34,44% | 10,28 | 35,599 | 0,054 | 0,068 | 3,463 | 1,267 |
| Construction | 7,62% | 5,69% | 3,068 | 7,359 | 0,032 | 0,041 | 2,398 | 1,27 |
| Wholesale and retail trade. Repair of motor vehicles | 21,80% | 17,25% | 4,006 | 10,782 | 0,031 | 0,041 | 2,692 | 1,311 |
| Transportation and storage | 9,41% | 6,80% | 4,259 | 22,696 | 0,048 | 0,047 | 5,329 | 0,987 |
| Hotels and restaurants | 5,73% | 2,19% | 4,357 | 9,303 | 0,02 | 0,016 | 2,135 | 0,826 |
| Information and communication | 7,55% | 7,56% | 7,756 | 11,208 | 0,078 | 0,097 | 1,445 | 1,235 |
| Professional, scientific and technical services | 8,23% | 9,56% | 2,626 | 5,561 | 0,038 | 0,061 | 2,117 | 1,618 |
| Administrative and support services | 6,69% | 6,65% | 10,292 | 19,768 | 0,023 | 0,032 | 1,921 | 1,355 |

Source: Eurostat.

firm as a legal entity is associated with the monetary value of the assets it owns, recorded in its balance sheet, and/or with the sales and workers who participate in the productive processes with the assets owned by the firm. The boundaries of the firm (or legal entity) are delimited by the non-human assets it owns, which in turn will vary with the phases of the value chain that the firm decides to control internally (*manufacturing*) and those that are controlled externally from other firms with which mercantile relations (*purchasing*) are established.

The resulting degree of vertical specialization is dependent on technical considerations aimed at minimising production costs but, above all, on considerations regarding contractual and transaction costs so as to resolve problems of coordination and motivation among specialists. The costs of contracting for the governance of transactions, and, hence, the productive efficiency eventually achieved, vary with the nature of the transactions, be they simple or complex. But when assessing the role of transaction costs in economic development, emphasis is placed above all on the factors of the legal and institutional environment that affect the contractual costs, the result of using “market”, “firm” or “hybrid” formulae in the governance of transactions.

The lower visibility of these transaction costs (they do not appear in the firms’ analytical and financial accounting; in many cases they are costs attributable to opportunities to create wealth that do not materialize) prevents the establishment of relations between apparent labour productivity and/or TFP, and the size of the firm (or legal entity), based on them. It can,

however, be established as a general rule that factors such as the legal uncertainty from participating in transactions and exchanges between firms will favour the adoption of alternative mechanisms of market governance.

The most common explanations regarding the firm size distribution in Spain emphasise the way the legal and institutional framework interferes in the firm’s growth decisions, albeit without analysing the specific origins of the transaction costs. In this brief, this group of explanations go under the heading of “policy” explanations as we consider the greatest interferences in market operations to originate in the size-dependent public policies in such areas as labour market regulation, effective competition in product markets, financial market regulation, and taxation of the income of natural and legal persons. The most common examples of size-dependent policies are:

- Above a six-million-euro sales threshold, a firm’s tax obligations increase – for example, payment of VAT in instalments. In addition, a firm now falls under the control of the Tax Agency’s Central Delegation of Large Taxpayers, and with this, the probability of tax inspection increases significantly.
- Above a threshold of 50 workers, a firm must set up a committee to represent its workers. Bureaucratic limits are placed on the dismissal of workers and, in some countries (for example, France) a firm must implement some kind of employee financial participation scheme.
- A tax rate for corporate profits – 25-30% for small and medium-sized firms, below the marginal rate

levied on the personal income of many taxpayers until it reaches 50%.

To demonstrate the influence of these public policies on the size of Spanish firms, the most common evidence presented is that of the overrepresentation of firms in the size classes just below the thresholds of 50 workers or an income of 6 million euros, and the underrepresentation of firms in the size classes just above these thresholds. It is argued that by exceeding these thresholds represents a marked increase in a firm's direct and indirect operating costs. Hence, the expectation of high external costs of growth leads to a renunciation of growth. The discussion around the importance of the thresholds in explaining the firm-size distribution is on-going in other countries, including France and Portugal, where firm size patterns are similar to the ones observed in Spain. However, the debate remains open as the evidence on the impact of the different regulations on the average size and productivity of firms is inconclusive (Huerta and Salas, 2014).

A further aspect to take into account is the ability shown by firms to seek out ways of avoiding the costs of clearing the thresholds without losing productive efficiency. For example, firms distribute their assets, employees and turnover among different legal entities, and so avoid exceeding the thresholds, although for the purposes of their productive organisation, all assets are used under a single productive technology. Almunia and López-Rodríguez (2014) conclude that size-dependent policies in Spain have little effect on economic efficiency but a considerable effect on regulatory and fiscal arbitrage (Garicano *et al.*, 2016). In the case of France, however, these authors estimate non-negligible efficiency losses associated with size-dependent policies, although they do not explain why France has a relatively high average productivity in all size classes (as we saw above). The recourse to creating legal entities as a means to arbitrate or circumvent regulations alters the statistics on average firm (legal entities) sizes, but there is no conclusive evidence of its effects on productive efficiency.

Organisational explanations

From this perspective, the firm is conceived as a *unit of management* and, therefore, the chief protagonist is the entrepreneur who, directly or by means of delegation, takes all decisions regarding the allocation of resources in keeping with the formal authority

entrusted in him. Coase (1937) identifies the figure of the *entrepreneur* as the person who substitutes the price mechanism in the management of the allocation of resources when justified to do so by reasons of efficiency, drawing a distinction with the *firm*, which he defines as the relationships that emerge around the *entrepreneur* in the performance of his coordinating function. Years later, Lucas (1978) explains the firm size distribution in the economy as the market equilibrium at which people with different managerial 'talents' compete for control of resources, workers and capital, to produce and sell to the market in the expectation of obtaining a profit by way of compensation. Rosen (1982) and Medrano-Adán *et al.* (2015) generalized the original model.

At equilibrium, the most talented people will be employed as entrepreneurs coordinating the work of others –the less talented– who will be engaged as salaried employees. Among the entrepreneurs, the most talented employ a more than proportionally larger number of salaried employees than are employed by the less talented, which accounts for the asymmetrical firm size distribution. As the entrepreneur's talent forms part of the total productivity of the production function, the firms' TFP will be positively correlated with size. It follows therefore that economies with fewer entrepreneurs and a greater average volume of resources being coordinated by each entrepreneur will, on average, be more productive than economies with more entrepreneurs. Among the factors that explain the mean sizes and productivities at equilibrium are the distribution of skills in the population, the firms' internal design, financing costs and the characteristics of the productive technology, for example, the intensity of capital use.

To determine whether this line of explanation of firm size distribution can shed light on the situation in Spain and in her neighbouring countries, we need to know more about the person who performs the functions of entrepreneur-director and how firms are organized internally. The EPA distinguishes between people who are self-employed and people who work for others. Among the former, it distinguishes between those who hire salaried employees –i.e. employers–, and those who do not hire –i.e., self-employed without salaried employees. Among the salaried employees, we can distinguish between the managers (top management positions) and the rest of the salaried employees. Because of the autonomy they have in terms of control over their work and because of the risks they assume,

those who should actually be known as entrepreneurs are the self-employed, with or without salaried employees; on the other hand, within the category of entrepreneurs that coordinate the work of others we find those entrepreneurs that are employers and managers, that is, *directors* in the terminology used here.

Table 5 provides evidence, based on Eurostat data, of the occupational structure in the four countries chosen for comparison. The data refer to the entire active population in both the public and private sectors of the economy, including agriculture.

Table 5. Occupational structure by country (mean % 2006-2015)

| | Employees/ Active pop. | Managers/ Active pop. | Employers/ Active pop. | Directors/ Active pop. | Self- employed/ Active pop. | Active population 2014 (000s) |
|---------|---------------------------|--------------------------|---------------------------|---------------------------|-----------------------------------|-------------------------------------|
| Germany | 86,48% | 3,18% | 4,57% | 8,75% | 5,77% | 39.065,20 |
| Spain | 81,49% | 2,23% | 5,22% | 7,45% | 11,07% | 17.615,10 |
| France | 84,03% | 5,42% | 4,37% | 9,79% | 6,18% | 26.022,20 |
| Italy | 75,58% | 1,39% | 6,57% | 7,46% | 16,46% | 21.686,90 |

Source: Based on Eurostat.

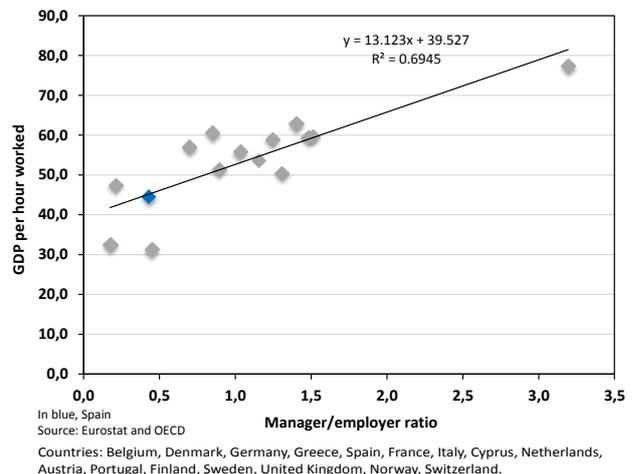
Spain and Italy stand out in terms of the high proportion of non-wage earning self-employed, which results in their having fewer salaried employees than the other two countries. In France, on the other hand, the proportion of the active population employed as managers (top management positions) is particularly high. The proportion of people coordinating the work of others, that is, the number of directors – equal to the number of managers plus employers – is very similar in Italy and Spain (at around 7.5%), while in Germany and France it is higher, at 8.75% and 9.79%, respectively.

The productivity of the entrepreneurs differs according to the criterion chosen to define an entrepreneur. If emphasis is given to their coordination of the work of others, the number of employees per director stands at 11.2, 10.9, 8.6 and 9.5 in Germany, Spain, France and Italy, respectively. If, on the other hand, their productivity is calculated as the quotient between all employees (including managers) and all the self-employed (employers plus non-wage earning self-employed), the results are 8.7, 5.1, 8.5 and 3.3 (the non-wage earning self-employed do not coordinate any employees but they do use capital in their work). Therefore, based on these two comparisons, the average productivity of those that coordinate the work of others is similar in all four countries; however, if we consider an entrepreneur as being self-employed, the productivity of entrepreneurs in Italy and Spain is markedly lower than that in the other two countries.

To assess the productivity of entrepreneurs, it is not sufficient just to look at the numbers; we need to examine personal characteristics and indicators of the managerial skills they possess. It is well documented (Pérez and Serrano, 2013) that in all countries managers, on average, have more years of formal education than employers, but a similar average age. If, with the years of formal education, skills are acquired, the quality of the managers’ coordinating input will be higher than that of the employers’. Therefore, the professionalization of business management –that is, more managers in substitution of employers– should be positive for the productivity of the economy.

Figure 4 provides evidence in favour of this conjecture. In a broad group of European countries, a clear positive relationship is observed between the degree of professionalization of business management – measured by the ratio between managers and employers– and average productivity –measured by GDP per hour worked. Spain lies exactly above the regression line with comparatively low values of both variables. Thus, the evidence points to the fact that the relatively low level of management professionalization could be one of the causes of the low productivity of the Spanish economy.

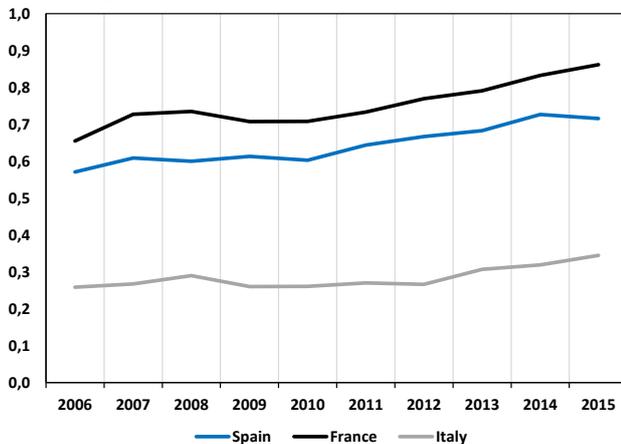
Figure 4. Relationship between the manager/employer ratio (professionalization of management) and average productivity of the countries



In this same line of comparing the skills of entrepreneurs from different countries, Figure 5 shows the relationship between a measure of the formal education of employers in Spain, France and Italy (proportion of employers with university studies) and the values of the same measure of formal education achieved by German employers. The relative training deficit of Spanish employers is clear (where 1 indicates

the same value as Germany, with Spain barely reaching 0.7).

Figure 5. Proportion of employers with levels of education between 5 and 8 (university studies) in Spain, France and Italy, compared with the figures for Germany



Source: Based on Eurostat.

Another way of assessing the managerial capacities of entrepreneurs-directors is by using measures of the quality of the management systems implemented in firms. The evidence available here is likewise not very favourable for Spain.

Based on Total Quality recommendations, García-Olaverrí *et al.* (2006) measure business management quality using four indicators: whether the company has implemented a model of total quality, the rotation of workers between jobs, number of people participating in work teams and implementation of quality circles. A structured survey conducted with executives from 401 industrial firms in Spain, in 2007, revealed that 25% of the firms surveyed do not use any of the four management tools; 64% use one or two, and only 11% use three or four. The study also shows that management quality is positively related with size, foreign ownership of companies, and, among family firms, with professionalization. More management quality also means investing more in human capital and more and better in technology capital.

Huerta and Salas (2014) measure the average organisational capital of firms in a country using the factor index that groups the following variables: investment in the specific training of the firm's employees, degree of professionalization of the firm's management, R&D business expenditure and the degree of delegation of decision-making capacity. The correlation between the value of this index –calculated from values on a scale of 1 to 5 for proxies of business

management published by the World Economic Forum (WEF)– and the average firm size in the countries of the sample exceeds 60%. Spain scores low on the organisational capital index and presents a relatively small average size within the comparative set of countries.

A business management quality indicator that has gained weight in recent years is which employs the World Management Survey - WMS (Bloom and Van Reenen, 2010). The measure is based on answers given by top management to 18 qualitative questions inspired by the lean manufacturing principles (Womack *et al.*, 1990), and by the correct integration between objectives, results and rewards in human resource management. Spanish firms, although still very underrepresented in the sample of several thousand companies spread across the world, score very poorly on management quality compared with neighbouring countries, and extremely poorly in comparison with German firms (which top the European ranking along with their Swedish counterparts). In common with other studies with similar objectives, the WMS emphasizes the professionalization of management, decoupled from ownership, as a factor that discriminates very clearly between companies that score high and those that score low in terms of management quality.

For a given set of skills of an entrepreneur-director, the management model is another key variable in explaining average firm sizes and the average productivity of the economy; or, more specifically, the degree of decentralization of decision-making in the organizational hierarchy. A higher degree of decentralization achieved by delegating decision-making powers to direct workers and middle managers reduces the costs of growth, because the entrepreneur is able to cut the time spent supervising and controlling, and to devote more time to the proactive management of the business. The results of the WMS show that centralisation is a common feature of business management systems in the countries of southern Europe, whereas decentralization is the common feature among those of northern Europe.

What influences the choice of the management system? Studies conducted using the WMS database find that differences in management quality between firms are explained, among others, by the ownership model. In general, quality is higher in multinationals and lower in publicly owned companies and in family

firms where management passes directly to the family heir. On the other hand, there is evidence that the delegation of decision-making capacities in firms is greater in countries with higher levels of anonymous confidence.

For delegation to be successful, the person to whom the decision-making capacity is delegated must have the knowledge and skills to exercise autonomy efficiently and effectively. In addition, the person delegating cannot doubt the good faith of the decisions and behaviour of their delegate. The high centralization of decision-making among companies in southern Europe, compared to what happens in central and northern Europe, is consistent with the evidence of a relative deficit of formal education among Spanish workers in comparison with their German counterparts (Figure 6), and also with the comparatively low presence of general trust in Spanish society (Figure 7).

Figure 6. Proportion of employees with levels of education between 0 and 2 (end of primary studies) in Spain, France and Italy, compared with the figures for Germany

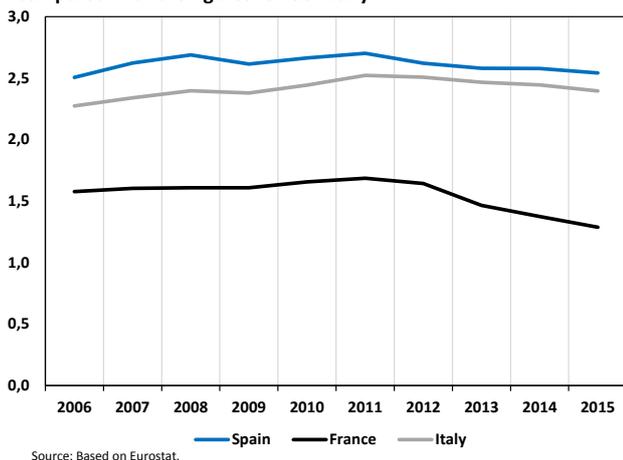
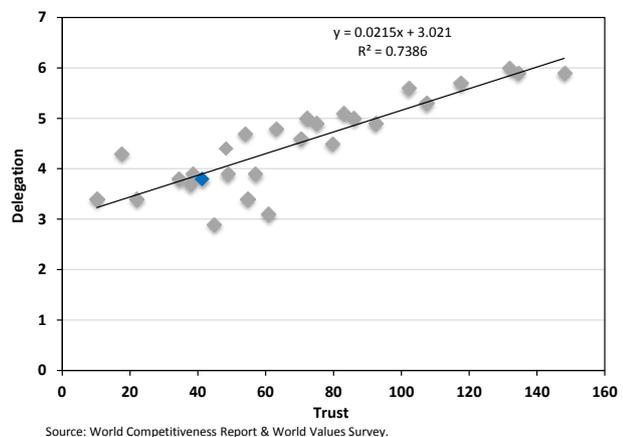


Figure 7. Relationship between level of delegation in business management system and general trust in a sample of countries



4. Proposals and recommendations

What can be done to change the current situation and create firms that are more productive in the use of the resources at their disposal? The answer depends on the diagnosis of the causes that account for the current size distribution and levels of productivity. Therefore, our proposals for change are grouped around each of the explanations –technical, political and organizational– analysed in the previous section.

i) From the technical point of view, recommendations as to what can be done are similar to those proposed for changing the productive model: increase the weight of manufacturing and, in general, that of high value-added activities that exploit innovation and result in more attractive goods and services for the foreign market. It is, in short, a matter of designing and implementing horizontal industrial policies by means of which public resources can be mobilised, in the form of subsidies or tax deductions, so that using this as leverage, together with their own resources, firms can concentrate on innovating and exporting. The outcome of all this should be larger firms and higher productivity. Horizontal industrial policies will continue to be necessary for strategic reasons, as firms defend themselves against their counterparts in other countries where such policies are also applied, and/or to adhere to EU initiatives. However, if it is the case that the institutional framework and dominant management models give rise to high external and internal growth costs, their effectiveness will be more than doubtful.

The case of Italy –with a higher average productivity than it should have based on the average size of its firms– points to a number of industrial policy actions that might be attempted to strengthen business collaboration. Studies of the Italian economic model highlight clusters, industrial districts and, in general, its culture of business collaboration as differential elements that might explain why Italy deviates from the general pattern. Inter-firm collaboration provides access to shared resources that enables firms to improve their individual productivity without prejudicing that of others in the market place and without having to renounce their legal independence, a status that is waived if access to resources can only be achieved through mergers or acquisitions. In Spain there is room to incorporate elements of the Italian model by promoting business collaboration, bearing in mind the strongly rooted preference for control by

means of the ownership of entrepreneurs, families and family groups.

Similarly, an industrial policy that promotes innovation ecosystems (suppliers, firms, customers, technology centres, financial institutions, universities) as an environment propitious for cooperation, and the exploitation of collective intangibles, such as knowledge and reputation, should have positive effects. Likewise, support for entrepreneurship ecosystems (start-ups, seed capital, irrigation capital, established firms that generate spin-offs, mentors, universities) is justified as a formula that favours business creation and growth. The development of these ecosystems should also contribute to the diffusion of technological and organizational innovations between firms, bringing them closer to the efficient frontier and reducing the dispersion currently manifest in the productivity of companies within the same industry.

In line with the postulates that emerged from the political explanation, labour regulations, for example, are believed to act as a brake on the emergence of innovative companies, unable to survive the bureaucracy of the complex regulations that protect established firms and prevent new, more efficient firms from gaining market share (i.e., a brake is placed on creative destruction). Moreover, the centralisation of management does little to favour incremental innovation that gradually adjusts to changing customer needs and to the speed of response imposed by competition in the markets. In other words, our productive specialization –that is, what we produce– would be conditioned by the facilities to avoid exceeding the thresholds that impact the external costs of growth, arbitrating between regulations, and, finally, specializing in non-innovative activities where centralising decision making is less onerous.

ii) For those who attribute the current firm size distribution and low productivity to policy or institutional factors, change involves removing the external barriers to growth. This means paying close attention to the recommendations of the *Doing Business Around the World* report, published by the World Bank, including reducing the costs and procedures of starting up and closing firms, giving more flexibility to new innovative companies with regards to fixed-term hiring, increasing the legal protection of economic transactions, and making markets more competitive. As a final corollary, and more closely related to the issue at hand, proposals have also been

made to raise the present thresholds that define size-dependent policies in Spain. This is a clear sign that current labour and commercial regulations are assumed to run counter to economic efficiency, and create a negative environment for business growth. Either we ignore the way in which the market of entrepreneurs operates, the insufficient quality of business management systems, the varying degree of organisational decentralisation (internal costs of growth), or we assume that they are what they are because they are highly conditioned by market operations and by external regulations.

Eliminating norms and regulations that have shown themselves to be inefficient and not to protect general interests is advisable from any point of view, especially if it means eliminating incentives to dedicate efforts to rent seeking. Doubts emerge when it is necessary to take decisions that pit efficiency against equity. Forcing firms with 50 or more workers to create a works council is designed to give more protection to the workers and to ensure that they can negotiate; if the legal obligation is eliminated, then it is up to the individual firm to decide whether or not to uphold a degree of protection and bargaining power similar to those currently enjoyed by the workers. Equalizing or bringing the marginal tax rates on income generated in firms into line with the income of natural persons reduces the incentives to create firms with the purpose of taking advantage of the tax arbitrage permitted by the current tax rates, but its effect on tax revenues need to be assessed. If modifying the tax rates also involves modifying the tax bases, there will be losers who will fight to preserve their privileges.

Once any superfluous regulations have been eliminated and those that remain have been simplified to the maximum, compliance with these regulations should be decoupled from the size of the firm. If there is a fixed cost of compliance that penalizes the smallest firms, the priority solution should be to subsidise part of that cost for SMEs, as opposed to the current solution to exempt them from compliance.

The development of platforms such as Uber, Airbnb, etc. coincides with the boom in the number of self-employed, but under situations of dependence on the platform (information advantages, standards of service provision, brand reputation) similar to those that affect salaried employees. The legislative decision to opt for considering the relationship of these workers with the platform as a commercial or labour relationship may

have important consequences on the boundaries and, therefore, on the size of firms in the coming years.

iii) Finally, the organisational explanation shifts the focus of attention from the firm (as a legal person) to the physical person of the entrepreneur and to the management teams. We need to ask ourselves how the market of entrepreneurs in Spain works, how top management positions in companies are filled and what external and internal pressures have to be supported to make efficient management decisions. Why is the professionalization of management lower in Spain than in her neighbouring countries? What impedes the adoption of more decentralized management systems? And why do Spanish companies lag so far behind their better managed counterparts in the centre and north of Europe on the WMS scale? These questions, which are more concerned with the way firms produce in Spain and not so much with what they produce, if addressed correctly and the root causes rectified, should help reduce the internal costs of growth and, therefore, increase firm size and productivity.

Whether one is self-employed or one works for someone else may be a decision taken out of necessity (employment as a salaried worker cannot be found) or it may reflect the decision to grasp an opportunity (employment as a salaried worker exists but taking advantage of a business opportunity is considered to improve individual utility). The person who renounces working for others and opts to work for himself is likely to have to decide whether to create a firm (a legal entity), as an intermediary to run the business, and whether to hire salaried employees or not. The size of the company will be determined by a range of external and internal factors, and the entrepreneur will have to take some critical decisions: whether or not to professionalize the management, whether to sell the business or to continue running it, and whether to keep the business in the family and, if so, who will succeed him at the head of the firm. Many of these decisions will be influenced by the conditions governing access to any financing of necessary investments. If the entrepreneur can call on sufficient personal wealth to set up the firm, financing with his own funds will suffice. Otherwise, it will be the banks and other financial intermediaries that determine who acquires the status of entrepreneur, and whether the company grows or not and at what rate.

The euro has alleviated the costs of financing and has reduced the previous competitive disadvantage in terms of the higher financial costs incurred than those

of firms in neighbouring countries. But business financing is more than a financial transaction. Each financial instrument (debt or shares) incorporates different decision rights for their holders. Entrepreneurs concerned about preserving their control will not be indifferent to using debt or their own funds to finance themselves, which, in turn, may condition the firm's growth (their debt capacity is exhausted and growth means incorporating partners without a stake in the share capital, which implies losing all or part of the control over the firm). Venture capital has proved itself effective in boosting the growth of innovative firms in the case of entrepreneurs who need external financing in order to grow; but resorting to this source of financing means their having to accept considerable restrictions in the exercise of ownership rights, something that many entrepreneurs are not willing to accept.

The moment of succession in a family business is critical for the continuity of the firm. The entrepreneur's heirs receive the shares that grant them rights of ownership, but owning these rights is no guarantee that they are the best qualified to run the business. The good individual and collective functioning of family businesses requires that access to management positions be based on merit and capacity (family protocols serve this very purpose). The current capital gains tax laws favour the transfer of business property within the family circle. If favourable taxation leads to inefficient transfers of ownership –that is, without advantageous tax laws, ownership would be transferred outside the family because the resources are worth more in the hands of the external buyer, this asymmetric taxation impedes efficiency. Increasing the neutrality of the tax treatment of capital gains in the transfer of ownership of firms would contribute to the ownership of corporate assets being concentrated in the hands of more professional and competent management teams.

If the choice of organizational systems that reduce the internal costs of growth (for example, the decentralization of decision making) were to be linked to long-term variables, such as the educational levels of workers, and to the low level of general trust in society, any advances would be slow. Yet, it is positive to know which direction to take and to align one's forces. Trust can only be fostered with transparency. The widespread introduction of systems of financial participation among all the workers of firm, linking a part of their remuneration to the profits of the firms

that employ them, would be a good starting point to promote transparency and, ultimately, to bolster trust between entrepreneurs and workers.

Trust should ensure the workers that they will suffer no abusive decisions from the entrepreneurs; in environments of mutual trust, it should be easier for the parties to agree to regulate labour relations with more flexible contracts, tailored to the reality of each party. Any initiative that provides the firm with incentives to train its workers so as to increase their skills and to make delegating decision-making more feasible will be more effective in an environment of trust. In an environment of mistrust, doubts concerning good faith make it necessary to maintain centralized

management systems and to operate under a strict hierarchical control. In taking decisions about organisational design there are many complementary factors that mean radical change is the only formula for taking advantage of all the potential benefits. The problem of coordination is a complex one and requires considerable skills of leadership: one more reason to ensure that merit and ability are decisive in accessing the positions of entrepreneur-director.

By way of summary, Table 6 presents some proposals for public and private actions, grouped around each of the explanatory causes of the current situation described in this section.

Table 6. Summary of proposals

| | |
|---|---|
| <p>Technical causes</p> <ul style="list-style-type: none"> • Industrial policy: horizontality; correctly identify market failures; promote business collaboration (alliances, strategic agreements). • Promote competition in product markets: greater penalisation of inefficiencies. <p>Causes of a policy nature</p> <ul style="list-style-type: none"> • Reduce external costs of growth: simplify regulations; harmonise to avoid fiscal and regulatory arbitrage; review size-dependent policies and give more weight to age-dependent policies; replace exemption from regulatory compliance by subsidising the costs of complying with them. | <p>Organisational causes</p> <ul style="list-style-type: none"> • Improve the functioning of the market of entrepreneurs: strengthen the role of financial markets in the selection of who becomes an entrepreneur and in the selection of who is helped to grow; increase the fiscal neutrality of the capital gains tax in the decision to transfer ownership of the firms; strengthen the role of the TTOs, business incubators and business parks to provide capital, reputation and share capital to new entrepreneurs. • Reduce internal costs of growth: actions that foster trust and, with it, the flexibility of organizational and business management models (general and specific education, financial participation, which leads to greater transparency). |
|---|---|

5. Conclusions

Although the empirical evidence points to a positive correlation between firm size and productivity, improving the productivity of the Spanish economy cannot be formulated as a simple arithmetical calculation whereby increasing firm size increases productivity. The evidence provided shows that Spanish firms are, on average, less productive than those of a similar size in neighbouring countries, and above all the evidence highlights the low productivity of Spain's micro firms. On the theoretical level, if any relationship can be found between firm size and productivity, the cause-effect relationship runs from productivity to size and not vice versa.

This brief relates the current reality of Spanish firms and their productivity with explanations of a technical,

policy-based and organisational nature. Diagnoses and proposals for action concerning both public and private agents have been made around each of these explanations. Of greatest note are, we believe, the objectives that seek to improve productivity, paying particular attention to the operation of the market of entrepreneurs-directors in Spain, as well as the degree of implementation of decentralized and participatory business management systems that take full advantage of the skills of all workers. In short, the combination of merit and ability to facilitate access to management positions, and the implementation of advanced management models, based on management quality, are the best remedies to ensure that firm size and economic productivity result in greater collective prosperity.

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