REQUIRED AND OBTAINED EQUITY RETURNS IN PRIVATELY HELD BUSINESSES: THE IMPACT OF FAMILY NATURE. EVIDENCE BEFORE AND AFTER THE GLOBAL ECONOMIC CRISIS

Abstract

This paper analyses the impact that family businesses have on the minimum rate of return required by owner-investors (k_e) and on the equity returns (*ROEaT*) obtained in privately held businesses. This influence is analysed for an economic growth period (2002-2007) and for a crisis period (2008-2013) in the European context. Moreover, our study also explores the family nature through the heterogeneity among family firms in their required and obtained equity returns by considering the degree of family involvement in the ownership and management. Our findings reveal that while family businesses always have a negative and significant impact on k_e regardless of the economic environment, they only have a positive and significant impact on *ROEaT* in economic upturns. Thus, non-economic goals do not necessarily imply underperformance but may involve a lower cost of equity capital in privately held family businesses than in privately held non-family businesses, which also leads to differences in the value creation.

Keywords: privately held businesses, family nature, minimum rate of return, return on equity, value creation, socioemotional wealth

Introduction

The business literature regarding performance in privately held businesses is mixed (Dyer Jr, 2006). The quest for a performance measurement based on value creation has relied on both economic-based measures and accounting-based measures (Hall, 2013); the former is a central issue in corporate finance (Graham and Harvey, 2001).

Researchers have usually suggested that family firms outperform non-family firms (Allouche et al. 2008; Maury, 2006). Moreover, Stewart and Hitt (2011) extend beyond this and highlight that family involvement generally has a positive effect on performance in public firms, while it generally has a negative or insignificant effect on performance in private firms.

Recently, certain authors have recognized that family firms pursue other goals in addition to financial objectives (Gómez-Mejia et al. 2007, 2010, 2011). These non-financial goals may justify why privately held family businesses (PHFBs) behave differently than privately held non-family businesses (PHnFBs), suggesting that this may be the reason why they achieve more distinct profitability than their non-family counterparts (Mensching et al. 2014). Furthermore, it appears indisputable that singularities exist in PHFBs' performance due to the dynamics and relationships of the family itself (Daily and Dollinger, 1991).

This study delves into the performance and the financial analysis of privately held businesses (both family and non-family) to elucidate the existing mixed results. That is, we provide certain insights into the different outcomes that researchers have obtained when analysing performance in privately held businesses to deepen the understanding of this field. Therefore, we analyse the minimum rate of return required by owner-investors (k_e) and the achieved profitability obtained by these investors (*ROEaT*) in two different economic contexts: a growth period (2002-2007) and a recession period (2008-2013).

Therefore, the aim of this article is to analyse the impact that family businesses have on the minimum required rate of return, as well as their impact on the obtained equity returns, by considering the economic environment. Moreover, this study delves into the heterogeneity across PHFBs in their required and obtained equity returns by categorizing family firms into different typologies based on the family ties among family members and the family involvement in ownership and management. This study also determines whether the family influence on financial performance measures changes with the economic environment. Finally, we test whether privately held businesses (family and non-family) behave in

accordance with rational behaviour, and thus the financial accounting rate of return (*ROEaT*) is larger than the cost of equity capital (k_e), to discuss value creation (Copeland et al. 2000).

Furthermore, adopting the Socioemotional Wealth perspective (SEW) (Berrone et al. 2010, 2012; Gómez-Mejia et al. 2007, 2010, 2011) and considering that PHFBs pursue both financial and emotional goals (Astrachan and Jaskiewicz, 2008; Martínez Romero and Rojo Ramírez, 2016; Zellweger and Astrachan, 2008), we postulate that PHFBs will require a lower minimum rate of return than PHnFBs ($k_{ePHFBs} < k_{ePHnFBs}$) and that PHFBs will obtain higher equity returns than PHnFBs ($ROEaT_{PHFBs} > ROEaT_{PHnFBs}$). We argue that PHFBs may be willing to accept lower performance levels to maintain their emotional endowment; however, simultaneously, a major knowledge of their businesses makes them more profitable. Moreover, considering that PHFBs are not a homogeneous group, and their characteristics may influence their performance (Chrisman and Patel 2012; Miralles-Marcelo et al. 2014), we also postulate that the degree of family involvement in ownership and management will have differential effects on the firm performance because the decision makers feel emotionally tied by different degrees to their firm (Carnes and Ireland 2013; König et al. 2013).

Utilizing a dataset of 711 Spanish privately held businesses for a pre-crisis period (2002-2007) and 630 Spanish privately held businesses for a recession period (2008-2013)[1], which is considered representative of the Spanish economy, this study tests the previously noted arguments with two measurements of required and obtained returns, respectively.

Our article contributes to the literature by several means. First, according to previous literature (Xi et al. 2015) and to the best of our knowledge, this is the first study that analyses the impact of the family nature on the minimum rate of return required by shareholders as well as on the obtained equity returns for European privately held businesses, considering the economic context. We found that, while family businesses have a positive and significant impact on ROE in economic growth periods, they have no effect on the profitability obtained in the recession period. At the same time, we found that family businesses always have a negative and significant impact on k_e regardless of the economic environment. These results lead to differences in various business processes regarding the value creation, the investments and the capital structure decisions. Second, our study offers new insights into the sources of the heterogeneity among PHFBs. Thus, by classifying PHFBs according to the degree of family involvement in ownership (measured by ownership dispersion among family

[1] The reduction in the number of businesses during the recession period is because we removed firms by trimming the outliers at a 1% level in their economic and financial data to prevent distortions in the analysis. We also excluded firms with missing values on relevant variables and those that were either extinct or in liquidity situation.

members) and in management (measured by the identity of the family firm CEO, i.e., family or nonfamily CEO), we examine how different categories of family firms impact the required and obtained equity returns. Third, according to a review of the previous literature (Martínez Romero and Rojo Ramírez 2016; Mensching et al. 2014), we contribute to the SEW literature by showing that, for PHFBs, non-economic goals do not necessarily imply underperformance but may involve a lower cost of equity capital. This finding intensifies the debate regarding the influence of non-economic goals on PHFBs' performance. That is, our results suggest that the influence of non-economic goals may be different depending on the economic environment. Thus, we show that PHFBs achieve higher performance levels, at least in a favourable economic situation, whereas they are willing to accept lower required returns. In both cases, our findings show the relevance of differentiating the investor's nature. Finally, our outcomes reinforce the emerging consensus in the family business field that PHFBs outperform PHnFBs in economic good times.

The remainder of this article is structured as follows. The following section reviews the previous literature and introduces the hypotheses. Next, the methods are described. Subsequently, the data and the obtained results are explained. Finally, the last section offers the main conclusions, the limitations and the future research lines.

Performance in privately held businesses: theoretical background and hypotheses development

Assessing the minimum rate of return required by owner-investors is one of the main challenges in corporate finance (Palliam, 2005); evaluating the accounting rate of return is a major challenge in financial analysis as well (Brief and Lawson, 1992). Both measures, required and achieved returns, elucidate business performance. That is, these measures show how businesses behave in economic and financial terms.

The Minimum Rate of Return required by owner-investors

Scholars and practitioners have generally used the capital asset pricing model (CAPM) to estimate the minimum rate of return required by owner-investors, also known as the cost of equity capital (k_e) (Graham and Harvey, 2001; Rojo Ramírez and García Pérez de Lema, 2006; Welch, 2000). Most scholars have applied the well-known simplification of Sharpe (1986), as expressed in the equation of the Securities Market Line:

$$k_e = R_f + \beta_i \cdot (R_M - R_f) \qquad \text{(Expression1)}$$

where R_f is the risk-free interest rate, β_i is the market beta, which represents the risk of a security (a firm) as part of a well-diversified portfolio, and R_M is the expected profitability of the portfolio on the market.

Recently, certain researchers have questioned the CAPM's capacity to capture risk (Adams et al. 2004; Chatterjee et al. 1999; Fama and French, 2002, 2004, 2006, 2015), indicating that there are circumstances in which distinct investors behave differently (Rojo Ramírez, 2014).

Particularly in privately held businesses, shareholders are not only not very well diversified, having their personal net worth invested in a single private company (Müller, 2011; Rojo Ramírez, 2014) but also must address firms that do not have betas (McConaughy, 1999); this exposes them to idiosyncratic risk. Therefore, and according to theory, rational owners will require compensation for this risk exposure in the form of higher returns on their investment.

Thus, Rojo Ramírez (2014) noted the importance of distinguishing the investor nature and the type of businesses in which investors put their resources to ascertain an adequate cost of equity capital. The researcher distinguishes between *purely financial investor*, or someone who uses the market as a means for diversification and liquidity in his/her portfolio, and *economic risk investor*, or someone who risks all or most of his/her resources in a company that is the essence of his/her business without a very effective diversification policy and a certain lack of liquidity.

Purely Financial investors (PFIs) use the CAPM according to the portfolio theory (Markowitz, 1952, 1959) and the mean-variance framework. The CAPM main assumptions are that investors are rational and diversify their investments to reduce risk and maximize profitability based on an extremely efficient market that reflects information about individual securities and about the stock market as a whole (Fama, 1970; Malkiel, 2003).

Thus, PFIs will seek to cover all the range of securities in proportion to their market participation, which means that the CAPM represents the typical financial-buyer behavioural model in an active stock market (Artemenkov, Mikerin, and Artemenkov, 2008). Consequently, the buyers' aggregate beta (β_i) would be equal to one, because of the perfect diversification and their minimum rate of return would be:

$$k_e = R_f + 1 \cdot (R_M - R_f) = R_f + P_M \qquad \text{(Expression 2)}$$

where P_M (or similarly, R_M - R_f) is the market systematic risk premium, that is, the premium to invest in the market with perfect diversification and liquidity.

Although very extended, the CAPM is not the most appropriate means to calculate k_e for *Economic risk Investors* (ERIs) and thus, for privately held businesses (Rojo Ramírez, Cruz Rambaud and Alonso Cañadas, 2012). In fact, as investors in privately held businesses are not primarily PFIs, they are not as well diversified as PFIs are, and their investments are not as liquid. Therefore, ERIs will require an additional premium to the market risk premium (P_M) that is called specific risk premium (P_e) (Müller, 2011).

Thus, ERIs, who are totally committed to their businesses, will require a minimum rate of return above that required by PFIs. Specifically, owner-investors will require at least the rate of return that they could have achieved by leveraging a market portfolio to obtain the same risk level (Garvey, 2001; Kerins et al. 2004). This finding is because ERIs assume a larger risk inherent to a specific economic business activity, given the market restrictions for these types of businesses. In such conditions, it can be stated that the minimum rate of return required by ERIs would be:

$$k_e = R_f + P_M + P_e \qquad \text{(Expression 3)}$$

where P_e is the specific or idiosyncratic premium required by ERIs due to their major risk exposure and the certain lack of liquidity and diversification of their investments.

This expression is known as *The Three Component Model* (3CM) (Rojo Ramírez et al. 2012), and its mathematical and financial development leads to:

$$k_e = R_f + P_M + P_M \cdot \left(\frac{\sigma_e}{\sigma_M}\right) \qquad \text{(Expression 4)}$$

where σ_e and σ_M are the standard deviations of the firm financial profitability for the historical analysed period and the historical market profitability for the same period, respectively.

Expression 3 shows that, while adverse investors will invest in Treasury bonds with no risk at a return of R_f, PFIs will invest in the market seeking perfect diversification (beta =1) and liquidity by requiring a premium over adverse investors (P_M). In contrast, ERIs, as entrepreneurs or privately held businesses' owners, will require a return over the return required by financial investors. Namely, ERIs will expect an extra premium (P_e) that compensates them for the increased risk.

Therefore, it can be assumed that ERIs (both family and non-family) will require a minimum rate of return greater than that required by investors who take a stake in quoted companies through the market (Rojo Ramírez, 2014).

Nevertheless, there is minimal empirical research regarding family influence on the cost of equity capital, and the existing results are diverse. On the one hand, in the context of minority

expropriations, Boubakri, Guedhami, and Mishra (2010) compared the cost of equity between public family and non-family Asian firms. The researchers found that family control was associated with an increase in the cost of equity after the Asian financial crisis of 1997-1998. On the other hand, Martínez Romero and Rojo Ramírez (2017), focusing exclusively on family businesses, analysed the influence of SEW dimensions (Berrone et al. 2012) on the minimum rate of return required by family businesses' shareholders. The researchers showed that a major emotional endowment in family firms would imply lower required returns.

Thus, we state that the minimum required rate of return (k_e) may be different for privately held family businesses (PHFBs) and for privately held non-family businesses (PHnFBs). According to the previous literature, family firms behave differently from non-family firms (Cruz et al. 2014; Ensley and Pearson, 2005; Schulze et al. 2001). Then, PHFBs should be focused on other objectives in addition to purely financial goals (Martínez Romero and Rojo Ramírez, 2017; Vandekerkhof et al. 2014). Moreover, PHFBs may be willing to accept higher risk and sacrifice financial results to maintain their SEW (Berrone et al. 2012) because family character-associated capacities influence the decision-making process in these firms (Dolz, Iborra and Safón, 2015).

Thereby, while certain scholars have suggested that enterprising families are focused on performance goals such as wealth creation (Habbershon, Williams and MacMillan, 2003) or financial wealth creation (Sciascia, Mazzola and Kellermanns, 2014), others (Zellweger and Nason, 2008; Chrisman et al. 2012) have postulated that family firms are more centred on non-economic objectives.

In any case, family businesses are expected to pursue both financial and emotional goals. In addition, according to recent articles (Leitterstorf and Rau, 2014; Pazzaglia, Mengoli and Sapienza, 2013; Schepers et al. 2013), the emotional considerations outweigh the financial goals. In fact, family investors are managers, shareholders and employees simultaneously, and they invest in long-term projects. Therefore, it is predictable that the minimum rate of return required by family owners (k_{ePHFB}) will be lower than the rate required by non-family investors *(k_{ePHnFB})*, because they may be willing to sacrifice financial objectives to maintain their emotional endowment. Thus, it can be assumed that k_{ePHFB} will be lower than k_{ePHnFB}. Stated formally:

Hypothesis 1. *The minimum rate of return required by family owner-investors in PHFBs (k_{ePHFB}) will be lower than the minimum rate of return required by non-family investors in PHnFBs (k_{ePHnFB}).*

Nonetheless, not all PHFBs have the same nature (Diéguez Soto et al. 2015; Le Breton-Miller and Miller 2013) implying family business heterogeneity (Chrisman et al. 2012), that may influence its performance (Chrisman and Patel 2012; Miralles-Marcelo et al. 2014) and thereby, its minimum required equity returns. The degree of family involvement in ownership and management may lead to different performance outcomes (Chrisman et al. 2012; De Massis et al. 2015; Sciascia and Mazzola 2008). On the one hand, the ownership dispersion should engender objective misalignment, loss aversion and thus family conflicts (Berrone et al. 2012; Padilla-Meléndez et al. 2015). On the other hand, the family involvement in management should reduce agency costs (Chrisman et al. 2004; Jensen and Meckling 1976) and thus improve family firm performance.

Nevertheless, there are few empirical studies that analyse the effect of family influence on the k_e (Boubakri et al. 2010; Martínez Romero and Rojo Ramírez 2017). Then, what we can state is that the impact of the family nature on k_e will vary among PHFBs, depending on their level of family involvement in ownership and management, as these are considered sources of heterogeneity within family firms (Casillas et al. 2010; Detienne and Chirico 2013). Thus, the hypothesis 2 follows from the preceding arguments:

Hypothesis 2. *The impact of Family Nature on the minimum rate of return required by family owner-investors (k_e) will vary with the ownership dispersion among family members and with the identity of family firm CEO.*

The Accounting Rate of Return

The accounting rate of return (ARR) has been traditionally used as a surrogate for the economic rate of return (ERR) to evaluate the effectiveness of the management and the capital investment decisions (Gordon, 1974). The ARR is a central concept in financial analysis (Feenstra and Wang, 2000), also used as a benchmark to assess business performance. However, different authors have warned about the ARR's lack of economic significance and have advised that ARR might be a misleading profitability measurement (e.g., Danielson and Press, 2003; Fisher and Mcgowan, 1984; Livingstone and Salamon, 1970).

The ARR is based on financial reporting (e.g., ROA, ROIC or ROE) and because of financial statements are based on accounting rules (accruals) and not on economic measurements (cash), doubts persist as to whether accounting can actually provide reliable measures of economic profitability (Magni and Peasnell, 2012).

Conversely, the ERR (usually the Internal Rate of Return, that is, IRR) is, by definition, the

ratio of money returned over a given interval per unit of capital invested (Magni and Peasnell, 2012).

To the extent that ARR is under accrual and ERR is under cash, both measures cannot be directly compared. To make them comparable, it is necessary to convert the ARR into an ERR by removing/adding accruals. The relationship between ARR and ERR has been studied for more than 30 years (Feenstra and Wang, 2000), and proposals such as the cash recovery rate (Ijiri, 1978), which is very similar to economic free cash flows, appear less promising than they once were.

Hence, although it is highly usual to find empirical research that used ROA as a measurement of accounting performance, certain authors (Koralun-Bereznicka, 2013; Matthias Meitner, 2006; Rutherford and Holt, 2008; Trevino and Alvarado-Rodriguez, 2011) used ROE because, as indicated by Sciascia et al. (2014), *ROE is the growth rate of wealth invested by owners and consequently represents the most suitable indicator of profitability in a study where the argument is built on financial wealth.*

Thus, when ROE needs to be compared with k_e, a proxy of operating cash flows is used as the numerator. To gather the effect of control investments and to seek financial returns, this proxy includes cash flows from financial activities. Therefore, the profits and losses are adjusted for the effects of non-cash transactions, any deferrals or accruals of past or future operating cash receipts or payments, and income or expense items associated with investing or financing cash flows. To do this, we acted in accordance with Nissim and Penman (2001), Penman (2007) and Rojo Ramírez (2014). Thus, considering the previously noted considerations, the following expression will be used:

$$ROEaT = \frac{EBITDA+FIn-FEx-TAX}{\bar{E}} \qquad \text{(Expression 5)}$$

where *EBITDA* is Earnings Before Interest, Taxes, Depreciation, and Amortization, to avoid non-cash transactions; *FIn* is financial income or revenues, FE_X are financial expenses, (both included to consider the financial structure); and $\bar{E}$ is the accounting average equity of the year, that is, the arithmetic mean of the equity value at the beginning and at the end of the period.

Moreover, extending further, we postulate that there are certain differences between PHFBs and PHnFBs regarding the ARR. Thus, agency theory (Jensen and Meckling, 1976) suggests that PHFBs may be more profitable than PHnFBs because family managers, who are also shareholders and employees simultaneously, are more committed to business success (Smith, 2008).

Certain inconsistencies have been found to validate these results (Miller, Le Breton-Miller and Lester, 2011). On the one hand, different researchers have shown that family firms outperform non-family firms (e.g., Anderson and Reeb, 2003; Daily and Dollinger, 1992; Lozano, 2015), using profitability as a gauge of performance, measured as an ARR. On the other hand, certain studies have shown that non-family firms achieve better results than their family counterparts (Bennedsen et al. 2007; Maury, 2006; Sindhuja, 2010)

Nevertheless, in accordance with the mainstream in the family business field (Classen et al. 2014; Pindado García, Requejo Puerto and de la Torre Olvera, 2014; Villalonga and Amit, 2006), we postulate that family firms outperform non-family firms. Thus, it can be assumed that $ROEaT_{PHFBs}$ will be larger than $ROEaT_{PHnFBs}$. Stated formally:

Hypothesis 3. *The PHFBs' accounting rate of return (ARR_{PHFBs}) will be larger than the PHnFB's accounting rate of return (ARR_{PHnFBs}).*

Furthermore, PHFBs are not a homogeneous group (Chirico and Bau' 2014), and the degree of family involvement in the ownership and management influences firm performance (Mensching et al. 2014; Xi et al. 2015). Nevertheless, the results concerning the impact of family influence on financial profitability are inconclusive. For instance, De Massis et al. (2015) found that the ownership dispersion among family members negatively affects performance, while the family involvement in the management positively affects performance. Sciascia et al. (2014) showed a positive relationship between family management and firm profitability but only at later generational stages. However, Gottardo and Moisello (2015) did not find a significant impact of the ownership dispersion on firm performance among family businesses. Moreover, Miralles-Marcelo et al. (2014) suggested that CEOs' identity (founder, family or external) influences firms' performance, and Gómez-Mejia et al. (2001) found that nonfamily CEOs are more responsible for firm performance than family CEOs. Furthermore, Huybrechts et al. (2012) argued that nonfamily CEOs have a positive influence on the family firm's level of entrepreneurial risk-taking and thus, on firm performance.

Although the results are diverse, it appears clear that the family nature's impact on firm performance varies based on the level of family involvement in the ownership and management (Mazzi 2011), thus:

Hypothesis 4. *The impact of Family Nature on the accounting rate of return (ARR) will vary with the ownership dispersion among family members and with the identity of the family firm CEO.*

Method

Data set

The empirical data presented in this article are derived from a wider study exploring general characteristics (profitability, investment, leverage, performance and efficiency) for a representative sample of Spanish family and non-family privately held businesses. Based on the SABI[2] database and for a twelve-year period (2002-2013), privately held businesses located in Spain were selected.

We restricted the potential sample to medium and large companies to assure the quality of data[3]. The firm size is based on the EU Recommendation L124/36 (2003/361/EC) of May 6, 2003, that considers two of three main variables to classify firms: number of employees, turnovers and/or total balance sheet. Therefore, firms with at least 50 full-time employees and minimum revenues of € 10 million for at least one year of the period analysed were selected. Thus, we began with an initial sample composed of 4.265 potential privately held businesses.

The statistical classification of economic activities in the European Community, known as NACE, was used. All the NACEs 2009 codes were included[4]. In addition, we required that firms were active, were founded before 1977; as they were owned by individuals, not by other companies as well. Consequently, our initial sample was reduced to 719 privately held businesses (16.85% of the initial sample)

As we also want to compare whether the differences in performance exist between family and non-family businesses, and the SABI dataset does not include information with respect to whether the firm is a family firm or not, in accordance with the proposal of (Diéguez Soto et al. 2015), we identify and classify family businesses. To differentiate between family and non-family businesses, these researchers used the involvement approach (Chrisman et al. 2005) as their reference, considering that family control and involvement are sufficient to make a firm a family business. Moreover, the researchers took advantage of the Spanish custom of providing children with two surnames, one from each parent. Diéguez Soto et al. (2015) checked the surnames of all the internal stakeholders involved in the governance and

[2] SABI (Sistema de Análisis de Balances Ibéricos) is an economic and financial dataset whose data had been compiled by Informa D&B in collaboration with Bureau Van Dijk, including financial statements, ratios, activities, shareholders of more than 1,080,000 Spanish and 320,000 Portuguese companies (March 2011).

[3] SABI data are collected from Commercial Registry in which the smallest of SME firms deposit their data in accordance with a simplified model with which certain relevant information is lost.

[4] We excluded the following: Financial Services' excepted insurance and pension funding; Insurance, reinsurance and pension funding, except compulsory social security; Auxiliary activities to financial services and insurances; Partnership activities; Other personal services; and, Extraterritorial organizations' activities (Diéguez Soto et al. 2015).

management of the business, that is, shareholders, CEO and firms' directors. Finally, after checking for ownership and management, and depending on whether a coincidence exists between the surnames, businesses were classified as family firms or not. Similar methodologies have also been used by Gómez-Mejia et al. (2001) and Martínez Romero and Rojo Ramírez (2017), among others, to distinguish between family and nonfamily firms. After applying these criteria, 409 were classified as family businesses, while 310 were classified as non-family businesses.

Furthermore, the proposal of Diéguez Soto et al. (2015) allows for differentiation between the distinct types of family businesses, depending on the level of family involvement in ownership and management. Specifically, the researchers distinguished between co-preneurial family businesses, independent family businesses, professionally run family businesses and family businesses run solely by family members. Thus, co-preneurial FBs are those firms in which the shareholder, director and CEO positions are held by two people of the opposite sex and with different surnames, who should have family ties by marriage. In independent FBs, the CEO is a family member, and no shareholder owns more than 25% of the shares, so the equity is widely distributed among them. Professional FBs have an external (non-family) CEO, but shareholders and/or directors belong to the business family, being the equity owned by few family shareholders. Finally, in solely family-run FBs the equity is concentrated in hands of one or two family members, having family shareholders and/or directors and, also a family CEO.

Due to the effects of the global economic and the financial crisis, we considered two periods of analysis: the first covers the pre-crisis and growth period (2002-2007), and the second covers the recession years (2008-2013). As demonstrated by Bednarek and Moszoro (2014) and by Boubakri, Guedhami, and Mishra (2010) the fact of distinguishing between a pre and crisis period may lead to different results regarding financial measures.

Thereby, after excluding cases with missing values with regard to our main variables (k_e and *ROEaT*) from our dataset, we obtained a final sample of 711 privately held businesses for the first period, of which 406 (57.1%) were PHFBs and 305 (42.9%) were PHnFBs.

The number of businesses decreased over the crisis period because we removed firms by trimming the outliers at a 1% level in their economic and financial data to prevent distortions in the analysis. We also excluded firms with missing values for relevant variables and those that were either extinct or in liquidity situations. These processes led to a final sample of 630 for the post-crisis period; of these, 353 (56%) were PHFBs, and 277 (44%) were PHnFBs.

To evaluate the representativeness of our sample in the first period, we compared our final sample (711 privately held businesses, 16.67% of the initial sample) with the total large and medium businesses that were in SABI in 2007, the final year of that period. We obtained a percentage of 5.99% of the total number of Spanish businesses with these characteristics, which highlighted the representativeness of the number. Similarly, we did the same for the second period. We compared the final sample with the existent firms in SABI that met the requirements to be considered large and medium firms in 2013 and obtained a percentage of 5.92%, which also demonstrated the representativeness of the sample.

The potential for multicollinearity, heteroscedasticity, and common method bias were addressed for our sample. First, based on the correlation matrixes (tables 2 and 3) and on the variance inflation factor (VIF), multicollinearity did not appear to be a concern, as we explain below. Second, the plot of the standardized residuals against predicted values (Field 2013) showed that our data met the assumptions of linearity and homoscedasticity. Therefore, we found no indications of heteroscedasticity. Finally, we performed Harman's single-factor test (Podsakoff et al. 2003), which reveals that common method bias does not appear to be a disadvantage in our study.

Model

Because our final goal is to test whether the family character of privately held businesses influences both the minimum rate of return required by owner-investors (k_e) and the returns on equity after tax (*ROEa*T), and to explore the heterogeneity across PHFBs in these performance measures, we developed the following regression analysis, whose variables are explained below:

$$k_e = \beta_0 + \beta_1 FAge + \beta_2 FSize + \beta_3 E + \beta_4 manu + \beta_5 serv + \beta_6 cons + \beta_7 agri + \beta_8 trans + \beta_9 whole + \beta_{10} FB + \epsilon$$

(Equation 1)

$$k_e = \beta_0 + \beta_1 FAge + \beta_2 FSize + \beta_3 E + \beta_4 manu + \beta_5 serv + \beta_6 cons + \beta_7 agri + \beta_8 trans + \beta_9 whole + \beta_{10} IndepFB + \beta_{11} ProfFB + \beta_{12} SolrunFB + \epsilon$$

(Equation 2)

$$ROEaT = \beta_0 + \beta_1 FAge + \beta_3 E + \beta_4 manu + \beta_5 serv + \beta_6 cons + \beta_7 agri + \beta_8 trans + \beta_9 whole + \beta_{10} FB + \epsilon$$

(Equation 3)

$$ROEaT = \beta_0 + \beta_1 FAge + \beta_2 FSize + \beta_3 E + \beta_4 manu + \beta_5 serv + \beta_6 cons + \beta_7 agri + \beta_8 trans \ \beta_9 whole + \beta_{10} IndepFB + \beta_{11} ProfFB + \beta_{12} SolrunFB + \epsilon$$

(Equation 4)

Dependent Variables. To measure the minimum rate of return required by owner-investors (k_e) of each privately held business, we used the Three Components Model (3CM) shown in

expression 4, in accordance with Martínez Romero and Rojo Ramírez (2017) and Rojo Ramírez (2014). For each business, we used the following data[5]:

- The risk-free rate (R_f) originated from the Spanish Public Treasury website. The rate's value for the reference year of the pre-crisis period (2007) was 3.66%. The rate for the reference year of the crisis period (2013) was 4.68%.
- As market premium (P_M), the average historical value according to the Spanish national study of Garrido and García (2010) was used. The premium's value was approximately 4.5% for both periods analysed.
- For the standard deviation of market returns (σ_M), we used data from the Madrid Stock Exchange website firstly for the 2002-2007 period and then for the 2008-2013 period. Specifically, the total market profitability offered by *Revista bolsa y mercados*[6] was determined.
- The term σ_e was individually calculated for each business as the standard deviation of its financial profitability for the same period as σ_M that is, from 2002 to 2007, and from 2008 to 2013. We used financial data from the SABI database.

To achieve a more normal distribution, we used the natural logarithm of k_e (Tabachnick and Fidell, 1996).

To measure the returns on equity after tax (*ROEaT*), we used expression 5 and averaged these values, firstly for the years 2002–2007 and then for the 2008-2013 period, to generate our final value. We used reported data in the individual annual accounts. As indicated by Sciascia et al. (2014) and Rojo Ramírez (2014), *return on equity* is the most appropriate indicator of profitability to measure financial wealth. Therefore, in accordance with these authors' recommendations, we used *ROEaT* instead of *ROA* (Returns on assets) or *ROS* (Returns on sales), which is more common in the literature, because using a profitability ratio whose denominator is financial wealth (i.e., equity) is more appropriate than any other option in our case.

Independent Variables. As we want to test whether the family character of privately held businesses has an impact on required and obtained business profitability, our first independent variable is *Family business (FB)*. Thus, *FB* was measured by a dichotomous variable taking

[5] Note that the risk-free rate, the market premium and the standard deviation of market return are common data for all businesses.
[6] http://www.bolsasymercados.es/esp/publicacion/revistaOnLine/index.htm

the value 1 for family businesses and 0 for non-family businesses. This variable is used in equations 1 and 3.

Furthermore, to analyse the family nature and the variability or heterogeneity within the family business population with respect to the required and obtained equity returns, we created dummy variables to identify different types of family businesses and used them as independent variables in our regression models. Thus, in accordance with the methodology of Diéguez Soto et al. (2015) we distinguished between: Independent FBs (*Indep*), Professional FBs (*Prof*) and Solely family-run FBs (*Solfam-run*)[7]. Thus, the dummy variable *Indep* equals one when the firm is classified as Independent FB, and zero otherwise. The dummy variable *Prof* takes the value one when the firm is classified as Professional FB, and zero in all other cases. In addition, the dummy variable *Sol-run* equals one when the firm is classified as Solely run FB, and zero in the remainder of cases.

Control variables. We also controlled for several business characteristics that may influence firm performance. First, *firm age* was used as a control variable because previous literature suggests that business stage may influence required and obtained returns (Pastor and Pietro, 2003). *Lnage* was computed by the natural logarithm of firm age measured in years. Next, *firm size* was measured in number of employees. The risk tends to decrease with firm size (Zellweger, 2007; Zellweger et al. 2011). Therefore, according to financial rules, a major risk will imply major required returns and vice versa. Additionally, *leverage* was used because of its influence on firm performance (e.g., Maury 2006; Boubakri et al. 2010); as the amount of debt in the firm's capital structure increases, the risk also increases (Modigliani and Miller 1958). *Lev* was calculated as financial debt over equity. Finally, as firm return will be different depending on the *industry* in which it operates, we include six dummy variables (*manu, serv, cons, agri, trans,* and *whol*) to control for the effect of industry affiliation on k_e and on *ROEaT,* omitting a dummy variable for the firms that operate within others sectors. This omission allows us to classify firms by whether they competed in seven major business lines: manufacturing, services, construction, agriculture, transportation, wholesale & retail and other sectors of the economy (Müller, 2011).

[7] There were only five cases in our sample that may have been classified as co-preneurial FBs. Because of the small sample, we decided to include these cases in the solely family-run FBs group since these firms also met the characteristics to be classified as this type of family firm. Researchers usually use family involvement in ownership and management as a key aspect to categorize a firm as a family business (e.g. Dieguez Soto, Manzaneque Lizano, & Rojo Ramírez, 2016; McConaughy 1999), and in these firms both ownership and management is concentrated in the hands of one or few family members.

Data analysis and Results

The hypotheses proposed in the research models were tested using a hierarchical regression analysis (see Table 4 and Table 5), to determine whether *family businesses* have a significant impact on business performance. Moreover, by distinguishing between different types of family businesses, we extend a step further and analyse the heterogeneity within the PHFBs population regarding the financial performance measures. We use k_e as dependent variable in Models 1 and 2, and *ROEaT* as the dependent variable in models 3 and 4. For each of the dependent variables, we distinguished between the pre-crisis and crisis periods.

(Insert Table 1 here)

The descriptive statistics are summarized in Table 1 and the correlations in Tables 2 and 3.

With respect to the pre-crisis period, a privately held business in our sample has, on average, 213 employees and is 51 years old (age and size are not yet transformed into their logarithms). Table 1 also reveals that firms in our sample are between 31 and 171 years old, and they have between 28 and 15,863 employees. The leverage is, on average, 1.128. The mean minimum rate of return required by owner-investors is 0.1020 (10.20%). This rate ranges from 0.088 to 0.42. The mean financial profitability measured by *ROEaT* is 0.1907 (19.07%), ranging from -0.302 to 1.01. Of the sample firms, 16% are independent FBs, 11% are professional FBs, and 29% are solely family-run FBs.

The correlation matrix presented in Table 2 (period 2002-2007) shows significant (univariate) effects of the organizational characteristics on business performance. The fact of being a PHFB (*FB*) is significantly and negatively correlated with the minimum required rate of return (k_e), while it is significantly and positively related to profitability (*ROEaT*). These negative and positive relationships are fulfilled for the three types of family businesses: independent FBs, professional FBs and solely family-run FBs. Based on the values in our correlation table, we found no indications of multicollinearity as the highest correlation coefficient was -0.514, which is well below the 0.80 threshold above which multicollinearity threats could arise (Gujarati and Porter 2008). Moreover, we found that the variance inflation factor (VIF) did not exceed 5.68, which is again far below the 10 threshold; therefore, multicollinearity did not appear to be a concern (Belsley, Kuh and Welsch, 1980; Mansfield and Helmsb, 1982).

For the crisis period, the years between 2008 and 2013, a privately held business in our sample has, on average, 226 employees and is 51.5 years old. The increase of the mean value

of the firm size may be explained by the fact that larger companies confront crisis situations more efficiently than their smaller counterparts. The leverage is on average 1.318. As expected, due the worse economic conditions, the mean *ROEaT* value decreases to 0.102 (10.2%), ranging from –0.598 to 1.286. Nevertheless, the mean value of k_e is 0.117 (11.7%), which is higher than that in the previous period. This rate ranges from 0.095 to 0.414. The correlation matrix for this period (Table 3) shows that *FB* is significantly and negatively correlated with k_e. Moreover, k_e is negatively related to the different types of PHFBs. There is a positive relationship between *FB* and *ROEaT* as well as between *FB* and all the typologies of PHFBs. Based on the values of the correlation table and on the values taken by the variance inflation factor, we do not find any evidence of multicollinearity.

(Insert Table 2 and Table 3 here)

Table 4 displays the results of the regression models, considering k_e as the dependent variable. Models 1(a), 1(b) and 1(c) refer to the economic growth period and Models 2(a), 2(b) and 2(c) refer to the economic downturn. Models 1(a) and 2(a) are the baseline models that only include control variables. These models show the differential effects of fourth control variables (*Firm age, Firm size, Leverage and Industry*) on the k_e. For instance, *Firm Age* and *Firm Size* has a negative effect on k_e in both periods. *Lev* also has a positive effect on k_e in either period. On the one hand, Model 1(a) shows that k_e is negatively and significantly related to the manufacturing industry variable ($p < 0.001$) and the wholesale and retail industry variable ($p < 0.001$). Moreover, the model is significant ($p < 0.001$). On the other hand, Model 2(a) shows that, in addition to the effects explained above, k_e is negatively and significantly related to the agriculture industry variable ($p < 0.05$).

Models 1(b) and 2(b) introduce the effect of *family business,* and both models are significant ($p < 0.001$). These models confirm the predicted interaction effect between k_e and the family character of privately held businesses. As we expected, *FB* has a negative and significant impact on k_e in both periods. Thus, in the growth economic period at the 5 per cent level, k_e of PHFBs is an average of 2.6 percentage points lower than that of PHnFBs ($\beta = -0.026$; $p < 0.05$). Moreover, in the economic recession period, the coefficient of *FB* ($\beta = -0.031$; $p < 0.05$) implies that k_e of PHFBs is an average of 3.1 percentage points lower than that of PHnFBs. These results support H1.

Finally, Models 1(c) and 2(c) introduce the effect of family nature, by distinguishing between different typologies of PHFBs, i.e., independent FBs, professional FBs and solely family-run

FBs, in both pre-crisis and crisis period, respectively. Both models are significant ($p < 0.001$). For the growth period, Model 1(c) using PHnFBs as the reference category indicates that Independent FBs have a lower k_e (β = -0.039; $p < 0.001$) than PHnFBs. This coefficient indicates that, at the 1 per cent level, k_e of independent FBs is an average of 3.9 percentage points lower than that of PHnFBs. Solely run FBs also have a lower k_e (β = -0.025; $p < 0.05$) than PHnFBs. This coefficient shows that, at the 5 per cent level, k_e of independent FBs is an average of 2.5 percentage points lower than that of PHnFBs. For professional FBs, the impact on k_e is also negative. For the economic downturn, Model 2(c) reveals that the relationship between the different types of PHFBs and k_e remains negative. However, in this case, only the impact of independent FBs on k_e, which represent 37.95 per cent of PHFBs, is significant (β = -0.055; $p < 0.001$). This coefficient implies that k_e of independent FBs is an average of 5.5 percentage points lower than that of PHnFBs. These findings support H2.

Table 5 shows the results of the regression analysis, taking *ROEaT* as the dependent variable. Models 3 (a), 3(b) and 3(c) refer to the economic upturn (2002-2007), and Models 4(a), 4(b) and 4(c) refer to the economic downturn (2008-2013). Models 3(a) and 4(a) are the baseline models that only include control variables. Model 3(a) shows that *ROEaT* is positively and significantly related to the transportation industry variable ($p < 0.001$) and negatively and significantly related to the wholesale and retail industry variable ($p < 0.01$). This model is also significant ($p < 0.001$). Model 4(a) shows more similar relations between *ROEaT* and most industry variables than that explained for the previous period, with the exceptions of the services industry variable. In this case, this variable changes its sign and has a negative coefficient. This fact may well be the consequence of the different impact of the financial crisis on the economic sectors, as suggested by Gottardo and Moisello (2014). These authors found that the estimated models have different parameter values before and after the financial crisis. Moreover, *Firm Age* has a negative effect on *ROEaT* in the first period and a positive effect on the second period, meanwhile *Firm Size* has a positive effect on *ROEaT* in either period. In any event, both models (3a and 4a) are significant ($p < 0.001$).

Models 3(b) and 4(b) introduce the effect of *family business*. In Model 3(b) the coefficient of *FB* has a positive and significant impact on *ROEaT* (β = 0.038; $p < 0.001$), which supports H3. This result indicates that *ROEaT* of PHFBs is an average of 3.8 percentage points higher than that of PHnFBs, at the 1 per cent level. Nevertheless, the results change in the period of economic downturn, as shown in Model 4(b). In this case, *FB* does not have a significant impact on the obtained profitability.

Models 3(c) and 4(c) show the effect of family nature differentiating by distinct typologies of PHFBs on *ROEaT*. Both models are significant ($p < 0.001$) for both the pre-crisis and crisis periods.

For the economic growth period, Model 3 (c) shows that considering PHnFBs as the reference category, there are a positive and significant impacts of independent FBs ($\beta = 0.033$; $p < 0.05$), professional FBs ($\beta = 0.035$; $p < 0.05$) and solely family-run FBs ($\beta = 0.044$; $p < 0.001$) on *ROEaT*. These results indicate that independent FBs and professional FBs, at the 5 per cent level, have a *ROEaT* that is an average of 3.3 and 3.5 percentage points higher than that of PHnFBs, respectively. Moreover, solely FBs, at the 1 per cent level, have a *ROEaT* that is an average of 4.4 percentage points higher than that of PHnFBs. These results support H4.

Nevertheless, the results change in the period of the economic downturn, as shown in Models 4(c). Although all types of PHFBs have a positive impact on ROEaT, this effect only remains significant for solely family-run FBs ($\beta = 0.033$; $p < 0.1$). Nevertheless, it is important to highlight that solely family-run FBs represent the 65.23% of PHFBs in the recession period.

Thus, in economic growth periods, investors in PHFBs will require lower minimum rates of return and will obtain higher profitability than investors in PHnFBs. However, during economic recessions, although investors in PHFBs will require lower minimum rates of return, they will obtain similar profitability as investors in PHnFBs.

In sum, on the one hand, *FB* always has a negative and significant impact on k_e, regardless of the economic environment. Moreover, both independent FBs and solely family-run FBs exert a negative and significant impact on k_e, in economic growth periods; this effect remains negative and significant in economic downturns for independent FBs. On the other hand, *FB* has a positive and significant impact on *ROEaT* in economic growth periods, but it has no significant effect on the obtained returns in the economic downturn. In particular, all types of PHFBs have a significant and positive impact on *ROEaT* in economic growth periods, but only the effect of solely family-run FBs remains significant and positive in the economic downturn.

Furthermore, for family and nonfamily businesses, $ROEaT > k_e$ in the economic growth period, which implies they behave rationally. The fact that obtained returns exceed expected returns involves wealth creation, particularly financial wealth creation. However, the spread $ROEaT - k_e$ becomes negative during the economic downturn.

(Insert Table 4 and Table 5 here)

Additional analysis and Robustness Test

We also executed additional robustness tests. First, for the 2002-2007 period, we run a mean comparison between PHFBs and PHnFBs for both k_e and *ROEaT* to determine whether there are significant differences between family and non-family businesses regarding performance. Although the results appear very similar for both businesses categories, the t-test reaffirms the results obtained in the regression model. Thus, k_{ePHFBs} significantly differs from $k_{ePHnFBs}$ ($p < 0.05$), and $ROEaT_{PHFBs}$ significantly differs from $ROEaT_{PHnFBs}$ ($p < 0.05$); this provides further support for the outcomes of our study. Moreover, we re-estimated our parameters using *ROEaT* solely for the year 2007, the final year in the pre-crisis period and, the results were consistent with the findings presented herein.

We also executed a mean comparison between PHFBs and PHnFBs for both k_e and *ROEaT* for the period of economic decline. In accordance with the results obtained in the regression analysis, we observed that k_{ePHFBs} significantly differs from $k_{ePHnFBs}$ ($p < 0.1$). Nevertheless, we did not find significant differences between $ROEaT_{PHFBs}$ and $ROEaT_{PHnFBs.}$ We also re-estimated our parameters using *ROEaT* solely for 2013, and the same results were obtained.

Our findings also show that, for growth periods, the difference between obtained and required equity returns (*ROEaT*-k_e) is greater for PHFBs than for PHnFBs. This major difference indicates that, on average, family firms create more wealth, namely financial wealth, than their non-family counterparts, to the extent that the capacity of a firm to create wealth is defined by its capacity to invest capital at rates of return that exceed the costs of capital (Copeland, Koller, and Murrin, 2000).

Discussions and Conclusions

The main goal of this study was to explore to what extent required (k_e) and obtained (*ROEaT)* equity returns are influenced by the family nature of the firm and to determine whether this influence changes with the economic context. A further aim of this article was to analyse the heterogeneity across family firms in these performance measures. Finally, another purpose was to determine whether privately held businesses (family and non-family) behave in accordance with rational behaviour, thus their *ROEaT* is larger than their k_e, to discuss wealth creation. We hypothesized that the minimum rate of return required by business owners (k_e) is lower for PHFBs than for PHnFBs (H1), and that the influence of managed family firms on k_e varies with the degree of family involvement in ownership and management (H2). We also hypothesized that equity returns (*ROEaT)* are higher for PHFBs than for PHnFBs (H3) and

that the impact of family managed firms on *ROEaT* varies with the degree of family involvement in ownership and management (H4). Nevertheless, due to the consequences of the global economic and financial crisis, we considered it necessary to distinguish between a growth period (2002-2007) and a recession period (2008-2013). Thus, important differences can be appreciated in the businesses' financial data of either period.

Our regression results supported H1 and H3 for the first pre-crisis period, as we found that *family businesses* are negatively and significantly related to k_e and positively and significantly related to *ROEaT*. Our findings also supported H1 for the crisis period but did not support H3. Thus, we identified empirical support to justify that *family businesses* are negatively and significantly related to k_e in the recession period but did not find a significantly relationship between *family businesses* and *ROEaT*. Therefore, we found empirical support for H1 but not for H3.

Moreover, when analysing family nature by entering different typologies of family firms in the regression models to explore heterogeneity across PHFBs (H2 and H4), we obtained the following results. First, with respect to the required equity returns (H2), we found that independent FBs and solely family-run FBs exert a significant and negative impact on k_e, during economic growth periods, which implies that these firms perform better than their nonfamily counterparts. These results are in accordance with those of Schulze et al. (2003b) who document a U-shaped relationship between firm performance and ownership dispersion. Thus, we found higher performance levels when the ownership is highly concentrated in the hands of a single family member, as in solely family-run FBs, and when family ownership is widely dispersed among family members in later stages, as in independent FBs. On the one hand, the fact of having a nonfamily CEO, reflected in the professional FB category, does not have a significant impact on k_e. Conversely, having a family CEO, as in independent FBs and solely family-run FBs, has a negative and significant impact on k_e. In the crisis period, only independent FBs exert a significant negative impact on k_e. Thus, we can state that family firms with a family CEO and with widely dispersed family ownership perform better than other types of PHFBs during economic downturns.

Regarding obtained equity returns (H4), the regression analysis results show that family nature has a positive and significant impact on ROEaT, as all types of family firms obtain higher profitability than their nonfamily counterparts during economic growth periods. These results are in accordance with those of Diéguez Soto et al. (2015), to the extent that these authors stated that independently run, professionally run and solely family-run FBs are a homogeneous group of firms in relation to financial profitability. Thus, it is argued that

PHFBs perform better than PHnFBs in growth economic periods. During the economic downturn, although all types of family firms positively influence financial profitability, only those with higher family involvement in ownership and management; in other words, solely family-run FBs exert a significant impact. Thus, higher family influence in the form of highly concentrated ownership in family hands and a family CEO have a positive impact on firm performance.

Hence, regarding expected returns, particularly the minimum rate of return required by owner-investors, our empirical analysis shows that PHFBs demand lower minimum rates of return than PHnFBs whichever type the family firm is. Although certain authors have proposed different forms of calculating k_e, to the best of our knowledge, no study to date has investigated the impact of *family business* on this rate for privately held businesses considering the economic environment. Thus, Boubakri et al. (2010), using a sample of East Asian quoted companies, found evidence that family control was associated with an increase in the cost of equity capital after the Asian financial crisis. Martínez Romero and Rojo Ramírez (2017), focusing exclusively on family businesses, found that higher socioemotional endowment in family firms is associated with lower costs of equity capital. This consideration allows us to distinguish the differences between family and non-family privately held businesses in terms of the minimum required rate of return. Moreover, extending further, we proposed that these differences may be explained by the specific emotional endowment, that is the SEW (Gómez-Mejia et al. 2007; Berrone et al. 2012), presented in this type of businesses. Thus, family businesses' decision makers feel emotionally tied to their firms. The stronger the emotional ties are, the more influence in the minimum required return there is (König et al. 2013).

Thus, our results suggest that PHFBs, regardless of the type of family business, are less demanding than PHnFBs. These results are fair because PHFBs seek a minimum rate of return belief in transgenerational terms (Zellweger et al. 2011). Moreover, family managers have better knowledge and are more committed to the future of the firm. Furthermore, according to agency theory PHFBs mitigate agency costs, which may result in a lower cost of equity (Boubakri et al. 2010). Similarly, firm reputation may make family investors demand lower hurdle rates, which ultimately implies an increase in the firm value.

Conversely, regarding achieved returns (profitability), our findings reinforce the case of non-quoted companies previous research, which showed that for quoted companies, family firms outperform non-family firms (Anderson and Reeb, 2003). However, our results only support this assumption for economic growth periods and for different types of family firms, except

for solely family-run business, which is significant at 90%. Thus, Stein (1989) suggested that family firms make better investment decisions because they have more firm-specific knowledge, are less myopic and have longer investment horizons (King and Santor, 2008). Anderson et al. (2012) added that PHFBs are more profitable because they have better business knowledge, particularly superior information about the firm, and this helps them to move ahead with projects that do not appear to achieve the minimum profitability required by external investors according to the associated risk.

Nevertheless, our findings reveal that, although the pre-crisis financial performance was higher in PHFBs than in PHnFBs, $ROEaT_{PHFBs}$ dramatically decreases in the crisis period, which provides us with an idea of the adaptability of family businesses (Distelberg and Sorenson, 2009). These results are in accordance with a recent study by Rojo Ramírez et al. (2015) that compares the financial characteristics for Andalusian family and non-family businesses in the 2004-2011 period.

Moreover, our findings also revealed that, in growth periods, PHFBs create more financial wealth than do PHnFBs to the extent that the obtained equity returns are higher than the required equity returns (cost of equity capital) in this type of business (Copeland, Koller and Murrin, 2000).

Therefore, per our empirical analysis, it appears that non-financial objectives may imply lower required returns by owner-investors in PHFBs. However, non-financial goals do not necessarily imply less profitability as family-owners have a better knowledge of their businesses and lower agency costs. In accordance with this finding, Rojo Ramírez (2014) notes that non-economics goals do not imply underperformance but could indicate that owner-investors were less-demanding in the long-term.

If we combine both findings, we can elucidate a longstanding question in corporate governance: the conflict of interests between managers and shareholders (Villalonga and Amit, 2006) in the context of the Agency theory. Although PHFBs may be more profitable because they have better business knowledge (Anderson et al. 2012), they are less demanding in minimum returns because: a) they can mitigate agency problems, as they are shareholders, managers and employees at the same time; b) family owners prefer to invest in the family firm because they have less ambiguity about their company caused by better business knowledge; c) family-owners invest in long-term projects based on the dynamic of family beliefs of passing the business to the next generations; and d) finally, the fear of failure, which could damage the family firm's name and reputation (Dyer Jr and Whetten, 2006).

Finally, we must outline the different behaviours shown by industries in pre-crisis and crisis periods. Industries rooted in fundamental economics and more competitive sectors (i.e., agriculture, manufacturing, wholesale and retail) are more stable and have a negative influence on k_e and *ROEaT*, both in pre-crisis and crisis periods. However, those industries more influenced by macro variables (i.e., services and construction) change their behaviour when the economic situation changes[8]. Transportation also behaves as a competitive sector but has a positive influence on *ROEaT*.

Contributions.

Our findings contribute to the business literature in several ways. First, we found that family businesses have a negative and significant impact on the minimum rate of return required by owner-investors in privately held businesses. This impact is especially important in independent FBs, as it remains significant regardless of the economic environment. This negative impact of family nature on k_e could be justified by the existence of SEW and non-economic goals, a long-term perspective and a strong knowledge of family firms' managers that reduces ambiguity. These three main features as well as lower agency costs and a social perspective of the family firm contribute to a less-demanding hurdle rate. This fact has important consequences in the value creation process (Sharma and Carney, 2012), because it leads to different results depending on the family nature of the business (Sindhuja 2009). If we define the value creation from a financial perspective, as the difference between obtained and expected returns (Copeland, Koller and Murrin, 2000), we verify that PHFBs create more financial value than PHnFBs, whichever the family nature is.

Furthermore, these differences in k_e between family and non-family firms may well have consequences in the business valuation process to the extent that emotional considerations affect the minimum required rate of return (Martínez Romero and Rojo Ramírez, 2017) that is the rate used to update cash flows. This finding is in accordance with Astrachan and Jaskiewicz (2008) who postulate that emotional returns and emotional costs have an impact on business valuation.

Second, we contributed to the SEW literature by showing that non-economic goals do not need to imply underperformance but may involve a lower cost of equity capital. Although this finding is not aligned with the mainstream in the domain, which considers that family firms may be willing to sacrifice performance objectives to protect and maintain their socioemotional wealth (Gómez-Mejia et al. 2007, 2011), it is not entirely contradictory, as

[8] The influence of the industry variable construction only changes its signs for the k_e

recent research appears to show (Gómez-Mejia et al. 2015). On the one hand, PHFBs have a better knowledge of the business so they may achieve higher performance levels. On the other hand, due to the vocation of continuity in time, PHFBs are willing to accept lower required returns, thinking in transgenerational terms (Zellweger et al. 2011).

Third, we reinforced the previous research that postulated that PHFBs outperform PHnFBs in standard economic situations, which is in accordance with the mainstream in the family business field. Furthermore, in comparing the family nature in an economic growth period and a downturn, the results appear to support the inverted U-shape regarding performance that authors find (Chirico and Bau' 2014; Pindado et al. 2014)

Fourth, we distinguish between two periods, the pre-crisis and the crisis, answering the call of Martínez Romero and Rojo Ramírez (2017) to improve the comprehension of environmental effects on k_e.. This differentiation allows us to determine the impact of family nature on required and obtained equity returns depending on the global economic situation. This distinction is of great importance to the extent that the economic environment conditions businesses' results. Recent studies (Crespí and Martín-Oliver, 2015; Gottardo and Moisello, 2014) have analysed how financial crises affect both family and non-family firms in terms of capital structure but focusing on leverage concerns. Thus, this study is not only the first study that analyses the impact of family nature on required and obtained equity returns of privately held businesses in the European context but also the first that examines these issues by distinguishing between a growth and a downturn period.

Implications for Practice

The findings from this study have several practical implications, particularly for privately held businesses' owner-investors, as well as for firm advisors and business policy makers.

Our findings show that the family nature of privately held businesses affects the required and, occasionally, the obtained results. This result means that emotions among family members affect the business performance (Cruz et al. 2014; Pazzaglia et al. 2013; Sciascia et al. 2014; Stockmans, Lybaert and Voordeckers, 2010). Thus, the SEW should be considered to design the business management policies in family firms to create a balance between the financial and emotional endowments.

Moreover, our results have consequences for the business valuation. Thus, practitioners and advisors need to consider that the minimum required rate of return is affected by non-economics goals (Martínez Romero and Rojo Ramírez, 2017) because of its impact on firm

valuation and thus on the final price of the businesses. This finding is very important in issuing standards, particularly in international valuation standards.

Limitations and Future Research

Our study has certain limitations that also provide interesting avenues for future research. For example, to calculate our dependent variables, we used self-reported data instead of objective criteria. Regarding k_e, although there are different alternatives to calculate the minimum rate of return required by owner-investors (Boubakri et al. 2010), there is not yet a consensus on what is the most appropriate means of calculating it for non-quoted firms (Zellweger 2007). However, after reviewing the existing literature regarding k_e, we concluded that the measurement proposed by Rojo Ramírez (2014) is a suitable form to measure this rate for privately held businesses. Of course, this model could be refined by including the effect of the size, growth or investment level in the minimum rate of return. Therefore, further studies may test the robustness of our findings by using a different estimation of k_e. Second, we used lagged averaged performance data for measuring *ROEaT* when a panel design would have been preferable. Although our approach to average the ROE over time has the advantage of eliminating punctuated contingencies, further research may test the robustness of our findings via a panel design.

Third, our findings could also be affected by country-specific bias in that data were collected exclusively in Spain. Although globalization reduces differences across countries all around the world, future research may test to determine whether our results continue corroborating in other areas or not.

Fourth, we were also required to address the survivor bias limitation. We analysed this concern by examining the businesses excluded from our sample. We checked their main variables. The evidence indicated that the main variables were not included, in most cases, because of missing data; only a few businesses were in liquidity situations or went bankrupt. Thus, we interpret this as evidence that survival bias was not a concern in our sample.

A final limitation of our research is its cross-sectional design, because claims about causality cannot be substantiated with such a method. However, despite the possible existence of endogeneity problems, the cross-sectional designs in this type of research are currently the standard practice (Martínez Romero and Rojo Ramírez, 2017; Vandekerkhof et al., 2014). Moreover, for the returns obtained, the use of a lagged averaged value of the dependent variable over time further ensures that the direction of causality is from family nature to *ROEaT* and that reversed causality can be ruled out.

Of course, further research is needed to confirm our results in different circumstances, countries and situations.

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Tables

Table 1. Descriptive Statistics

	Growth Economic Period (2002-2007)				Economic Crisis Period (2008-2013)			
Variable	M	S D	Min	Max	M	S D	Min	Max
k_e	0.1020	0.0215	0.088	0.42	0.117	0.031	0.095	0.414
ROEaT	0.1907	0.1265	-0.302	1.01	0.102	0.1741	-0.598	1.286
Firm Age	51.1	16.18	31	171	51.5	16.60	31	171
Firm Size	213.11	699.598	28	15,863	225.88	741.814	28	15,863
Leverage	1.128	1.709	-9.64	31.73	1.318	3.706	-6.38	63.38
Manufacturing	0.48	0.5	0	1	0.48	0.5	0	1
Services	0.05	0.219	0	1	0.06	0.229	0	1
Construction	0.12	0.325	0	1	0.12	0.32	0	1
Agriculture	0.03	0.165	0	1	0.03	0.166	0	1
Transportation	0.05	0.219	0	1	0.06	0.232	0	1
Wholesale & Retail	0.22	0.417	0	1	0.21	0.408	0	1
Family Business	0.57	0.495	0	1	0.56	0.497	0	1
Independent FB	0.16	0.367	0	1	0.167	0.373	0	1
Professional FB	0.11	0.314	0	1	0.098	0.298	0	1
Solely family-run FB	0.29	0.453	0	1	0.287	0.453	0	1

Note. N=711 for the 2002-2007 period and N=630 for the 2008-2013 period.

Table 2: Pairwise correlations (2002-2007)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. ke	1														
2. ROEaT	0.127***	1													
3. Firm Age	-0.029	-0.052†	1												
4. Firm Size	-0.03	0.122***	0.195***	1											
5. Leverage	0.454***	0.113***	-0.007	-0.015	1										
6. Manufacturing	-0.108***	-0.045	0.015	0.021	-0.102***	1									
7. Services	0.104***	0.080**	0.114***	0.164***	0.017	-0.221***	1								
8. Construction	0.101***	0.067**	-0.07**	-0.035	0.164***	-0.353***	-0.085**	1							
9. Agriculture	-0.009	-0.008	0.012	0.068**	-0.025	-0.163***	-0.039	-0.063**	1						
10. Transportation	0.037	0.175***	0.059†	0.038	0.027	-0.221***	-0.053†	-0.085**	-0.039	1					
11. Wholesale	-0.059†	-0.153***	-0.061†	-0.187***	-0.026	-0.514***	-0.124***	-0.198***	-0.091***	-0.124***	1				
12. Family Business	-0.092***	0.092***	-0.224***	-0.250***	-0.03	-0.018	-0.163***	0.013	-0.093***	-0.033	0.151***	1			
13. Independent FB	-0.079**	0.026	-0.043	-0.091***	-0.058+	-0.035	0.004	-0.031	-0.051†	0.039	0.051†	0.379***	1		
14. Professional FB	-0.019	0.025	-0.023	-0.043	0.033	0.065**	-0.082**	0.049†	-0.006	-0.041	-0.029	0.306***	-0.154***	1	
15. Solely family-run FB	-0.043	0.066**	-0.148***	-0.143***	-0.01	-0.038	-0.116***	0.003	-0.037	-0.011	0.12***	0.491***	-0.248***	-0.2***	1

Note. N=711.
*† p <0.10; **p <0.05; ***p <0.01*

Table 3: Pairwise correlations (2008-2013)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. ke	1														
2. ROEaT	.578***	1													
3. Firm Age	-0.049	0.051	1												
4. Firm Size	-0.009	.090**	.181***	1											
5. Leverage	-0.093***	0.155***	-0.002	0.021	1										
6. Manufacturing	-.092**	0.027	0.013	0.016	0.03	1									
7. Services	0.05	0.009	.116***	.145	-0.01	-.237***	1								
8. Construction	.123***	-0.013	-0.072**	-0.043	0.047	-.351***	-.088**	1							
9. Agriculture	-0.049**	0.017	-0.007	0.054†	0.004	-.165***	-0.041	-0.061†	1						
10. Transportation	0.039	0.067**	0.06†	0.03	0.017	-.237***	-0.059†	-.088**	-0.041	1					
11. Wholesale	-0.039	-.090**	-0.047	-.184***	-0.09**	-.502***	-.126***	-.186***	-.088**	-.126***	1				
12. Family Business	-.081**	0.034	-.224***	-.240***	-0.033	-0.016	-.164***	-0.001	-.095***	-0.014	.169***	1			
13. Independent FB	-0.076**	0.01	-0.053+	-.099***	0.017	-0.033	0	-0.031	-0.051	0.036	0.056+	.400***	1		
14. Professional FB	-0.023	0.001	-0.025	-0.033	0.01	0.077**	-.080**	0.029	0.007	-0.035	-0.016	.295***	-.148***	1	
15. Solely family-run FB	-0.01	0.029	-.184***	-.156***	-0.057+	-0.034	-.125***	0.007	-0.066**	-0.021	.144***	.568***	-.285***	-.210***	1

Note. N=630.
*† p <0.10; **p <0.05; ***p <0.01*

Table 4: Regression Analysis

	Dependent Variable ke					
	Growth Economic Period			Economic Crisis Period		
Variables	Model 1 (a)	Model 1 (b)	Model 1 (c)	Model 2 (a)	Model 2 (b)	Model 2 (c)
Constant	-2.178*** (0.082)	-2.116*** (0.086)	-2.113*** (0.085)	-1.982*** (0.113)	-1.91*** (0.119)	-1.92*** (0.119)
Firm Age	-0.018 (0.02)	-0.026 (0.02)	-0.026 (0.02)	-0.030 (0.027)	-0.041 (0.028)	-0.038 (0.028)
Firm Size	-0.009 (0.006)	-0.012+ (0.006)	-0.012+ (0.006)	-0.005 (0.009)	-0.008 (0.009)	-0.008 (0.009)
Leverage	0.039*** (0.003)	0.039*** (0.003)	0.039*** (0.003)	0.020*** (0.002)	0.020*** (0.002)	0.020***(0.002)
Manufacturing[a]	-0.059** (0.024)	-0.061** (0.024)	-0.061** (0.024)	-0.080**(0.034)	-0.081** (0.034)	-0.081** (0.34)
Services	0.021 (0.032)	0.014 (0.032)	0.014 (0.032)	-0.033 (0.044)	-0.040 (0.044)	-0.037 (0.044)
Construction	-0.039 (0.027)	-0.041 (0.027)	-0.041 (0.027)	0.003 (0.038)	0.002 (0.038)	0.001 (0.038)
Agriculture	-0.044 (0.037)	-0.051 (0.037)	-0.052 (0.037)	-0.111** (0.053)	-0.119** (0.053)	-0.119 (0.053)
Transportation	-0.031 (0.032)	-0.033 (0.032)	-0.032 (0.032)	-0.004 (0.044)	-0.005 (0.044)	-0.003 (0.044)
Wholesale & Retail	-0.066*** (0.025)	-0.065** (0.025)	-0.065** (0.025)	-0.098*** (0.036)	-0.095*** (0.036)	-0.096*** (0.036)
Family Business		**-0.026** (0.11)**			**-0.031** (0.015)**	
Independent FB			**-0.039** (0.015)**			**-0.055*** (0.021)**
Professional FB			**-0.027 (0.017)**			**-0.029 (0.025)**
Solely family-run FB			**-0.025** (0.013)**			**-0.015 (0.018)**
R^2	0.228	0.235	0.238	0.205	0.211	0.215
Adjusted R^2	0.219	0.224	0.225	0.194	0.198	0.2
var R^2		0.007	0.003		0.006	0.004
F statistic	23.067***	21.474***	18.142***	17.817***	16.52***	14.076***

Note. N= 711
Robust standard errors in parentheses.
a. Other sectors is the suppressed category
*† p <0.10; **p <0.05; ***p <0.01*

Table 5: Regression Analysis

Dependent Variable ROEaT						
	Growth Economic Period			Economic Crisis Period		
Variables	Model 3 (a)	Model 3 (b)	Model 3 (c)	Model 4 (a)	Model 4 (b)	Model 4 (c)
Constant	0.305*** (0.075)	0.214*** (0.078)	0.213*** (0.077)	-0.046 (0.103)	-0.092 (0.108)	-0.106 (0.108)
Firm Age	-0.045** (0.018)	-0.033+ (0.018)	-0.032+ (0.018)	0.007 (0.025)	0.014 (0.025)	0.017 (0.025)
Firm Size	0.015*** (0.006)	0.019*** (0.006)	0.019*** (0.006)	0.036*** (0.008)	0.038*** (0.008)	0.039*** (0.008)
Leverage	0.007** (0.095)	0.007*** (0.003)	0.007*** (0.003)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)
Manufacturing	-0.024 (0.022)	-0.022 (0.022)	-0.022 (0.022)	-0.055+ (0.031)	-0.055+ (0.031)	-0.054+ (0.031)
Services	0.02 (0.029)	0.031 (0.029)	0.031 (0.029)	-0.043 (0.04)	-0.038 (0.040)	-0.036 (0.04)
Construction	-0.003 (0.025)	-0.001 (0.024)	-0.002 (0.024)	-0.120*** (0.035)	-0.119*** (0.035)	-0.118*** (0.035)
Agriculture	-0.028 (0.034)	-0.017 (0.034)	-0.018 (0.034)	-0.032 (0.048)	-0.027 (0.048)	-0.024 (0.048)
Transportation	0.076*** (0.029)	0.079*** (0.029)	0.079*** (0.029)	0.117*** (0.04)	0.117*** (0.040)	0.118*** (0.04)
Wholesale & Retail	-0.051** (0.023)	-0.053** (0.023)	-0.054** (0.023)	-0.075** (0.033)	-0.077** (0.033)	-0.077** (0.033)
Family Business		**0.038*** (0.01)**			**0.020 (0.14)**	
Independent FB			**0.033** (0.014)**			**0.012 (0.019)**
Professional FB			**0.035** (0.015)**			**0.002 (0.023)**
Solely family-run FB			**0.044*** (0.011)**			**0.033** (0.016)**
R^2	0.084	0.103	0.105	0.131	0.134	0.137
Adjusted R^2	0.072	0.091	0.09	0.118	0.12	0.12
var R^2		0.019	0.002		0.003	0.003
F statistic	7.146***	8.071***	6.844***	10.363 ***	9.546***	8.156***

Note. N= 630
Robust standard errors in parentheses.
a. Other sectors is the suppressed category
*† p <0.10; **p <0.05; ***p <0.01*