INSTITUTO DE LA EMPRESA FAMILIAR

EUROPEAN JOURNAL OF FAMILY BUSINESS

http://www.revistas.uma.es/index.php/ejfb

Dimension as a business strategy

Sara Terrón-Ibáñez[a]*, María Elena Gómez-Miranda[a], Lázaro Rodríguez-Ariza[a]

[a]Universidad de Granada. Facultad de Ciencias Económicas y Empresariales, Campus Universitario de La Cartuja, 18071 Granada (España)

Received 2019-07-31; accepted 2020-01-24

JEL CLASSIFICATION
G4 M1

KEYWORDS
Family business; economic and financial indicators; size; SMEs; productivity; ROA

Abstract This paper analyzes the possible differences in the economic-financial situation of family organizations based on the business dimension. Then, we focus our analysis on SMEs to analyse the influence of the dimension in their performance. For this, information belonging to a large sample composed of 21,149 family businesses and 5,737 non-family businesses in Spain corresponding to the period 2003–2015 is studied. The conclusions obtained show that, although the increase in the dimension of the family organizations is positively related to their performance, there are limits beyond which the value of certain economic-financial indicators can be negatively affected. This behavior is not observed in non-family businesses.

CÓDIGOS JEL
G4 M1

PALABRAS CLAVE
Empresa Familiar; indicadores económicos y financieros; tamaño; Pequeña y mediana empresa; productividad; ROA

La dimensión como estrategia empresarial

Resumen Este trabajo analiza las posibles diferencias existentes en la situación económico-financiera de las empresas familiares en función de la dimensión empresarial. Seguidamente, centrando nuestro análisis en las PYMES, analizamos la influencia que ejerce la dimensión en su desempeño. Para ello, se estudia información perteneciente a una amplia muestra formada por 21149 empresas familiares y 5737 no familiares españolas correspondiente al periodo 2003-2015. Las conclusiones obtenidas muestran que, a pesar de que el aumento de la dimensión de la empresa familiar está relacionado positivamente con su desempeño, existen unos límites a partir de los cuales el valor de determinados indicadores económico-financieros puede verse afectado negativamente, a diferencia de lo observado para las empresas no familiares.

https://doi.org/10.24310/ejfbejfb.v10i1.6705

*Corresponding author
E-mail: sarateriba@gmail.com

The business dimension constitutes a representative indicator of the heterogeneity present in family organizations (Chua et al., 2012; Wagner et al., 2015). When family businesses increase their size, they are likely to modify the nature of their resources, their objectives and governance (Fang et al., 2016). The resources of small organizations tend to be more intermingled with family resources, so that in order to assess the well-being of the company, sometimes the well-being of the family must be taken into account and vice versa (Haynes et al., 1999). In small family businesses, the business family not only establishes economic objectives but also seeks to achieve certain non-economic purposes such as maintaining control of the company in the family, financial independence, ensuring family employment or maintain harmony in the family; objectives that may even be more relevant than the merely economic ones (Felicio and Galindo-Villardón, 2015).

On the contrary, when their size increases, family and business systems become more complex (Miller et al., 2013; Memili et al., 2015; Lwango et al., 2017; Hu et al., 2018; Zhang and Yao, 2018). Ownership is also usually more dispersed in larger companies, so the involvement of family members with the organization is lower compared to smaller ones (González et al., 2012; De Massis et al., 2013). In addition, the growth of a company can change their culture, which leads to a greater distance between the identity of the organization and the identity of the founding family, so that the motivation to pursue non-economic objectives tends to decrease considerably (Gómez-Mejía et al., 2011).

Therefore, when analyzing the situation of these family organizations, the company dimension should be taken into account as a relevant factor in the governance and management, since their family and business objectives will vary according to it (Kotlar and De Massis, 2014). However, despite the differences in family organizations based on their business dimension, there are few studies that consider how the size of the company affects their behavior, beyond treating it as a control variable (Fang et al., 2016). That is why in this work we analyze the possible differences between small family businesses and those of greater size, and if the business dimension influences their economic-financial situation.

There are numerous studies that reveal how growth in family businesses is related to the success and survival of the company since it constitutes an indicator of long-term economic performance (Casillas et al., 2010; Stenholm et al., 2016). However, there seems to be no clear evidence on whether, from a given business dimension, greater growth in family organizations would be counterproductive. That is why we consider it necessary to study the influence of the business dimension and verify whether there is an inverted U-shaped relationship between this variable and the value of certain economic-financial indicators, that indicates whether reaching a certain size impairs the performance of this type of companies. We focus our analysis on small and medium-sized family enterprises (SMEs), in which there is a greater family involvement (De Massis et al., 2013; Miller et al., 2013), thus being able to study in a more focused way the influence of the family on the business. We also include the comparison with their non-family counterparts to see if the observed behavior is truly more characteristic of the effect that family character has on the performance of SMEs than that merely derived from the increase in its size.

To carry out this analysis, a large database consisting of 21,149 family businesses and 5,737 Spanish non-family businesses has been used, from which the accounting information has been analyzed from 2003 to 2015, and from which we extract a homogeneous and balanced sample of small and medium-sized businesses. That constitute a data panel composed of 66,043 observations of family businesses and 66,043 observations of non-family businesses. The results obtained indicate the heterogeneity present in family businesses. Specifically, the differences in economic and financial performance presented by these family organizations based on their business dimension show the superiority of those of greater size. If we focus on small and medium family businesses, we also find that, although the increase in the dimension of the company is positively related to its performance, there are limits from which the value of certain economic-financial indicators can be negatively affected. These results can be largely motivated by the influence that the family exerts on the organization, making a difference with respect to non-family SMEs.

This analysis is carried out according to the following structure. First, the hypotheses to be tested are established according to the review of the existing literature about the influence of the dimension in family organizations. Next, the methodology carried out for the selection of the sample and the treatment of the information under study is presented. Next, the economic-financial situation of the family organizations is examined. Furthermore, it is proved if there are statistically significant differences between the value of the economic-financial indicators considered and the business dimension. We check whether these differences are conditioned by the size of the company and if there is a non-linear relationship between the value of certain economic-financial indicators and the business dimension, limiting

this analysis to small and medium family businesses. We also compare the behavior of these businesses with that of non-family businesses. Finally, the results obtained are discussed and the conclusions reached are presented.

Literature review and hypothesis approach

As an example of the heterogeneity present in family organizations, the existing literature shows that the dimension has a significant impact on their economic performance (Kallmuenzer and Peters, 2018). In this regard, there are numerous investigations that expose the superiority that large companies maintain in relation to their economic performance compared to those of smaller organizations (Chirico and Bau, 2014; Miller et al., 2014; De Massis et al., 2015). It is thus expressed in the existing literature this advantage that large family businesses have in terms of job creation, strategic flexibility and innovation, as well as lower levels of risk aversion, among other issues (Miller et al., 2013). On the contrary, following Kallmuenzer and Peters (2018), the small size of the company can block its organizational development due to the lack of economies of scale, access to more limited capital, lower bargaining power and lower attraction of qualified employees.

These circumstances may be motivated by the differences that family businesses present in their behavior and management mechanisms depending on the business dimension (Sciascia and Mazzola, 2008; De Massis et al., 2013). In smaller companies the concentration of property in the hands of the family is usually higher, so that the family involvement becomes more present and the family has a greater influence on the activity of the company (De Massis et al., 2013). In these family businesses, the management is developed by family members, who normally own the majority of the property of the organization (Lwango et al., 2017) and even fall to a single person, being the owner who normally performs the tasks of business management, occupying the position of CEO (Chrisman et al., 2014). This high family concentration in the organization can motivate the lack of specialization, the preservation of the business tradition that restricts the change or the rejection of external financing, which can hinder the economic growth of the company (Memili et al., 2015).

In large companies, where family and business systems are more complex (Cabrera-Suárez and Martín-Santana, 2013; Hu et al., 2018), ownership is usually more dispersed, so that the involvement of family members in the organization will be lower compared to smaller companies (Massis et al., 2013; Miller et al., 2013). As mentioned, the growth of a company can change the culture of the organization, which leads to a greater distance between the business identity and the identity of the founding family. With this, the economic objectives can become more important (Gómez-Mejía et al., 2011; Chrisman et al., 2014), favoring the incorporation of non-family members in the family business management teams (Hu et al., 2018). These new hires can provide the family business with benefits derived from its greater specialization, among others (Massis et al., 2013). By increasing the complexity of management tasks, as a result of a larger business dimension, managers' capacities gain importance. Thus, following Fang et al. (2016), the professionalization of the organization becomes an imperative, often being an essential requirement for the growth and expansion of the company, as well as for its internationalization (Alayo et al., 2019), since sometimes families are limited in size and capacities (Chrisman et al., 2014). The tendency of small businesses to employ family members can lead them to occupy key positions for which they are not really trained instead of employing external staff (Dyer, 2006). Faced with a greater dimension, and with it a higher professionalization of the company, the labor opportunities of the employees are also increased, and favoritism in performance evaluations and asymmetries of information decrease, which allows these family businesses to access more qualified labor, so the benefits of these contracts will also be higher than the costs involved (Fang et al., 2016).

However, in spite of how advantageous it can be for companies to increase their size, we consider whether in the family ones, exceeding a certain dimension can be a threat to their economic-financial situation, as a consequence of the changes that appear in the organization before a possible dispersion of family property in the business. Family businesses have a series of singularities derived from the presence of the family that can benefit the organization. The increase in business size will involve changes in the family's influence on the business. Among them, it is worth mentioning the lesser involvement on the part of the founder (González et al., 2012), whose presence can sometimes have a positive effect when establishing the guidelines for managing the company (Sonfield and Lussier, 2014); the deterioration of relations between family members (Sciascia et al., 2013), which causes the appearance of conflicts in the organization (Bertrand and Schoar, 2010); the decrease of the family identity of the company, (Carmon et al., 2010) and with it the image of family brand (Binz et al., 2013). An increase in size will also lead to

the emergence of new agency problems (De Massis et al., 2013), since in companies where family ownership is more concentrated the interests of the owners are usually aligned with those of the business and the objectives of the family tend to mix with the organizational ones (Corbetta and Salvato, 2004). This is due to the fact that the family wealth itself is part of the company's own funds (Zhang et al., 2012). These circumstances may result in the loss of the competitive advantage that family participation can grant to these types of organizations, which has a negative impact on their economic-financial situation.

In line with the above, and based on the influence that the business dimension may have on the involvement of the family in the organization (González et al., 2012; De Massis et al., 2013; Miller et al., 2013; Lwango et al., 2017) and, therefore, in their economic-financial behavior, we propose the following hypotheses:

H1: There are statistically significant differences between the value of certain economic-financial indicators depending on the dimension of the family business.

H2: There is an inverted U-shaped relationship between the business dimension and the value of certain economic-financial indicators in family SMEs.

Research methodology

The sample of Spanish companies used to carry out this analysis is composed of 21,149 family enterprises and 5,737 non-family ones, from the database created in Spain by the Family Business Institute and the Family Business Chairs Network (IEF and Red de Cátedras de Empresa Familiar, 2016). The process of classification of companies according to their typology, family or non-family, as well as the collection of the accounting information under study have been conducted in accordance with the criteria described below. Public Limited Companies or Limited Liability Companies active during the period 2003-2015 were selected. These must have information available for the years analyzed in this work (from 2003 to 2015) and have been founded in 2001 or earlier, so that in the first year analyzed they have a minimum age of two years. In total, 70,611 companies met these requirements.

The classification in family and non-family businesses was carried out based on the study published by the Family Business Institute (IEF and Red de Cátedras de Empresa Familiar, 2016), whose process is structured in three phases.

In the first phase, the automated processes of the Iberian Balance Sheet Analysis System (SABI) database were applied, according to the ownership structure of the companies and the participation of the family in the governing bodies. Specifically, the following criteria are considered to classify family businesses:

1. Companies with concentrated ownership: they are family organizations if the family shareholder controls the property with a high percentage (50%), or there are shareholders-directors with a participation of more than 50%.
2. Dispersed property companies: they are family organizations if they have an individual shareholder with a 5% ownership or a family with 20%. In addition, if there are shareholders-directors with a participation in the property greater than 20% or administrators who are natural persons and shareholders.
3. Unknown-owned companies: they are family organizations if they have shareholders-directors with a participation in the property or administrators who are natural persons or shareholders.

In the second phase, the Family Business Chairs Network reviewed the initial classification, with the double objective of detecting possible errors and determining or not the family nature of the companies initially classified as doubtful. Finally, in order to estimate the total number of family and non-family businesses, in the third phase an imputation criterion of companies classified as doubtful was adopted. The criterion consisted of distributing these companies according to the percentage of each type obtained with the classified companies. To that purpose, it was assumed that the doubtful ones are distributed among family and non-family in a similar way to the classified companies. From this classification, and in line with the dominant presence of the family businesses in Spain and in the economies around the world, it was detected that of the 70,611 companies, 54,834 companies were family (77.7%) and 15,777 non-family (22.3%). However, we consider companies classified as family and non-family in phases 1 and 2 to carry out this study in order to select those organizations selected using a purely objective criterion. Thus, we have a sample of 60,571 companies, 47,064 (77.7%) family and 13,507 (22.3%) non-family.

Next, information was obtained regarding each of the companies in terms of company name, tax code, date of incorporation, Autonomous Community of domiciliation, business activity according to the National Classification of Economic Activities 2009 and economic-financial information for the years analyzed (from 2003 to 2015). Subsequently, an exhaustive cleaning of the database was carried out, in which family businesses that presented incomplete data, errors in information or extreme values in some of the variables con-

sidered were eliminated. 5% of the larger companies were also eliminated to avoid the possible distortions due to the excessive business dimension, as well as the totality of the micro-enterprises since this category would not be sufficiently represented due to the high percentage that does not usually deposit their annual accounts in the commercial register. In total, 33,685 companies were excluded from the study, leaving the database finally made up of 26,886 private companies, of which 21,149 (78.7%) are family companies and 5,737 (21.3%) are non-family ones.
We thus have information on 21,149 family businesses and 5,737 non-family businesses in Spain from 2003 to 2015, so we have a balanced data panel consisting of 274,937 and 74,581 observations, respectively. In order to study the influence of the business dimension in family organizations, the companies that make up the sample were classified according to their size. This classification was conducted according to the criteria established by the European Union (table 1).

Table 1. Classification criteria by business dimension

Enterprise category	Staff headcount (number of persons expressed in annual work units)	Turnover or	Balance sheet total
Microenterprise	< 10	≤ € 2 million	≤ € 2 million
Small	< 50	≤ € 10 million	≤ € 10 million
Medium-sized	< 250	≤ € 50 million	≤ € 43 million

Source: Commission Recommendation of May 6, 2003 (European Commission, 2003)

Once the discrimination by size has been accomplished, we observe that 83.1% of the observations correspond to small family businesses. So, given the high representativeness of smaller organizations, we divided this sample of family businesses according to two dimensions so that finally we have 228,420 (83.1%) observations of small companies and 46,517 (16.9%) observations corresponding to medium and large companies.
Finally, in order to limit the behavior of the family business, we select a homogeneous and balanced sample of family and non-family organizations so that the number of observations is the same for both types of enterprises. We also distinguish by business dimension when considering only small and medium ones. In this way, we obtain a balanced data panel consisting of 66,043 observations of family SMEs and 66,043 of non-family SMEs, which allows us to check whether the results obtained are independent or not of the family nature of the business.
Based on the accounting information of the companies that make up the sample, the economic-financial indicators under analysis are obtained. The analyzed indicators and their description are presented in table 2.

Table 2. Information subject to analysis. Economic-financial indicators

Indicator	**Calculation (By sabi database criteria)**
Investment	Total assets
Level of debt	(Total assets – Equity) / Equity
Turnover	Operating revenues
No. of employees	Number of employees
Employee productivity	Operating revenues / Number of employees
Return On Assets (ROA)	(Pre-tax income + Financial costs) / Total assets
Financial profitability before tax	Pre-tax income / Equity
Operating margin	(Pre-tax income + Financial costs) / Operating revenues
Cost of debt	Financial costs / (Total assets – Equity)

Source: The authors

Using the total sample of family businesses, the average values of the economic-financial indicators were obtained for each group under analysis according to the business dimension. Then, in order to test the hypothesis H1 raised, a mean difference test was performed by analyzing the variance of a factor (ANOVA) to check if there are statistically significant differences in the average value of the indicators between the two established business dimensions.
To analyze the influence of the dimension on the behavior of family businesses and thus test the H2 hypothesis, a series of regressions are carried out. As dependent variables are considered the economic-financial indicators in which statistically significant differences according to the business dimension are detected. The performance of this analysis is carried out through the use of the sample of family SMEs. We also do it again for non-family SMEs with the aim of verifying that this behavior is specific to family organizations. The independent or explanatory variable is "dimension", which is represented as a factor calculated through the factor analy-

sis of the indicators: investment, turnover and number of employees. Subsequently, we add the square of this explanatory variable "dimension²" in order to check if there is a turning point from which there is a sign change in the relationship between the business dimension and the dependent variables. This analysis is widely used in the field of business strategy (Haans and He, 2016). The variables related to the activity sector are considered as control ones. They are defined from dummy variables depending on the activity sector to which the company corresponds. The primary sector is taken as the reference sector. So that the variable «secondary sector» takes the value 1 if the company operates in the secondary sector and the value 0 otherwise, and the variable «tertiary sector» takes the value 1 if the company belongs to the tertiary sector and the value 0 if not.

To examine the effect that the dimension exerts on the value of the economic-financial indicators we perform a series of regressions to carry out the analysis of the panel data, in which a fixed effects model or a random effects model can be considered (Greene, 2012). Following Verbeek (2012), the random effects approach allows to make an inference regarding the characteristics of the population.

According to the above and the nature of the variables used (Greene, 2012; Verbeek, 2012), we adopt the random effects model to examine the effect of the business dimension on the economic-financial situation of small and medium family and no-family businesses in Spain.

Finally, we verify that the random effects method is appropriate compared to a pooling model. For this, we performed the Breusch-Pagan test, known as the Lagrange Multiplier Test (Breusch and Pagan, 1980), so that if the test were rejected, it would mean that it is preferable to use the random effects method over an Ordinary Least Squares method (OLS).

3. Empirical analysis and results

Table 3 shows the average value of the economic-financial indicators obtained for each business dimension under study (small or larger family businesses). Together with these values, the level of significance of the statistics obtained is also provided.

Family businesses show statistically significant differences in the value of the economic-financial indicators analyzed according to their business dimension (table 3). Small family businesses, with respect to larger companies, have lower values in the average investment and obtain less operating revenues. Likewise, small companies have staff formed by a smaller number of workers, and they are also less productive than the employees of the larger organizations.

Regarding the analysis of the financing structure, we observe that both small family businesses and medium and large companies are financed to a greater extent with enforceable resources than with their own funds. However, we do not obtain statistically significant differences in the value of the level of debt according to the business dimension. In relation to the cost of external financing, small family businesses bear a higher average cost of debt than those of greater size.

Table 3. Average values of the indicators and result of the analysis of the variance according to the business dimension

	Small firms	Larger firms	Sig.
Investment	3,940.52	31,844.03	0.000***
Level of debt	2.33	2.56	0.738
Turnover	4,023.91	25,376.66	0.000***
No. of employees	22.92	132.27	0.000***
Employee productivity	171.96	191.48	0.000***
Return On Assets (ROA)	5.9%	7.0%	0.000***
Financial profitability before tax	14.8%	13.6%	0.914
Operating margin	5.1%	6.7%	0.002***
Cost of debt	3.0%	2.9%	0.002***

* p <0.10 ** p <0.05 *** p <0.01

If we look at the profitability indicators, we can conclude that the larger family businesses have higher values both in return on assets and in the value of the operating margin, compared to small businesses. However, there are no statistically significant differences in the average value of financial profitability before tax between the two dimensions.

Therefore, according to the results obtained, the proposed H1 hypothesis is accepted.

Table 4 contains Spearman's correlations of the variables used in the regressions. To examine multicollinearity, the values of the variance inflation factor (VIF) were calculated for each independent variable. Myers (2000) argues that a VIF with value 10 or higher is a cause for concern. After checking the values of the inflation factor

Table 4. Matrix of correlations

	Family SMEs			Non-family SMEs		
	Secondary sector	Tertiary sector	Dimension	Secondary sector	Tertiary sector	Dimension
Tertiary sector	-0.941**	-0.004		-0.953**	-0.004	
Dimension	0.001	-0.004	-0.004	0.047**	-0.042**	-0.004
Employee productivity	-0.086**	0.082	0.359**	-0.030**	0.033**	0.697**
Operating margin	-0.009	-0.006	0.073**	0.000	-0.001	0.032**
Cost of debt	-0.001	-0.001	-0.004**	-0.003	-0.001	-0.005

* The correlation is significant at the 0.05 level (2 tails).
** The correlation is significant at the 0.01 level (2 tails).

Table 5. Results of the regression models with panel data.
Dependent variable: Employee productivity

	Family SMEs		Non-family SMEs	
	Model 1	Model 2	Model 3	Model 4
Dependent variable	Employee productivity	Employee productivity	Employee productivity	Employee productivity
	Coef. ß	Coef. ß	Coef. ß	Coef. ß
Dimension ^{2}		-13.44***		328.39***
		(0.86)		(8.64)
Dimension	208.93***	249.20***	5781.68***	4095.10***
	(3.79)	(4.57)	(41.42)	(59.76)
Secondary sector	-27.01***	-26.11***	-104.61**	-55.61**
	(7.88)	(7.83)	(50.05)	(48.38)
Tertiary sector	8.78	9.27	87.68*	98.41*
	(7.84)	(7.79)	(49.54)	(47.87)
Constant	189.29***	193.19***	1229.98***	925.92***
	(7.62)	(7.58)	(49.13)	(48.15)
R^2	0.1363	0.1466	0.4901	0.5240
Lagrange multiplier	31433***	31436***	10775***	10361***
Number of observations	66,043	66,043	66,043	66,043

The Lagrange multiplier is distributed as chi-square with a degree of freedom, exceeding the critical value and favoring the random effects of the GLS (Generalized Least Squares) model on the OLS (Ordinary Least Squares) (Greene, 2012).
Standard error value in parentheses.
* p <0.10 ** p <0.05 *** p <0.01

of the variance and the tolerance levels of the variables, we can assume that we have no multicollinearity problems.

From table 5 to 8, the results obtained with the realization of the different regressions are shown, taking the economic-financial indicators as dependent variables. As explanatory variables the business dimension and its square, in order to verify the existence of a non-linear relationship with this variable. Finally, as control variables, we incorporate those related to the activity sector. The results obtained for both family and non-family SMEs are presented together, which allows us to compare the behavior of both types of organization.

Table 5 shows that the value of employee productivity in secondary sector companies decreases with respect to primary sector organizations. In non-family businesses operating in the tertiary sector this productivity increses, while in family businesses the relationship is not significant (models 1 and 3). Regardless of the type of organization, the business dimension maintains a positive relationship with employee productivity. However, we can observe in models 2 and 4 that only for family businesses the relationship with the square of the dimension is negative and significant. We verify using the Sasabuchi Test (p = 1.78e-11) that there is a non-linear relationship with an inverted U-shape, so that the productivity of employees in family businesses decreases with the increase in the business dimension. The point at which the dimension reaches its maximum is at the value X = 9.27, within the limits of the confidence interval obtained by the Fieller method (95% confidence interval (8.3681; 10.4258)).

If we pay attention to return on assets (table 6), we observe that its value rises as the dimension of family and non-family businesses

Table 6. Results of the regression models with panel data.
Dependent variable: Return On Assets (ROA)

	Family SMEs		Non-family SMEs	
	Model 1	Model 2	Model 3	Model 4
Dependent variable	Return On Assets (ROA)	Return On Assets (ROA)	Return On Assets (ROA)	Return On Assets (ROA)
	Coef. β	Coef. β	Coef. β	Coef. β
Dimension ^{2}		-0.0016***		0.0004
		(0.0005)		(0.0015)
Dimension	0.0164***	0.0212***	0.1552**	0.0157**
	(0.0021)	(0.0025)	(0.0069)	(0.0102)
Secondary sector	0.0097**	0.0098**	0.0117	0.0117
	(0.0043)	(0.0043)	(0.0083)	(0.0083)
Tertiary sector	0.0153***	0.0154***	0.0155*	0.0155*
	(0.0043)	(0.0043)	(0.0082)	(0.0082)
Constant	0.0591***	0.0596***	0.5321***	0.0532***
	(0.0042)	(0.0042)	(0.0081)	(0.0052)
R^2	0.0414	0.0471	0.0087	0.0087
Lagrange multiplier	25417***	25418***	23734***	23739***
Number of observations	66,043	66,043	66,043	66,043

The Lagrange multiplier is distributed as chi-square with a degree of freedom, exceeding the critical value and favoring the random effects of the GLS (Generalized Least Squares) model on the OLS (Ordinary Least Squares) (Greene, 2012).
Standard error value in parentheses.
* p <0.10 ** p <0.05 *** p <0.01

does (models 1 and 3). However, again we observe that only in the case of family organizations, the value of this economic indicator decreases with the increase in the business dimension (models 2 and 4). With the completion of the Sasabuchi Test (p = 0.0172) we verify the existence of a non-linear relationship with an inverted U-shape between both variables, dimension and return on assets, which reaches its maximum value at point X = 6.55, located within the limits of confidence obtained with the Fieller method (95% confidence interval (4.4373; 13.6727)). As for the activity sector (models 1 and 3), family businesses belonging to the secondary sector achieve greater return on assets, in relation to those operating in the primary sector. For non-family businesses this relationship is not significant. In the case of tertiary sector organizations, in both cases the relationship is positive and significant.

In table 7, with respect to the operating margin, the relationships for both sectors of activity present a negative sign for family and non-family businesses, but they are not significant (models 1 and 3). The value of the operating margin in both types of organization increases with the business dimension, as derived from the positive relationship between both variables (models 1 and 3). However, while in non-family businesses this relationship is linear (model 4), in the case of family businesses we find in model 2 a non-linear relationship with an inverted U-shape (Sasabuchi test (p = 0.0002)). Therefore, the operating margin in these companies begins to decrease when their dimension reaches the value X = 4.80, within the limits of confidence we obtain with the Fieller method (95% confidence interval (3.7422; 6.7557)).

Finally, as shown in table 8, for family businesses we find a negative and significant relation-

Table 7. Results of the regression models with panel data.
Dependent variable: Operating margin

	Family SMEs		Non-family SMEs	
	Model 1	Model 2	Model 3	Model 4
Dependent variable	Operating margin	Operating margin	Operating margin	Operating margin
	Coef. β	Coef. β	Coef. β	Coef. β
Dimension ^{2}		-0.0171***		0.0399**
		(0.0017)		(0.0083)
Dimension	0.0791***	0.0278***	0.1785***	0.3837***
	(0.0076)	(0.0092)	(0.0385)	(0.0575)
Secondary sector	-0.0172	-0.0184	-0.0457	-0.0517
	(0.0157)	(0.0157)	(0.0466)	(0.0466)
Tertiary sector	-0.0111	-0.0117	-0.0433	-0.0446
	(0.0157)	(0.0156)	(0.0461)	(0.0460)
Constant	0.0819***	0.0769***	0.1358***	0.1728***
	(0.0152)	(0.0152)	(0.0457)	(0.0463)
R^2	0.0059	0.0115	0.0042	0.0082
Lagrange multiplier	83162***	83157***	30929***	29912***
Number of observations	66,043	66,043	66,043	66,043

The Lagrange multiplier is distributed as chi-square with a degree of freedom, exceeding the critical value and favoring the random effects of the GLS (Generalized Least Squares) model on the OLS (Ordinary Least Squares) (Greene, 2012).
Standard error value in parentheses.
* p <0.10 ** p <0.05 *** p <0.01

Table 8. Results of the regression models with panel data.
Dependent variable: Cost of debt

	Family SMEs		Non-family SMEs	
	Model 1	Model 2	Model 3	Model 4
Dependent variable	Cost of debt	Cost of debt	Cost of debt	Cost of debt
	Coef. ß	Coef. ß	Coef. ß	Coef. ß
Dimension ^{2}		-0.0042***		-0.0326
		(0.0073)		(0.0153)
Dimension	-0.0968***	-0.1094***	-0.2119	-0.3806
	(0.0323)	(0.0392)	(0.0709)	(0.1064)
Secondary sector	-0.1319	-0.1322	-0.0863	-0.0519
	(0.0680)	(0.0680)	(0.0496)	(0.0864)
Tertiary sector	-0.0232	-0.0230	-0.3744	-0.3757
	(0.0677)	(0.0677)	(0.0854)	(0.0855)
Constant	4.3031***	4.3019***	4.2277***	4.1974***
	(0.0658)	(0.0659)	(0.0847)	(0.0859)
R^2	0.0039	0.0039	0.0088	0.0091
Lagrange multiplier	27691***	27495***	32456***	32582***
Number of observations	66,043	66,043	66,043	66,043

The Lagrange multiplier is distributed as chi-square with a degree of freedom, exceeding the critical value and favoring the random effects of the GLS (Generalized Least Squares) model on the OLS (Ordinary Least Squares) (Greene, 2012).
Standard error value in parentheses.

ship between the value of the cost of debt and the business dimension (model 1). On this occasion, we verify that the relationship between both variables remains linear (model 2). For non-family organizations, we observe that the relationship between the business dimension and the cost of external financing is negative but not significant (models 3 and 4). Regarding the cost of debt depending on the sector of activity to which the company belongs (models 1 and 3), regardless of the type of organization, both for those operating in the secondary and tertiary sectors, the relationships are not significant.

The results obtained show that the H2 hypothesis in relation to the influence of size is accepted. In general, we find an inverted U-shaped relationship between the variation of the business dimension in family SMEs and the value of the economic-financial indicators considered.

As a robustness test to assess the validity of the model, the sample is divided according to the inflection points obtained and the random effect models are applied again in each case. We verify that indeed the regressions performed show slopes consistent with the expected shape of the curves.

4. Discussion and conclusions

The analysis conducted indicates the differences that Spanish family businesses maintain in their economic-financial situation depending on the business dimension and highlights the heterogeneity present in these types of organizations depending on their size. Specifically, based on the results obtained from the analysis carried out on 21,149 Spanish family businesses, from 2003 to 2015, we can conclude that the smaller companies maintain an economic situation that is generally worse than those of larger organizations.

In line with previous research, these results show the superiority of large companies in relation to the business performance of family organizations (De Massis et al., 2013; Miller, Minichilli and Corbetta, 2013).

When analyzing the profitability indicators we observed statistically significant differences in some of them. The value of the return on assets and the operating margin are higher for larger companies than for small ones. However, we do not find differences in value of financial profitability before tax. Numerous investigations indicate that the interaction of the family in the organization can be detrimental to their economic performance (De Massis et al., 2013). In addition, following Lwango et al. (2017), active family ownership in the company determines the decisions of both the business and the family itself, so the degree of family involvement in management operations produce different levels of performance.

In the case of small businesses, where the family has a greater participation in the property (Chrisman et al., 2014), their business behavior, together with the influence of family involvement in organizational processes, can hinder their performance and economic growth (Kotey, 2005). Nevertheless, the increase of the business dimension entails the decrease of family involvement (González et al., 2012), which means that economic objectives become more relevant in larger companies (Chrisman et al., 2014). This importance of non-economic issues in small businesses can be observed for example in times of economic crisis, because while these organizations have a greater predisposition to employ family members despite obtaining lower profitability (Cruz et al., 2012), large companies are more prone to cost reduction (Felicio and Galindo-Villardón, 2015).

Regarding employee productivity, we also found statistically significant differences between family businesses of different sizes. Again, it is the larger companies that have higher values with respect to small family businesses, so it is the latter that have staff formed by less productive workers. The productivity of small family businesses could be affected for various reasons as a result of greater family involvement, of which large companies seem to be exempt since they have a higher degree of professionalization. Lwango et al. (2017) argue that as the business increases in size, these organizations should open the company to external staff in order to eliminate the risks associated with employing family members; as it usually happens since the employment of non-family members predominates as the business dimension increases (Chrisman et al., 2014; Hu et al., 2018).

In smaller companies, the current nepotism promotes family members to introduce their children to the business, adapt their education to the activity of the organization, create succession plans that favor continuity in the hands of a family member, keep the founder or members of previous generations active in the organization or keep the property in the hands of the family, among other aspects (Arregle et al., 2007). As a result, small businesses make less use of professional human resources practices, provide less job training to their employees and does less performance evaluations of their staff (Cruz et al., 2011). These practices reduce candidates willing to occupy a management position in the family business and lead them to prefer working in non-family businesses (Fang et al., 2016; Hu et al., 2018). Despite the fact that family companies are believed to offer greater job security, they also offer lower salaries to their employees (Bassanini et al., 2013). It is a cost for family business because they will exclude competent candidates from their workforce. According to Fang et al. (2016), it is the non-family managers who can provide the company with skills that the family members do not have, so that large companies have a labor market with more extensive and qualified personnel than the limited number of family members for employment in the organization.

Family influence is also a determinant of the financing structure in the organization (Zhang et al., 2012). In this sense, and following Romano et al. (2001) and Wu et al. (2007), the financing of family businesses vary depending on the business dimension. In the existing literature we find some differences in family organizations depending on their size that indicate that large companies have more relationship with financial institutions and make use of a greater variety of their financial products (Gallo and Vilaseca, 1996). Conversely, smaller companies show greater predilection for financing based on internally generated resources in order to maintain control and ownership of the company in the hands of the family (López-Gracia and Sánchez-Andújar, 2007). However, when analyzing the level of debt of family businesses under study, we did not find significant differences between their average values according to the business dimension. Although we obtain that both small and larger companies are financed in greater proportion with external resources than with own resources. On the contrary, we do find statistically significant differences in the value of the cost of debt, so the largest companies maintain a lower cost of debt compared to small family businesses.

However, using a homogeneous and balanced sample consisting of 66,043 observations of fam-

ily SMEs from 2003 to 2015, we confirm that the superiority of family-owned businesses manifests in their economic-financial behavior by increasing their business dimension. But the results obtained also allow us to verify that there are limits from which a larger dimension of the business damages their performance, specifically of small and medium family businesses where the involvement of the family is greater (De Massis et al., 2013; Miller et al., 2013).

In the analysis carried out, we found an inverted U-shaped relationship between the size of family SMEs and the value of certain economic-financial indicators, indicating that once the business size has been reached, the value of these indicators begins to decrease, at least in relative terms, despite the positive influence that initially exerts the growth of the business. Specifically, we find a relationship of inverted U with the value of return on assets, operating margin and employee productivity, not obtaining a non-linear relationship with the cost of debt. When considering the sample of non-family SMEs, we observe that the relations between the dimension and the economic-financial indicators mentioned are linear, which has allowed us to verify that the results achieved for family SMEs are motivated by the effect that the family character exerts in the business.

A possible explanation to curb the maximization of their performance may lie in the emotional influence that affects these companies. Like all forms of businesses, family organizations also intend to grow and achieve greater economic benefits (Berrone et al., 2012). However, they may not be able to respond optimally to the new challenges of increasing their business dimension and an uncertain environment that can be further complicated by the behavior of these organizations (Haans and He, 2016), due to the ambiguity of their preferences or objectives that face the emotional and the professional.

Changes in the involvement of the family in the organization that takes place with the increase in dimension and, consequently, due to the greater dispersion of business ownership in the hands of the business family, require the transformation of governance mechanisms and management of these organizations. Even the increase in the business dimension reinforces the effect of the new situation of the family in the company since, as Fernández et al. (2019) argue, there is clear evidence that the idiosyncratic attributes of the organization influence more on companies as their size increases. In addition, following Haans and He (2016: 9), the conditions that the company maintains can be considered as "a set of tightly linked and mutually reinforcing routines, which are difficult to reconfigure once they are developed and have become engrained in the organization of the firm".

As previously mentioned, in family businesses reaching certain limits in terms of their business dimension can be detrimental to their economic-financial situation. This may be due to a greater dispersion of family property in the business, what it causes a series of changes in the company that can result in the loss of certain benefits present in this type of business because of their family nature.

Some studies show that the involvement of family members can have positive consequences for the company. In this sense, and without being exhaustive, we can highlight the work of Anderson and Reeb (2003) in which they found that family businesses run by the founder of the organization obtain a better economic result compared to those that do not. Similarly, the presence of a family CEO can contribute positively to the economic performance of the company (Villalonga and Amit, 2006). Minichilli et al. (2010), demonstrated not only that companies obtain a higher economic return when they have a family CEO, but that it increases with a greater presence of family members leading positions in the management team. In addition, as argued by Cabrera-Suárez et al. (2001), the competitive advantage in the company can be achieved from the knowledge of the business, as well as its ability to generate it. In companies with high levels of family involvement, family members have a deep tacit knowledge of it that often leads to the creation of skills that favor business success (Sirmon and Hitt, 2003; Tokarczyk et al., 2007).

On the other hand, in line with Schulze et al. (2003: 181), "the dispersion of ownership in family-held firms drives a wedge between the interests of those who lead a firm - and often own a controlling interest - and other family owners". As a result, the dynamics of family members are altered, which can cause family members in charge of the organization to make decisions according to their own benefit and that of their own family nucleus, and with it the appearance of new agency problems and the consequent negative effect on its economic performance (Blanco-Mazagatos et al., 2016).

This circumstance can also increase conflicts between family members (Ensley and Pearson, 2005), by converging different branches of a family (Bammens, Voordeckers and Van Gils, 2008), negatively affecting their labor productivity (Morgan and Gómez- Mejía, 2014), since avoiding conflict can trigger a rapid increase in organizational tension (Claßen and Schulte, 2017). Following Ensley and Pearson (2005), higher levels of family involvement in the management of the company had higher results in terms of cohesion

among members, conflict management, group effectiveness and shared strategic models.

Despite the fact that business growth entails the achievement of higher operating revenues from its employees, as previously stated, largely motivated by the increase in professionalization and the incorporation of external personnel into the company, the presence of the family can bring certain advantages to the company. According to Chirico et al. (2011), family members are normally dedicated to the company in an altruistic way and tend to put its objectives before their own, so they are less likely to act in an opportunistic way since their well-being depends on continuity of the company and its long-term success. With a more concentrated family ownership core, the interest in preserving the business reputation acquires special relevance since there is a greater identification of family members with the organization (Deephouse and Jaskiewicz, 2013). Family ownership is also a way to create the favorable reputation of these organizations (Li, 2010). Family businesses are normally associated with positive attributes such as trust, commitment, customer-centered attention or increased interest in improve the quality of products and consumer services (Micelotta and Raynard, 2011). Taking advantage of the family brand condition can help the costumer develop a positive image of the organization (Gallucci et al., 2015), which would ultimately benefit the company's economic performance (Barroso Martínez et al., 2019).

Therefore, a balance point must be found. Following Cho et al. (2018), although family participation can favor the development of the business, a high family involvement can threaten the survival of the organization.

The results obtained with the realization of this work regarding the economic-financial behavior of family SMEs depending on their size, highlight the importance of dimension as a business strategy. In this sense, we can conclude that the challenge of growth, which for years has been demanded for these organizations, remains fully in force, but with limits from which the performance of family businesses begins to decline, even in relative terms. It would be necessary to design an action plan that allows the establishment of growth policies that, from different perspectives, encourage the increase of the business dimension and, consequently, an improvement in the economic situation of this type of companies. Therefore, it is crucial not to lose sight of the advantages that family involvement can bring to the business. These can be diminished by the changes that take place in the company due to a greater dispersion of family property from the increase in business size and the organizational peculiarities that it entails.

The work done has allowed us to analyze the economic and financial behavior of family businesses, a dominant organization in the Spanish business fabric. We have also deepened on the effect of the business dimension as a resource for business strategy, specifically when family influence is more present, as is the case of family SMEs. We have also verified that non-family SMEs have a different behavior when their business size increases. However, the study carried out is not without limitations. Performing this work, a sample formed only by Spanish family businesses has been considered, so in future research it would be of great interest to expand the sample with organizations from other geographical areas. In future analysis it would also be convenient to establish in a more approximate way the limits from which the increase in the business dimension begins to impair the economic performance of the organization.

References

Alayo, M., Maseda, A., Iturralde, T. and Arzubiaga, U. (2019). Internationalization and Entrepreneurial Orientation of Family SMEs: The Influence of the Family Character, *International Business Review*, *28*(1), 48–59. doi: 10.1016/j.ibusrev.2018.06.003.

Anderson, R. C. and Reeb, D. M. (2003). Founding-Family Ownership and Firm Performance: Evidence from the S&P 500, *The Journal of Finance*, *58*(3), 1301–1328. doi: 10.1111/1540-6261.00567.

Bammens, Y., Voordeckers, W. and Van Gils, A. (2008). Boards of Directors in Family Firms: A Generational Perspective, *Small Business Economics*, *31*(2), 163–180. doi: 10.1007/s11187-007-9087-5.

Barroso Martínez, A., Sanguino Galván, R., Botero, I. C., González-López. O. R. and Buenadicha Mateos, M. (2019). Exploring Family Business Brands: Understanding Predictors and Effects, *Journal of Family Business Strategy*, *10*(1), 57–68. doi: 10.1016/j.jfbs.2019.01.005.

Bassanini, A., Breda, T. and Caroli, E. (2013). Working in Family Firms: Paid Less but More Secure? Evidence from French Matched Employer-Employee Data, *Industrial and Labor Relations Review*, *66*(2), 433–466. doi: 10.1177/001979391306600206.

Berrone, P., Cruz, C. and Gómez-Mejía, L. R. (2012). Socioemotional Wealth in Family Firms: Theoretical Dimensions, Assessment Approaches, and Agenda for Future Research, *Family Business Review*, *25*(3), 258–279. doi: 10.1177/0894486511435355.

Bertrand, M. and Schoar, A. (2010). The Role of Family in Family Firms, *Journal of Economics Perspectives*, *20*(2), 73–96. doi: 10.1257/jep.20.2.73.

Binz, C., Hair, J. F., Pieper, T. M. and Baldauf, A. (2013). Exploring the Effect of Distinct Family Firm Reputation on Consumers Preferences', *Journal of Family Business Strategy*. *4*(1), 3–11. doi: 10.1016/j.jfbs.2012.12.004.

Blanco-Mazagatos, V., de Quevedo-Puente, E. and Delgado-García, J. B. (2016). How Agency Conflict between Family Managers and Family Owners Af-

fects Performance in Wholly Family-Owned Firms: A Generational Perspective', *Journal of Family Business Strategy*. 7(3), 167–177. doi: 10.1016/j.jfbs.2016.07.003.

Breusch, T. S. and Pagan, A. R. (1980). The Lagrange Multiplier Test and its Applications to Model Specification in Econometrics, *The Review of Economic Studies*, *47*(1), 239–253. doi: 10.2307/2297111.

Cabrera-Suárez, K., Saa-Pérez, P. and García-Almeida, D. (2001). The Succession Process from a Resource- and Knowledge-Based View of the Family Firm, *Family Business Review*, *14*(1), 37–48. doi: 10.1111/j.1741-6248.2001.00037.x.

Cabrera-Suárez, M. K. and Martín-Santana, J. D. (2013). Top Management Teams and Performance in Non-Listed Family Firms, *Journal of Management and Organization*, *19*(4), 405–423. doi: 10.1017/jmo.2013.15.

Carmon, A. F.; Miller, A. N., Raile, A. N. and Roers, M. M. (2010). Fusing Family and Firm: Employee Perceptions of Perceived Homophily, Organizational Justice, Organizational Identification, and Organizational Commitment in Family Businesses, *Journal of Family Business Strategy*. *1*(4), 210–223. doi: 10.1016/j.jfbs.2010.10.003.

Casillas, J. C., Moreno, A. M. and Barbero, J. L. (2010). A Configurational Approach of the Relationship between Entrepreneurial Orientation and Growth of Family Firms, *Family Business Review*, *23*(1), 27–44. doi: 10.1177/0894486509345159.

Chirico, F. and Bau, M. (2014). Is the Family an "Asset" or "Liability" for Firm Performance? The Moderating Role of Environmental Dynamism, *Journal of Small Business Management*, *52*(2), 210–225. doi: 10.1111/jsbm.12095.

Chirico, F., Ireland, R. D. and Sirmon, D. G. (2011). Franchising and the Family Firm: Creating Unique Sources of Advantage Through "Familiness", *Entrepreneurship: Theory and Practice*, *35*(3), 483–501. doi: 10.1111/j.1540-6520.2011.00441.x.

Cho, J., Miller, D. and Lee, J. (2018). Too Much of a Good Thing: Family Involvement and the Survival of Listed Korean Firms, *Journal of Family Business Strategy*. *9*(4), 223–237. doi: 10.1016/j.jfbs.2018.10.001.

Chrisman, J., Memili, E. and Misra, K. (2014). Nonfamily Managers, Family Firms, and the Winner's Curse: The Influence of Noneconomic Goals and Bounded Rationality, *Entrepreneurship Theory and Practice*, *38*(5), 1103–1127. doi: 10.1111/etap.12014.

Chua, J. H., James, J. C. and Lloyd, P. S. (2012). Sources of Heterogeneity in Family Firms: An Introduction, *Entrepreneurship: Theory and Practice*, *36*(6), 1103–1113. doi: 10.1111/j.1540-6520.2012.00540.x.

Claßen, C. A. E. and Schulte, R. (2017). How do Conflicts Impact Change in Family Businesses? The Family System and Familiness as a Catalytic Converter of Change, *Journal of Organizational Change Management*, *30*(7), 1198–1212. doi: 10.1108/JOCM-04-2016-0071.

Corbetta, G. and Salvato, C. A. (2004). The Board of Directors in Family Firms: One Size Fits All?, *Family Business Review*, *17*(2), 119–134. doi: 10.1111/j.1741-6248.2004.00008.x.

Cruz, C., Justo, R. and De Castro, J. O. (2012). Does Family Employment Enhance MSEs Performance? Integrating Socioemotional Wealth and Family Embeddedness Perspectives, *Journal of Business Venturing*. *27*(1), 62–76. doi: 10.1016/j.jbusvent.2010.07.002.

De Massis, A., Kotlar, J., Campopiano, G. and Cassia, L. (2015). The Impact of Family Involvement on SMEs' Performance: Theory and Evidence, *Journal of Small Business Management*, *53*(4), 924–948. doi: 10.1111/jsbm.12093.

De Massis, A., Kotlar, J., Campopiano, G. and Cassia, L. (2013). Dispersion of Family Ownership and the Performance of Small-to-Medium Size Private Family Firms, *Journal of Family Business Strategy*. *4*(3), 166–175. doi: 10.1016/j.jfbs.2013.05.001.

Deephouse, D. L. and Jaskiewicz, P. (2013). Do Family Firms Have Better Reputations than Non-Family Firms? An Integration of Socioemotional Wealth and Social Identity Theories, *Journal of Management Studies*, *50*(3), 337–360. doi: 10.1111/joms.12015.

Dyer, J. W. G. (2006). Examining the Family Effect on Firm Performance, *Family Business Review*, *19*(4), 253–273. doi: 10.1111/j.1741-6248.2006.00074.x.

Ensley, M. D. and Pearson, A. W. (2005). An Exploratory Comparison of the Behavioral Dynamics of Top Management Teams in Family and Nonfamily New Ventures: Cohesion, Conflict, Potency, and Consensus, *Entrepreneurship Theory and Practice*, *29*(3), 267–284. doi: 10.1111/etap.12122.

European Commission (2009). Commission staff working document on the implementation of Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-size enterprises, doi:10.1017/CBO9781107415324.004.

Fang, H. C., Randolph, R. V. and Memili, E. (2016). Does Size Matter? The Moderating Effects of Firm Size on the Employment of Nonfamily Managers in Privately Held Family SMEs', *Entrepreneurship: Theory and Practice*, *40*(5), 1017–1039. doi: 10.1111/etap.12156.

Felicio, J. A. and Galindo-Villardón, M. P. (2015). Family Characteristics and Governance of Small and Medium-Sized Family Firms, *Journal of Business Economics and Management*, *16*(6), 1069–1084. doi: 10.3846/16111699.2012.747446.

Fernández, E., Iglesias-Antelo, S., López-López, V., Rodríguez-Rey, M. and Fernández-Jardón, C. M. (2019). Firm and Industry Effects on Small, Medium-Sized and Large Firms Performance', BRQ Business Research Quarterly. *22*(1), 25–35. doi: 10.1016/j.brq.2018.06.005.

Gallo, M. A. and Vilaseca, A. (1996). Finance in Family Business, *Family Business Review*, *9*(4), 387–401. doi: 10.1111/j.1741-6248.1996.00387.x.

Gallucci, C., Santulli, R. and Calabrò, A. (2015). Does Family Involvement Foster or Hinder Firm Performance? The Missing Role of Family-Based Branding Strategies, *Journal of Family Business Strategy*. *6*(3), 155–165. doi: 10.1016/j.jfbs.2015.07.003.

Gómez-Mejía, L. R., Cruz, C., Berrone, P. and De Castro, J. (2011). The Bind that Ties: Socioemotional Wealth Preservation in Family Firms, *The Academy of Management Annals*, *5*(1), 653–707. doi: 10.1080/19416520.2011.593320.

González, M., Guzmán, A., Pombo, C. and Trujillo, M.A. (2012). Family Firms and Financial Performance: The Cost of Growing, *Emerging Markets*

Review. *13*(4), 626–649. doi: 10.1016/j.emermar.2012.09.003.

Greene, W. H. (2012). *Econometric analysis*. 7th edn. International edition, New Jersey: Prentice Hall.

Haans, R. and He, Z.-L. (2016). Thinking about U: Theorizing and Testing U- and Inverted U-Shaped Relationships in Strategy Research, *Strategic Management Journal*, *37*(7), 1177–1195. doi: 10.1002/smj.2399.

Haynes, G. W., Walker, R. and Rowe, B. R. (1999). The Intermingling of Business and Family Finances in Family-Owned Businesses, *Family Business Review*, *12*(3), 225–239. doi: 10.1111/j.1741-6248.1999.00225.x.

Hu, Q., Zhang, Y. and Yao, J. (2018). Family Involvement in Middle Management and Its Impact on the Labor Productivity of Family Firms, *Management and Organization Review*, *14*(2), 249–274. doi: 10.1017/mor.2018.5.

Instituto de la Empresa Familiar and Red de Cátedras de Empresa Familiar (2016). La Empresa Familiar en España (2015), *Instituto de la Empresa Familiar*.

Kallmuenzer, A. and Peters, M. (2018). Entrepreneurial Behaviour, Firm Size and Financial Performance: the Case of Rural Tourism Family Firms, *Tourism Recreation Research*. *43*(1), 2–14. doi: 10.1080/02508281.2017.1357782.

Kotey, B. (2005). Are Performance Differences between Family and Non-family SMEs Uniform across All Firm Sizes?, *International Journal of Entrepreneurial Behaviour & Research*, *11*(6), 394–421. doi: 10.1108/13552550510625168.

Kotlar, J. and De Massis, A. (2014). Profitability Goals, Control Goals, and the R&D Investment Decisions of Family and Nonfamily Firms, *Journal of Product Innovation Management*, *31*(6), 1128–1145. doi: 10.1111/jpim.12165.

Li, H. (2010). Reputation, Accounting Information and Debt Contracts in Chinese Family Firms, *China Journal of Accounting Research*. *3*(1), 95–129. doi: 10.1016/S1755-3091(13)60021-0.

López-Gracia, J. and Sánchez-Andújar, S. (2007). Financial Structure of the Family Business: Evidence from a Group of Small Spanish Firms, *Family Business Review*, *20*(4), 269–287. doi: 10.1111/j.1741-6248.2007.00094.x.

Lwango, A., Coeurderoy, R. and Giménez-Roche, G. A. (2017). Family Influence and SME Performance under Conditions of Firm Size and Age, *Journal of Small Business and Enterprise Development*, *24*(3), 629–648. doi: 10.1108/JSBED-11-2016-0174.

Memili, E., Fang, H., Chrisman, J.J, and De Massis, A. (2015). The Impact of Small- and Medium-Sized Family Firms on Economic Growth, *Small Business Economics*. *45*(4), 771–785. doi: 10.1007/s11187-015-9670-0.

Micelotta, E. R. and Raynard, M. (2011). Concealing or Revealing the Family? Corporate Brand Identity Strategies in Family Firms, *Family Business Review*, *24*(3), 197–216. doi: 10.1177/0894486511407321.

Miller, D., Le Breton-Miller, I., Minichilli, A., Corbetta, G. and Pittino, D. (2014). When do Non-Family CEOs Outperform in Family Firms? Agency and Behavioural Agency Perspectives, *Journal of Management Studies*, *51*(4), 547–572. doi: 10.1111/joms.12076.

Miller, D., Le Breton-Miller, I. and Lester, R. H. (2013). Family Firm Governance, Strategic Conformity, and Performance: Institutional vs. Strategic Perspectives, *Organization Science*, *24*(1), 189–209.

Miller, D., Minichilli, A. and Corbetta, G. (2013). Is Family Leadership Always Beneficial?, *Strategic Management Journal*, *34*(5), 553–571. doi: 10.1002/smj.

Minichilli, A., Corbetta, G. and MacMillan, I. C. (2010). Top Management Teams in Family-Controlled Companies: "Familiness", "Faultlines", and their Impact on Financial Performance, *Journal of Management Studies*, *47*(2), 205–222. doi: 10.1111/j.1467-6486.2009.00888.x.

Morgan, T. J. and Gómez-Mejía, L. R. (2014). Hooked on a Feeling: The Affective Component of Socio-emotional Wealth in Family Firms, *Journal of Family Business Strategy*. *5*(3), 280–288. doi: 10.1016/j.jfbs.2014.07.001.

Romano, C. A., Tanewski, G. A. and Smyrnios, K. X. (2001). Capital Structure Decision Making, *Journal of Business Venturing*, *16*(3), 285–310. doi: 10.1016/S0883-9026(99)00053-1.

Schulze, W. S., Lubatkin, M. H. and Dino, R. N. (2003). Exploring the Agency Consequences of Ownership Dispersion among the Directors of Private Family Firms, *Academy of Management Journal*, *46*(2), 179–194. doi: 10.2307/30040613.

Sciascia, S. and Mazzola, P. (2008). Family Involvement in Ownership and Management: Exploring Nonlinear Effects on Performance, *Family Business Review*, *21*(4), 331–345. doi: 10.1177/0894486508021004105.

Sciascia, S., Mazzola, P. and Chirico, F. (2013). Generational Involvement in the Top Management Team of Family Firms: Exploring Nonlinear Effects on Entrepreneurial Orientation, *Entrepreneurship: Theory and Practice*, *37*(1), 69–85. doi: 10.1111/j.1540-6520.2012.00528.x.

Sonfield, M. C. and Lussier, R. N. (2014). First-, Second-, and Third-Generation Family Firms: A Comparison, *Family Business Review*, *17*(3), 189–202. doi: 10.1111/j.1741-6248.2004.00013.x.

Stenholm, P., Pukkinen, T. and Heinonen, J. (2016). Firm Growth in Family Businesses-The Role of Entrepreneurial Orientation and the Entrepreneurial Activity, *Journal of Small Business Management*, *54*(2), 697–713. doi: 10.1111/jsbm.12166.

Tokarczyk, J., Hansen, E. and Green, M. (2007). A Resource-Based View and Market Orientation Theory Examination of the Role of "Familiness" in Family Business Success, *Family Business Review*, *20*(1), 17–31. doi: 10.1111/j.1741-6248.2007.00081.x.

Verbeek, M. (2012). *A guide to modern econometrics*. 4th edn. John Wiley and Sons.

Villalonga, B. and Amit, R. (2006). How Do Family Ownership, Control and Management Affect Firm Value?, *Journal of Financial Economics*, *80*(2), 385–417. doi: 10.1016/j.jfineco.2004.12.005.

Wagner, D., Block, J. H., Miller, B., Schwens, C. and Xi, G. (2015). A Meta-Analysis of the Financial Performance of Family Firms: Another Attempt, *Journal of Family Business Strategy*. Elsevier Ltd, *6*(1), 3–13. doi: 10.1016/j.jfbs.2015.01.001.

Wu, Z., Chua, J. H. and Chrisman, J. J. (2007). Effects of Family Ownership and Management on Small Business Equity Financing, *Journal of Business Venturing*, 22(6), 875–895. doi: 10.1016/j.jbusvent.2006.07.002.

Zhang, X., Venus, J. and Wang, Y. (2012). Family Ownership and Business Expansion of Small- and Medium-Sized Chinese Family Businesses: The Mediating Role of Financing Preference, *Journal of Family Business Strategy*. *3*(2), 97–105. doi: 10.1016/j.jfbs.2012.03.002.