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The Value Relevance of Accounting Performance Measures for Quoted French Family Firms: A Study in the Light of the Alignment and Entrenchment Hypotheses

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Abstract Family business literature shows that family and nonfamily firms differ with respect to their financial reporting decisions. However, although the literature on financial reporting in family firms has developed over the last ten years, it is mostly oriented towards earnings management and management control issues. Given the specific characteristics of family firms in financing and governance, do their published accounting data have less value relevance for public investors than in the case of non-family firms? How do family firms differ from one another on this issue? While different theoretical perspectives have been used to tackle this problem, two main theses based on agency theory were the most frequently called upon. In fact, the views of interests' alignment and entrenchment are competing in explaining the differential quality of family and non-family firms accounting numbers. This paper draws on this theoretical lens and contributes to filling this research gap by conducting a comparative analysis of earnings' value relevance for a sample of quoted French family and non-family firms. First, it examines whether family firms show more or less relevant accounting earnings than non-family firms. Second, it seeks to study the heterogeneity of family firms in terms of earnings figures' relevance by considering the extent of family control and the involvement of a family CEO as mechanisms leading to alignment or entrenchment. The findings show that family firms exhibit better earnings' value relevance than non-family firms. In addition, when owning families' control becomes high, earnings' value relevance worsens, which suggests a possible entrenchment effect on behalf of controlling families.

CÓDIGOS JEL
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PALABRAS CLAVE
Empresas familiares, Ganancias contables, Relevancia del valor, Teoría de la agencia, Hipótesis de alineación, Hipótesis de afianzamiento

La relevancia del valor de las medidas de desempeño contable para las empresas familiares francesas cotizadas: un estudio a la luz de las hipótesis de alineación y afianzamiento

Resumen La literatura sobre empresas familiares muestra que las empresas familiares y no familiares difieren con respecto a sus decisiones de información financiera. Sin embargo, aunque la literatura sobre información financiera en empresas familiares se ha desarrollado en los últimos diez años, está mayoritariamente orientada a temas de gestión de resultados y control de gestión. Dadas las características específicas de las empresas familiares en financiación y gobernanza, ¿sus datos contables publicados tienen menos relevancia de valor para los inversores públicos que en el caso de las empresas no familiares? ¿En qué se diferencian las empresas familiares en este tema? Si bien se han utilizado diferentes perspectivas teóricas para abordar este problema, dos tesis principales basadas en la teoría de la agencia han sido las más utilizadas. Este artículo examina si las empresas familiares muestran ganancias contables más o menos relevantes que las empresas no familiares. En segundo lugar, busca estudiar la heterogeneidad de las empresas familiares en términos de la relevancia de las cifras de ingresos considerando el alcance del control familiar y la participación de un director general de la familia como mecanismos que conducen a la alineación o el atrincheramiento. Los resultados muestran que las empresas familiares exhiben una mayor relevancia de valor de las ganancias que las empresas no familiares. Además, cuando el control de las familias propietarias se vuelve alto, la relevancia del valor de los ingresos empeora, lo que sugiere un posible efecto de atrincheramiento en nombre de las familias controladoras.

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1. Introduction

Even if family firms play a significant role in the global economy and are the most common form of firms throughout the world, the issues of their performance measurement and accounting have been somehow neglected. Clearly, some major themes such as succession have a more immediate resonance for academics and practitioners. The scarcity of research in accounting for family firms may be due, as Moores (2009) noted, to the fact that the purpose of accounting "to provide owners with measures of and changes in wealth" takes on a special meaning when ownership is concentrated in the hands of a founding and controlling family (Moores, 2009, p. 169). In their state-of-the-art paper about accounting research in family firms, Prencipe, Bar-Yosef, and Dekker (2014) urge researchers to explore this avenue as "there is still a substantial amount of ground to be covered before the intensity of family firm research in accounting reaches a similar status as in other academic disciplines". In particular, the issue of accounting figures' quality, and mainly value relevance, is an interesting topic that deserves a more thorough investigation in the field of family firms. In the accounting literature, an accounting figure is defined as value relevant if it has a predicted association with equity market values (Barth, Beaver, & Landsman, 2001).

The extant empirical literature shows that family and nonfamily firms differ with respect to their financial reporting decisions (Gómez-Mejía, Cruz, & Imperatore, 2014). However, although the literature on financial reporting in family firms has developed over the last ten years, it is mostly oriented towards earnings management and management control issues (Paiva, Lourenço, & Branco, 2016; Ramírez-Orellana, Martínez-Romero, & Mariño-Garrido, 2017). However, the problem of earnings quality and their relevance to users is less frequently analyzed and deserves more attention for many reasons (Pazzaglia, Mengoli, & Sapienza, 2013). In the case of family firms, investors are rarely the main source of financing as their involvement in equity may remain moderate in contrast to non-family firms. Therefore, information disclosed by these firms may have different characteristics, and investors would have different expectations regarding disclosure. Financial information is primarily oriented towards large family shareholders and sometimes to banks that can also access it privately. Given the specific characteristics of family firms in financing and governance, do their published accounting data have less value relevance for public investors than in the case of non-family firms? And how do family firms differ from one another on this issue? These issues are not clear from previous research and the results are inconclusive. For example, drawing on insights from the socioemotional wealth perspective[1] and institutional and resource-based theories, Mengoli, Pazzaglia, and Sandri (2020) find that the quality of earnings is better in family firms than nonfamily firms in 12 European countries with different levels of institutional development. However, other studies found the contrary (Ding, Qu, & Zhuang, 2011). While different theoretical perspectives have been used to tackle this problem, two main theses based on agency theory were the most frequently called upon. In fact, the views of *interests' alignment* and *entrenchment* are competing in explaining the differential quality of family and non-family firms accounting numbers. This paper draws on this theoretical lens and contributes to filling this research gap by conducting a comparative analysis of earnings' value relevance for a sample of quoted French family and non-family firms. First, it examines whether family firms show more or less relevant accounting results than non-family firms. Second, it seeks to study the heterogeneity of family firms in terms of earnings figures' relevance by considering the extent of family control and the involvement of a family CEO as mechanisms leading to alignment or entrenchment. Through comparative panel regressions between two samples of family and non-family firms, the findings show that family firms exhibit better earnings' value relevance than non-family firms. In addition, when owning families' control becomes high (more than 33.33%), earnings' value relevance worsens, which suggests a possible entrenchment effect on behalf of controlling families. However, the research failed to provide clear evidence about the probable escalation of entrenchment when the CEO is a family member.

The remainder of the paper is organized as follow. The second section describes the theoretical approach used to analyze the value relevance of earning numbers in family firms. The third section describes the research design. Then, the findings, contributions and limitations of the research will be presented in sections four, five and six.

1. Family business literature considers that family firm's owners have a socio-emotional framework used as a reference point when making their decisions (Gómez-Mejía et al., 2007; Wiseman & Gómez-Mejía, 1998). The socio-emotional wealth (SEW) includes all non-financial aspects of the firm that meet the affective needs of the family such as identity, the ability to exercise family influence, and the perpetuation of the family dynasty (Gómez-Mejía et al., 2007).

2. Literature Review and Hypotheses Development

2.1. Firm's status and earnings relevance

Two different hypotheses - one arguing for a positive influence, the second for a negative one - have been commonly used in addressing the relationship between "controlling family" and "accounting" (Miller & Le Breton-Miller, 2006). The most common theoretical lens used to analyze these two hypotheses is agency theory. This is because these two possible scenarios are tightly linked to the ownership structure of family firms and the different types of agency conflicts they may incur. There are two main types of agency problems in public firms. The first type of agency problem arises from the separation of ownership and management (Type I agency problem). Indeed, the separation of managers from shareholders may push managers not to act in the shareholders' best interest. The second type of agency problem arises from conflicts between controlling and non-controlling shareholders (Type II agency problem). Controlling shareholders may seek private benefits at the expense of non-controlling shareholders.

On the basis of these two configurations, previous research established two possible scenarios concerning the quality of the accounting earnings reported by family firms relatively to non-family firms (Salvato & Moores, 2010). In the first scenario, the founding or controlling family's interest in the long-term viability of the firm, its concerns over family and firm reputation, and its enhanced power to better monitor managers are hypothesized as resulting in higher quality accounting, planning, and auditing choices by family firms (Salvato & Moores, 2010). In particular, potential reputational consequences of earnings management lead family principals to engage in less of this practice relative to non-family firms (Martin, Campbell, & Gómez-Mejía, 2016). In the second scenario, attempts to mislead other stakeholders about the actual financial performance of the firm and to conceal the extent of wealth expropriation by founding or controlling families are hypothesized to lower the quality of accounting, planning, and auditing.

A number of studies tried to reconcile the conflicting views linking agency problems to earnings quality, and value relevance in particular. For example, a study performed by Yoe, Tan, Ho, and Chen (2002) on a sample of firms listed on the Singapore stock exchange shows that a non-linear relation exists between managerial ownership and earnings informativeness. Indeed, earnings informativeness increases with managerial ownership at low levels but not at higher levels of managerial ownership where the entrenchment effect sets in (Yoe et al., 2002). In the same vein, Wang (2006) found that beyond a threshold of 33% of family ownership, earnings management tends to increase. In France, Mard and Marsat (2012) found a non-linear relationship between ownership concentration and earnings quality. Similarly, Sánchez-Ballesta and García-Meca (2007) suggest a nonlinear relationship between ownership concentration and quality of financial reporting. In the U.S. context, Cascino, Pugliese, Mussolino, and Sansone (2010) reported that an increase in managerial ownership has a positive effect on the information content of accounting earnings. On the contrary, when the mean and median ownership concentrations are higher (as in Europe, East Asia and Australia), increases in ownership concentration tend to deteriorate the quality of accounting information (Cascino et al., 2010). Finally, Cascino et al. (2010), explain that "extreme levels of ownership concentration (too low or too high) limit the quality of financial reporting".

Acknowledging the contradictory evidence on this research problem, Salvato and Moores (2010, p. 197) believe that "more research is clearly needed to capture determinants of earnings quality through ownership, governance, and capital market effects". In particular, the authors push researchers "to further explore under what conditions the interest-alignment effect prevails over the entrenchment hypothesis" (Salvato & Moores, 2010, p. 197).

While the separation of ownership and control characterizes the majority of US and UK firms, listed French firms are mostly controlled by families or individuals. The study of the French context allows us to investigate the topic of earnings quality in a different context from that of the United States (Ben Ali & Summa, 2007). Indeed, France is among the countries of codified law in which the protection of minority interests is moderate (La Porta, Shleifer, & Florencio, 1999). Paradoxically, this specific context may imply two contradictory effects as regards earnings value relevance:

- First, there are weak or moderate agency conflicts between managers and shareholders leading, all things being equal, to better earnings' value relevance in family firms relatively to non-family firms.
- Then, there are high agency conflicts between controlling and minority shareholders leading, all things being equal, to worse earnings value relevance in family firms relatively to non-family firms.

Consistent with the call of Salvato and Moores (2010), the present research aims at verifying if ownership and governance of public firms (family and non-family) contribute to determining the relative value relevance of their earnings. Thus,

as put forward by Wang (2006) and Ali, Chen, and Radhakrishnan (2007), we believe that the question whether family firms' accounting earnings quality is better or worse in terms of value relevance than that of non-family firms is an empirical question. Accordingly, we propose the following non-directional hypothesis:

H1: Value relevance of earnings is related to the nature of the firm (family firm or non-family firm).

The next section will discuss how the two types of agency problems differ across family firms and explain how the difference in the two types of agency conflicts might be associated with a difference in their earnings value relevance.

2.2 Agency conflicts and earnings relevance and in family firms

2.2.1. Type I agency problem and the alignment hypothesis

Firms whose capital is dispersed may suffer from a lack of control as managers may feel free to act in achieving their own interest to the detriment of the firm's value maximizing goal (Jensen & Meckling, 1976). This problem may be mitigated by various means like manager's ownership or ownership concentration in the hands of a single or a few number of shareholders (Beneish, 1997). While the problem of separation of ownership and management is limited in family firms (Fama & Jensen, 1983), many authors argue that family firms may face less severe agency costs as the risk of interest dis-alignment may be insignificant (Ali *e*t al., 2007; Wang, 2006). Close relationships between managers and family characterize family businesses (Prencipe et al., 2014). Weakly motivated by simply financial outcomes, managers attach little importance to the executive job market by seeking instead to demonstrate their loyalty and to gain the trust of the family (Prencipe et al., 2014). As a consequence, in family firms, managers may be weakly tempted not to act in the best interest of shareholders for various motives. For this reason, Quinn, Hiebl, Moores, and Craig (2018) argue that family firms have a reduced need for formal management accounting and control instruments. In any case, the family may exert better monitoring over managers because it has the *power*, the *will* and the *competence*. First, as owning-families tend to hold concentrated and undiversified equity position in their companies, they are likely to have strong incentives to monitor managers' activities (Ali et al., 2007; Demsetz & Lehn, 1985). Second, owning-families tend to have longer-term investment horizons relative to that of other shareholders (Ali et al., 2007; Tong, 2007). Thus, as explained by Ali et al. (2007), families help mitigate myopic investment decisions taken by managers (James, 1999; Stein, 1989). Third, owning-families provide superior monitoring of managers because they have good knowledge about their firms' activities (Ali et al., 2007; Anderson & Reeb, 2003). In summary, as stated by Ali et al. (2007, p. 241), "compared to non-family firms, family firms face less severe hidden-action and hidden-information agency problems due to the separation of ownership and management".

According to this first view, family firms would exhibit better accounting figures than non-family firms (Jara-Bertin & Sepulveda, 2016). In general, high managerial ownership should enhance "financial reporting quality via a reduction of managers' incentives to report accounting information that deviates from the underlying economic performance of the firm" (Cascino et al., 2010). Regarding blockholders's ownership, research conveys evidence about the favorable impact on accounting quality and earnings management, in particular (Smith, 1976). For instance, Sánchez-Ballesta and García-Meca (2007) found that the presence of inside shareholders moderates earnings management as long as they hold a limited equity stake. In family firms, direct monitoring exerted by owning-families would have a double impact on the quality of accounting. First, it could constitute a basis for management compensation instead of observable earnings-based performance measures (Ali et al., 2007) because owning-families directly monitor managers' actions. Therefore, family firms' accounting earnings are less likely to be manipulated as management compensation is less likely to be based on accounting earnings (Ali et al., 2007; Fields, Lys, & Vincent, 2001; Healy & Palepu, 2001). Second, as explained by Ali et al. (2007), direct monitoring by the owning-families and their better knowledge of the firms' activities are additional motives explaining why managers' opportunistic behavior is less likely to influence earnings of family firms. That being said, in many cases, the founder or family members holding large amount of stocks are also managers. The above arguments suggest that because of less severe Type I agency problems, earnings of family firms are likely to be of higher quality than those of non-family firms.

As noted by Salvato and Moores (2010), the alignment hypothesis is usually supported in studies carried out in contexts where the mean and median ownership concentration is lower (such as the United States and the United Kingdom). For instance, results reported by Wan (2006) for Standard & Poor's 500 companies and by Warfield, Wild, and Wild (1995) for 1,618 firms docu-

ment lower abnormal accruals, greater accounting earnings informativeness, and lower persistence of transitory components. Similarly, Jung and Kwon (2002) and Cascino et al. (2010) found support for the alignment hypothesis in the context of Korean and Italian family firms. Overall, the results evidenced that the convergence of interest of the owner–manager structure improves the informativeness of accounting earnings.

2.2.2. Type II agency problem and the entrenchment hypothesis

Research in management and governance documented the existence of an entrenchment effect by managers who possess a significant stake in the firm (Fama & Jensen, 1983; Morck, Shleifer, & Vishny, 1988). While a moderate management ownership in the firm could ensure interest-alignment, a high ownership could entail risk of entrenchment (Alexandre & Paquerot, 2000). For example, McConnel and Servaes (1990) found that beyond a threshold of 38% of equity held by owner-managers, a firm's value starts decreasing. Generally, entrenched managers are willing to increase their power in the firm and over stakeholders and would pursue their own goals, which may deviate from the value-maximizing objective (Charreaux, 1991). Entrenchment could be observed in family firms when the families have a concentrated equity holding in their firms and their voting rights exercised exceed their cash flow rights and their domination of the board of directors' membership. This allows owning-families to enjoy substantial control of firms (Ali et al., 2007). Entrenched families could seek private benefits at the expense of other non-controlling shareholders by, for instance, freezing out minority shareholders (Gilson & Gordon, 2003), engaging in related-party transactions (Anderson & Reeb, 2003), and through managerial entrenchment (Shleifer & Vishny, 1989). Type II agency problems may lead a differential effect on accounting earnings quality between family and non-family firms (Ali et al., 2007). As stated by Ding et al. (2011, p. 623), "in contrast to the owners of non-family firms, the owners of family firms have more incentives to seek private benefits of control at the expense of minority shareholders and provide lower-quality earnings for self-interested purposes". More precisely, type II agency problems could likely lead to a greater manipulation of earnings by family firms for opportunistic reasons by, for example, hiding the adverse effect of a related party transaction and/or facilitating family members' entrenchment behavior in management positions (Ali et al., 2007). In a socio-emotional wealth perspective, Gómez-Mejía et al. (2014) argue that, when contemplating earnings management and voluntary disclosure as a gamble, family owners would use SEW protection as the main reference point and may engage in earnings management and voluntary disclosure to protect their SEW regardless of financial gains. For Gómez-Mejía et al. (2014), when control is prioritized, in considering earnings management as a gamble, family owners would value more the potential benefits of manipulating earnings in terms of ensuring family control at the expense of the potential reputational costs if the manipulation is discovered. In this vein, Ding et al. (2011) found empirical evidence which showed that listed Chinese family firms are characterized by less informative accounting earnings, and that family firms use less conservative accounting practices than their non-family counterparts.

With some exceptions, "the entrenchment hypothesis is usually supported by studies conducted in national contexts where ownership concentration is higher or legal systems weaker, such as the European Union (EU), France, Korea, China, and East Asia" (Salvato & Moores, 2010). According to Ball and Shivakumar (2005), private company financial reporting is of lower quality than that of public firms because of a different market demand notwithstanding regulation. Beuselinck and Manigart (2007) found, after controlling for factors like company size and age, that unquoted EU firms in which private equity (PE) investors have a high equity stake produce lower quality accounting information than companies in which PE investors have a low equity stake.

Our study will check if the value relevance of earnings in family firms is contingent on the extent of family control. More precisely, is the alignment effect verified when family control is low-to-moderate? And is there any entrenchment effect when family control becomes higher? With these questions in mind, we formulate the following hypothesis:

H2: Value relevance of earnings is better for moderately controlled family firms than for highly controlled family firms.

We believe that the probable entrenchment influence on earnings' value relevance could be better evidenced when the agency conflicts type I are controlled for. Thus, in the case of "perfect" interest alignment between shareholders and managers *i.e.* when the CEO is a family member[2], any difference in value relevance between moderately controlled family firms and highly controlled fami-

2. While this is a criticizable and simplistic view (as divergence of views could also occur within the controlling family), we believe that the risk of interest dis-alignment would be higher, everything else being equal, when the CEO is not a family member.

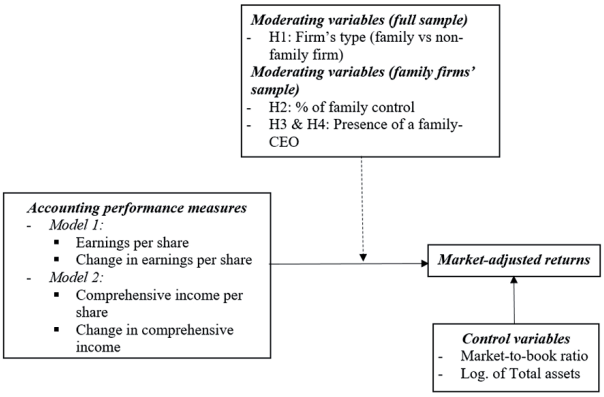
ly firms would be due to a probable entrenchment on the behalf of the owning-family. Implicitly, we assume that in the case of high family control, the family CEO may constitute an additional medium for the expropriation of minority shareholders. Therefore, we suggest that:

H3: Value relevance of earnings is better for family-CEO moderately controlled family firms than for family-CEO highly controlled family firms.

If any entrenchment effect is detected for highly controlled family firms, is it linked to the CEO type? Expressed differently, when family control is high and owning-families risk to be entrenched, could the presence of an external manager mitigate this entrenchment and its impact on earnings value relevance? Assuming that this logic could be corroborated, we formulate the final hypothesis is:

H4: Value relevance of earnings is better for non-family-CEO highly controlled family firms than for family-CEO highly controlled family firms.

Figure 1 summarizes our four hypotheses.



3. Research Design

3.1. Accounting earnings measures

Attributes of earnings that are usually considered as proxies for high quality of earnings are accrual quality, persistence, predictability, smoothness, value relevance, timeliness, and conservatism (Subramanyam & Wild, 2008). As stated before, our study focuses on value relevance of earnings in terms of informativeness. Several studies have analyzed the quality of accounting data in accordance with accounting standards adopted: local or international standards (Barth, Landsman, & Lang, 2008; Bartov, Goldberg, & Kim, 2005; Hung & Subramanyam, 2007; Lenormand & Touchais, 2009; Van Tendeloo & Vanstraelen, 2005). In this research, the net income obtained through local French accounting standards is a first measure of earnings. However, in recent years, the use of fair value at the expense of historical cost replaced the performance measurement issue at the center of the debate. Indeed, in a clean surplus accounting, the period income, called comprehensive income, includes all revenues and expenses, as well as all gains and losses related to operations or not, recurrent or temporary. In addition to the value of the net income derived from the classical net income account, it includes unrealized profits and/or losses obtained particularly from revaluation at fair value of certain firm's assets and liabilities. In brief, the comprehensive income has three major characteristics: volatility, non-recurrence and non-controllability (Barth, Landsman, & Wahlen, 1995; Biddle & Choi, 2006; Hirst & Hopkins, 1998; Koonce, Mcanally, & Mercer, 2005; Ohlson, 2001) firms.

3.2. Value relevance measurement

Quantitative research in financial accounting has focused on decision usefulness and information content of accounting data concerning market valuation. These analyses are mainly based on association studies that aim at measuring empirically the intensity of relationships between accounting and market variables thereby checking if the firm's value based on accounting data is consistent with that reflected in the financial market through stock market data. Market variables are often presented as the benchmark that can be used to assess how well particular accounting data reflect information used by investors (Barth et al., 2001). In particular, these studies aim at verifying the informational utility in terms of value relevance of accounting data in investment through its correlation with information used by investors in valuing shares. In this regard, Francis and Schipper (1999) argue that the value relevance of accounting data is measured through their ability to capture or summarize information affecting stock prices, regardless of their source. To measure the value relevance of accounting data through association studies, research tried to identify their relative and/or incremental informational content (Biddle, Seow, & Siegel, 1995; Holthausen & Watts, 2001). The intensity of the relationship between accounting earnings and stock returns is captured firstly by the adjusted coefficient of determination of the regression model (R^2), which measures the explanatory power of independent variables over dependent variables (Barth et al., 2001; Collins & Kothari, 1989; Veith & Werner, 2014). Specifically, it expresses the ability of accounting data to learn about the information conveyed to the financial market and included in the stock price. The value relevance is also measured through earnings

response coefficients indicating the decisional usefulness of the information content of earnings accounting for investors. Both an adjusted R^2 close to one and positive and statistically significant earnings response coefficients are needed in order to evidence a positive correlation between accounting data and market variables (stock prices or stock returns). When these two conditions are met, the redundant informational content of accounting information is value relevant.

Like Dhaliwal, Subramanyan, and Trezevant (1999), Francis and Schipper (1999) and Veith and Werner (2014), the present research is based on the association studies' methodology that perfectly suits the goal of this research. Indeed, this method is appropriate for revealing the accounting earnings that have the most value relevant information content for investment in family and non-family firms. In accordance with Dhaliwal et al. (1999), Francis and Schipper (1999) and Veith and Werner (2014), we will compare the different regressions in pairs through the adjusted R^2 of the regression model[3] and/or earnings response coefficients.

3.3. Regression model

The value relevance of the comprehensive income and net income is analyzed in the context of family and non-family firms over the period 2009-2012, especially after the entry into force of the mandatory revised IAS 1 in 2009. Descriptive statistics are calculated for our sample data for the four financial years (*Cf*. Table 1). However, our econometric study is limited to the 2010-2012 period since our regressions are based on the empirical version of the Ohlson model (1995) which connects the stock returns to the accounting income and its variation[4].

To do this, regressions[5] are estimated through analysis of panel econometrics applied to data of our two sub-samples: family firms versus non-family firms. Panel regressions' estimates are more reliable in providing information on the value relevance of accounting data as the models simultaneously integrate the temporal dimension and the individual dimension. Indeed, in the presence of specific effects (individual and/or temporal), ordinary least squares regression, applied to models ignoring these specific effects (pooled models), may produce biased estimators. In this case, it is important to consider other estimation methods, such as the within estimator if the effects are assumed to be fixed or the generalized least squares, if the effects are assumed random. The choice between these two methods (fixed or generalized least squares) can be made according to the Hausman test. In this study, the test reveals the rejection of the null hypothesis of the existence of random effects in our profitability-based models as the p-value (0%) is below the 10% confidence level. Therefore, the fixed-effects models are preferable to random effects models.

This research will assess the two following models:

Model 1:

$$R_{it} = \alpha_0 + \alpha_1 \left(EPS_{it} / P_{i,\,t-1} \right) + \alpha_2 \left(\Delta EPS_{it} / P_{i,\,t-1} \right) + \alpha_3 \left(Lg\ TA \right) + \alpha_4 \left(MBR \right) + \varepsilon_{it}$$

Model 2:

$$R_{it} = \beta_0 + \beta_1 \left(CI_{it} / P_{i,t-1} \right) + \beta_2 \left(\Delta CI_{it} / P_{i,t-1} \right) + \beta_3 \left(Lg\ TA \right) + \beta_4 \left(MBR \right) + \varepsilon_{it}$$

Where,

R_{it} = market-adjusted return, is defined as the stock return of the share (i) for fiscal year (t) minus the average return for year (t) for firms composing the CAC-All tradable index;

EPS_{it} is the earnings per share for the share (i) at the end of the fiscal year (t);

ΔEPS_{it} is the change in net income per share for the share (i) at the end of the fiscal year (t);

CI_{it} is the comprehensive income per share for the share (i) at the end of the fiscal year (t);

ΔCI_{it} is the change in comprehensive income per share for the share (i) at the end of the fiscal year (t);

$P_{i,\,t-1}$ is the stock price of firm (i) at the beginning of the period (t);

MBR is the market-to-book ratio for the share (i) at the end of the fiscal year (t);

Lg TA is the logarithm of total assets.

Deflating independent variables by the share price at the beginning of the period improves the specification of regressions and minimizes the impact of residuals' heteroscedasticity (Christie, 1987; Kothari, 1992). Similarly, estimation results are not affected by any scale effect econometric bias (Brown, Lo, & Lys, 1999). Finally, control variables used in our models are: market-to-book ratio (MBR) and the logarithm of total assets (Lg TA). In accordance with Collins and Kothari (1989)

3. In our study, the significance of the difference between the R^2 determination coefficients cannot, in most cases, be tested through the Vuong test (1989) as we use two different sub-samples: family businesses versus non-family businesses. In addition, the variables of interest often have different values in the models tested and compared in pairs. However, the Vuong test will be performed only when comparing the models M1 and M2 on the basis of the total sample.

4. The model of Ohlson (1995) connects the stock price to the book value of equity and the accounting income for the period. Current information that may affect firm's future results is added to these two variables. In turn, in the empirical version of the model, stock returns are connected to the accounting income and its variation.

5. All our regressions were performed through the SPSS software.

and Smith and Watts (1992), the market-to-book ratio (ratio of the market value of equity to book value) allows controlling for firms' growth opportunities. The logarithm of total assets is useful to control the firm's size effect. Year-effects are also controlled for.

3.4. Sample data

The research is based on a longitudinal data set (2009 – 2012) obtained from a sample of 349 firms quoted on the Paris stock market and composing the CAC-All tradable index.

While there is a continuous debate about the definition of a family firm, the involvement in ownership seems to be a major defining criterion alongside involvement in management and family influence on firm's culture (Chua, Chrisman, & Sharma, 1999). However, holding an absolute majority of equity or even a blocking minority is not a necessary condition to define family firms. Even with a small equity stake, a family could exert a strong influence on strategic decision-making and family business culture. In order to identify quoted family firms, many authors choose a minimum of 10% or 20% of total votes (or sometimes equity) which needs to be controlled by the owning-family. While family ownership and family control are both used in previous literature in studying earnings informativeness (see for e.g. Francis, Schipper, & Vincent, 2005), the present research focuses only on the ultimate control of firms since many family groups use different control enhancing mechanisms to maintain control over their groups. As such, the mere use of direct firm ownership could be a non-relevant indicator of family's involvement in these firms.

With this in mind, in this research, a company is a family firm (FF) if:

- The controlling shareholder (holding a relative majority of the voting rights or, if data is missing, of equity) is a family or an individual[6].
- The firm has at least one manager (operational manager, CEO, member of the management or supervisory boards) belonging to the controlling family or the family of the controlling individual (outside of that same individual). Otherwise, the firm is classified as a family-owned firm (FOF).

It should also be noted that if the controlling shareholder is an individual who is also executive (CEO) but no involvement of his family members is detected, the firm is labelled a founder-managed firm (FMF). Besides, if the controlling individual has no involvement in management, the firm is classified as an individual-owned firm (IOF). In all other cases, the firm is considered as a non-family (NFF).

We collected information on percentages of voting rights and equity holdings of our sample firm's shareholders. Data was obtained through Thomson Reuters Database, Bloomberg and Diane Database (Bureau Van Dijck) and firms' public reports. The classification yielded 139 family firms (FF), 130 non-family firms (NFF), 5 family-owned firms, 42 founder-managed firms and 4 individual-owned firms. Even if founder-managed and individual-owned firms could be considered as potential family firms as they may be managed or governed in a near or a more distant future by members of the founder's or owner's family, in their present state, they are not considered family firms as their strategic and financial behavior could be particular. Consequently, only FF and NFF were kept for the analysis. Following the suppression of individuals with missing data, the final sample is comprised of 133 FF and 119 NFF.

We also needed to distinguish between largely controlled and moderately controlled family firms. Under French law, a two-thirds majority is required to influence decisions at extraordinary shareholders' general meetings. However, for current affairs, the approval of shareholders detaining at least 50.01% of equity is needed. Finally, shareholders holding one third of equity can block these decisions. In this research, as we will explain in detail below, the last two thresholds (50.01% and 33.33%) were successively retained to determine if a family firm is largely controlled or moderately controlled[7]. Thus, a family firm is considered as largely controlled if a shareholder family holds more than a third (or 50.01% for the second threshold) of voting rights under the condition that no other shareholder holds a third of the capital. This criterion permits us to identify 89 highly controlled and 44 moderately controlled family-firms (respectively, 55 highly controlled and 78 moderately controlled when the second threshold is chosen). Finally, our family firm's sample is comprised of 92 family-CEO and 41 non-family-CEO firms (*Cf*. Table 1).

6. Note that a second definition based on the minimum threshold of 10% of voting rights was also adopted. This choice produced the same results as those obtained while adopting the first definition. Please, see below.

7. In corporate governance and family business literature, there is no unique undisputable threshold beyond which entrenchment might prevail over alignment. Accordingly, these two different thresholds (33% and 50.01%) are used in this research.

Table 1. Screening procedure

Firms composing the index: 349	Firms with missing market data: 29					
				Research Sample		
				33% threshold	**50% threshold**	
	Firms with available data: 320	Family firms: 139	Family firms with complete data: 133	Highly-controlled family-firms: 89	Highly-controlled family-firms: 55	Family-CEO family firms: 92
				Moderately-controlled family-firms: 44	Moderately-controlled family-firms: 78	Non-family-CEO family firms: 41
		Non-family firms: 130	Non-family firms with complete date: 119			
		Family-owned firms: 5				
		Founder-managed firms: 42				
		Individual-owned firms: 4				

4. Results and Discussion

4.1. Descriptive statistics

Table 2 presents descriptive statistics for the comprehensive income per share, earnings per share, other comprehensive income (OCI) per share and stock returns per share for the period 2009-2012. For all the firms in our sample, the earning per share is lower, on average, than the comprehensive income per share (0.022 against 0.043). This difference is mainly explained by the revaluation at fair value of OCI whose average value equals to 0.018€.

On average, net earnings per share and comprehensive income per share are higher for family firms than non-family firms (0.058€ versus -0.019€ for net income and 0.062€ versus 0.023€ for comprehensive income). Compared to non-family firms, the best performance of family firms can be explained among others by better management performance[8]. This finding is confirmed through stock market returns as we can confirm a higher market profitability in family firms than in non-family firms (0.216€ against 0.154€).

4.2. Information content of net income and comprehensive income in family and non-family firms

The estimation results presented in Table 3 are used to compare the degree of value relevance of information content of net income and comprehensive income on the basis of the whole sample. This value relevance is assessed using the adjusted coefficients of determination (adjusted R^2) and the regression coefficients. Although Model 1 confirms a significant influence of EPS_n on the dependent variable, Model 2 does not show any significant influence of $CIPS_n$ on stock returns. This means that the intensity of association between stock returns and comprehensive income (in level and variation) is weaker than that linking the same stock return to net earnings (in level and variation). Thus, compared to net income, the comprehensive income seems to be the performance accounting measure with the less value relevant information content for investors[9]. Moreover, under the assumption that stock returns accurately reflect the value creation on an efficient financial market, the results in Table 3 also indicate that only the net income provides useful information to investors.

The results presented in Table 4 allow for comparing the degree of value relevance of the information content for net income and comprehensive income for family and non-family firms. As the estimates of Model 2 are non-significant, only model 1 allows us to compare the two sub-samples and find a relative superiority of earnings

8. The parametric Student t-test (undisclosed here) reveals that the average comprehensive income and net income are significantly different at the 1% level.

9. To assess whether the explanatory powers of models 1 and 2 are significantly different, the non-nested Vuong test (1989) was used. Following this test, the Vuong Z statistic is positive (1.67) and significant at the 10% threshold, which corroborates the relevance of the information content of the comprehensive income over that of the net income.

Table 2. Descriptive statistics of selected financial and accounting variables

Accounting and financial variables	N	Mean	Standard Deviation	Minimum	Maximum
1- Total sample	846	0.043	0.203	-1.834	1.142
Comprehensive income per share	994	0.022	0.494	-13.542	2.211
Earnings per share	846	0.018	0.424	-0.361	12.251
Other comprehensive income (OCI)	1008	0.187	0.492	-0.768	4.720
Stock returns	1008	$1.58e^{-08}$	0.436	-1.021	4.836
Adjusted stock returns					
2- Subsample of family firms	443	0.062***	0.201	-1.500	1.142
Comprehensive income per share	527	0.058***	0.244***	-2.442	2.211
Earnings per share	443	0.005	0.042***	-0.332	0.310
Other comprehensive income (OCI)	532	0.216***	0.512***	-0.612	4.720
Stock returns	532	0.029***	0.476***	-0.878	4.836
Adjusted stock returns					
3- Subsample of non-family firms					
Comprehensive income per share	403	0.023***	0.205	-1.834	0.680
Earnings per share	467	-0.019***	0.670***	-13.542	0.641
Other comprehensive income (OCI)	403	0.034	0.614***	-0.361	12.251
Stock returns	476	0.154***	0.459***	-0.768	2.574
Adjusted stock returns	476	-0.033***	0.384***	-1.021	2.053

Table 3. Information content of net income and comprehensive income for the whole sample

	Model 1		**Model 2**
	Net Income		**Comprehensive Income**
	M1 (N = 705)		**M2 (N = 594)**
R^2/F	0.1883 / 27***	**R^2/F**	0.2943 / 37.76***
EPS_n	0.590*** (4.70)	**$CIPS_n$**	0.21 (1.13)
VAR. EPS_n	-0.046 (-1.56)	**VAR. $CIPS_n$**	0.058 (0.62)
LN ASSETS	-0.154 (-1.2)	**LN ASSETS**	0.005* (0.04)
MBR	0.160*** (9.45)	**MBR**	0.229*** (11.88)

Note: ***, ** and* indicate significance at the level of 1, 5 and 10%, respectively. The standard deviation are shown in brackets. N: number of observations. F: Fisher test. R^2: the adjusted coefficient of determination.

Variable definitions: EPSn is earnings per share, scaled by the share price at the beginning of the period. VAR. EPSn is the change in earnings per share, scaled by the share price at the beginning of the period. CIPSn is the comprehensive income per share, scaled by the share price at the beginning of the period. VAR. CIPSn is the change in comprehensive income per share, scaled by the share price at the beginning of the period. LN ASSETS is the logarithm of total assets at the end of the fiscal year (t). MBR is the market-to-book ratio at the end of the fiscal year (t).

value relevance in terms of informational value for family firms in comparison to non-family firms (R^2 is 24.35% and the regression coefficient is significant at the 1% threshold for the subsample of family firms only). This finding corroborates the supposed alignment thesis which advocates for better quality of earnings' figures for family firms.

In order to check if an alternative way of defining family firms has an impact on these findings, we adopted the second minimum threshold of 10% of voting rights held by one or multiple families as a defining criterion of family firms. This choice led to the same results as those obtained by using the first definition.

An additional result is provided in table 4 where the higher value relevance of net income compared to comprehensive income among family firms is again evidenced (as it was the case for the full sample).

Table 4. Information content of net income and comprehensive income in family and non-family firms

	Model 1	
	Net Income	
	Non-family firms	**Family firms**
	N = 330	**N = 375**
R^2/F	0.0804 / 5.12***	(0.2435) / 20.04***
EPS_n	0.248 (1.42)	0.820*** (3.36)
VAR. EPS_n	-0.042 (-1.61)	-0.076 (-0.60)
LN ASSETS	-0.023 (-0.14)	-0.26 (-1.36)
MBR	0.149*** (3.79)	0.165*** (8.17)
	Model 2	
	Comprehensive Income	
	Non-family firms	**Family firms**
	N = 282	**N = 312**
R^2/F	(0.0787)/ 4.08***	(0.3996) / 31.36***
$CIPS_n$	0.037 (0.14)	0.307 (1.19)
VAR. $CIPS_n$	0.057 (0.45)	0.056 (0.41)
LN ASSETS	-0.591 (-0.28)	0.243 (0.12)
MBR	0.170*** (3.75)	0.241*** (10.82)

Note: ***, ** and* indicate significance at the level of 1, 5 and 10%, respectively. The standard deviations are shown in brackets. N: number of observations. F: Fisher test. R^2: the adjusted coefficient of determination.

Variable definitions: EPSn is earnings per share, scaled by the share price at the beginning of the period. VAR. EPSn is the change in earnings per share, scaled by the share price at the beginning of the period. CIPSn is the comprehensive income per share, scaled by the share price at the beginning of the period. VAR. CIPSn is the change in comprehensive income per share, scaled by the share price at the beginning of the period. LN ASSETS is the logarithm of total assets at the end of the fiscal year (t). MBR is the market-to-book ratio at the end of the fiscal year (t).

4.3. Effect of ownership concentration on earnings value relevance

To check if the alignment hypothesis is persistent for all our sample's firms, we conducted our regressions again by distinguishing highly-controlled and moderately-controlled family firms and comparing their earnings. Table 5 shows in Model 1 that moderately-controlled family firms exhibit better earnings' value relevance than highly-controlled family firms, thus corroborating our hypothesis H2 according to which value relevance of earnings is better for moderately controlled family firms than for highly controlled family firms.

4.4. Effect of the separation of management and control on earnings value relevance

In order to assess a possible impact on value relevance of the separation of management and control in family firms, we conducted four more regressions based on the family firms subsample. For the two models, we distinguished four types of family firms: family-CEO managed/highly controlled family firm, non-family-CEO managed/highly controlled family firm, family-CEO managed/moderately controlled family firm, Non-Family-CEO managed/moderately controlled family firm. As shown in table 6, when the CEO is a family member, net income is more value relevant when family ownership is moderate than in the case of high family ownership. These findings are exactly the same when the 50.01% threshold is retained to distinguish highly-controlled and moderately-controlled family firms. In sum, our results confirm that value relevance of earnings is higher for family-CEO moderately-controlled family firms than for family-CEO highly-controlled family firms (H3). The finding further corroborates the entrenchment effect that may originate from the high concentration of ownership in the hands of the family.

In order to further emphasize the entrenchment effect in the case of high family ownership, assuming that this problem may be sharper when the CEO is a family member, we compared the value relevance of earnings for non-family-CEO highly-controlled family firms with that of family-CEO highly-controlled family firms. When retaining the control threshold of 33%, this comparison shows better income value relevance when the

Table 5. Ownership and relevance of earnings in family and non-family firms

	Net Income			
	Threshold of 50%		Threshold of 33%	
	Moderate family ownership	High family ownership	Moderate family ownership	High family ownership
	N = 220	N = 155	N = 124	N = 251
R^2/F	(0.2821) / 14.33***	(0.1062) / 3.45***	(0.3797) / 12.56***	(0.0912) /4.55***
EPS_n	0.817** (2.37)	0.719** (2.21)	0.814* (1.89)	0.740*** (2.43)
VAR. EPS_n	-0.030 (-0.16)	-0.072 (-0.46)	-0.043 (-0.17)	-0.057 (-0.39)
LN ASSETS	-0.215 (-0.71)	-0.313 (-1.47)	-0.88* (-1.80)	-0.096 (-0.49)
MBR	0.175*** (7.16)	0.092** (1.91)	0.174*** (6.75)	0.142*** (2.92)
	Comprehensive Income			
	Threshold of 50%		Threshold of 33%	
	Moderate family ownership	High family ownership	Moderate family ownership	High family ownership
	N = 179	N = 133	N = 102	N = 210
R^2/F	(0.4445)/ 21.40***	(0.1682)/ 4.43***	(0.5865)/ 21.27***	(0.1132)/ 4.43***
$CIPS_n$	0.270 (0.68)	0.224 (0.70)	-0.091 (-0.18)	0.417 (1.28)
VAR. $CIPS_n$	0.155 (0.63)	0.015 (0.10)	0.430 (1.24)	-0.040 (-0.27)
LN ASSETS	0.193 (0.57)	-0.129 (-0.60)	0.015 (0.03)	0.041 (0.19)
MBR	0.239*** (8.95)	0.259*** (3.44)	0.240*** (8.95)	0.260*** (3.76)

Note: ***, ** and* indicate significance at the level of 1, 5 and 10%, respectively. The standard deviations are shown in brackets. N: number of observations. F: Fisher test. R^2: the adjusted coefficient of determination.

Variable definitions: EPSn is earnings per share, scaled by the share price at the beginning of the period. VAR. EPSn is the change in earnings per share, scaled by the share price at the beginning of the period. CIPSn is the comprehensive income per share, scaled by the share price at the beginning of the period. VAR. CIPSn is the change in comprehensive income per share, scaled by the share price at the beginning of the period. LN ASSETS is the logarithm of total assets at the end of the fiscal year (t). MBR is the market-to-book ratio at the end of the fiscal year (t).

CEO is a family member. The finding is the same when the retained threshold is 50%. Accordingly, hypothesis 4 is not supported. This finding is observed again when looking at the comparison between family-CEO and non-family-CEO managed moderately controlled family firms. Through the two thresholds (33% and 50%), it is found that earning value relevance is better when the CEO is a family member.

Finally, our results show that size doesn't seem to be related to market returns neither for family nor for non-family firms. In addition, the market-to-book ratio is quasi-systematically linked to market returns for family and non-family firms.

4.5. Findings discussion

To summarize, our findings first show that, compared to net income, the comprehensive income seems to be the performance accounting measure with the less value relevant information content for investors. Therefore, contrarily to the findings of Kanagaretnam, Mathieu, and Shehata (2009) and Biddle and Choi (2006), we show that the comprehensive income and its OCI component (other comprehensive income) do not convey additional information implying more value relevance to investors than the only information conveyed by the net income. However, this finding is consistent with the research of Dhaliwal et al. (1999) and O'Hanlon and Pope (1999).

With the application of the IFRS, investors would benefit from better accounting and financial data to satisfy their information needs and to help them making investment decisions. Although the IASB does not neglect the other firm's stakeholders (creditors, employees, etc.), investors are considered as the primary users of financial information. As a result, the IASB has given particular attention to the "value relevance" of accounting data. Unexpectedly, this goal does not seem to be corroborated by the results of our research concerning the comprehensive income.

Second, our findings corroborate the supposed alignment thesis which advocates for better quality of earnings' figures for family firms. Thus, we could say that in our sample of French quoted firms, there is evidence that firm ownership has an impact on the value relevance of earnings to

Table 6. CEO family membership and relevance of net income in family firms

	Net Income							
	Moderate family ownership (<50%)		High family ownership (>50%)		Moderate family ownership (<33%)		High family ownership (>33%)	
	Family CEO	Non-family CEO	Family CEO	Non-family CEO	Family CEO	Non-family CEO	Family CEO	Non-family CEO
	N = 150	N = 70	N = 108	N = 47	N = 94	N = 30	N = 164	N = 87
R^2/F	0.3937 / 16.05***	0.000 / 0.41	0.2114 / 5.10***	0.2450 / 2.81**	0.4521 / 12.85***	0.1549/ 1.20	0.1841/ 6.40***	0.03/ 0.90
EPS_n	1.68*** (3.36)	0.227 (0.45)	0.840** (1.96)	0.784* (1.88)	2.232*** (3.13)	-0.241 (-0.40)	0.804** (2.17)	0.529 (0.99)
VAR. EPS_n	-0.150 (-0.63)	0.086 (0.26)	0.477* (1.76)	-0.297 (-1.60)	-0.264 (-0.91)	0.518 (1.08)	0.327 (1.41)	-0.155 (-0.69)
LN ASSETS	-0.339 (-0.91)	-0.027 (-0.05)	-0.290** (-1.28)	-0.568 (-0.97)	-0.671 (-1.21)	-1.205 (-1.37)	-0.095 (-0.45)	0.019 (0.04)
MBR	0.188*** (7.57)	0.073 (0.52)	0.065 (1.29)	0.345** (2.39)	0.190*** (6.85)	0.043 (0.35)	0.124*** (2.57)	0.253* (1.71)

Note: ***, ** and* indicate significance at the level of 1, 5 and 10%, respectively. The standard deviations are shown in brackets. N: number of observations. F: Fisher test. R^2: the adjusted coefficient of determination.

Variable definitions: EPSn is earnings per share, scaled by the share price at the beginning of the period. VAR. EPSn is the change in earnings per share, scaled by the share price at the beginning of the period. CIPSn is the comprehensive income per share, scaled by the share price at the beginning of the period. VAR. CIPSn is the change in comprehensive income per share, scaled by the share price at the beginning of the period. LN ASSETS is the logarithm of total assets at the end of the fiscal year (t). MBR is the market-to-book ratio at the end of the fiscal year (t).

Table 7. CEO family membership and relevance of comprehensive income in family firms

	Comprehensive Income							
	Moderate family ownership (<50%)		High family ownership (>50%)		Moderate family ownership (<33%)		High family ownership (>33%)	
	Family CEO	Non-family CEO	Family CEO	Non-family CEO	Family CEO	Non-family CEO	Family CEO	Non-family CEO
	N = 117	N = 62	N = 92	N = 41	N = 74	N = 28	N = 135	N = 75
R^2/F	0.6014 / 25.21***	0.000 / 0.32	0.2213 / 4.26***	0.2464 / 2.28*	0.6324/ 17.91***	0.1281/ 1.02	0.2443/ 6.81***	0.0157 / 0.62
$CIPS_n$	0.473 (0.65)	0.304 (0.58)	-0.012 (-0.03)	0.611 (1.33)	0.683 (0.56)	-0.102 (-0.19)	0.221 (0.59)	0.436 (0.72)
VAR. $CIPS_n$	0.335 (0.88)	0.019 (0.05)	0.535*** (2.10)	-0.234 (-1.18)	0.317 (0.62)	0.410 (0.90)	0.383 (1.65)	-0.133 (-0.53)
LN ASSETS	0.422 (0.95)	0.032 (0.06)	-0.242 (-1.06)	-0.582 (-0.79)	0.283 (0.46)	-0.869 (-0.97)	-0.030 (-0.14)	0.025 (0.05)
MBR	0.247*** (9.68)	0.026 (0.16)	0.195** (2.33)	0.358** (2.17)	0.245*** (8.22)	0.020 (0.16)	0.252*** (4.00)	0.263 (1.44)

Note: ***, ** and* indicate significance at the level of 1, 5 and 10%, respectively. The standard deviations are shown in brackets. N: number of observations. F: Fisher test. R^2: the adjusted coefficient of determination.

Variable definitions: EPSn is earnings per share, scaled by the share price at the beginning of the period. VAR. EPSn is the change in earnings per share, scaled by the share price at the beginning of the period. CIPSn is the comprehensive income per share, scaled by the share price at the beginning of the period. VAR. CIPSn is the change in comprehensive income per share, scaled by the share price at the beginning of the period. LN ASSETS is the logarithm of total assets at the end of the fiscal year (t). MBR is the market-to-book ratio at the end of the fiscal year (t).

investors as family firms seem to convey more relevant earnings to investors. Independently of ownership degree, French listed family firms convey to investors more value relevant accounting earnings than non-family firms. This result is in line with the findings of Cascino et al. (2010) who found that accounting quality is systematically related to the firm status (family and non-family firms) and that, overall, earnings of family firms are of greater quality comparatively to their nonfamily counterparts. This finding is consistent with our first hypothesis and could be

interpreted in light of less agency conflicts leading to better accounting figures. The so-called stewardship theory (Davis, Schoorman, & Donaldson, 1997) could also prove useful in understanding such results. This theory criticizes the logic of opportunism by suspecting its adequacy to analyzing the family firm. Stewardship theory considers that organizational actors' motivation is primarily founded on Maslow's pyramid higher needs (growth, achievement, etc.) contrarily to the agency theory where monetary "rewards", even though necessary to reduce information asymmetries and opportunistic behavior, are the main motivations. Consequently, because the executives' identity is tied with the organization, they would be more capable of acting as stewards of firms' resources rather than in an opportunistic way and should exhibit a strong commitment to organizational values. Pursuing a set of non-economic goals such as a firm's reputation and protection of a firm's long term sustainability, managers in family firms would be enticed to enhance the quality of accounting figures.

Third, it was found that moderately-controlled family firms exhibit better earnings' value relevance than highly-controlled family firms, thus corroborating our hypothesis H2. This finding is consistent with previous literature that evidenced the alignment hypothesis in the specific context of low or moderate family ownership (Cascino et al., 2010; Jung & Kwon, 2002; Wan, 2006; Warfield et al., 1995). Therefore, the convergence of interest between the owning-family and the manager may increase the informativeness of earnings expressed in our case in terms of value relevance. Conversely, this finding evidences an entrenchment effect under the condition of high family control. Our findings show that the value relevance of net income is always poorer for highly-controlled family firms relatively to moderately-controlled family firms (considering the two retained thresholds of high control). This finding is consistent with that of Fan and Wong (2002) who showed that concentrated ownership reduces earnings informativeness. First, investors may have less confidence in earnings reported by these firms and prepared under the instigation of controlling owners as they may be motivated by self-interest (Fan & Wong, 2002). Second, "ownership concentration prevents leakage of proprietary information about the firms' possible rent-seeking activities" (Francis et al., 2005). This loss of earnings' informativeness is exacerbated when cash flow rights are separated from voting rights (Francis et al., 2005). A last finding confirms that value relevance of earnings is higher for family-CEO moderately-controlled family firms than for family-CEO highly-controlled family firms (H3). The finding further corroborates the entrenchment effect that may originate from the high concentration of ownership in the hands of the family. In light of the teachings of the SEW framework, our results may imply that the more the owning-family's control increases, the more the family owners would give priority to 'Family Control and Influence' dimension of SEW over the 'Family Identity' dimension (Gómez-Mejía et al., 2014) thereby leading to different outcomes as for the relevance of accounting earnings.

Finally, when comparing the value relevance of earnings for non-family-CEO highly-controlled family firms with that of family-CEO highly-controlled family firms, this comparison shows better income value relevance when the CEO is a family member. Accordingly, hypothesis 4 is not supported. This is an unexpected finding, as previous research showed diverse impacts of the CEO (mainly family or non-family) on earnings figures. However, our finding is consistent with that of Yang (2010) who showed that in the context of insider ownership, non-family CEOs exhibit a greater tendency to manage earnings than do family CEOs. Some contextual variables could explain this divergence of results. For example, Pazzaglia et al. (2013) have shown that acquired family firms benefit with respect to their earnings quality from having a nonfamily CEO while nonacquired family firms benefit from having a family CEO.

5. Contributions and Implications

The publication of value relevant accounting data allows investors to properly assess the value of the firm and its future development prospects. Resting on the classical debate between the alignment and the entrenchment effects in agency theory, our research aimed at verifying if ownership, control and governance (namely family CEO presence) of family firms have an influence on their earnings' value relevance for investors.

This research contributes to the literature by showing that more value relevant earning figures are associated with moderate family control whereas high family control is associated with less value relevant earnings. Furthermore, theoretical and empirical research interested in the study of value relevance and informational usefulness of accounting indicators for investment in the context of family and non-family businesses are almost exclusively Anglo-Saxon. Thus, this research contributes to the debate between the advocates of alignment and entrenchment hypotheses by showing that, in the French context, alignment is evidenced in the case of family ownership. This result is in line with the findings of Cascino et al. (2010) who found that accounting

quality is systematically related to the firm status (family and nonfamily firms) and that, overall, earnings of family firms are of greater quality comparatively to their nonfamily counterparts. Another contribution of our research is that it does not rely only on ownership concentration as an operationalization of family firms but on a definition that aims at "capturing the essence of the family influence on accounting practices" (Salvato & Moores, 2010). The screening procedure adopted allowed for contrasting earnings' value relevance of family firms (excluding individually-owned or founder-managed firms) with those of non-family firms. Even if the adopted definition of family firms relied on the voting rights variable, a high control degree was not a defining criterion of family firms because families in these firms could hold variable equity and voting rights stakes. Thus, combining voting rights holding with involvement in governance/management allowed us to single out family firms.

Our research has practical implications. First, independently of performance differences, and all other things being equal, investors are invited to invest in family firms as they could have more confidence in the earnings reported by these firms in comparison to non-family firms. Especially when control held by family shareholders is moderate, the risk that they try to expropriate minority shareholders and conceal "bad" information about performance is weak. Second, our findings have shown that, compared to the net income, the comprehensive income seems to be the performance accounting measure with the less value relevant information content for investors. When a public firm publishes these two earning figures, investors could more confidently base their investment decisions on the net income. So, the criticisms addressed to the comprehensive income such as its volatility, nonrecurrence and non-controllability seem to be justified as this performance measure seems to be less value relevant to investors' decisions, at least in the French context.

6. Limitations and Future Research

Our research suffers from some limitations and offers a number of future research prospects. First, our results cannot be easily generalized to other countries because they pertain to the particular context of French listed firms. Another major limitation pertains to the fact of focusing on the informational characteristics of accounting data only in terms of value relevance. According to Holthausen and Watts (2001), association studies restrict the role of the financial statements to the production of financial information useful for firm valuation. Yet, one of the essential functions of accounting and any reporting in general is a stewardship function necessary to ensure the accountability of managers. This function is neglected by the value relevance stream of research to the detriment of the value relevance of accounting data. Future research could seek to employ more accurate and comprehensive indicators of accounting data value relevance. Another avenue for future research may imply the use of other metrics based on earnings management (discretionary accruals, earnings smoothness, etc.) in order to assess the relative impact of the alignment and the entrenchment hypotheses on earning figures for family firms and non-family firms. In addition, our research does not account for the influence of financial statements' demand on value relevance, and this has to be done in future research.

Our results could be extended to private firms. For example, Beuselinck and Manigart (2007) found that EU unquoted companies in which private equity investors have a high equity stake produce lower quality accounting information than companies in which private equity investors have a low equity stake. Finally, other contextual variables could be considered in future research. For example, the type of shares could have an explanatory power, as some authors such as Lobanova Lobanova, Barua, Mishra, and Prakash (2019) show that the earnings are less informative in dual-class firms compared to single-class firms.

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Relational Antecedents of Innovation in Family Firms: The Complex Role of Non-family Employees' Commitment

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Abstract A better understanding of the relational antecedents of innovation in family firms is central to explaining their long-term success and survival. Our study proposes an original model that shows that the internal social capital of non-family members does not always foster innovation directly, as existing theory suggests, but through their organisational commitment. These results differ across the various dimensions of organisational commitment. Therefore, our study challenges existing thinking on commitment studies by offering theoretical grounding and empirical evidence that the neglected dimensions of commitment have a crucial intermediate role in the relationship between internal social capital and innovation in family firms.

CÓDIGOS JEL
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PALABRAS CLAVE
Empresa familiar, Empleados no familiares, Capital social, Innovación, Compromiso

Antecedentes relacionales de la innovación en las empresas familiares: El complejo papel del compromiso de los empleados no familiares

Resumen Una mejor comprensión de los antecedentes relacionales de la innovación en las empresas familiares es fundamental para explicar su éxito y supervivencia a largo plazo. Nuestro estudio propone un modelo original que muestra que el capital social interno de los no familiares no siempre fomenta la innovación directamente, como sugiere la teoría existente, sino a través de su compromiso organizacional. Estos resultados difieren en las diversas dimensiones del compromiso organizacional. Por lo tanto, nuestro estudio desafía el pensamiento existente sobre los estudios de compromiso al ofrecer una base teórica y evidencia empírica de que las dimensiones desatendidas del compromiso tienen un papel intermedio crucial en la relación entre el capital social interno y la innovación en las empresas familiares.

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1. Introduction

Innovation in family businesses is a topic generating greater interest among entrepreneurship researchers because innovation is one of the main sources of competitive advantage and firm survival (Cucculelli & Peruzzi, 2020; Migliori, De Massis, Maturo, & Paolone, 2020; Röd, 2016; Schumpeter, 1934). Prior studies highlighted that innovation is rooted in individuals and requires a social context to encourage it (Patel & Fiet, 2011). Moreover, scholars identified two main social groups in family businesses: family and non-family members (Arregle, Hitt, Sirmon, & Very, 2007; Ram, 2001). However, most of the research focused on family members' involvement in innovation (Miller, Wright, Le-Breton Miller, & Scholes, 2015). Prior research highlighted that the strength of the family in key management positions will lead to more exploitative actions to avoid high-risk decisions and to protect their investments, which will limit exploration (Hiebl, 2015) and innovation (Li & Daspit, 2016). Therefore, non-family members have the potential to make strong contributions to the innovation process of family businesses (Cruz & Nordqvist, 2012). However, little is known about the contribution of non-family members to the firm's innovation and the impact of the interaction between family and non-family members in family firms. In this study, we argue that the key activities developed by these two groups, such as sharing knowledge, experience and information, impact the firm's innovation and rely heavily on social capital and commitment. Surprisingly, few studies considered social capital and commitment (Niehm, Swinney, & Miller, 2008; Werbel & Danes, 2010) as relational antecedents of innovation in family firms (Chirico & Salvato, 2016; Sharma & Irving, 2005). Thus, commitment and social capital are crucial to better understand the interactions between both groups in terms of the support for and achievement of innovation in family firms (Enos, 2020). Consequently, the study of non-family members' internal social capital (ISC) and commitment is critical for improving our understanding of innovation in family firms (Gabay-Mariani & Adam, 2020). Our study addresses these understudied relationships by proposing a new research model focusing on the relational antecedents of innovation achievement. These unexplored relationships motivate our main research question: How do family and non-family employees' ISC and commitment affect innovation achievement in family businesses? This research question responds to the call for research on family and non-family members' relations in innovation process (Chirico & Salvato, 2016; Sharma & Irving, 2005). Our research question can lead us to better understand the understudied roles of social capital and commitment for family and non-family members in innovation.

Our research makes three major contributions. First, this study provides a structural model that integrates two key constructs for the analysis of the relational antecedents of innovation: ISC and organisational commitment (TMC). Second, this study is the first to introduce and test the effect of family loyalty on non-family employees beyond the search for employees' loyalty to the firm empirically. Third, we extend social capital theory by suggesting that the ISC of non-family members does not always foster innovation directly. The mediating role of organisational commitment is essential to innovation achievement. Fourth, our findings challenge the literature on organisational commitment that suggest that normative commitment (NC) and affective commitment (AC) are strongly correlated (Ko, Price, & Mueller, 1997). We find that the three components of TMC have different roles in mediating the relationship between ISC and innovation achievement.

This paper is organised into five sections. Following the introduction, we describe the theory that supports our argument and develop the hypotheses. Then, the methodology is outlined. The research results are presented and contrasted with the hypotheses. Finally, we present the discussion, contributions, research limitations and conclusions.

2. Theory and Hypotheses

2.1. Social capital and innovation

Social capital scholars suggest that the factors relevant to the generation of innovation include not only the number of partners and the structure of a network but also aspects embedded in the interorganisational relationships, such as trust, cohesiveness and commitment (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998). Trust and norms of acceptable behaviour among the members of the social network encourage the interpersonal coordination and collaboration needed for innovation (Coleman, 1988; Uzzi, 1997). These socially derived benefits are advantageous to organisations as they help develop innovation capabilities, foster synergies in research and development (R&D), reduce R&D-related costs and risks and shorten the time required for new product and market development (Tsai & Ghoshal, 1998).

Our literature review on innovation indicates three different positions. First, some scholars focus on the positive effect of interorganisational collaboration on innovation and explain why these interorganisational relationships stimulate

innovation (Nielsen, 2005). Second, consistent with the embeddedness view, Gedajlovic, Honig, Moore, Payne and Wright (2013) highlight the possibility that social capital is not necessarily valuable for innovation and limits rather than facilitates access to other resources. Further, it discourages rather than encourages collective innovative action. Third, other scholars suggest that social capital cannot influence innovation if it is not mobilised, assimilated and then used (Kwon & Adler, 2014). These actions call for mechanisms to that encourage and facilitate commitment among parties. We thus argue that social capital fosters innovation. As such, we believe the internal view of social capital is most consistent with the interorganisational collaborations that foster the innovation we described earlier. The internal view of social capital focuses on capital within the collective rather than external ties outside of the collective. Internal linkages among individuals and groups within the collective include features that contribute to collaboration, cohesiveness, and commitment, and thereby foster innovation as a collective action (Adler & Kwon, 2002; Maurer, Bartsch, & Ebers, 2011).

It is well established in the literature that ISC is especially important in family business to foster innovation (Arregle et al., 2007; Miller et al., 2015). While the family business literature presents several definitions of a family firm, we adopted the widely-accepted definition by Chua, Chrisman and Sharma (1999). Thus, a family firm is one that is 'governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families' (Chua et al., 1999, p. 25). Most of the research studied ISC and the commitment of family members (Melin & Nordqvist, 2007; Vallejo-Martos & Puentes-Poyatos, 2014). In this way, the non-family members can complement the family members' knowledge to introduce innovations into the firm (Adler & Kwon, 2002; Arregle et al., 2007; Nahapiet & Ghoshal, 1998). Thus, we argue that non-family members' social capital is key in fostering innovation. Sanchez-Famoso, Maseda and Iturralde (2014) identified three main reasons that support our argument. First, given the complexity of the innovation decision-making process, high-quality relationships among the individuals involved (family and non-family members) may contribute to the necessary agreements and meaningful commitment and collaboration that foster innovation (Chen, Chang, & Hung, 2008; Hoegl, Parboteeah, & Gemuenden, 2003). Second, non-family social capital can generate innovation through the interactions among family members by complementing their views, helping them maintain a continuous flow in the innovation process. This is especially important in product and process innovation (Oh, Chung, & Labianca, 2004). Third, the relationships among non-family members enhance the firm's ability to identify and develop innovation opportunities that could not be identified or developed by relying only on the social capital of family members (Capaldo, 2007; Carrasco-Hernandez & Jimenez-Jimenez, 2013; Maurer & Ebers, 2006; Wise, 2014).

Huggins, Johnston and Thompson (2012) stated that inter-organisational networks which reinforce social capital impact the innovation performance of firms. However, ISC is not gained easily. Some scholars highlighted that ISC requires some kind of commitment as a mechanism to mobilise economic and cultural resources to generate innovation (Moran, 2005; Nahapiet & Ghoshal, 1998; Portes, 1998; Tsai & Ghoshal, 1998). Given that ISC and commitment are fundamental for innovation, we consider the potential interaction among them. This argument is supported by research on innovation which suggests that the development of new products and services results not from individual effort based on the individual's level of knowledge but from creative cooperation at the social level (Leonard & Sensiper, 1998). Consequently, internal social and human capital are not independent variables; rather, they interact to generate innovation in organisations (Miller & Friesen, 1983). Surprisingly, our literature review does not reveal any research that analyses the interactions among the ISC of non-family members, commitment and innovation. Surprisingly, little research considered non-family members (Sanchez-Famoso, Maseda, & Iturralde, 2017; Sanchez-Famoso, Pittino, Chirico, Maseda, & Iturralde, 2019; Vallejo-Martos, 2009). Thus, we propose the following hypothesis:

Hypothesis 1: The internal social capital of non-family members fosters innovation.

2.2. Organisational commitment (TMC)

Family business scholars (Corbetta & Salvato, 2004; Dawson, Sharma, Irving, Marcus, & Chirico, 2015; Sharma & Irving, 2005; Vallejo-Martos, 2009) adopted the TMC framework developed by Meyer and Allen (1991, 1997). Meyer and Herscovitch (2001) suggest that 'Commitment is a force that binds an individual to a course of action of relevance to one or more targets. As such, commitment is distinguishable from exchange-based forms of motivation and from target-relevant attitudes, and can influence behaviour even in the absence of extrinsic motivation or positive at-

titudes' (p. 302). Following Broekaert, Andries, and Debackere (2016, p. 781), if family business members 'succeed in extending its own sense of commitment and group feeling to its non-family employees, this stimulates essential components of organisational flexibility like employee creativity and responsiveness to change'. Additionally, non-family members' involvement and high commitment and affect innovation performance (Minichilli, Corbetta, & MacMillan, 2010). In this sense, Ahluwalia, Mahto and Walsh (2017), whose research focuses on small family firms, state that employee commitment is positively associated with firm innovation. In this study, family businesses constitute the subject of interest (Dawson et al., 2015), and we seek to improve our understanding of the possible combinations of commitment of the non-family members participating in the innovation process (Miller & Friesen, 1983).

Meyer and Allen (1991) distinguished between three different types of commitment: AC, NC and continuance commitment (CC). Following Dawson et al. (2015), non-family members with AC toward the family business believe strongly in the purpose and goals of the business and the owning family. These members demonstrate enthusiasm in contributing positively to organisational outcomes. Non-family members with NC have a mindset based on obligation and perceive the need to be aligned with social norms. Finally, non-family members with CC believe that the costs of leaving the family business are too high. Although the TMC framework has been widely applied by management scholars, and especially by family business researchers, there is some debate regarding the relevance of its components (Solinger, Plffen, & Roe, 2008). Some authors suggested that AC is the most important component of the TMC framework and has the strongest influence on employees' entrepreneurial behaviour (Camelo-Ordaz, Garcia-Cruz, Sousa-Ginel, & Valle-Cabrera, 2011; Chirico & Salvato, 2016; Herscovitch & Meyer, 2002), to the point of being the sole indicator of commitment to a firm (Armstrong-Stassen, 2006; Harrison, Newman, & Roth, 2006; Kuvaas, 2006). Meyer, Stanley, Herscovitch and Topolnytsky (2002) support this argument and state that AC and NC exhibit the same relationships and have a consistently strong correlation. Furthermore, some studies (Bergman, 2006) suggested that it is very hard to differentiate between these two types of commitments and regard NC as a redundant dimension (Ko et al., 1997; Meyer et al., 2002). We therefore know little about the roles of CC and NC (Loi, Hang-Yue, & Foley, 2006). Our research adds to this literature by analysing each of the three components and their mediating effects in social capital and innovation.

AC. On the one hand, ISC reflects whether individual tendencies will be oriented more towards social relationships or economic relationships (Tjahjono, Fachrunnisa, & Palupi, 2019). Employees with low SC tend to be oriented more towards economic interests. In this sense, they are less motivated to be involved in social systems, are not oriented towards social interests, and do not strongly identify themselves in a group (Manzaneque, Rojo-Ramirez, Dieguez-Soto, & Martinez-Romero, 2020). Thus, non-family employees with low SC tend to me more sensitive than those with high SC regarding their commitment to the family firm (Khan, Ali, Khan, & Jehan, 2019).

On the other hand, AC is related to a high identification and voluntary commitment to the company (Hayek, Randolph, Atinc, & Montalvo, 2018). Following Franco and Franco (2017), if family business employees have an emotional connection in the context in which they are situated, then their AC has a positive influence on contextual performance. Additionally, by promoting AC, family firms may develop an environment in which employees are involved in the allocation of a firm's current resources in critical areas such as innovation (Carnes & Ireland, 2013; Hatak, Kautonen, Fink, & Kansikas, 2016). Higher levels of AC and expectations of reciprocity can help to mobilise knowledge resources, as they motivate employees to share valuable private resources (Granovetter, 1982), such as sensitive knowledge and information (Uzzi, 1997). Employees with stronger AC may be more willing to invest time and effort in knowledge exchange and provide assistance even in cases of unplanned inquiries (Hansen, Poldony, & Pfeffer, 2001). This fosters the assimilation of knowledge and innovation. Other research scholars found that AC is positively associated with proactive behaviour at work, innovation-related behaviours and acceptance of organisational change (Diaz-Moriana, Clinton, Kammerlander, Lumpkin, & Craig, 2020; Iverson, 1996). More precisely, some scholars argued that AC increases the possibility of new product and service development by affecting the employees' entrepreneurial behaviour (Camelo-Ordaz et al., 2011; Diaz-Moriana et al., 2020; Herscovitch & Meyer, 2002; Sharma & Irving, 2005). On the other hand, higher levels of AC from employees make it easier for these employees to accept change and innovation initiatives and the change is more likely to persist (Bandura, 1986; House & Mitchell, 1974).

Employees with higher levels of AC are predisposed to perform an extra role and exhibit behaviour (Erdogan, Rondi, & De Massis, 2020; Hislop, 2003) and discretionary effort that may increase knowledge sharing and innovation (Coff & Rousseau, 2000; Corbetta & Salvato, 2004). Therefore, we hypothesise that:

Hypothesis 2: The AC of non-family employees mediates the relationship between the internal social capital of non-family employees and innovation.

NC. On the one hand, McCormick and Donohue (2019), in their study of organisational volunteers, identified ISC as one of the most influential antecedents of NC. Relationships between employees gained through active participation and acknowledgement can act as a relational inducement and thereby enhance NC.

On the other hand, in the presence of NC, employees feel obliged by morality, value-driven principles and socialisation practices to reciprocate with loyalty and commitment (Meyer & Allen, 1997; Meyer & Herscovitch, 2001). Firms could use this type of motivation to implement, encourage and foster innovation. Gellatly, Meyer and Luchak (2006) suggest that employees with stronger NC may perceive that they have a responsibility to strive toward valued outcomes or that they have an obligation to meet others' expectations. Hence, if the firm is known for its innovation, then there is a strong possibility that NC will contribute to this process, which may even be accentuated by a pride-guilt dynamic (Meyer, Becker, & Van Dick, 2006).

Other scholars suggested that NC has weaker positive relations with behaviours such as support and acceptance for organisational change, citizenship behaviours and job performance (Hackett, Bycio, & Hausdorf, 1994; Iverson, 1996; Meyer et al., 2002; Patel & Fiet, 2011; Rasdi & Tangaraja, 2020); thus, we expect that NC will have a weaker impact on innovation than AC. Therefore, NC received less attention than the other types of commitments (Bergman, 2006; Calabrò et al., 2019; Ko et al., 1997). This will likely have implications for innovation in family firms (De Massis, Audretsch, Uhlaner, & Kammerlander, 2018) Therefore, we hypothesise that:

Hypothesis 3: The NC of non-family employees mediates the relationship between the internal social capital of non-family employees and innovation.

CC. On the one hand, non-family employees with good relationships can benefit the CC and receive positive performance evaluations from their employer (De Clercq, Suhail, Azeem, & Haq, 2019) because they respond positively to the pressures (Diaz-Moriana et al., 2020; Graca & Khare, 2020). On the other hand, our literature review identifies two main perspectives. First, in firms where there is an obligation to be innovative, a stronger level of CC may induce employees to accept innovation for fear of losing their current employment. They are thus prone to fulfil the minimum requirement to keep their status in the company (Luchak & Gellatly, 2007). Second, in firms where innovation projects lead to employees' personal gains, a stronger level of CC should have a positive effect on innovation (Johnson & Yang, 2010). Employees who exhibit high levels of CC generally worry about their job security and actively work to comply with organisational directives to keep their jobs (D Clercq et al., 2019). Thus, CC may function as a buffer against the fatigue that arises with organisational pressures to go beyond formally prescribed duties, which them diminishes the likelihood that employees underperform (De Clercq et al., 2019). In sum, if employees perceive that innovation may improve the probability of receiving valued rewards, is crucial to secure their investment in the company, or if is no better alternative elsewhere (Johnson & Yan, 2010; McGee & Ford, 1987), then a higher level of CC may have a positive effect on innovation. Therefore, we hypothesise that:

Hypothesis 4: The CC of non-family employees mediates the relationship between the internal social capital of non-family employees and innovation.

2.3. Family top management team (TMT) involvement and support for innovation

The management literature defines the TMT as the chief executive officers (CEOs) and their team of the managers who report directly to them (Boeker, 1997). This team is responsible for innovation-related decisions in firms (Talke, Salomo, & Rost, 2010). Prior research showed that the involvement of family members in governance and management (TMT) may influence innovation in family firms differently (Howorth, Rose, Hamilton, & Westhead, 2010; Miller, Le-Breton Miller, Lester, & Cannella, 2007; Sanchez-Marin, Permatin, & Monreal-Perez, 2020; Sciascia, Nordqvist, Mazzola, & De Massis, 2015; Westhead & Howorth, 2007). The existing literature in this field reports contradictory results. For example, Matzler, Renz, Mooradian, Von Krogh and Mueller (2011) found that family management at the top has a negative impact on innovation input and a positive influence on innovation output. According to Nieto, Santamaria and Fernandez (2015), firms managed by business families are innovative; however, they show risk aversion and have other agency costs and resource constraints and are thus less inclined toward radical innovation (developing scientific and technological knowledge) and more oriented to incremental innovation.

Similarly, Duran, Kammerlander, Van Essen and Zellweger (2016) maintained that family firms with a family CEO invest less in innovation but have an

increased conversion rate of innovation input into output, and ultimately a higher innovation output than other firms. Thus, excessive levels of family involvement in the TMT could result in the limited availability of diverse knowledge and multiple perspectives, which would limit innovation (Handler, 1992; Howorth et al., 2010; Ruekert & Walker, 1987). For example, this limitation could lead to a desire to accommodate other team members for the 'good' of the team (Amason & Sapienza, 1997); however, doing so could compromise employees' ability to generate innovative ideas (Arregle et al., 2007). On the other hand, some scholars considered that non-family managers are important stakeholders who promote innovation and solve problems in family businesses (Basco & Voordeckers, 2015; Block, 2011; Sonfield & Lussier, 2009). Therefore, the inclusion of non-family members in top management positions increases the social capital (Portes, 1998) and facilitates the acquisition of original information from diverse sources, leading to a positive effect on innovation (Blyler & Coff, 2003; Calabrò et al., 2019). Top managers and employees rely on mutual support to focus on innovation during changes in the market (Huy, Corley, & Kraatz, 2014). Thus, family involvement in the TMT may enhance the potential for non-family employees' commitment to and assessment of innovation (Sanchez-Marin et al., 2020). However, when many family viewpoints are included in the strategic decision process, the likelihood of relational conflicts rises, generating tension, animosity and annoyance (Martinez-Alonso, Martinez-Romero, & Rojo-Ramirez, 2020; Sanchez-Famoso et al., 2019). Overall, these arguments suggest that the involvement of family members in the TMT can reinforce the effectiveness of the relationships between non-family employees and the commitment of non-family employees towards innovation outputs. Therefore, we hypothesise that:

Hypothesis 5: Family involvement and support in TMT positions moderate the relationship between the three dimensions of commitment (AC, NC and CC) and innovation.

2.4. Loyalty

Research about loyalty in family business is scarce (Boszormenyi-Nagy, Grunebaum, & Ulrich, 1991; Lumpkin, Martin, & Vaughn, 2008). Our literature review reveals two aspects of loyalty. The first is focused on organisational loyalty and the second on individuals.

Organisational loyalty. Graham (1991) defined organisational loyalty as identification with and allegiance to organisational leaders and the organisation as a whole, transcending the parochial interests of individual, work groups and departments. The representative behaviours include defending the organisation against threats, contributing to its good reputation and cooperating with others to serve the interests of the whole (Graham, 1991; p. 255). Loyalty is associated with TMC (Johnson, 2005). Loyal employees support their organisation and even defend it against outsiders, remaining committed to the organisation even in difficult circumstances, and contributing to its good reputation (Johnson, 2005). However, the relationship between organisational loyalty and innovation in the family business literature received no empirical attention.

Despite the lack of studies addressing the link between organisational loyalty and innovation, some empirical evidence consistent with TMC is available. For example, Bettencourt and Brown (1997) claimed that employees with high levels of AC want to stay in their organisations. Lin, Tsai, and Chiu (2009) found that loyalty is influenced positively by the three dimensions of commitment. However, to the best of our knowledge, little is known about how loyalty influences organisational commitment.

Loyalty among individuals in family firms. This literature focuses on loyalty among family members. Loyalty refers to the sense of personal support, commitment and duty that individuals within a family experience. Within families, children are expected to display filial loyalty and support simply by virtue of being family members (Boszormenyi-Nagy et al., 1991). Although this relational ethic generates a sense of obligation to the family among children, parents typically display stronger loyalty to their children than children do to them (Boszormenyi-Nagy et al., 1991).

Therefore, loyalty keeps individual members obligated to the family through sanctions, devotion and commitments. Reiss and Olivery (1991) suggest that as a social group, family members are expected to remain loyal and support to one another and the family, with their most fundamental requirement being to maintain the group; that is, the family.

In a family business setting, loyalty is often so crucial that family members may even demand it from nonrelative employees (Kets de Vries, 1993). Thus, loyalty creates assurances among individual family members that their obligations will be met through mutual support (Lumpkin et al., 2008).

Loyalty is also associated with social capital (Jones & Taylor, 2007). The marketing literature reported significant positive effects of social capital on loyalty (Bansal, Irving, & Taylor, 2004). Although the family may show loyalty and commitment to non-family employees, their primary obligation and loyalty are normally reserved for family members (Zwick & Jurinski, 1999). This argument could be counterproductive because one of the key chal-

lenges identified in the family business literature is the retention of loyal non-family employees (De Massis et al., 2018). However, research focusing on non-family employees is scarce (Sanchez-Famoso et al., 2014, 2017, 2019). Barnett and Kellermanns (2006) argue that it is important to encourage the loyalty of non-family employees. However, we know little about the manner in which the loyalty of non- family employees is encouraged and its role as a moderator in the innovation process. This study offers the first analysis of the role of the family loyalty to non-family employees. Therefore, we hypothesise that:

Hypothesis 6: Family loyalty to non-family employees moderates the relationship between the three dimensions of commitment (AC, NC and CC) and innovation.

3. Methods

3.1. Data and sample

We tested the six main hypotheses emerging from our literature review with a sample of 232 small and medium family firms listed in the Iberian Balance Sheet Analysis System (SABI). We imposed restrictions to obtain a final sample consistent with our research question and representative of the population. First, most of the research on innovation was conducted in large firms (Santoro, Ferraris, Giacosa, & Giovando, 2018). We therefore focused on family firms with between 10 and 500 employees. Though the European Commission defines small and medium family firms as those which employ fewer than 250 persons (SME definition adopted by the European Commission, 2003/361/EC), we extended the upper limit to match the U.S. Small Business Administration's definition of small and medium enterprises because our aim is to capture non-family employees' SC in the firm through their commitment and because the literature review revealed that large firms (i.e. usually more than 500 employees) limited the opportunity for relational links between employees (Basco, 2013). In smaller firms (i.e. fewer than 10 employees), communication at work can be limited (Sanchez-Famoso, Akhter, Iturralde, Chirico, & Maseda, 2015; Sorenson, 2012). Second, we excluded companies affected by special situations, such as liquidation and/or insolvency. Third, we identified family members in the TMT. This choice was also helpful to: a) identify firms owned by individuals from one family, no less than 51 percent (Molly, Laveren, & Deloof, 2010); and b) verify that family members were involved in management activities. The CEOs of the selected companies were contacted by letter and a phone call requesting their participation in our study. Two categories of respondents were necessary to conduct our research: 1) family members involved in innovation projects in the TMT and 2) non-family employees working on innovation activities. In the letter sent to the CEOs, we explained that a professional survey research firm would get in touch with the respondents to conduct a phone survey. Participants were assured that personal and organisational data would remain completely confidential. The professional survey firm collected our data and verified the accuracy of respondents. We used G*Power to calculate the sample size based on its statistical power (Faul, Erdfelder, Buchner, & Lang, 2009), which suggested that we needed a sample size of 134 for a statistical power of 0.95 (two tails) for model testing. Furthermore, the minimum power required in social and behavioural science research is typically 0.8 (Rasoolimanesh, Roldán, Jaafar, & Ramayah, 2017). Thus, we can safely conclude that our sample size was acceptable for the purposes of this study. Furthermore, the response rate is consistent with previous research on innovation in Spain.

3.2. Data quality and test

We verified our hypotheses using a quantitative analysis. Quantitative methods are necessary in the development of family firm research (Wilson, et al., 2014). These quantitative methods use more sophisticated methodological approaches, which advances the research on family firms. First, we test for nonresponse bias.

To test for nonresponse bias, we compared respondents (early and late) as well as respondents who completed the whole survey and those who dropped out before completion using ANOVA (Oppenheim, 1966), and found no significant differences. To address potential common method bias, we first conducted Harman's one-factor test (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), which revealed that no factor explained more than 50 percent of the variance. A confirmatory factor analysis (CFA) (Podsakoff et al., 2003) with all our independent, mediator, moderator and dependent variables shows that the corresponding structure exhibits an acceptable fit. (X^2 = 744.91; SRMR = 0.06; NFI = 0.71). These findings suggest that our measures are empirically distinguishable and that common method bias is unlikely to be a major concern.

3.3. Measures

The questionnaire was designed in Spanish. We then tested the questionnaire on ten family managers and ten non-family managers in ten family firms and three academic experts in research methods and family firms. We attempted to ensure that the items were interpreted unambiguously and displayed high content validity. The refined items were then pretested with a convenience

sample of 25 family firms. These revision efforts created an instrument with high reliability (Cronbach's alpha ranging from 0.71 to 0.87). Except where otherwise noted, the study's variables and items are measured on a 5-point scale that ranges from '1= strongly disagree' to '5= strongly agree'. Table 1 shows the results of the CFA, which support the reliability of the scales that we used in the analysis.

Dependent Variables. Family Firm Innovation (α = 0.71). We based our scale on Garcia- Morales, Llorens-Montes and Verdu-Jover (2008) and Miller and Friesen (1983), asking questions about the firms' level of innovation compared with that of their closest competitors.

Independent Variable. ISC (α = 0.85). Following Chirico and Salvato (2016), we used a set of six items.

Mediator Variables. For TMC, we follow the scale proposed by Meyer, Allen and Smith (1993) and tested by Ko et al. (1997) to measure AC (α = 0.84), NC (α = 0.87), and CC (α = 0.84) with sets of six items each.

Moderator Variables. TMT involvement and support is measured as the proportion of family managers in the TMT and the support given to employees (Cabrera-Suarez, Deniz-Deniz, & Martin-Santana, 2015). Family loyalty to non-family employees was adapted from the scale proposed by Buchanan (1974).

Control Variables. Because many similar factors can influence the dependent, mediator and independent variables, we controlled for 4 variables. First, we control for size. Larger firms might have more slack resources to engage in corporate entrepreneurship, and size may thus bias the results (Zahra, Hayton, & Salvato, 2004). Company size was measured using the natural log of total assets (Sanchez-Famoso et al., 2015). Larger family firms need more and diverse expertise to meet the advanced skill requirements of their executives. Small family firms may affect non-family members' motivation and commitment (Chen & Hsu, 2009). Second, we control for the number of employees by using the log of the number of employees. Miller, Minichilli and Corbetta (2013) stated that the number of employees is related to a higher level of administrative complexity, which requires more skills, knowledge and expertise of executives; therefore, these organisations tend to be more bureaucratised and are better positioned to endure innovation (Wagner, Pfeffer, & O'Reilly, 1984). Third, company age was measured using the natural log of firm age (Zahra & Nielsen, 2002). More mature firms may be more eager to hire non-family managers because of the tendency within older family firms to share governance roles with non-family members more readily (Yildirim-Öktem, & Üsdiken, 2010). Fourth, depending on the sector to which they belong, some companies could be more motivated to undertake innovation than others.

Table 1: Evaluation of the measurement model (CFA)

Construct/Dimension/Indicator	*Loadings*	*Composite Reliability*	*Average Variance*
Internal Social Capital (cronbach's alpha = 0.847)		0.887	0.567
Non-family employees spend time together in social occasions	0.710		
Non-family employees maintain close social relationships	0.670		
Non-family employees can rely on each other without any fear that some of them take advantage even if the opportunity arises	0.757		
Non-family employees always keep the promises they make to each other	0.759		
Non-family employees share the same ambitions and vision	0.820		
Non-family employees are enthusiastic about pursuing the collective goals and missions of the whole organisation	0.793		
Affective Commitment (cronbach's alpha = 0.844)		0.885	0.562
Non-family employees would be very happy to spend the rest of their career with this family firm	0.725		
Non-family employees really feel as if the family firm's problems are their own	0.735		
Non-family employees feel a strong sense of belonging to the organisation	0.810		
Non-family employees feel emotionally attached to this organisation	0.746		
Non-family employees feel like part of the family at the family firm	0.765		
This family firm has a great deal of personal meaning for non-family employees	0.712		
Normative Commitment (cronbach's alpha = 0.873)		0.905	0.613
Non-family employees do not feel any obligation to remain with their current employer	0.700		
Even if it were to non-family employees advantage, non-family employees do not feel it would be right to leave the family firm now	0.778		
Non-family employees would feel guilty if they left this organisation now	0.795		
This family firm deserves the loyalty of their non-family employees	0.814		
Non-family employees would not leave this family firm right now because they have a sense of obligation to the people in it	0.790		
Non-family employees owe a great deal to their family firm	0.815		
Continuous Commitment (cronbach's alpha = 0.840)		0.883	0.559
Right now, staying with the organisation is a matter of desire	0.670		
It would be easy for non-family employees to leave the family firm right now	0.635		
Too much of their life would not be disrupted if non-family employees decided to leave the family firm now	0.767		
Non-family employees feel that they have many options to consider leaving the family firm	0.769		
If they had not already put so much of theirselves into this family firm. They might consider working elsewere	0.828		
The many alternatives that exit in the labor market do not push non-family employees to leave this family firm	0.798		
Innovation (cronbach's alpha = 0.714)		0.840	0.636
The rate of introduction of new products or services in the organisation has grown rapidly in the last five years	0.792		
The rate of introduction of new production methods or services rendered in the organisation has grown rapidly in the last five years	0.804		
In comparison to its competitors, the organisation has become much more innovative in the last five years	0.796		

4. Results

4.1. Statistical analyses

We tested our research model using Partial Least Squares (PLS), a variance-based structural equation modelling method (Hair, Hult, Ringle, & Sarstedt, 2017; Roldán & Sánchez-Franco, 2012). The assessment of the measurement model for reflective indicators in PLS is based on individual item reliability, construct reliability, convergent validity and discriminant validity (Roldán & Sánchez-Franco, 2012). Individual item reliability is considered adequate in this study because all indicators and dimensions have loadings above 0.635 (Table 1). All constructs and dimensions meet the requisite level of construct reliability, as their composite reliabilities (CR) are greater than 0.7 (Table 1). To assess convergent validity, we examine the average variance extracted (AVE). All latent variables achieve convergent validity, as their AVEs surpass the 0.5 level (Table 1). Finally, Table 2 shows that all the constructs attain discriminant validity following both the Fornell-Larcker and the strictest $HTMT_{85}$ criterion (Hair et al., 2017). This means that all the constructs are empirically distinct.

Table 2: Discriminant validity of the measurement model

	Fornell-Larcker Criterion				Heterotrait-Mototrait ratio (HTMT)			
	Affective Commitment	Continuance Commitment	Innovation	Normative Commitment	Affective Commitment	Continuance Commitment	Innovation	Normative Commitment
Affective Commitment	0.749							
Continuance Commitment	0.221	0.748			0.259			
Innovation	0.390	0.243	0.798		0.497	0.312		
Normative Commitment	0.350	0.328	0.545	0.783	0.403	0.380	0.690	
Internal Social Capital	0.297	0.562	0.379	0.410	0.347	0.655	0.487	0.471

4.2. Structural model results

In the structural model assessment, we estimated the path coefficients and determined their significance via bootstrap tests. In addition, the R^2 values and the Q^2 tests were estimated for predictive relevance. This analysis was carried out for the entire sample and for four subsamples. The Q^2 value is calculated using the blindfolding procedure for a specified omission distance (in our case, the value was 7). When a PLS path model exhibits predictive relevance, it accurately predicts data not used in the model estimation. Q^2 values larger than zero for a specific reflective endogenous latent variable indicate the path model's predictive relevance for a particular dependent construct (Hair et al., 2017). In our case, the value of all reflective constructs exceeds zero, confirming predictive relevance.

4.3. Hypotheses testing

The structural model analysis confirms that the ISC of non-family employees has a positive and significant effect on innovation (H1). Additionally, the control variables have no significant influence on innovation. The calculation of the standardised root mean square residual (SRMR) completes the goodness-of-fit analysis for the structural model. Henseler et al. (2014) advocated the use of the SRMR indicator to measure the goodness of fit of a model, recommending values less than 0.08. For the structural model, the value is 0.06. Mediation hypotheses. In the main model, we tested our mediation hypotheses (H2 through H4) by following Nitzl, Roldán and Cepeda's (2016) analytical approach. To establish a mediating effect, the indirect effect must be significant. Hence, we followed two main steps. First, we determined the significance of the indirect effects. Second, we defined the type of mediation. For full mediation, the direct effect must be non-significant. The results of the total, direct and indirect effects, as well as the bias-corrected confidence intervals with the significance level of 0.05 using a two-tailed test are presented in Table 3.

The direct effect of non-family employees' ISC (0.172) on innovation is significant [0.020; 0.322]. The indirect effects of AC (0.058) [0.020; 0.322] (H2) and NC (0.177) [0.107; 0.261] (H3) are both significant. Thus, AC and NC partially mediate the relationship between the ISC of non-family employees and innovation. These findings illustrate the main role of AC and NC in explaining the process that determines innovation in the context of social capital theory. However, the indirect effect of CC (0.028) is not significant [-0.110; 0.054] (H4). Therefore, the results support H2 and H3 but do not support H4.

Table 3: Structural model and multi-group analysis test results

Mediation Model (without moderation)	**Direct Effect**	**Confidence Intervals**		**Indirect Effect**		**Confidence Intervals**	**Total Effect**	**Confidence Intervals**	R^2= 0.368
Internal Social Capital -> Innovation	0.172	[0.020; 0.322]	0.297*	0.196	0.058	[0.020; 0.109]	0.230		**Affective Commitment**
			0.410*	0.431	0.177	[0.110; 0.261]	0.349		**Normative Commitment**
			0.562*	0.049	0.028	[-0.110; 0.054]	0.200		**Continuance Commitment**
			0.262			[0.110; 0.320]	0.434	[0.237; 0.514]	**TMC**
Metiation Model moderated by TMT									
Group 1: High TMT	**Direct Effect**	**Confidence Intervals**		**Indirect Effect**		**Confidence Intervals**	**Total Effect**	**Confidence Intervals**	R^2= 0.408
Internal Social Capital -> Innovation	0.314	[0.106; 0.532]	0.312*	0.227	0.071	[0.010; 0.153]	0.385		**Affective Commitment**
			0.651*	0.447	0.291	[0.070; 0.276]	0.605		**Normative Commitment**
			0.592*	0.289	0.171	[-0.306; -0.069]	0.485		**Continuance Commitment**
			0.533			[-0.109; 0.209]	0.847	[0.144; 0.571]	**TMC**
Group 2: Low TMT	**Direct Effect**	**Confidence Intervals**		**Indirect Effect**		**Confidence Intervals**	**Total Effect**	**Confidence Intervals**	R^2= 0.468
Internal Social Capital -> Innovation	-0.016	[-0.217; 0.208]	0.289*	0.205	0.059	[0.001; 0.128]	0.043		**Affective Commitment**
			0.498*	0.471	0.235	[0.106; 0.369]	0.219		**Normative Commitment**
			0.541*	0.190	0.103	[-0.001; 0.242]	0.087		**Continuance Commitment**
			0.397			[0.246; 0.570]	0.381	[0.107; 0.580]	**TMC**
Metiation Model moderated by Family Loyalty to Non-Family Employees									
Group 1: High Family Loyalty to Non-Family	**Direct Effect**	**Confidence Intervals**		**Indirect Effect**		**Confidence Intervals**	**Total Effect**	**Confidence Intervals**	R^2= 0.345
Internal Social Capital -> Innovation	0.132	[0.100; 0.434]	0.286*	0.227	0.065	[0.024; 0.142]	0.197		**Affective Commitment**
			0.332*	0.389	0.129	[0.083; 0.262]	0.261		**Normative Commitment**
			0.442*	0.008	0.004	[-0.112; 0.090]	0.136		**Continuance Commitment**
			0.198			[0.118; 0.354]	0.330	[0.364; 0.625]	**TMC**
Group 2: Low Famlily Loyalty to Non-Family	**Direct Effect**	**Confidence Intervals**		**Indirect Effect**		**Confidence Intervals**	**Total Effect**	**Confidence Intervals**	R^2= 0.272
Internal Social Capital -> Innovation	0.314	[-0.394; 0.186]	0.245*	0.227	0.056	[-0.080; 0.155]	0.370		**Affective Commitment**
			0.395*	0.401	0.158	[-0.020; 0.370]	0.472		**Normative Commitment**
			0.693*	-0.352	-0.244	[-0.290; 0.125]	0.070		**Continuance Commitment**
			-0.030			[-0.194; 0.450]	0.284	[-0.330; 0.390]	**TMC**

Furthermore, when our model has multiple mediators, comparing their specific mediating effects could be useful (Williams & MacKinnon, 2008). We therefore calculated the following equation: DM = M1 – M2, where M1 and M2 are the specific indirect effects and DM is the difference between them. We do not include M3 because the indirect effect of CC is not significant. In this way, we tested whether the two specific indirect effects are equal if the difference is zero. As zero is not included in the interval, we can conclude that the difference of the partially mediated effects of AC and NC are significant (-0.119) [0.237; 0.514]. Thus, we can conclude that the role of AC and NC in the relationship between the ISC of non-family employees and innovation is significantly different. As we can see in Table 3, although CC does not mediate the relationship between ISC and innovation of non-family employees, both the total indirect effect and the total effect are significant.

Multi-group analysis (MGA). Prior to performing MGA to compare the path coefficients of high family involvement and TMT support and low family involvement and TMT support, as well as those of high family loyalty to non-family employees and low family loyalty to non-family employees, the acceptability of the measurement models and measurement invariance should be established (Hair et al., 2017; Henseler et al., 2014). PLS-SEM is a composite model with latent variable scores calculated based on a composite model algorithm. We followed the measurement invariance of composites (MICOM) method suggested by Henseler et al. (2014), which is a three-step process involving (1) the configurational invariance assessment, (2) the establishment of a compositional invariance assessment, and (3) an assessment of equal means and variances. In accordance with the MICOM procedure, we establish that partial measurement invariance for the two groups of family involvement and TMT support, and the full measurement variance for the two groups of family loyalty to non-family employees (Table 4). Partial measurement variance is the minimum requirement for comparing and interpreting the MGA's group-specific differences in the PLS-SEM results (Henseler et al., 2014).

After testing the structural model and guaranteeing the metric invariance, we performed the multi-group analyses. This process divides the sample into two groups. In this analysis, family ownership and family management in the TMT are moderator variables, which allows us to test the moderating role of the three dimensions of TMC (AC, NC, and CC) on the relationships in the research model. To this end, we used mainly the permutation test (5000 permutation runs; two-tailed; 0.05 significance level) for each group of observations. Statistically significant differences in path coefficients between sub-samples are interpreted as moderating effects (Qureshi & Compeau, 2009).

We conducted two multi-group analyses, one for each moderator variable. In both, a non-parametric approach is applied (bias-corrected 95 percent confidence intervals). In this case, if the parameter estimate for a path relationship of one group (Table 3) does not fall within the corresponding confidence interval of another group (Table 3), and vice versa, then no overlap exists and we can assume that the group-specific path coefficients are significantly different with regard to a significance level α (Sarstedt, Henseler, & Ringle, 2011). The next step is to analyse the

Table 4: Invariance measurement test results using permutation

1/ MICOM tests for Family Involvement in Management (TMT)

Constructs	(Step 1) Configurational Invariance (Same Algorithms for Both Groups)	Correlation Permutation Mean	5.00%	(Step 2) Compositional Invariance Established	Mean-Permutation Mean Difference		Equal	Variance -Permutation Mean Difference		Equal	(Step 3)	
					Differences	Confidence Inteval		Differences	Confidence Interval		Partial Measurement Invariance Established	Full Measurement Invariance Established
Affective commitment	Yes	0.993	0.982	Yes	-0.097	[-0.265; 0.249]	Yes	0.118	[-0.424; 0.437]	Yes	Yes	Yes
Normative commitment	Yes	0.998	0.994	Yes	-0.016	[-0.257; 0.256]	Yes	-0.083	[-0.436; 0.445]	Yes	Yes	Yes
Continuance commitment	Yes	0.995	0.988	Yes	-0.216	[-0.265; 0.255]	Yes	-0.069	[-0.412; 0.431]	Yes	Yes	Yes
Social capital	Yes	0.996	0.99	Yes	0.048	[-0.256; 0.255]	Yes	0.080	[-0.437; 0.448]	Yes	Yes	Yes
Innovation	Yes	0.997	0.99	Yes	-0.045	[-0.259; 0.258]	Yes	-0.112	[-0.440; 0.463]	Yes	Yes	Yes

2/ MICOM tests for Non-Family Employees' Loyalty

Constructs	(Step 1) Configurational Invariance (Same Agorithms for Both Groups)	Correlation Permutation Mean	5.00%	(Step 2) Compositional Invariance Established	Mean-Permutation Mean Difference		Equal	Variance -Permutation Mean Difference		Equal	(Step 3)	
					Differences	Confidence Inteval		Differences	Confidence Interval		Partial Measurement Invariance Established	Full Measurement Invariance Established
Affective Ccommitment	Yes	0.988	0.967	Yes	-0.062	[-0.299; 0.305]	Yes	0.119	[-0.441; 0.540]	Yes	Yes	Yes
Normative commitment	Yes	0.997	0.990	Yes	0.182	[-0.303; 0.307]	Yes	0.080	[-0.452; 0.548]	Yes	Yes	Yes
Continuance commitment	Yes	0.992	0.978	Yes	0.109	[-0.307; 0.297]	Yes	0.553	[-0.428; 0.533]	No	Yes	No
Social capital	Yes	0.995	0.985	Yes	0.175	[-0.302; 0.296]	Yes	-0.022	[-0.468; 0.570]	Yes	Yes	Yes
Innovation	Yes	0.995	0.984	Yes	0.345	[-0.298; 0.298]	No	-0.265	[-0.457; 0.583]	Yes	Yes	No

differences between the coefficients for the different paths. If these differences are significant, then the moderator variables have a moderation effect (Table 3).

Family involvement in the TMT, MGA. The sample is divided in two groups: firms with high family involvement in the TMT (176 firms) and firms with low family involvement in TMT (56 firms). Analysing Table 3, we can conclude that family involvement in the TMT has a moderating effect in the relationship between internal SC and innovation, which is mediated by TMC. Thus, with low family involvement in the TMT, TMC has no meditating effect. Moreover, the total direct and indirect effects are not significant. However, with a high family involvement in the TMT, despite the non-significant difference between AC and NC (-0.092) [- 0.221; 0.037], AC, and NC partially mediate the relationship between ISC and innovation. The total indirect effect and the total direct effect are both significant. Thus, we can conclude that H5 is supported.

Family loyalty to non-family employees, MGA. The sample is divided in two groups: firms with high family loyalty to non-family employees (127 firms) and firms with low family loyalty to non-family employees (105 firms). Table 3 shows that family loyalty to non- family employees has a moderating effect in the relationship between ISC and innovation, which is mediated by TMC. First, in firms with low family loyalty to non-family employees, AC and NC fully mediate the relationship between ISC and innovation because the direct effect of ISC on innovation is non-significant in this case. In addition, the difference between AC and NC is significant (0.176) [-0.336; -0.015], which shows that the role of AC and NC in this relationship is different. The total indirect effects and the total effects are significant. Second, in firms with high family loyalty to non-family employees, all three dimensions of TMC (AC, NC and CC) partially mediate the relationship between internal SC and innovation. Furthermore the roles of AC, NC and CC differ because the difference between AC and CC is significant (0.100) [0.120; 0.400], as is the difference between NC and CC (0.12) [0.193; 0.513]. In this case, although the total indirect effect is not significant, the total effect of all mediated relationships is significant. Thus, we can conclude that H6 is supported.

5. Discussion

Our findings suggest that family firms can achieve innovation by effectively combining ISC with the three components of non-family members' commitment (Meyer & Allen, 1997). This relationship is moderated by family loyalty to non-family employees and family involvement in the TMT. The following sections discuss our results, highlighting the theoretical contributions to the social capital, commitment and family business fields.

5.1. The ISC of non-family members does not always foster innovation directly

Our empirical findings show that the internal SC of non-family employees has a positive and significant effect on innovation. Thus, ISC needs AC and NC to achieve innovation. Our findings challenge the literature that suggests that NC and AC are strongly correlated (Ko et al., 1997). We find that they play different roles in mediating the relationship between ISC and innovation. Our study therefore partially refutes existing thinking by offering theoretical grounding and empirical evidence of non-family employees' TMC as a crucial intermediate variable in the relationship between ISC and innovation.

The resulting model in Table 3 extends existing research on commitment (TMT) and social capital theory (Chirico & Salvato, 2016; Dawson et al., 2015). First, for the commitment research field, our study highlights the different contributions of AC and NC in family firms. We find empirical evidence that the mediation of NC is higher than that of AC. This result refutes existing thinking (Bergman, 2006; Ko et al., 1997; Meyer et al., 2002) that AC and NC are similar and giving more importance to AC (Lapointe & Vandenberghe, 2017). Thus, NC received less attention than AC because, empirically, they were not distinguished, as was theoretically expected (Bergman, 2006; Ko et al., 1997). Our study distinguishes the expected differences empirically.

Our research contributes as well to the study of the mediation effects of the AC of non-family employees, as suggested by Dyer (2003) and Sieger, Bernhard, and Frey (2011). In contrast to our predictions, a non-significant mediation effect exists for CC. Although CC does not mediate the relationship between internal SC and innovation of non-family employees, both the total indirect effect and the total effect are significant.

5.2. The family involvement in management (TMT members) has a moderating effect in the relationship between ISC and innovation

Our findings show that with low family involvement in the TMT, there is no meditating effect of TMC. This finding highlights that the inclusion of non-family members in top management positions increases the social capital and facilitates the acquisition of original information from diverse sources, leading to a positive effect on innovation and having a strong contribution to the innovation achievements of family businesses, as Cruz and Nordqvist (2012) suggested.

However, with a high family involvement in the TMT, AC and NC partially mediate the relationship between ISC and innovation. This finding supports the argument that family involvement in the TMT enhances the potential for non-family employee commitment and assessment of innovation (Sanchez-Marin et al., 2020). Thus, top managers and non-family members rely on mutual support to realise innovation (Aparicio, Iturralde, & Sanchez-Famoso, 2019; Sanchez-Famoso et al., 2019).

5.3. The family loyalty to non-family employees has a moderating effect in the relationship between ISC and innovation

We did not find any existing research on family loyalty to employees. We therefore argue that ours is the first study to introduce and test the effect of the family's loyalty on non-family employees beyond the search for employees' loyalty to the firm. Our research shows that with low family loyalty to non-family employees, AC and NC fully mediate the relationship between ISC and innovation because the direct effect of internal SC on innovation is non-significant. Additionally, the difference between AC and NC is significant, which confirms that the roles of AC and NC in this relationship differ, as we mentioned in section 5.1.

These results could be interpreted as a substitution effect. Given low levels of family loyalty to non-family employees, non-family employees use AC and NC to fully mediate the relationship between ISC and innovation. In contrast, with high family loyalty to non-family employees, all three dimensions of TMC (AC, NC and CC) partially mediate the relationship between ISC and innovation. Furthermore, the roles of AC, NC, and CC differ because the difference between AC and CC is significant, as shown in the Results section.

Thus, in the case of high family loyalty to non-family employees, it is possible that TMC acts as complementary mechanism partially moderating the relationship between ISC and innovation. Our findings add to the existing knowledge by introducing family loyalty to non-family employees and its complementarities or substitute effects with commitment as crucial intermediate variables in the relationship between ISC and innovation in family business, which remains unexplored in the existing literature. The additional implications of these findings relate to the governance of family businesses, especially to stewardship theory (Davis, Schoorman, & Donaldson, 1997).

6. Implications for Research and Practice

We next identify some directions for future research. First, more research is needed to better understand the context in which NC and AC are not strongly correlated, and then to identify their contribution to the relationship between ISC and innovation achievement. Second, another important path for future research is the analysis of family loyalty to employees. This is a promising field that will be useful to better understand the interactions between family and non-family members at different levels and in different contexts of the development of the firm. For example, what is the role of this kind of loyalty during the succession process? Are there some groups that need different expressions of this loyalty and is there a theoretical link between loyalty and reciprocity at different stages of the development of family firms? Third, extensions of our structural model might consider additional factors affecting innovation achievement, such as socioemotional wealth variables.

Our study has some limitations. First, the cross-sectional data in our study could be a limitation. We controlled for the potential problem of common method bias by using Harman's single factor test (Podsakoff & Organ, 1986), suggesting that common method bias is not a problem in our data. However, empirical studies with longitudinal surveys may provide complementary insights on the proposed model of the relational antecedents of innovation and clarify the underlying exchange mechanisms among ISC and TMC to foster innovation in small family businesses. A second limitation of this research is that we study family firms in a single country. The restricted nature of our sample suggests that any generalisation of our findings to other contexts should be done with caution.

Our research also contributes to family firms' practices. For instance, the value of the relational antecedents of innovation in the family firms we studied seems to be related to the different components of commitment (AC, NC, and CC) to achieve innovation. Therefore, in practice, family businesses owners should manage each of the three components of TMC differently to achieve innovation. Thus, to leverage innovation, the family firms in our study may need to foster the family loyalty to non-family employees as well. Consequently, family firms interested in fostering innovation should account for the relational aspects we studied. This effort will enable family owners and family firm managers to better understand the impact of the relational aspects in innovation.

7. Conclusion

We hope that scholars and practitioners infer the relevance of the relational antecedents of innovation from our results in the family busi-

nesses we studied. More precisely, we highlighted the different roles that AC and NC have in our sample. We therefore invite scholars and practitioners to account for their differences. Even if our sample is focused on Spanish family firms, Spain is one of the most innovative countries in the world and might have more in common with major economies than we previously thought.

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The Effect of the Board Composition on Dividends: The Case of Brazilian and Chilean Family Firms

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Abstract Based on the agency theory, this paper analyzes whether family firms pay more dividends compared to no-family firms and identifies whether the board composition affects the dividend policy. Brazil and Chile have established mandatory dividends, retain lower cash holdings, pay higher dividends compared with other markets in the region. The sample of study is composed by 853 observations from 49 Brazilian and 32 Chilean top publicly listed firms in terms of market capitalization over the 11-year period from 2004 to 2014. Using an unbalanced panel data, results indicate that family controlled firms distribute more dividends and board composition namely; board size and the proportion of women on the board have a significant and positive impact on the dividend policy of the firm. By contrast, Chairman of Board - Chief Executive Office (COB-CEO) duality signficantly. Thus, dividend policy constitutes an effective corporate governance mechanism in mitigating the family' expropriation of minority shareholders' wealth.

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PALABRAS CLAVE
Política de dividendos, Empresas familiares, Composición de la Junta Directiva, América latina, Teoría de la agencia

El efecto de la Junta Directiva y la propiedad y el control familiar sobre los dividendos: El caso de las empresas brasileñas y chilenas

Resumen Basado en la teoría de la agencia, este documento analiza si las empresas familiares pagan más dividendos en comparación con las empresas no familiares e identifica si la composición de la junta directiva afecta la política de dividendos. Brasil y Chile han establecido dividendos obligatorios, mantienen menores tenencias de efectivo y pagan dividendos más altos en comparación con otros mercados de la región. La muestra del estudio está compuesta por 853 observaciones de 49 empresas brasileñas y 32 chilenas principales que cotizan en bolsa en términos de capitalización de mercado durante el período de 11 años de 2004 a 2014. Utilizando datos de panel no balanceados, los resultados indican que las empresas controladas por la familia distribuyen más dividendos y composición de la junta, a saber, el tamaño del directorio y la proporción de mujeres en el directorio tienen un impacto significativo y positivo en la política de dividendos de la empresa. Por el contrario, la dualidad Chairman of Board - Chief Executive Office (COB-CEO) tiene un efecto negativo. Por lo tanto, la política de dividendos constituye un mecanismo de gobierno corporativo eficaz para mitigar la expropiación familiar de la riqueza de los accionistas minoritarios.

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1. Introduction

Dividends may be defined as the distribution of the firm earnings among the shareholders of the company in proportion of their ownership. Dividends constitute a signal mechanism to the stock market because they communicate information about the financial performance and therefore impact the share price (Roy, 2015). There are several factors that may influence on the dividend policy. As from the seminal work of Miller and Modigliani (1961), different studies have analyzed explanations for dividends behavior. In the context of family firms, the agency theory provides a mixed perspective on moral hazard problems in family firms. On the one hand, families are assumed to be better monitors of management than other types of large shareholders, suggesting that lack of alignment between principal (controlling shareholders) and the agent (managers) better known as Agency Problem I, might be less prevalent in family than in non-family firms (Anderson & Reeb, 2003; Ben-Amar & André, 2006). On the other hand, controlling families may have an incentive and the ability to extract private benefits at the expense of minority investors (referred to here as Agency Problem II) (Bozec & Laurin, 2008; Fama & Jensen, 1983; Shleifer & Vishny, 1997).

Recently, family firms have attracted the attention of many researchers, not only for their unique characteristics but also because to their economic contribution to the economic development (e.g., Chen et al. 2005; Pindado et al. 2012; Setia-Atmaja et al., 2009; Yoshikawa & Rasheed, 2010). Family firms account for two thirds of all businesses around the world, contribute with the 70%-90% of the Gross Domestic Product (GDP) annually, and create the 50%-80% of total employment (Family Firm Institute, 2016). Family businesses are currently recognized by corporate, academic and government entities, as the leading source of jobs and wealth creation, both in developed and emerging countries (Schio, 2017). Data from Latin America shows that family firms represent the 75% of firms (McKinsey & Company, 2014), generate the 70% of job creation and contribute to about 60% of the GDP (EY, 2014). In Latin America, large domestic conglomerates dominate the business sector. Many of these type of groups started during the 1950s, period of import substitution in the region, while the privatizations reforms of the 1980s and 1990s gave rise to a second wave of large conglomerates. Essentially, the great majority of these conglomerates are family firms with several generations in the same company (47% are managed by the first generation, 29% by the second generation and 10% by the third generation), and usually family members exercising the control through the ownership concentration or holding leadership positions (Aguilera & Crespi-Cladera, 2012; Parada et al., 2016).

In Brazil, the 70% of the largest public business are family-owned and the 90% of private companies are family, while these types of companies create the 75% of all new jobs (Cambieri, 2012). With respect to dividends, the corporate law in Brazil requires that listed firms specify the percentage of annual profits (normally 25%) to be paid out as dividend in their bylaws, and dividends from Brazilian companies are not taxed (Martins & Novaes, 2012). In the Chilean context, 44% of listed companies are family owned while the 49.6% of small and medium companies are family firms. These companies contribute with 70% of the GPD and generate the 60% of employment (Watkins-Fassler et al., 2016). Similarly to Brazil, the Chilean Corporation Act requires from open stock companies, to distribute at least 30% of their net income each year as dividends, unless otherwise agreed by the unanimous consent of the shareholders (Gutiérrez et al., 2012). The Brazilian capital market is characterized by a higher ownership concentration, pyramidal management structures and the presence of institutional investors (pension funds), which have contributed to the efficiency and liquidity of the market (Lefort & Walker, 2007).

The prevalence of family firms in Latin America and the family incentive to extract private benefits raises the question: how family firms adopt dividends to reduce free cash flow and restrict their opportunistic behavior? Family firms that operate within weak institutional environments may distribute higher dividends as a trust-generating mechanism towards minority investors (Gomez-Mejia et al., 2010; Miller et al., 2010). Furthermore, dividend policy is a more credible signal against the minority expropriation investors compared to other corporate governance mechanisms (Pindado et al., 2012). On the other hand, board of directors also plays an important role in mitigating agency problems between families and minority shareholders (Fama & Jensen, 1983). The inclusion of independent or female members on the board generally increases the monitoring and restricts the opportunistic behavior of controlling shareholders (Gunasekarage & Reed, 2008). Namely, the board composition may balance (mitigate) the family's power (agency problems) between family and outside investors (Setia-Atmaja, 2010).

From the agency theory perspective, this paper focuses on the Agency Problem II (principal-principal) that is interesting when studying dividends, namely the conflict between the controlling and minority shareholders, who may have diverging interests due to their different preferences

to maintain the control or corporate resources (Faccio et al., 2001). Minority shareholders often prefer to receive dividends in order to reduce the free cash flow available for the controlling shareholders, whereas the controlling shareholders adopt a reinvestment preference (Gersick et al., 1997). These conflicts of interests motivate the expropriation of minority shareholders and, consequently increase the agency problems type II in family firms. In this context, dividends play a disciplining role by forcing controlling shareholders to abstain from expropriation behavior and to pay out (high) dividends (Michiels et al. 2015). This study aims to respond two main empirical questions related to family firms' dividend policy. First, do Brazilian and Chilean family publicly listed firms distribute more dividends to shareholders compared with non-family firms in order to inhibit agency problems between controlling and minority shareholders? Second, does the board composition affect dividend policy decisions in family firms in these countries? This study extends the international literature on two fields of increasing interest to practitioners and scholars: corporate governance and family firms.

The sample of study is composed by 49 Brazilian (IBOVESPA) and 32 Chilean (IPSA) top publicly listed firms in terms of market capitalization (853 observations over the 11-year period from 2004 to 2014), excluding the banking sector companies. An unbalanced panel data is performed through different econometric analysis (panel data and Logit models) to demonstrate if family firms distribute more dividends, and how the board composition may affect this relationship. Empirical results demonstrate that family firms pay more dividends than non-family firms, while the board size and female representation on the board have a significant and positive impact on the dividend policy of the firm. In contrast, the COB-CEO duality inhibits dividends. These results support the "substitute" model proposed by La Porta et al. (2000), which affirms that firms with high levels of ownership concentration pay more dividends to alleviate the Agency Problem II and enhance reputation. Good governance practices, such as an adequate board structure, lead to a more efficient dividend policy (Michiels et al., 2015).

This paper makes several contributions. First, this study shows that policy dividend is a mechanism adopted by Brazilian and Chilean family listed companies to align the interests between the controlling and minority shareholders, since the region is characterized by a higher ownership concentration and a weak legal system. Corporations operating in such environments are more likely to increase dividends in order to reduce the opportunist behavior by controlling families. Thus, this research offers an opportunity to examine the key role that family firms play in determining the dividend policy, particularly in the presence of weakness in the institutional framework. Second, this study is pioneer analyzing the relationship between the family element, board composition and dividend policy, and contributes to the international literature analyzing Brazil and Chile, which represent two of the largest emerging economies in the world and whose institutional peculiarities and market culture differ from other contexts studied in the prior research (e.g., Anglo-Saxon and European countries). Large domestic conglomerates controlled by families dominate the business sector in Brazil and Chile. Furthermore, Brazil and Chile have established mandatory dividends in Latin America (Lozano & Caltabiano, 2015). Therefore, results may vary compared with other contexts where dividends are voluntary and where the ownership pattern is dispersed.

Third, the study compares the behavior between family and non-family firms on dividend policy and emphasizes the relevance of the board structure on strategic financial decisions. While the interacting roles of some corporate governance mechanisms have been documented in prior research, little is known about the role of dividends and board structure on Latin American family controlled firms. If family firms distribute more dividends and nominate more independent and female members on their boards, this should signal that controlling families are not deviating resources from minority investors and therefore the Agency Problem II may be alleviated. Finally, this research has important social and practical implications for policy makers and family founders to make knowledgeable decisions and thus increase the competitiveness and economic growth. For instance, most of family firms still use conservative sources of capital (EY, 2014), thus, policy makers need to promote policies that inhibit family opportunistic behavior in detriment of minority shareholders and increase the participation of institutional investors in providing capital in Latin America.

The remainder of the paper is organized as follows. Section 2 provides the theoretical framework and hypothesis development. Section 3 describes the sample and methodology of study. Section 4 discusses the empirical results. Section 5 concludes the research.

2. Literature Review and Hypothesis Development

2.1. Institutional framework in Brazil and Chile

According to Martins and Novaes (2012), only five countries with civil law adopt mandatory

dividends, which are Brazil, Chile, Colombia, Greece, and Venezuela. Among these five countries, two of them (Brazil and Chile) are analyzed in this study. Brazil and Chile have common market characteristics and corporate governance approaches (Cueto & Switzer, 2015). Brazil represents a large Latin American economy, while Chile, though smaller, has had a more stable economy over the last 20 years (Chong & Lopez-de-Silanes, 2007).

The legal systems in the two countries have the same origin (civil law country), but they differ greatly in investor protection. La Porta et al. (1998) have created an anti-director rights index to measure the degree of shareholder protection in 49 countries. Brazil and Chile obtain different levels of anti-director rights within the region. The value of the index is 2 for Brazil and 5 for Chile. High concentration levels in voting rights are found in Brazil, and these are leveraged by the widespread use of indirect control structures and nonvoting shares. In Chile cross holdings are not allowed, and indirect control structures are very common; however nonvoting shares are unusual (Leal & Carvalhal-da-Silva, 2007).

Capital markets in Brazil are undeveloped compared to other developed economies and high interest rates limit the companies' access to external capital (Crisóstomo et al., 2013). The Brazilian financial system relies heavily on banks, as is usual in developing civil law economics, and in the last few years have reached the highest real interests in the world, which in turn leads to a rationing of credit in the country (Laux, 2006). According to Al-Najjar (2013), companies from Brazil had the lowest cash holding levels as a result of excessive spending (agency problems). In this context, companies depend on liquidity and of those stricter conditions for accessing to external capital. Because Brazilian firms tend to inhibit amounts of cash, it is reasonable to affirm that the cash flow generated is exercised through dividends.

With respect to the regulatory framework, Brazil has gone through several changes in its tax legislation on dividends in the last two decades. There were four major changes in the Brazilian legislation between 1986 and 2004 (Zagonel et al., 2018). In the period January 1980 - December 1988, dividends were taxed with three different rates: 23% if the company was publicly listed (except for agriculture industry), 15% if the distributing company was from the agriculture sector, and 25% for all remaining cases. From February 1989 to January 1996, several changes were introduced in the tax legislation. For instance, the tax imposed for distribution as of 15% flat rate, while in 1996, the concept of "interest on equity capital" was adopted. This addition allows firms to partially deduct payments of dividends as operating expenses. In 2001, 10303/2001 Act reduced the maximum proportion of nonvoting shares to 50%, applied only to Initial Public Offering. Also in 2001, Bovespa launched its "Novo Mercado" (New Market), a special listing segment for companies that voluntarily adopt additional corporate governance practices and transparency requirements compared to those already requested by the Brazilian Law and the Brazilian Securities and Exchange Commission. Such especial segment requires complying the principle "the one vote-one share". Currently, the Brazilian Corporations Law requires all publicly firms to include in their Bylaws a percentage of the annual profits, typically 25% to be paid out as dividends, although a significant fraction of Brazilian firms use loopholes of the law to avoid paying dividends (Martins & Novaes, 2012). Dividends are distributed from the net profits, after the payment of income tax and social contributions and fees. The Brazilian Securities and Exchange Commission play a strategic monitor role on the dividend policy, since may curb the undue retention of dividends and may result in penalties if the retention is not justified. Under this context, the effectiveness of the law explains why the average dividend yield in Brazil is higher than in the U.S. Therefore, the new legislation aims to reduce the discretion of majority (voting) shareholders in the expropriation of minority (nonvoting) shareholders through the dividend policy (Zagonel et al., 2018). BOVESPA is the unique stock-trading center in Brazil and accounts for about 70% of the trading volume in Latin America (Cueto & Switzer, 2013).

The Chilean legal system is based on the French Civil Code and the most of corporate laws are imposed and monitored by the Government. Corporate Chilean laws were inspired from American laws. Chilean economic groups control 70% of listed companies and 90% of their assets. Control concentration is also high in Chile, but larger in Brazil. The five largest shareholders indirectly control 57% in Chile and 89% in Brazil. There are no codes of good governance or voluntary practices self-imposed by business sector (Gutiérrez et al., 2012). The Chilean capital market is characterized by high market capitalization and low turnover, with more that two decades of substantial participation by institutional investors (Lefort & Walker, 2007). According to Lefort and Walker (2000), the Chilean market is characterized by a highly concentrated ownership, economic groups are the predominant form of corporate structure and that the most common way of separating control from cash flow rights is through pyramids schemes. For instance, 70% of listed nonfinancial companies in Chile belong to one of the approxi-

mately 50 conglomerates controlling, which represent 91% of total assets of nonfinancial firms registered in the Chilean Stock Exchange. Furthermore, controllers of conglomerates participate serve as board members and hold more equity than strictly needed for control, suggesting that cash flow benefits associated to subsidiaries are relatively large. Finally, pension funds and ADRs constitute significant minority shareholders in Chilean groups.

The securities market law and the corporation's law comprise the legal framework governing capital markets and the actions of listed companies in Chile. These laws were written in 1981 and amended in 1989 and more deeply in 1994. Recently, both laws were amended by the corporate governance law of 2000 (Lefort & Walker, 2007). With respect to the dividend policy in Chile, it is required to pay at least 30% of their earnings as mandatory dividends. Shareholders are entitled to receive dividends per share and the unanimous vote of all of the issued and outstanding share is required to distribute dividends. Dividends and other profit distributions derived by non-residents are subject to a final withholding tax (non-resident income tax) at the rate of 35% on the gross amount (IBFD, 2017).

2.2. Hypothesis development

2.2.1. Family firms and dividends

In the context of publicly listed firms, the agency theory suggests that dividend policy may serve to reduce agency problems between controlling and minority shareholders as it forces to controlling investors to raise funds from capital markets by reducing the firm's free cash flow (Easterbrook, 1984; Jensen, 1986). La Porta et al. (2000) affirm that dividends are an ideal device for limiting minority shareholders wealth expropriation and propose two models to explain the role of dividend policy as corporate governance mechanism. The "outcome model", predicts a positive relation between dividend policy and corporate governance because minority shareholders can force managers to disgorge cash under effective legal system and strong corporate governance. On the other hand, the "substitute model" affirms that paying dividends could be a substitute of the weak shareholder protection. Firms with a weak corporate governance or low investor protection environment need to pay more dividends to establish good reputation in order to increase funding from capital markets. This suggests family controlled firms use dividends as an effective governance mechanism in mitigating the families' expropriation of minority shareholders' wealth (Setia-Atmaja et al., 2009).

From the agency theory perspective, family firms reduce agency costs, since there is an alignment between owner-managements' interests (Fama & Jensen, 1983; Jensen & Meckling, 1976). This alignment reduces the opportunistic behavior, preventing the maintenance of agency costs for separating the management and control decisions (Setia-Atmaja, 2010). According to the traditional agency theory's premises, dividends are indeed assume to be irrelevant in these firms because of the absence of a principal-agent conflict of interest and a strong natural alignment of incentives between family shareholders (Michaely & Roberts, 2012). Therefore, families have greater incentives to monitor managers than other type of shareholders such as institutional investors (Anderson & Reeb, 2003). In the context of emerging countries with higher levels of ownership concentration, Aivazian et al. (2003) found that companies pay out higher dividends and conclude that the institutional framework has a significant influence on the dividend policy. Fatemi and Bildik (2012) found that civil law countries distribute more dividends than countries with high shareholder protection.

However, in reality, family firms may incur in other type of agency costs. For instance, the reluctance of families to fire incompetent family members on top positions may increase agency costs and nepotism practices. Additionally, family firms have powerful incentives to expropriate wealth from minority investors and those incentives are strongest when family control is greater than its cash flow rights (Faccio et al., 2001). The intra-familial principal-principal conflict is particularly interesting when studying dividends, namely the one between active shareholders (who participate in the firm's taking decisions) and passive family shareholders (minority shareholders who often prefer receive dividends, in order to reduce the free cash flow available for the controlling shareholders) (Gersick et al., 1997; Maug, 2002). This divergence of interests between active and passive shareholders may have detrimental effects for family firms, and consequently to increase agency conflicts. In this context, corporate governance mechanisms such as dividends could be a potential solution for the potential principal-principal conflict. For instance, the stock market will play a disciplining role by forcing controlling shareholders to abstain from expropriation behaviour and to pay out high dividends (Michiels et al., 2015).

Empirical evidence on the relationship between family firms and dividend policy is inconclusive. For instance, González et al. (2014) support that family participation on the ownership negatively affects dividends, while family members on the board have a positive influence on dividend policy. Michiels et al. (2015) show that the existence of an intra-familial conflict of interest results in a higher propensity to pay dividends. They sug-

gest that using family governance practices leads to a more efficient dividend policy. In the same line, Setia-Atmaja et al. (2009), Yoshikawa and Rasheed (2010) and Pindado et al. (2012) evidence those family firms pay out more dividends than non-family firms in Australia, Japan, and nine European countries, respectively. By contrast, Villalonga and Amit (2006), Khan (2006), and Gonzalez et al. (2017) show a negative relationship between family ownership and dividends in the U.S., U.K., and six Latin American countries, respectively. Chen et al. (2005) do not find any significant relationship between dividend and family ownership in Hong Kong.

Thus, how family ownership affects dividend policy depends not only on potential agency issues but also on legal environment related to shareholder protection. Particularly, Brazil and Chile are characterized by high ownership concentration and mandatory dividends, which suggest that family firms may distribute higher dividends to alleviate the expropriation towards minority investors (although the weakness on the investor protection is higher for Brazil, the Latin American is characterized by a poor investor protection compared with other developed regions). Thus, the first hypothesis is formulated as follow:

H1. *Family listed firms distribute a higher proportion of dividends than non-family firms in Brazil and Chile*.

2.2.2. Board of directors and dividends

Corporate boards play an important role in monitoring and disciplinary functions. One of firm´s major financial decisions that lie in the hands of the board is dividend policy (Alias et al., 2014). In the presence of high agency costs of free cash flow, the board of directors may influence the corporate performance through dividends. For instance, if family firms distribute less dividends, they could nominate independent or women on the board, which constitutes a positive signal to the capital markets, and therefore, Agency Problem II is reduced (Setia-Atmaja et al., 2009).

The composition of the board (independence, size, duality, and diversity) may favor its effective supervisory role. For instance Hossain et al. (2001) found a direct effect of board composition and firm performance. Adjaoud and Ben-Amar (2010) supported that the board composition is positively related to payout ratio, concluding that firms with stronger corporate governance distribute more dividends. For instance, independent directors are an effective monitoring device in the agency conflicts and balance the family's power (Anderson & Reeb, 2004).

Independent directors are generally more prepared, have more experience and act efficiently in their supervisory role. In this sense, independence of the board may reduce agency problems and increase the distribution of dividends (Farinha, 2003). Prior studies have found that independent directors are likely to promote decisions that are in the interests of minority shareholders, and consequently, stock markets react favorably to the appointment of outside directors (Brickley et al., 1997). Specifically, independent directors increase the effectiveness of monitoring function over the management and family members' decisions on the board. Under the above discussion the following hypothesis is established:

H2. *Dividends are positively affected by independent members on the board in listed firms from Brazil and Chile*.

Board size is referred to the number of directors serving in the board. According to Klein (2002), larger boards promote a higher specialization of their members, which leads to a more effective monitoring role and, therefore, the distribution of dividends could be increased. However, larger boards may be less effective than the small ones and make the decision making process more difficult (Jensen, 1993). Family firms have a preference for large boards and the inclusion of family members is a common practice. However, if family firms pursue to increase trust in the markets, they may opt for larger and more independent boards that comply more effectively their monitoring function and reduce the potential principal-principal agency conflict in family controlled firms (Bartholomeusz & Tanewski, 2006). In this context, the following hypothesis is assumed:

H3. *Dividends are positively affected by the board size in listed firms from Brazil and Chile*.

Another factor that has been associated to the board effectiveness is the board duality, which occurs when the same person hold the roles of both the Chairman of the Board (COB) and the Chief Executive Officer position (CEO). Some studies argue that having the same person for both positions increase the knowledge and commitment with the firm (Boyd, 1995). On the other hand, the opponents affirm that giving too much power to one person may create problem in monitoring and controlling the decision-making process (Bozec & Dia, 2007). According to Chen et al. (2005), COB-CEO duality is a practice commonly adopted by family firms, promoting an entrenchment behavior from controlling shareholders, which may negatively impact financial performance and dividends distribution. There is some research that concludes that the role of duality

has no particular effect on performance (Dalton et al., 1998). In the context of Latin America, the board duality may influence negatively the dividend policy, as the ownership concentration is high and the weakness on the institutional framework may motivate to the expropriation of minority shareholders. In this sense, the hypothesis proposed is:

H4. *Dividends are negatively affected by the role of board duality in listed firms from Brazil and Chile*.

The agency theory affirms that diversity on the board may help to mitigate agency problems and solve conflicts of interests between managers and shareholders (Jurkus et al., 2011). Female directors tend to change the boardroom dynamics and increase the monitoring function compared to male directors, which might provide different perspectives to board discussions, thereby improving the information set available to the board (Adams & Ferreira, 2004; Gul et al., 2011; Huse & Solberg, 2006). According to Carter et al. (2014) and Hartojo et al. (2015), women on the board are more risk-averse, more conservative, and less overconfident in their decision-making, which may conduct to increase the distribution of dividends.

Female directors are more likely to engage in monitoring over managers by supervising board duties, and participating on the auditing, nomination and corporate governance committees (Chen et al., 2017). Consequently, agency costs are reduced by demanding corporate governance mechanisms such as dividends (Adams & Ferreira, 2009; Carter et al., 2010; Francoeur et al., 2008). The representation of women on the board promote higher dividends, since it may alleviate agency costs and the opportunistic behavior of management, thus, larger dividends reduce a possible overinvestment and improve monitoring of capital markets (Pucheta-Martínez et al., 2016). In this vein, Chen et al. (2017) found that board gender composition significantly increases the dividend payout only for firms with weak governance, suggesting that female members use dividends as substitute governance mechanism. Linking the recently evidence of the monitoring role of female directors over financial performance, the female directors will demand more control mechanisms with which to exercise greater supervision and monitoring, making better decisions that favor minority shareholders. In this sense, we hypothesize:

H5. *Dividends are positively affected by the percentage of women on the board in listed firms from Brazil and Chile*.

3. Data Sources, Sample Selection and Methodology

3.1. Data sources and sample selection

The study covers the 68 and 40 companies that belong to the most important stock indexes in Brazil and Chile (BM&FBOVESPA and IPSA, respectively) for the years 2004-2014. 18 firms in the banking and insurance sectors were excluded because these are more strictly regulated firms and are subject to greater scrutiny by legal institutions. Another 9 firms were dropped from the sample due to the lack of financial and board composition data from either the firm's annual reports or from Compustat database. The final sample is composed by 49 Brazilian and 32 Chilean companies, which account for almost 70 per cent of the trading volume for stocks in these countries. The final sample is composed by 853 observations. Information related to board composition and family element variables was handle collected from the annual reports of each company. Data on dividends and other financial variables were obtained from Compustat Database.

Table 1 shows the distribution of the firm-year observations across the nine industries and for each country. The sample is classified according to the Industry Classification Benchmark (ICB). The percentage ranges from a low of 0% in Technology and Oil & Gas in Chile to a high of 32.3% in Consumer Goods for Chile. Chile has the smallest number of firm-years (337), accounting for 39.5% of the whole sample, whereas Brazil has the largest firm-years (516) and accounts for 60.5% of the study sample. Finally, the two industries with the highest percentages of firm-year observations are Consumer Goods and Utilities for both countries.

Table 1. Sample distribution and summary statistics

Year	Brazil (N)	Brazil (%)	Chile (N)	Chile (%)	Total
Basic materials	98	*19.0*	55	*16.3*	153
Industrial	78	*15.1*	53	*15.7*	131
Consumer goods	111	*21.5*	109	*32.3*	220
Consumer services	33	*6.4*	22	*6.5*	55
Telecommunications	33	*6.4*	11	*3.3*	44
Utilities	99	*19.2*	65	*19.3*	164
Financial	33	*6.4*	22	*6.5*	55
Technology	11	*2.1*	0	*0.0*	11
Oil & gas	20	*3.9*	0	*0.0*	20
Total	**516**	***100.0***	**337**	***100.0***	**853**

3.2. Variables of study and empirical model

The study utilises a panel data study methodology as it provides more robust information, more variability, less collinearity among variables,

more degrees of freedom and more efficiency (Baltagi, 1995). It also allows us to control for unobserved firm heterogeneity (Setia-Atmaja, 2010). The dividend policy (dependent variable) is represented by two variables. The first measure is a firm's dividend to earnings ratio (*D/E*). In a given year *t*, we compute a firm's *D/E* ratio using the firm's annual dividend per share (*DPS*) divided by its earnings per share (*EPS*). The second measure is a firm's five-year average *D/E* ratio, *D/E 5yr-avg*, from year *t*-4 to the current year *t*. The latter measure reduces the possible fluctuation in dividend payments (Anderson & Reeb, 2003).

Independent variables are related to the family element and the structure of the board. This study defines family firms as those in which the founding family or family members controlled 20% or more equity, and was involved in the top management of the firm (La Porta et al., 1999). The family nature of the firm is measured through two dummy variables: 1) A dummy variable that takes a value of 1 if the family controlling shareholder owns at least 20% of the firm's shares either directly or indirectly through cross-holding or pyramid ownership structure and 0 otherwise (FAMFIRM1) (Claessens et al., 2000; La Porta et al., 1999); 2) a dummy variable that takes a value of 1 if the CEO is a founding member of the firm or the CEO has a family tie with the controlling family shareholder (spouse, child, sibling, or parent), and 0 otherwise (Kang & Kim, 2016; Yang, 2010).

Board director's composition is measured by four variables: 1) *Board size* is the total number of directors sitting on the board (BOARDSIZE); 2) *board independence* is measured as the number of independent directors divided by board size (INDEPENDENCE); 3) *COB-CEO duality* is an indicator variable equal to one if the CEO is the chairman of the board, and zero otherwise (DUALITY); 4) *gender on the board* is measured as the number of female directors divided by board size (GENDER) (Chen et al., 2017; Setia-Atmaja, 2010). A group of control variables (*Control*) is included in our empirical model, which include: *ownership concentration* (*OC*), *ROA*, *leverage (LEV)*, *firm age (AGE)*, and *company size* (LNASSETS).

To provide empirical testing to the hypotheses addressed in the study, the following two models are developed. The subscripts *i* and *t* represent firm and year respectively and μ the error term:

4. Results and Discussion

4.1. Descriptive analysis

Table 2 reports summary statistics for the dependent and explanatory variables used in this study. Panel A reports differences in dividends, board composition and control variables between Brazil and Chile. There are consistently significant differences (the most of them at the 1% level) between the two groups. For instance, the mean (median) values of *D/E(%)* ratio are 35.85% (28.69%) and 40.42% (39.80%) for Brazil and Chile, respectively. The mean (median) values of *D/E (%) 5yr-avg* ratio are 45.54% (38.02%) and 44.36% (41.26%) for Brazil and Chile, respectively. These differences are significant at the 0.01 levels. These results suggest that Chile pays out more dividends than Brazil, which could be explained by the stronger regulatory framework, that protect the minority shareholders rights. Results evidence significant differences in the family dimension and board composition variables. For instance, 57.6% of listed companies in Brazil are family owned firms, compared to Chile that accounts 72.1%. With respect to family CEO firms there are no significant differences between both countries, therefore, Brazil shows 22.7% of family CEOs companies and Chile accounts for 22.0%. With respect to board composition, Brazil adopts larger boards (mean of 9 members) compared to Chile (mean of 8 members). The independence of the board is higher in Brazil (0.31) compared to Chile (0.28). The duality COB-CEO practice adopted by listed companies in Brazil is higher (17.8%) with respect to Chile (3.3%). Finally, the representation of women on the board is low for both countries: 6% in Brazil and 3% in Chile. In a nutshell, Brazil promotes higher gender diversity on the board. Among the corporate variables, the main differences exist in ROA and firm age, between Brazil and Chile subsamples. The ownership concentration ratio is similar for both countries (0.53 for Brazil and 0.57 for Chile). Larger companies are from Brazil and older companies are from Chile.

Panel B of Table 2 reports differences in study variables between family and non-family firms. We observe that family firms reports lower dividends ratios compared with nonfamily firms ($p = 0.01$). Family firms hire family CEOs (35.4%) and have smaller boards compared to non-family firms. Family firms also have the same proportion of independent directors than non-family firms (0.30). In the same vein, family firms

$$D/E_{i,t}(\%) = a_0 + a_1 Family_{i,t} + a_{2\text{-}14}\,(BoardComp) + a_{3\text{-}14}\,(Control\ Vars.) + \mu_{i,t}. \quad (1)$$

$$D/E(\%)\ (5yr\text{-}Avg_{i,t}) = a_0 + a_1 Family_{i,t} + a_{2\text{-}14}\,(BoardComp) + a_{3\text{-}14}\,(Control\ Vars.) + \mu_{i,t}. \quad (2)$$

adopt in a greater extent the duality COB-CEO practice (15.2% vs 6.7%), while the ownership concentration is higher in family firms (0.55 vs 0.52). The more profitable companies are non-family firms (0.08 vs 0.06). The female on the board accounts the same percentage between both groups of companies. The univariate analysis indicates that several variables differ significantly between family and non-family firms. That is, family CEOs participation, duality COB-CEO and ownership concentration are significantly higher in family than in non-family firms, while, dividends, board size, ROA and leverage, are smaller in family firms.

Table 2. Summary statistics of study variables

Panel A: Summary statistics of whole sample, Brazilian firm and Chilean firm subsamples

	Full sample (N = 853)		Brazil (n = 516)		Chile (n = 337)		Difference (in mean)
Dependent variables	Mean	Median	Mean	Median	Mean	Median	t-stat
D/E (%)	37.82	34.48	35.85	28.69	40.42	39.80	2.27***
D/E (%) 5yr-Avg	45.05	40.04	45.54	38.02	44.36	41.26	-0.59***
Independent variables							
Family firm (ownership control) %	63.3%		57.6%		72.1%		4.35***
Family CEO firm	22.4%		22.7%		22.0%		-0.24
Board size	9	9	9	9	8	7	-7.85***
Board independence	0.30	0.27	0.31	0.27	0.28	0.27	-1.76*
Duality COB-CEO	12.1		17.8%		3.3%		-6.53***
Female on the board	0.05	0.00	0.06	0.00	0.03	0.00	-6.63***
Ownership concentration (OC)	0.54	0.54	0.53	0.52	0.57	0.57	3.43
ROA	0.07	0.06	0.07	0.05	0.07	0.07	20.74***
Firm size (Ln total assets)	8.43	8.50	8.75	8.82	7.95	7.85	-8.42
Leverage	35.88	39.56	0.34	0.43	0.39	0.38	0.45
Firm age	35.16	31.00	28.60	27.50	45.21	35.0	8.84***

Panel B: Summary statistics of whole sample, family vs nonfamily firm subsamples

	Full sample (N = 853)		Family (n = 540)		Nonfamily (n= 313)		Difference (in mean)
Dependent variables	Mean	Median	Mean	Median	Mean	Median	t-stat
D/E (%)	37.82	34.48	35.45	32.79	42.53	39.39	-3.39***
D/E (%) 5yr-Avg	45.05	40.04	42.89	39.36	48.49	44.11	-2.80***
Independent variables							
Family CEO firm	22.4%		35.4%		0%		13.07***
Board size	9	9	8	8	9	9	-8.03***
Board independence	0.30	0.27	0.30	0.27	0.30	0.22	-0.04***
Duality COB-CEO	12.1		15.2%		6.7%		3.69***
Female on the board	0.05	0.00	0.05	0.00	0.05	0.00	-0.03*
Ownership concentration (OC)	0.54	0.54	0.55	0.55	0.52	0.53	2.91***
ROA	0.07	0.06	0.06	0.05	0.08	0.06	-3.98
Firm size (Ln total assets)	8.43	8.50	8.17	8.17	8.89	8.91	-7.39
Leverage	35.88	39.56	0.36	0.42	0.37	0.36	-0.09

Pooled t-tests are conducted to compare the difference in the mean values of all variables between countries and family variable. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

4.2. Correlation analysis

A correlation analysis was conducted to analyse possible multicollinearity problems between the study variables. Table 3 shows that firms controlled by family members and family-CEO firms are negatively related to dividends. As per our expectation, board size and female on the board are positively related to dividends ratios, while duality in the board has a negative effect on dividends. Corporate characteristics such as ROA, size and leverage conduct to an increase on dividends. We test the variance inflation factors (VIFs), and results exclude the presence of multicollinearity among independent variables.

Table 3. Correlation matrix

	1	2	3	4	5	6	7	8	9	10
1. D/E	1.000									
2. Family firm	-0.135***	1.000								
3. Family CEO	-0.094*	0.409***	1.000							
4. BS	0.096*	-0.265**	-0.177**	1.000						
5. BI	-0.055	-0.001	0.090**	-0.078*	1.000					
6. Duality	-0.128**	0.125**	0.440**	-0.031	0.104**	1.000				
7. Female	0.116**	-0.001	0.068*	0.039	-0.067	-0.061	1.000			
8. OC	0.153***	0.099**	0.026	-0.097**	-0.228**	-0.044	0.092**	1.000		
9. ROA	0.370**	-0.135**	-0.053	-0.005	0.013	-0.005	-0.037	0.139**	1.000	
10. Size	0.091*	-0.245**	-0.046	0.277**	-0.084*	-0.081*	0.188**	0.016	-0.069*	1.000
11. Leverage	0.219**	0.066	-0.077*	-0.018	0.154**	0.003	0.008	0.053	0.463**	-0.164**

*p<0.05, ** p<0.01

4.3. Multivariate analysis

4.3.1. OLS Regression analysis

We start with a basic pooled ordinary least square (OLS) regression to test hypothesis 1 by controlling for both industry and year fixed effects.[1] The dependent variable is measured by both $D/E_{i,t}$*(%)* and *D/E 5yr-Avg*$_{i,t}$ *(%)*. We are primarily interested in *Family Firm* variable, which is a dummy variable and takes a value of 1 if firm *i* is a family firm in year *t* and 0 otherwise, and board composition variables (size, independence, duality and female). The control variables include firm characteristics.

Table 4 reports the regression results. Columns 1, 3 and 5 report the regression results using $D/E_{i,t}$*(%)* as a dependent variable, whereas columns 2, 4, and 6 report the results using *D/E (%) 5yr-Avg*$_{i,t}$ as a dependent variable. Results indicate that family firms motivates to higher dividends (columns 1 and 5) at a 0.01 significance level. Thus, H1 is partially accepted, since is significant when board composition and firm characteristics are introduced in the models (column 5). With respect to the board composition, empirical evidence shows that larger boards (columns 4 and 6) and the women participation on the board (columns 3 to 6) have a significant and positive influence on the dividend payout, which leads to accept the H3 and H5. Those more profitable and older companies account higher dividends (p = 0.01). By contrast, Panel B of table 3 evidences that family CEOs firms inhibit the dividends payout (columns 2, 3, 4 and 6). However the board size and female on the board increase the dividends, which suggest that board composition leads to higher dividend ratios. With regard to control variables, dividend payout ratio is positively associated with ROA, leverage and firm age, and negatively associated with firm size. These results are supported for those obtained by Michiels et al. (2015) which argument that the presence of family governance practices such as dividends or the board composition may alleviate the potential intra familial principal-principal conflicts of interest.

Our study checks for possible multicollinenarity issues and report the mean value and maximum values of Variance Inflation Factor (VIF). All the mean values of VIF are smaller than 10 in all regressions.

1. The study performs Hausman test to determine whether fixed effect or random effect model is more appropriate. Results of Hausman test support the acceptance of alternative hypothesis, suggesting that the fixed-effect model fits our database better than the random effect model.

Table 4. Regression of dividend payout

Panel A. Family firm effect on dividend policy

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	*D/E (%)*	*D/E (%) 5yr-Avg*	*D/E (%)*	*D/E (%) 5yr-Avg*	*D/E (%)*	*D/E (%) 5yr-Avg*
Family firm	5.96***	1.87	0.16	1.51	5.90***	2.34
	(2.72)	(1.00)	(0.07)	(0.77)	(2.69)	(1.27)
Board size			0.70	1.47***	0.48	1.62***
			(1.27)	(2.95)	(0.90)	(3.05)
Board independence			-2.27	-0.47	0.54	-2.30
			(-0.45)	(-0.10)	(0.12)	(-0.47)
Duality			-3.65	0.64	-1.19	1.80
			(-1.22)	(0.19)	(-0.46)	(0.60)
Female on the board			28.22**	27.84**	25.14**	26.40**
			(2.06)	(2.15)	(2.01)	(2.00)
ROA	124.65***	85.79***			123.88***	82.74***
	(8.82)	(5.37)			(8.97)	(5.37)
Firm size	0.35	-1.95***			-0.10	-2.89***
	(0.42)	(-2.36)			(-0.12)	(-3.51)
Leverage	-0.01	0.02*			-0.01	0.02*
	(-1.24)	(1.79)			(-1.37)	(1.64)
Firm age	3.86***	4.80***			3.84***	4.80***
	(4.39)	(4.60)			(4.28)	(4.68)
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-1.25	21.24***	24.44***	20.26***	-2.25	14.67
	(-0.17)	(2.54)	(3.74)	(3.05)	(-0.27)	(1.60)
Hausman test						
P-value	0.00	0.00	0.00	0.00	0.00	0.00
F test P-value	0.00	0.00	0.00	0.00	0.00	0.00
Adjusted R^2	0.30	0.28	0.13	0.42	0.30	0.31
VIF (Average)	1.77	1.85	1.70	1.78	1.72	1.80
Observations	795	772	798	772	795	772

Panel B. Family CEO effect on dividend policy

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	*D/E (%)*	*D/E (%) 5yr-Avg*	*D/E (%)*	*D/E (%) 5yr-Avg*	*D/E (%)*	*D/E (%) 5yr-Avg*
Family CEO	-1.95	-3.99**	-4.15*	-4.27**	-2.18	-3.86**
	(-1.13)	(-2.26)	(-1.79)	(-2.30)	(-1.09)	(-2.12)
Board size			0.58	1.31***	0.24	1.44***
			(1.06)	(2.61)	(0.45)	(2.69)
Board independence			-2.63	-1.15	-2.17	-3.33
			(-0.53)	(-0.24)	(-0.50)	(-0.69)
Duality			-1.19	3.04	0.91	4.02
			(-0.35)	(0.84)	(0.31)	(1.26)
Female on the board			29.12**	28.57**	28.81**	27.40**
			(2.15)	(2.21)	(2.24)	(2.06)
ROA	118.31***	82.74***			117.73***	79.77***
	(8.24)	(5.28)			(8.32)	(5.22)
Firm size	0.17	-2.02***			-0.21	-2.97***
	(0.21)	(-2.48)			(-0.25)	(-3.69)
Leverage	-0.00	0.02**			-0.01	0.02*
	(-0.85)	(1.92)			(-1.08)	(1.73)
Firm age	3.67***	4.84***			3.77***	4.90***
	(4.12)	(4.68)			(4.19)	(4.80)
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes	Yes	Yes
Constant	5.75	23.75***	25.64***	22.98***	6.25	18.57**
	(0.81)	(2.93)	(4.64)	(3.63)	(0.79)	(2.12)
Hausman test						
P-value	0.00	0.00	0.00	0.00	0.00	0.00
F test P-value	0.00	0.00	0.00	0.00	0.00	0.00
Adjusted R^2	0.29	0.29	0.14	0.42	0.30	0.31
VIF (Average)	1.74	1.81	1.70	1.76	1.71	1.78
Observations	795	772	798	772	795	772

This table reports pooled OLS regression results using Huber-White method for standard errors. The numbers reported in parentheses are regression t-statistics. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

4.3.2. Logit regression analysis

The study conducts Logit regressions to provide additional evidence on the relationship between family firm (family CEO firm) and dividend ratios and attends possible data noise of the *D/E* ratios. The dependent variable *High Dividend*$_{i,t}$ takes a value of 1 if firm *i*'s dividend payout is greater than the median value of the respective dividend measure (*D/E*$_{i,t}$ or *D/E 5yr-Avg*$_{i,t}$) in year *t* and 0 otherwise. The Logit regression is similar to the OLS regression equation. (1 and 2) and it is specified below:

$$High\ dividend_{i,t} = a_0 + a_1 Family_{i,t} + a_{2\text{-}14}\ (BoardComp) + a_{3\text{-}14}\ (Control\ Vars.) + \mu_{i,t}. \quad (3)$$

Columns 1, 3, and 5 of Table 5 (Panel A) show that the dependent variable *High Dividend*$_{i,t}$ is determined by the firm's *D/E*$_{i,t}$ ratio, whereas in columns 2, 4, and 6, it is determined by the firm's *D/E 5yr-Avg*$_{i,t}$ ratio. *High Dividend*$_{i,t}$ variable is based in the median value of dividend payout in firm i's industry. Thus, *High Dividend*$_{i,t}$ takes a value of 1 if firm i's dividend payout is greater than the median value of the respective dividend measure (*D/E(%)*$_{i,t}$ or *D/E(%) 5yr-Avg*$_{i,t}$) in firm i's industry in year *t* and 0 otherwise. Obtained results are consistent with those reported in Table 4 based on the OLS analysis. Specifically, coefficients on *Family Firms* have a positive influence on dividends (columns 1, 5 and 6) at 0.05 and 0.10 significant levels. The board composition (*board size* and *female participation* on the board) motivate to higher dividends ratios, while the *COB-CEO duality* has a negative effect. In this sense, the H1, H3 and H5 are accepted. Among the firm characteristics variables, *ROA* and *Firm Age* are positively related to high dividend payout. In Panel B of Table 5, results demonstrate that family CEO firms inhibit dividends while the size, independence, and female on the board increase dividend ratios. By contrast, duality COB-CEO decreases dividends, which leads to accept the H4. Results confirm that ROA and firm age promotes higher dividends. Results suggest that family ownership participation has a positive significant influence on dividend payout, while their participation on CEO position has a contrary effect, and the board composition play a strategic role on the relationship. These results confirm that dividend policy and corporate governance mechanisms increase the credibility in capital markets. According to La Porta et al. (2000), dividends can be considered as substitutes (substitute hypothesis) or outcomes (outcome hypothesis) of corporate governance mechanisms. Our results support the outcome hypothesis; therefore, we can consider dividend payouts and board composition as instruments to alleviate potential intrafamilial conflicts of interest between controlling and minority shareholders.

Table 5. Logit regression of dividend payout

Panel A. Family firm effect on dividend policy

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	*D/E (%)*	*D/E (%) 5yr-Avg*	*D/E (%)*	*D/E (%) 5yr-Avg*	*D/E (%)*	*D/E (%) 5yr-Avg*
Family firm	0.50**	0.14	0.12	0.14	0.51*	0.48**
	(2.17)	(0.59)	(0.56)	(0.62)	(1.83)	(1.92)
Board size			0.04	0.13***	0.04	0.13***
			(0.87)	(2.41)	(0.83)	(2.41)
Board independence			0.10	0.43	1.22**	0.27
			(0.23)	(0.87)	(2.18)	(0.51)
Duality			-0.72***	-0.40	-0.74***	-0.33
			(-2.81)	(-1.18)	(-2.41)	(-1.01)
Female on the board			1.15	1.87	2.29*	0.04
			(1.00)	(1.44)	(1.67)	(0.03)
ROA	8.62***	4.59***			10.37***	5.86***
	(4.91)	(2.96)			(5.78)	(3.99)
Firm size	-0.05	-0.31***			0.13	-0.11
	(-0.56)	(-3.13)			(1.37)	(-1.15)
Leverage	-0.00**	0.00			0.00	0.00
	(-2.14)	(0.38)			(0.19)	(0.18)
Firm age	0.62***	0.94***			0.68***	0.22*
	(5.69)	(6.61)			(5.81)	(1.79)
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes

Year effect	No	No	No	No	No	No
Constant	-2.48***	-1.01	-0.01	-0.79	-4.84***	-1.52
	(-3.08)	(-1.10)	(-0.02)	(-1.14)	(-4.99)	(-1.50)
Hausman test						
P-value	0.00	0.00	0.00	0.00	0.00	0.00
F test P-value	0.00	0.00	0.00	0.00	0.00	0.00
Adjusted R^2	0.16	0.19	0.05	0.10	0.22	0.12
Observations	795	772	798	772	795	772
Panel B. Family firm CEO effect on dividend policy						
	(1)	(2)	(3)	(4)	(5)	(6)
Variables	*D/E (%)*	*D/E (%) 5yr-Avg*	*D/E (%)*	*D/E (%) 5yr-Avg*	*D/E (%)*	*D/E (%) 5yr-Avg*
Family CEO	-0.07**	-0.53**	-0.03	-0.51*	0.18	-0.45*
	(-0.33)	(-2.19)	(-0.12)	(-1.88)	(0.66)	(-1.63)
Board size			0.08*	0.11**	0.03	0.10*
			(1.67)	(2.14)	(0.66)	(1.85)
Board independence			0.74*	0.18	0.95*	0.00
			(1.60)	(0.36)	(1.79)	(0.00)
Duality			-0.77***	-0.08	-0.78**	-0.01
			(-2.52)	(-0.23)	(-2.29)	(-0.02)
Female on the board			2.21*	-0.17	2.58**	0.29
			(1.86)	(-0.15)	(1.90)	(0.23)
ROA	9.76***	5.58***			10.12***	5.36***
	(5.29)	(3.78)			(5.46)	(3.59)
Firm size	0.15	-0.06			0.12	-0.12
	(1.57)	(-0.66)			(1.21)	(-1.20)
Leverage	0.00	0.00			0.00	0.00
	(0.55)	(0.29)			(0.38)	(0.36)
Firm age	0.68***	0.23*			0.69***	0.22*
	(5.80)	(1.88)			(5.84)	(1.82)
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	No	No	No	No	No
Constant	-3.87***	-0.43	-0.25	-0.46	-4.18***	-0.76
	(-4.43)	(-0.45)	(-0.43)	(-0.73)	(-4.52)	(-0.77)
Hausman test						
P-value	0.00	0.00	0.00	0.00	0.00	0.00
F test P-value	0.00	0.00	0.00	0.00	0.00	0.00
Adjusted R^2	0.21	0.11	0.08	0.09	0.22	0.12
Observations	795	772	798	772	795	772

This table reports pooled Logit regression results using Huber-White method for standard errors. The numbers reported in parentheses are regression Z-statistics. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

4.3.3. Additional robustness tests

Prior results show that family dimension influences on the dividend policy. On the one hand, the family participation on the ownership motivates to increase dividends, while the Family CEO firms decrease dividend payouts in contexts characterized by principal-principal agency problems such as Latin America. On the other hand, the board composition plays a strategic role, since the size and female on the board increase dividends. These results suggest that corporate governance dimensions and dividend policy are complementary mechanisms and aim to increase the shareholders' confidence. In this way, the table 6 shows an additional robustness test (OLS regression) to analyze if a corporate governance compliance index composed by the structure and functioning of the board, ownership structure and General Assembly, ethics and conflict of interest and other information related to corporate governance, moderates the relation between the family element and dividend payout. Results indicate a positive moderator effect of corporate governance on the relationship between Family CEO firms and dividends. By contrast there is no effect on the relationship between corporate governance index and the relationship between Family Firms and dividend policy. Results described on table 6 confirm that corporate governance mechanisms favor the dividends payouts on weak institutional frameworks.

Table 6. Regression of dividend payout: Effect of the corporate governance transparency index

Panel A. Family firm and CGTI effect on dividend policy

	(1)	(2)	(3)	(4)
Variables	*D/E (%)*	*D/E (%) 5yr-Avg*	*D/E (%)*	*D/E (%) 5yr-Avg*
Family firm	5.93***	1.64	13.85	-11.36
	(2.72)	(0.88)	(1.59)	(-1.13)
CGTI	1.74	11.92	10.06	0.80
	(0.22)	(1.26)	(0.76)	(0.06)
Family firm*CGTI			-12.51	20.10
			(-0.93)	(1.31)
ROA	124.40***	84.17***	124.56***	82.31***
	(8.77)	(5.19)	(8.83)	(5.11)
Firm size	0.28	-2.39***	0.26	-2.36***
	(0.32)	(-2.68)	(0.30)	(-2.60)
Leverage	-0.01	0.02*	-0.01	0.02*
	(-1.22)	(1.86)	(-1.18)	(1.73)
Firm age	3.83***	4.58***	3.73***	4.82***
	(4.35)	(4.36)	(4.26)	(4.54)
Industry effect	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes
Constant	-1.42	20.30**	-6.03	26.65***
	(-16.41)	(2.38)	(-0.61)	(2.67)
Hausman test				
P-value	0.00	0.00	0.00	0.00
F test P-value	0.00	0.00	0.00	0.00
Adjusted R^2	0.30	0.28	0.13	0.29
VIF (Max)	2.64	3.18	20.05	23.21
VIF (Average)	1.85	1.96	3.47	3.75
Observations	795	772	798	772

Panel B. Family CEO and CGTI effect on dividend policy

	(1)	(2)	(3)	(4)
Variables	*D/E (%)*	*D/E (%) 5yr-Avg*	*D/E (%)*	*D/E (%) 5yr-Avg*
Family CEO	-2.01	-4.21	-4.45**	-5.99***
	(-1.15)	(-2.44)	(-2.28)	(-3.13)
CGTI	3.42	13.25	-4.19	8.72
	(0.42)	(1.39)	(-0.51)	(0.90)
Family CEO*CGTI			10.16***	6.72**
			(2.80)	(2.19)
ROA	117.87***	81.16***	123.22***	84.81***
	(8.16)	(5.09)	(8.59)	(5.21)
Firm size	0.04	-2.50***	0.41	-2.09**
	(0.05)	(-2.80)	(0.47)	(-2.28)
Leverage	-0.00	0.02**	-0.01	0.02*
	(-0.82)	(1.99)	(-1.12)	(1.86)
Firm age	3.61***	4.60***	3.72***	4.63***
	(4.05)	(4.39)	(4.17)	(4.39)
Industry effect	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes
Constant	5.34	22.37***	1.76	18.81**
	(0.75)	(2.70)	(0.24)	(2.25)
Hausman test				
P-value	0.00	0.00	0.00	0.00
F test P-value	0.00	0.00	0.00	0.00
Adjusted R^2	0.29	0.29	0.30	0.29
VIF (Max)	2.64	3.18	2.64	3.18
VIF (Average)	1.82	1.92	1.85	1.95
Observations	795	772	798	772

This table reports pooled OLS regression results using Huber-White method for standard errors. The numbers reported in parentheses are regression t-statistics. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

6. Conclusions and Future Research

This paper investigated the influence of family element and board composition on dividend policy in two countries characterized by mandatory dividend laws and weakness on their institutional framework. Specifically, the study tested the argument that family firms tend to increase dividends as response of mitigating the family' expropriation of minority shareholders' wealth, also known as the intra-familial principal–principal conflict of interest between active and passive family shareholders. A fixed effect panel data analysis was conducted to analyze if the family dimension of listed firms in Brazil and Chile leads to higher dividend payout ratios. Results indicate that the involvement of the family in the ownership increase dividends. By contrast, the presence of family members on the CEO position reduces dividends. This suggests that in the Brazilian and Chilean cases, family firms reduce the expropriation of minority shareholders' wealth via paying dividends. These results are supported for those obtained by Michiels et al. (2015), who argument that the presence of family governance practices such as dividends or the board composition may alleviate the potential intra familial principal-principal conflicts of interest.

With respect to the board composition, we confirm that some of their dimensions such as size and gender on the board may balance the family's power between family and outside investors (Setia-Atmaja, 2010). These positive relations indicate that board composition and dividends are complementary mechanisms to diminish the agency problem principal-principal, especially in countries characterized by a higher ownership concentration and a lower legal protection framework to passive shareholders. According to La Porta et al. (2000), dividends can be considered as substitutes (substitute hypothesis) or outcomes (outcome hypothesis) of corporate governance mechanisms. Our results support the outcome hypothesis; therefore, we can consider dividend payouts and board composition as instruments to alleviate potential intra-familial conflicts of interest between controlling and minority shareholders.

We conduct additional tests to confirm if corporate governance mechanisms influence on the dividend policy, introducing a corporate governance compliance index. Results suggest that the corporate governance index increase dividends when a family member occupies the CEO position. Our results are consistent with the notion that independent directors enhance the corporate governance role in firms where the institutional system is less effective (Anderson & Reeb, 2004; Gomez-Mejia & Larraza-Kintana, 2003).

This paper provides several important theoretical and practical contributions to the literature. First, the study demonstrated that dividends constitute a complementary corporate governance mechanism to avoid the principal-principal agent conflict (Agency problem Type II) in countries characterized by higher levels of ownership concentration. Secondly, the structure of the board is a key variable to increase (decrease) dividends in family listed firms. For policy makers and those responsible to manage family firms, findings of this study could serve to justify initiatives to encourage more independent and female presence on the board of directors, especially in family controlled firms.

Finally, our study also has some limitations that provide challenges for future research. Although our database contains important family firm variables and the board composition, it does not contain other variables such as the generational stage, detailed information on ownership structure, or CEOs characteristics. These additional variables would allow us to more thoroughly test relations between these variables and dividend policy. Furthermore, the study is focused only in two Latin American countries and the period 2004-2014; it would be interesting to see whether similar issues exist in other emerging countries of the region and further years. Finally, further research could integrate another variables such as corporate social responsibility, risk taking or propensity to innovation and development in family firms, and how these variables may impact the dividend policy.

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Abandoning Family Management - Analysis of the Effects on Exports

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Abstract Finding the internationalization triggers of family-managed firms is not easy because family-managed firms are regarded as being very different to begin with (e.g. Bloom et al., 2011). In investigating the role of family management, we apply a Spanish sample of 805 family-managed firms to investigate the impact of abandoning family management on export propensity. Applying both logit and tobit models, we find the abandonment of family management is associated with a fall in export activity (both in export propensity and in export intensity), findings we relate back to managerial theories of the firm. This finding is related to specific features of family managed firms that favour export activity such as greater flexibility and altruism. The conclusions of this work have a number of relevant implications.

CÓDIGOS JEL
M12, M14, M16

PALABRAS CLAVE
Gestión de empresas familiares, Transición de gestión, Propensión a exportar

Abandonando la gestión familiar - Análisis de los efectos sobre las exportaciones

Resumen Encontrar los factores desencadenantes de la internacionalización de las empresas familiares no es fácil porque, para empezar, las empresas familiares se consideran muy diferentes (por ejemplo, Bloom et al., 2011). Al investigar el papel de la gestión familiar, aplicamos una muestra española de 805 empresas gestionadas por familias para investigar el impacto del abandono de la gestión familiar en la propensión a exportar. Aplicando modelos logit y tobit, encontramos que el abandono de la gestión familiar está asociado con una caída en la actividad exportadora (tanto en la propensión exportadora como en la intensidad exportadora), hallazgos que relacionamos con las teorías gerenciales de la empresa. Este hallazgo está relacionado con características específicas de las empresas familiares que favorecen la actividad exportadora como una mayor flexibilidad y altruismo. Las conclusiones de este trabajo tienen una serie de implicaciones relevantes.

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1. Introduction

It is commonly said that one constraint undermining the performance of family firms, especially in relation to their international operations, is the lack of professionalism of family managers who direct the firm (Samara et al., 2018). This lack of professionalism may be minimized by some factors, such as previous managerial experience. In this context, Geldres et al. (2016) and Casillas and Moreno-Menéndez (2017) review an extensive literature stressing the role of knowledge acquired by the firm's managers, particularly in export markets and their presence in international networks.

Accordingly, this question of family firms and internationalization deserves further attention. According to the research line followed by Monreal-Pérez and Sánchez-Marín (2017), we endeavour to answer a closely connected question - should we expect that firms remaining under family-management will experience a higher export activity (both export propensity and export intensity) than firms which depart from family management? We argue that the answer may be yes. Our reasons are twofold. The first reason to expect differences in the export activity of family-managed and firms not under family management, has to do with the characteristics of firms guided by family members – the higher flexibility and trustworthiness of such firms (Casillas et al., 2010; Kontinen & Ojala, 2010, 2011; Merino et al., 2015; Segaro, 2010). Strengthening this argument, the Stewardship Perspective (SP) states that the long-term perspective of family firms and their perceived higher social capital and commitment are traits which favour exports (Davis et al., 1997; Miller & Le Breton-Miller, 2005; Miller et al., 2008).

Despite extensive work in the internationalization literature on family firms and how their governance might impact internationalization (Alayo et al., 2020; Casprini et al., 2020; De Massis et al., 2015), no study has yet demonstrated what happens when a family firm decides to abandon or retain family control of the business.

We answer this question using a panel of 805 firms, 61 of which changed their management status during the period 2012-2013. The data was extracted from the *Encuesta Sobre Estrategias Empresariales (ESEE)* – an annual survey of Spanish firms. Using a Logit technique, we find that abandoning family management implies a fall in export propensity, contrary to the view that the lack of professionalism of family managers is detrimental to exporting (Arregle et al., 2017), given the perception that family firms tend to hire family members regardless of their abilities (Samara et al., 2018).

Our paper is set up as follows. We first outline the theoretical framework before formulating our testable hypothesis. Then, we present our research methodology before describing our data, the variables used and the econometric model. This is followed by the analysis section before we conclude in a final section.

2. Theoretical Framework and Hypothesis Proposal

Do certain management modes within small firms encourage exporting? The management of firms is just one characteristic which is attracting increased attention from economists (e.g., Bloom et al., 2011). Yet, Benavides-Velasco et al. (2013) have pointed out that the internationalization of firms is one source of differences between firms and the way they are managed, a point that researchers need to consider in their work.

Despite the accumulating literature on the relationship between family managed firms and internationalization, there is a lack of consensus about whether family managed firms are more likely to export. A number of recent reviews have been published so far about the relationship between family firms and internationalization (Alayo et al., 2020; Arregle et al., 2017; Casillas & Moreno-Menéndez, 2017; Casprini et al, 2020; Kontinen & Ojala, 2010; Metsola et al., 2020).

For example, whereas some studies (Kontinen & Ojala, 2011) find that the small size and flexibility of management teams in family firms allow them to react quickly to new international opportunities, others (Gomez-Mejia et al., 2010; Miller et al., 2008) conclude that family firms exhibit lower levels of internationalization than non-family firms due to their concern with preserving the family control of the business. These contradictory results have possibly to do with the different characterization of family governance, research methodology and samples used.

The Stewardship Theory (Davis et al., 1997; Miller et al., 2008) and the Socioemotional Wealth (SEW) Theory (Gomez-Mejia et al., 2007, 2011) both have a lot to say on the subject of risk-taking, in general, and more specifically on the type of risk-taking which is associated with selling products on foreign markets and drawing on skills which the current family-managers do not possess.

Overall these theories are ambiguous regarding the overall willingness to export of family- vs. non family-managed firms. From the SEW perspective (Gomez-Mejia et al., 2007, 2011), it is our expectation that family managed firms favour a reduction in exporting since families are keen to retain their grip on management.

Nevertheless, we rely more on the Stewardship Perspective (SP) that predicts an exporting premium to family-managed firms if the long-term perspective of such firms and their perceived higher social capital and commitment help them to enter new overseas markets (Davis et al., 1997; Miller and Le Breton-Miller, 2005; Miller et al., 2008).
Moreover, Kontinen and Ojala (2011) show that the small size and the flexibility of the management team within family-managed firms help them to respond quickly to new international opportunities. Studies based on the Stewardship Perspective predict that resource shortcomings for family-managed vs. non family-managed firms are more than compensated by higher family specific resources, like trust, altruism, social capital and network ties (Casillas et al., 2010; Merino et al., 2015; Segaro, 2010).
In this vein, Merino de Lucas et al. (2015) argue that maintaining a family perspective may explain why family firms are more internationalized than their non family counterparts. Specifically, these authors find that it is the culture dimension (the connectedness between the firm's members with the values of the firm) which makes it easier for family firms to export.
Taking all these arguments into account, we predict that family management may favour the firm export activity, arguing that the change from family management to non family management may restrain the firm export activity. This leads us to propose the following two hypotheses:

H1: The abandonment of family management (to non family management) implies a fall in the firm's export propensity

H2: The abandonment of family management (to non family management) implies a fall in the firm's export intensity.

3. Methodology

In the section that follows, we first present a logit model which takes export propensity as the relevant outcome. Secondly, we introduce our model for export intensity, applying a tobit model. Finally, we present our sample and data, describing each measure used.

3.1 Logit and tobit method

Our methodology applies first a logit and then a tobit approach, depending on the nature of the dependent variable. For binary-categorical dependent variables, such as export propensity, the logit model is favoured, while for export intensity (a continuous measure), Tobit is the preferred choice. For the case when a dummy is the dependent variable (as in our case, Export Propensity) linear probability models (LPM) like the logit one, are the most widely used models for estimating the functional relationship, while when the estimated probability values fall outside the range of "0" and "1" because the dependent variable is a quantitative one, the Tobit model allows us derive consistent and asymptotically efficient predictors (Güneri & Durmus, 2020).
Our most important variable of interest (see also Section 3.3 below), Abandon, is coded as 1 for a firm which departed from family management in the 2012/2013 period. Otherwise, it is coded as 0.
One advantage of the Logit estimation is that it is very straightforward to use and more directly comparable with other studies. The model specification is as follows:

$$EP_{i,t} = \begin{cases} 1, & if\ \beta_0\ Control_{t-1} + \beta_1\ Abandon_{t-1} \\ 0,\ otherwise & +\propto_i + \varepsilon_{i,t} \geq 0;\ \ i = 1, \dots, n;\quad t = 1, \dots, T_i; \end{cases}$$

Where $E_{Pi,t}$ represents the export propensity of firm i in period t; the control variables (i.e., age, size, and R&D invests, all within the period t-1); the explanatory variables corresponding to the firm i during period t-1 are "Abandon" (defined as the switch from a top-management team which includes a family member to a total absence of any family member in the team). αi captures the unobservable differences among the firms; and finally, εit is the error term. We assume that αi and εit are uniformly, independently and normally distributed, with a mean of zero and variances of σ_{α}^{2} and σ_{ε}^{2}, respectively. Additionally, we assume that αi and εit are independent of (xi1, xi2,…, xiT). It is important to consider only family managed firms in our analysis.
Secondly, the consideration of Export Intensity (EI) as the dependent variable suggests a tobit specification with the same explanatory variables appearing in the logit model, whose form is:

$$EI_{i,t=}\ \beta_0 + \beta_1 Cont_{t-1} + \beta_2 Abandon_{t-1} + \propto_i + \varepsilon_{it};$$
$$i = 1, \dots, n;\quad t = 1, \dots, T_i;$$

Again, only family managed firms are considered.

3.2. Sample and data description

We first describe the data that we used to estimate the relationship between abandoning family-management and exporting before examining individual variables featured in our analysis.
Our study focuses on a sample of Spanish firms from the well-known database *Encuesta Sobre Estrategias Empresariales* (see also Caldera, 2010; Merino et al., 2015).
The Encuesta Sobre Estrategias Empresariales (ESEE) which translates as the Survey of Spanish Business Strategies, is an institutional database (compiled by the Spanish Ministry Industry and the SEPI Foundation) annual survey. It elicits

over 100 questions in an annual survey which is administered to about 1,800-2,000 firms comprising over 10 employees. The ESEE takes a broad sample of firms each year and on average has a response rate of 90 percent.

From the ESEE database, for the period 2012-2014, we extracted a sufficiently large sample of firms that departed from family management. Management (most stringent definition) implied that the family owning the busines, also exercised control over its daily operations. We managed to obtain a sample of 61 firms which departed from family management in the 2-year period 2012 to 2013 and whose export incidence was subsequently recorded for 2014.

3.3. Variables

Here we define each of our variables in turn.

Family managed firm. Our definition of family managed firm depends on the likely involvement of family members in decision making (Fernandez & Nieto, 2005). Moreover, we believe that if the firm is managed by at least one family member (Banalieva & Eddleston 2011; Faccio & Lang, 2002), such a decision is also likely to correlate with active involvement in the firm's operations (Chrisman et al., 2012; Gómez-Mejía et al., 2010). Thus, we coded family firm as a dummy variable which takes the value 1 when a familiar group is actively involved in the management of the firm and 0 otherwise.

Abandon (Firms leaving family-management). We approach this question in two ways. In the first way, we examine a subset of firms which started out being family owned in the years 2012 and 2013 ('fam' = 1). Over this two year period, some of these firms shift away from family management ('fam' = 0). We then end up with a variable called Abandon (coded 0 for 744 firms which remain under family-management and coded as 1 for the 61 firms which depart from family-management). This variable is included in the Logit regression to help explain exporting in the 2014 period.

Export activity. Following previous studies on business internationalization (Fernández & Nieto, 2005; Katsikeas et al., 2000), we measure the firm's export activity by assessing both the firm's export propensity (which is a categorical variable that indicates whether a firm has exported during the period under consideration) and the export intensity (percentage of exports to total sales).

Control variables. In our Logit estimation we use a set of covariates which are shown in other studies and the literature to explain the firm's export propensity (see Sousa, 2008, for a detailed review of such determinants). Accordingly, three control variables were employed:

First, *firm size* corresponding to the firm's total number of employees at year end; second, *firm age* which is simply the number of years since the firm was incorporated, and finally *R&D*, that is the percentage which represents total expenses on *R&D* to sales volume.

4. Results

4.1. Descriptive results

Our data which is taken from the Spanish ESEE. We now describe this sample in greater detail1:

Table 1: Description of the sample

	Export propensity	Export intensity	Age	Size	R&D
Abandon family management (n = 61; 7,6%)	0.6037736	0.2031524	31.74286	97.98361	0.0061035
Retain Family Management (n = 744; 92.4%)	0.658147	0.2462038	31.13758	65.56891	0.0061238
Total (n = 805; 100%)	0.6540084	0.2108989	31.31608	69.05913	0.0063691

[1]Only family managed firms are selected.

As can be seen in Table 1, family managed firms that abandon family management export less than firms that remain family managed. This drop confirms our expectations in H1 and H2 given by the SP and is contradictory to the usual belief that family managed firms export less due to their lack of professionalism (Samara, 2018). To estimate these impacts more, we rely on the Logit estimation results.

Accordingly, we show the correlation values of the variables contained in the Logit (Table 2) and Tobit regressions, respectively (Table 3):

Table 2: Pairwise correlation[1] (export propensity as dependent variable)

	Export propensity	Abandon	Size	Age	R&D
Export propensity	1.0000				
Abandon	-0.0307	1.0000			
Size	0.1967*	0.0522	1.0000		
Age	0.2110*	0.0090	0.1757*	1.0000	
R&D	0.1584*	-0.0002	0.1116*	0.0817	1.0000

[1]Only family managed firms are selected.
*p < 0.05.

Table 3: Pairwise correlation[1] (export intensity as dependent variable)

	Export intensity	Abandon	Size	Age	R&D
Export intensity	1.0000				
Abandon	-0.0190	1.0000			
Size	0.1835*	-0.0337	1.0000		
Age	0.1784*	-0.0058	0.1389*	1.0000	
R&D	0.1492*	-0.0166	0.1352*	0.0488	1.0000

[1]Only family managed firms are selected.
*p < 0.05.

As can be seen in Table 2 and Table 3, all the values lie below 0.56, which is the maximum value recommended for the test of multicollinearity (Leiblein et al., 2002). In addition, to evaluate the impact of these correlations, we tested for the variance of inflation (VIF)[1] resulting in a maximum of 1.05, indicating the absence of multicollinearity (Baum, 2006).

4.2. Estimation results

First, we estimate a panel Logit model to explain the post-transition differences in export propensity between family-managed firms and those which depart from family management. All covariates are expressed at the firm-level.

As Table 4 and Table 5 show, the results for our logit and tobit estimation reveal that firms which depart from family-management are less likely to export in the future. This result, at face value, ties in with the results for the summary statistics in Table 1. We recall from Table 1 that generally firms under family-management were seen to be more likely to export and with a higher intensity than firms which abandoned family-management. This result supports our two research hypotheses.

We can briefly comment on the other covariates in the regression model. Unsurprisingly, firms with positive exporting (lagged) are more likely to export into the future. The other covariates

Table 4. Logistic regression results

Dependent variable: export propensity

	Coefficent	Standard error	z	P >|z|
Abandon	-0.8393089	0.4403559	-1.91	0.057
Size	0.0219777	0.0038701	5.68	0.000
Age	0.0200925	0.0076633	2.62	0.009
R&D	26.84353	11.25637	2.38	0.017
Constant	0-.839386	0.2495291	-3.36	0.001
N		521		
LR chi^2 (Prob > chi2)		112.72 (0.0000)		
Pseudo R^2		0.1688		
Log likelihood		-277.52601		

Secondly, and identically that what has been done above, we estimate a panel tobit model to explain the post-transition differences in export propensity between family-managed firms and those which depart from family management.

behave as expected and in a way consistent with other studies (Barrios et al., 2003; Greenaway and Kneller, 2008; Sousa et al., 2008; Wagner, 2001). Size, age and R&D activity are correlated positively with future exporting.

1. Maximum VIF for each independent variable: Abandon=1.00; R&D expenditure=1.03; Firm age=1.02; Firm size=1.05

Table 5. Tobit regression results

Dependent variable: export intensity

	Coefficient	Standard error	z	P >|z|
Abandon	-0.4172353	0.2529524	-1.65	0.099
Size	0.0086395	0.0014254	6.06	0.000
Age	0.0110927	0.0040807	2.72	0.007
R&D	13.06677	5.153519	2.54	0.011
Constant	-0.3396389	0.1350802	-2.51	0.012
N			521	
LR chi^2 (Prob > chi^2)			98.02 (0.0000)	
Pseudo R^2			0.1468	
Log likelihood			-284.87859	

5. Conclusions and Implications

Family management is often said to constrain the performance of firms. It is argued that family members are selected for management roles, not necessarily on the basis of their competence but due to their privileged position as members of the business owner's family (Samara et al., 2018). Moreover, from the SEW perspective (Gomez-Mejia et al., 2007, 2011), it is argued that family managed firms decrease their exporting since families want to maintain their grip on management. We explore these arguments, searching for evidence of these predicted effects in our sample.

What we find is that firms that abandon family management experience a drop in their export propensity. A possible explanation for these differences in export propensity is the Stewardship Perspective that small and flexible family-managed firms are better equipped to respond quickly to international opportunities.

Moreover, lack of appropriate experience is argued to be one of the factors suggesting a lack of professionalism among family managers (Geldres et al., 2016). This argument is in line of the study of Merino de Lucas et al. (2015) which departs from the family perspective, showing how the experience dimension is one of the main drivers of the internationalization of family firms.

In results which tie in with the above explanation, Sánchez-Marín et al. (2020) argue that greater family involvement in management can underline the family firm's desire for long-term survival, eventually overcoming the risk aversion linked to internationalization, and so positively influencing the firm's likelihood of exporting and developing new products (Gómez-Mejía et al., 2010). Not only is the group of firms which depart from family management likely to contain within-group heterogeneity, so also is the Abandon group. This is because family-management represents a continuum which runs from moderate family-ownership to high family-ownership (Naldi & Nordquist, 2008) and the differences in the degree to which the family influences the day-to-day operations of the business influence the firm's export behaviour (Merino et al., 2015; Sánchez-Marín et al. 2020). However, a goal for future research might be to replicate the analysis while controlling for further sources of group heterogeneity within the group of firms which leave family management. What are the broader implications our findings? Specifically, Sciascia et al. (2012) show that international behaviour follows an inverted U-shape depending on the extent of family influence within the firm's ownership structure: moderate family ownership favours internationalization, but when such ownership is extremely high, this is unhelpful to internationalization.

Moreover, it would be interesting to regard our export findings through a different lens – that of authority and the ultimate goals of family businesses. Through a learning process, family firms, given the owners' higher authority, wealth concentration and pursuit of nonfinancial goals, are able to more efficiently leverage their exposure to foreign markets (Freixanet et al., 2018, 2020). A further issue that needs to be explored in future work is dealing with the internationalization of family businesses over time. Since internationalization and family management are dynamic concepts (Metsola et al., 2020), it would be interesting to investigate the impact of switching from family management over time.

Despite its limitations, our study should be viewed as a first attempt to explore some of the dynamics behind a firm's decision to leave family-management and the impacts on the firm's subsequent export status.

Why is our finding relevant for industrial policy in Europe where firms are struggling to compete in a period of economic recovery? To say anything meaningful about policy, we need to understand some the wider economic context for the Spanish firms on which our analysis is based. After a period of shrinking GDP due to the COVID-19 cri-

sis and of high unemployment (spiralling to 20-25 percent), selling abroad has become an imperative for firms which need to compensate for sluggish domestic demand. The growth of Spain's major trading partners such as Germany is seen as an important stimulant to Spain's exporters.[2] Our finding that firms moving from family-management experience a drop in export propensity and intensity comes at an important time for Spain's enterprises. This is especially true, when we attempt to understand the impact of managerial shifts within firms. Researchers such as Benavides-Velasco et al. (2013) have pointed out that the internationalization of firms is a consequence of the uniqueness of these firms. In a framework which seeks to control for some of these selection effects, we have demonstrated that family management exercises a significantly positive impact on a firm's internationalization activities.

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A Bibliometric Analysis of Dynamic Capacities in the Field of Family Firms (2009-2019)

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Abstract This paper examines the various contributions of scientific research about dynamic capabilities in the field of family businesses, using a bibliometric approach during the period 2009-2019. The volume of scientific publications found in the Web of Science (WOS) database was equal to 56 articles. The application of bibliometric methods and techniques has made it possible to reflect the evolution of the level of publications, active institutions, methodologies used, and the main research topics covered. Considering the results obtained, future lines of research are proposed that allow progress in the consolidation of the study of dynamic capacities in the field of family businesses as a scientific discipline.

CÓDIGOS JEL
M1, M2

PALABRAS CLAVE
Capacidades dinámicas, Empresas familiares, Análisis bibliométrico, Revisión de la literatura

Un análisis bibliométrico de las capacidades dinámicas en el campo de las empresas familiares (2009-2019)

Resumen El presente trabajo examina las diversas contribuciones de la investigación científica en el tema de capacidades dinámicas en el campo de las empresas familiares, utilizando un enfoque bibliométrico durante el período 2009-2019. El volumen de publicaciones científicas hallado en la base de datos de la Web of Science (WOS) fue igual a 56 artículos. La aplicación de métodos y técnicas bibliométricas ha permitido reflejar la evolución del nivel de publicaciones, instituciones activas, metodologías empleadas y principales temas de investigación tratados. Teniendo en cuenta los resultados obtenidos, se proponen líneas futuras de investigación que permitan avanzar en la consolidación del estudio de capacidades dinámicas en el campo de las empresas familiares como disciplina científica.

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1. Introduction

During the last decade, interest in the use of dynamic capabilities theory in the field of Family firms has grown significantly, and the importance of this approach is related to the impact on innovation and business growth (Daspit, Long, & Pearson, 2019). Authors' studies (Collis, 1994; Eisenhardt & Martin, 2000; Teece, Pisano, & Shuen, 1997; Zollo & Winter, 2002) show that dynamic capabilities enable a firm to expand, modify, or create common capabilities through access and recombination of knowledge and favour success over time. From this approach, knowledge is considered to be the basis on which dynamic capabilities are sustained (Foss, 2005), which encourage learning and the generation of intangible resources in the organization (Teece et al., 1997; Teece, 2007).

Worldwide, Family firms represent more than two-thirds of all firms, becoming one of the fundamental pillars for economic and social development (Brent, Facette, & Coppola, 2019), their activity is an important booster of Gross Domestic Product (GDP) and a contributor to the growth of the employment level. Various studies have shown that Family firms are a particular type of business where the generation of dynamic capabilities can be developed in a distinctive way, based on the conditions of their knowledge, and learning management process. At present, there is evidence that suggests that, in the field of Family firms, research focused to the study of dynamic capabilities is scarce, as reported (Barros, Hernangómez, & Martin-Cruz, 2016; Brinkerink, 2018; Colombo, Koiranenn, & Chirico, 2006; Chirico & Nordqvist, 2010; Chirico, Nordqvist, Colombo, & Mollona, 2012; Chirico & Salvato, 2008, 2016).

Previous research accumulated ideas and strategies to better understand dynamic capabilities and Family firms. Zellweger et al. (2013) affirm that Family firms are stronger and survive hard times, because companies do not focus only on future months, but focus on future generations. Studies by Lumpkin, Brigham, and Moss (2010) show that a long-term orientation can be a source of positive results and a good performance of Family firms.

On the other hand, science has evolved rapidly, giving rise to new information technologies that are an incentive for researchers to seek new ways to analyse considerable amounts of information, giving rise to bibliometrics (Huggett, 2013). These methods can generate reliable and robust indicators that are useful for comparing or classifying large concepts (Góngora, 2010).

The purpose of this article is to provide an overview of dynamic capabilities research in the field of Family firms, performing a bibliometric analysis with the review of 56 articles identified in the WOS (Web of Science) between the period 2009 to 2019. The year 2009 has been taken as the starting point, since no bibliometric studies relating these two topics have been carried out since that year to date. With this study, it is expected to know those research, authors, and most influential publications that any researcher about dynamic capabilities and Family firms should know. The results of this analysis will show potential lines of research for future studies through word co-occurrence analysis and cluster identification.

The structure of the present work is as follows: first, a brief review of the literature is shown where the concept of dynamic capabilities is analysed individually, and then it is studied in the field of Family firms. Second, the results are shown in terms of activity indicators (number of most cited articles, evolution of article production, most productive journals, most productive authors and countries with the highest production), then, a description of the topics and lines of research addressed is made, supported by a bibliometric word co-occurrence analysis, where potential research areas are proposed, which could represent unexplored knowledge gaps. The last section shows the conclusions.

2. Review of the Literature

2.1. Dynamic capabilities

Colins (1994), Kogut and Zander (1992), and Pisano (1994) carried out interesting works regarding dynamic capabilities, but it was Teece (1997) who used this approach in the field of strategic management to encourage the birth of new competencies and thus, improve decision-making in changing environments. Rivera and Figueroa (2013) state that the reflections allow companies to obtain the skills to ensure their continuity over time considering variables such as: technology, intellectual property protection, invention of new business models, creation of intangible assets, open innovation , flexibility and decentralization.

The dynamic capabilities are developed as a route that allows the continuous exploration of competencies according to the transformations in the environment, the integration of knowledge with the reality about performance in complex environments and the replacement of attributes for future growth and development (Rivera & Figueroa, 2013).

Based on the definition of Teece (1997), for whom dynamic capabilities are competencies or capabilities that allow the company to create new products and processes, thus responding to changing market circumstances. Collins (1994) considers that organizational capacities guide the rate of change of ordinary capacities (simply technologies) and Pisano (1994), for whom the ability to alter resources is the organizational background to

the strategic routines through which managers alter the resource base of the company to generate new value creation strategies.

Helfat (1997), Lee et al. (2002), Teece et al. (1997), and Zahra (2006) describe dynamic capabilities as a set of skills that the company has to integrate, build and reconfigure its internal and external competencies to adapt to situations in unstable environments and thus generate new competitive advantages. For their part, Helfat and Raubitschek (2000) explain that by learning from mistakes, companies can better adapt to the environment. Zajac, Kraatz, and Bresser (2000) explain that it is the capacity of the company to change when it needs to and where its results are much better.

Other authors such as Bowman and Ambrosini (2003), Griffith and Harvey (2001), Helfat and Peteraf (2015), Lampel and Shamsie (2003), Lavie (2006), and Rindova and Kotha (2001) emphasize that to achieve the distinctive capabilities it is necessary to combine resources and reconfigure to generate forceful changes in the firms in order to evolve and transform.

Today the theory of dynamic capabilities is focused on generating research for organization and strategic management; evolving in such a way that it has expanded to incorporate notions of strategic management, for example, in terms of business models (Chesbrough & Rosenbloom, 2002; Teece, 1986, 2010, 2014a, 2014b) innovation studies (value capture / appropriability) (Chesbrough & Rosenbloom, 2002), behavioural decision theory (error and bias detection and capture) and organizational behaviour (culture / leadership issues) (Arndt, Pierce, & Teece, 2017)

2.2. Dynamic capabilities in the field of family firms

As for the study of dynamic capabilities in the field of Family firms, this approach has contributed to overcome limitations in the study of other non-contextualized phenomena. For example, in the study of the creation of new businesses and corporate strategies (Bowman & Ambrosini, 2003); in the learning of new skills (Zollo & Winter, 2002); in the generation of R&D and innovation activities (Galunic & Eisenhardt, 2001; Helfat, 1997; McKelvie & Davidsson, 2009; Narayanan, Colwell, & Douglas, 2009; Tripsas, 1997; Tripsas & Gavetti, 2000; Verona & Ravasi, 2003). Thus, although the dynamic capability perspective is prominent in strategic management research, it remains an emerging perspective in the context of Family firms (Daspit et al., 2019).

Currently, there are some studies that have begun to examine the dynamic capabilities in the family business because it is an interesting scientific discipline. For example, Chirico and Salvato (2008) propose that the capacities and willingness of a family business by integrating knowledge, they relate positively to dynamic capabilities and subsequent changes in lower-level capabilities. Furthermore, it is observed that dynamic capabilities affect trans-generational value in Family firms by altering business performance (Chirico & Nordqvist, 2010), and some use a dynamic capability approach to understand family business decision making. Barros, Hernangómez, and Martin-Cruz (2016), for example, use this view to map the effects of family involvement in strategic decision-making. Such progress indicates a promising development in the field of Family firms.

3. Methodology

3.1. Bibliometric analysis

The main bibliometric indicators used in this research are activity indicators and relationship indicators. The activity indicators are simple compilations of bibliographic references (such as authors, articles, key words, citations, among others), while the relationship indicators analyse the links and reproduction of certain key words in scientific articles. The latter shows co-occurrence studies with the purpose of finding potential lines of research (Arencibia & De Moya Anegón, 2008).

Nowadays, the analysis of scientific publications in business management has become an important process when it comes to generating new knowledge and impact on scientific research. It is for this reason that bibliometric analyses are becoming increasingly important because they quantify scientific activity through mathematical and statistical methods to discover scientific gaps that give opportunity to new research (Camps, 2010).

3.2. Database selection

The study was contextualized in the dynamic capabilities in the field of Family firms, using a quantitative methodological perspective, with the application of a non-experimental, exploratory, retrospective and cross-sectional design of the scientific information published during the period 2009-2019 (11 years).

The first step was to obtain a database of articles to carry out the analysis. As shown in table 1, this study only considers the bibliographic records obtained from the Web of Science (WOS), because this database has a global geographical scope, high impact quality indicators and provides essential metadata such as: abstracts, references, number of citations, lists of authors, institutions, countries and the impact factor of the journal (Carvalho, Fleury, & Lopes, 2013).

For the analysis we considered an 11-year period, i.e., from 2009 to 2019 (obtained on May 19, 2020). We selected 2009 as the starting year

because we found a bibliometric study (Meirelles & Bueno, 2014) that analysed the study of dynamic capabilities until 2009 and left open the possibility of studying these capabilities in the field of Family firms. The selection of articles related to dynamic capabilities in the field of Family firms was made using a combination of terms such as ("Dynamic capabilit*") AND ("family business*" OR "family firms*") included (titles and keywords of the author). Subsequently, they were processed following some limitations such as (1) the criteria for inclusion of the analysis were to "articles" and "reviews"; and (2) documents included in the research areas "Business Economics".

For the analysis of the results, the SciMAT tool was used, developed by the SECABA group of the University of Granada, which allows the construction of scientific maps and visualization of the evolution of a scientific area (Cobo, López-Herrera, Herrera-Viedma, & Herrera, 2012) which was used as a data manager to organize the activity indicators. The VOS Viewer tool was also used (Valenzuela, Merigó, Johnston, Nicolas, & Jaramillo, 2017; Van Eck & Waltman, 2010), a software tool for network analysis that helps to visualize the dynamics and structures of science. It was applied to perform coupling and concurrent keyword analysis to explore and examine in depth the intellectual structures of the field of research addressed.

Table 1. Choice of database[1]

Database	Web of Science (WOS)
Geographic scope	Global scientific production
Characteristics	Quality indicators: JCR impact factor, quartile (importance of the journal), Number of citations
Search range	2009-2019
Search date	May 19, 2020
Search terms	TS=(("Dynamic capabilit*") AND ("family business*" OR "family firms*"))
Number of documents	56
Criteria for inclusion	Article
Analysis	Review
Research areas	Business Economics
Indexes	SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC.

4. Bibliometric Analysis

4.1. Most cited articles

According to the analysis of the WOS information, 56 articles have been published describing the relationship between dynamic capabilities in the field of Family firms. Table 2 shows the 10 articles with the highest number of citations in the WOS with their respective authors. A frequency analysis is also shown to know the citation percentage of each of the articles over time.

The most prominent article in terms of number of citations is that of De Massis, Frattini, and Lichtenthaler (2013) "Research on Technological Innovation in Family Firms: Present Debates and Future Directions" with a frequency of 17.22%. This article makes an exhaustive empirical analysis where it shows gaps in the research of the relationship between innovation (dynamic innovation capabilities) and the family business. The authors mention that there are opportunities for future research since the direct effects of the family and its participation in innovation activities and the moderating effects of family participation on the relationship between inputs and innovation activities, as well as on the relationship between innovation activities and products, have not been explored.

The second most cited article is that of Nordqvist and Chirico (2010) with 10.56%, "Dynamic capabilities and trans-generational value creation in family firms: The role of organizational culture", which through an empirical study offers the first conclusions on the application of dynamic capabilities in the field of Family firms. Among these conclusions we find that family inertia depends on the characteristics of the family business, its culture, where paternalism and business orientation influence positively on family inertia and negatively, respectively.

The third article with more citations is that of Benavides-Velasco, Quintana-Garcia, and Guzman-Parra (2013): "Trends in family business research", which through an analysis of 703 articles focused on the thematic categories 'business', 'corporate finance', 'economy' and 'management' aims to describe the patterns and trends in the literature on Family firms in order to identify potential areas for future research useful for advancing the consolidation of the field. Among its most important results, strategic thinking stands out, particularly the resource-based vision (Hoopes, Madsen, & Walker, 2003; Wernerfelt 1984) and the dynamic capabilities (Teece et al., 1997; Teece, 2007) that emerge as adequate theoretical perspectives to advance research on Family firms.

1. The search for information in WOS was run again using the word dynamic capability and including as research areas not only business economics, but also "business" "management" "business finance" which are also specific to the area. The result was 62 articles found, so it did not represent a significant difference at the time of the analysis.

Table 2. Articles and authors of analysis

	Year	Title	Authors	No. of Citations	Frequency
1	2013	Research on technological innovation in family firms: Present debates and future Directions	De Massis, A., Frattini, F., Lichtenthaler, U.	181	17.22%
2	2010	Dynamic capabilities and trans-generational value creation in family firms: The role of organizational culture	Chirico, F., Nordqvist, M,	111	10.56%
3	2013	Trends in family business research	Benavides-Velasco, C. A., Quintana-Garcia, C., Guzman-Parra, V. F.	98	9.32%
4	2009	Agency, strategic entrepreneurship, and the performance of private equity-backed buyouts	Meuleman, M., Amess, K., Wright, M., et al.	87	8.28%
5	2016	Innovation through tradition: lessons from innovative family firms and directions for future research	De Massis, A., Frattini, F., Kotlar, J., et al.	71	6.76%
6	2018	Innovation with limited resources: Management lessons from the german mittelstand	De Massis, A., Audretsch, D., Uhlaner, L., et al.	51	4.85%
7	2016	Knowledge internalization and product development in family firms: When relational and affective factors matter	Chirico, F., Salvato, C.	44	4.19%
8	2013	Disentangling the effects of organizational capabilities, innovation and firm size on SME sales growth	Uhlaner, L. M., Van Stel, A., Duplat, V., et al.	37	3.52%
9	2015	Does family involvement foster or hinder firm performance? The missing role of family-based branding strategies	Gallucci, C., Santulli, R., Calabró, A.	36	3.43%
10	2016	Entrepreneurial exploration and exploitation in family business: A systematic review and future directions	Goel, S., Jones, R. J.	29	2.76%

As can be seen in Table 3 and 4, 52% of the articles (i.e., 29 articles) were coded as theoretical. Of these, the vast majority have been published since 2016, possibly in reaction to the scarcity described in previous periods. 48% of the articles (i.e., 27 articles) are empirical analyses, which shows that the authors have tried to combine in an equitable way the two types of articles in order to develop more research with theoretical and practical support.

The theoretical research was based much more on the systematic analysis of literature as seen in the articles by Pikkemaat, Peters, and Bichler (2019) and Daspit et al. (2019), which were based on an updated review of literature in order to have theoretical support for future research. It can also be observed that the theoretical studies were much more dedicated to the development of concepts giving more importance and scientific evidence to the theories already established since 2009. Here we highlight the articles of Daspit et al. (2019) and of Fuentes et al. (2019) which analyse the theory and its evolution in relation to the criticisms made in previous reviews.

Empirical research highlighted quantitative studies using data sources such as the survey and existing databases. Among the works that stand out in this research are those of Meuleman et al. (2009) which was based on a list of 238 purchases backed by private capital in the United Kingdom between 1993 and 2003 and that of Nordqvist et al. (2012) which carried out a numerical integration in 50 time periods. It is also important to highlight the emergence of case studies in empirical studies such as Barros-Contreras et al. (2014) with the Grupo Yllera case and De Massis et al. (2016) with the illustrative cases of six long-term Family firms (Aboca, Apreamare, Beretta, Lavazza, Sangalli and Vibram).

In summary, the theoretical studies add up to 29 articles of which 20 are based on concept development, 3 make a model proposal and 6 do a literature review. Likewise, the empirical studies total 27 articles, of which 23 are quantitative, 3 are qualitative and 1 is mixed. Of these 27, 10 use databases as a source of information, 13 use surveys, 2 interviews, 1 case study, and 1 survey and interview at a time. This type of analysis has made it possible to identify the year from which both theoretical and empirical research took off in the field of dynamic capabilities in the field of Family firms (2016-2019).

4.2. Evolution of article production

In order to examine the evolution of the production of articles on dynamic capabilities in the field of Family firms, 56 articles were analysed, of which 21% (i.e., 12 articles) were published in 2019, which is equivalent to 12 times the number of articles published in 2009, clearly suggesting a greater academic interest in the study of dynamic capabilities in the field of Family firms over the past 11 years (Figure 1). In fact, until 2015 academic publications linking these two topics were almost non-existent. In 2016, the number of articles published increased significantly, with 11 articles appearing that year (equivalent to 20%), which has marked a trend until 2019. From 2016 to 2019, there is an upward trend, accumulating 77% of the articles considered in the database, which indicates a greater interest by academics in the study of dynamic capabilities in the field of Family firms.

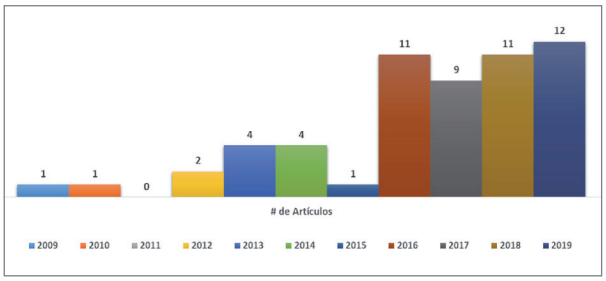
Table 3. Type of article and method of choice by year of publication

Type of article	Method	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total	Percentage
Theoretical	Concept development	-	-	-	1	1	2	-	1	6	5	4	20	36%
	Model proposal	-	1	-	-	-	-	1	1	-	-	-	3	5%
	Literature review	-	-	-	-	2	-	-	2	-	-	2	6	11%
	Total	**0**	**1**	**0**	**1**	**3**	**2**	**1**	**4**	**6**	**5**	**6**	**29**	52%
Empirical	Qualitative	-	-	-	-	-	-	-	1	-	-	2	3	5%
	Quantitative	1	-	-	-	1	2	-	6	3	6	4	23	41%
	Mixed	-	-	-	1	-	-	-	-	-	-	-	1	2%
	Total	**1**	**0**	**0**	**1**	**1**	**2**	**0**	**7**	**3**	**6**	**6**	**27**	48%
Total		1	1	0	2	4	4	1	11	9	11	12	56	**100%**

Table 4: Type of article and data source by year of publication

Type of article	Data source	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total	Percentage
Theoretical	Database	-	1	-	1	3	2	-	4	6	5	7	29	52%
	Total	**0**	**1**	**0**	**1**	**3**	**2**	**0**	**4**	**6**	**5**	**7**	**29**	52%
Empirical	Database	1	-	-	1	1	-	-	3	-	-	4	10	23%
	Survey	-	-	-	-	-	2	1	3	2	4	1	13	4%
	Interview	-	-	-	-	-	-	-	-	1	1	-	2	4%
	Case study	-	-	-	-	-	-	-	-	-	1	-	1	2%
	Survey-Interview	-	-	-	1	-	-	-	-	-	-	-	1	2%
	Total	**1**	**0**	**0**	**2**	**1**	**2**	**1**	**6**	**3**	**6**	**5**	**27**	48%
Total		1	1	0	3	4	4	1	10	9	11	12	56	**100%**

Figure 1: Scientific production 2009-2019



4.3. Most influential magazines

In the literature analysed, there is a concentration of productivity in a certain number of major journals. Table 5 shows the evolution of the most productive journals in the field of dynamic capabilities in Family firms. In this table, there have been excluded magazines that were not in the ranking of "Scimago Journal & Country Rank" and that therefore lacked H-Index and the Q-Quartile, there were also excluded the magazines whose publications lacked at least 2 cites. They were ordered according to the highest number of publications and the Hirsch index, or h-index, has been taken into account, which is a measure of the professional quality of authors and journals according to the number of times their scientific articles have been cited (Schreiber, 2015); thus, the Q-Quartile has also been taken into account, which is an indicator that serves to evaluate the relative importance of a journal within the total number of journals in its area (Mihajlov & Vejmelka, 2017). From these data both specialized magazines, from the business and strategy fields, as well as more generalist magazines, have published the most cited articles on dynamic capabilities in the field of Family firms. In this sense, the fact that research is published in a wide and diverse range of magazines counteracts with other more mature topics whose research is more concentrated in a reduced number of specialized magazines.

Within the ranking of most productive magazines with 240 citations obtained from the WOS, the magazine "Family Business Review" has 5 publications on these topics and a 19.22% of citations, being a magazine with H-Index of 87 and first quartile (Q1). Another magazine that also stands out with 170 citations is "Small Business Economics", which has 4 publications, which is equivalent to 13.61% of citations with H-Index of 108 and is first quartile (Q1). The "Journal of Family Business Strategy" also stands out with 268 citations, which is equivalent to 21.46% with H-Index of 31 and is first quartile (Q1). It is also followed by the "International Small Business Journal " with 120 citations, which has 3 publications, with 9.61% with an H-Index of 71 and is a first Quartile (Q1).

In this analysis it is important to analyse that all the most productive magazines in these topics are first Quartile (Q1) in its great majority, which gives as a conclusion that they are magazines with a high degree of reputation in this area.

Tabla 5. Most influential magazines

	JOURNALS	Publications	Citations	H-Index	Q-Quartil	Frequency
1	Family Business Review	5	240	87	Q1	19.22%
2	Small Business Economics	4	170	108	Q1	13.61%
3	Journal of Family Business Strategy	4	268	31	Q1	21.46%
4	International Small Business Journal-Researching Entrepreneurship	3	120	71	Q1	9.61%
5	Entrepreneurship Theory and Practice	2	131	121	Q1	10.49%
6	Journal of Small Business Management	2	34	94	Q1	2.72%
7	Global Strategy Journal	2	26	12	Q1	2.08%
8	Journal of Family Business Management	2	8	43	Q1	0.64%
9	International Entrepreneurship and Management Journal	2	10	41	Q1	0.80%

4.4. Most productive countries

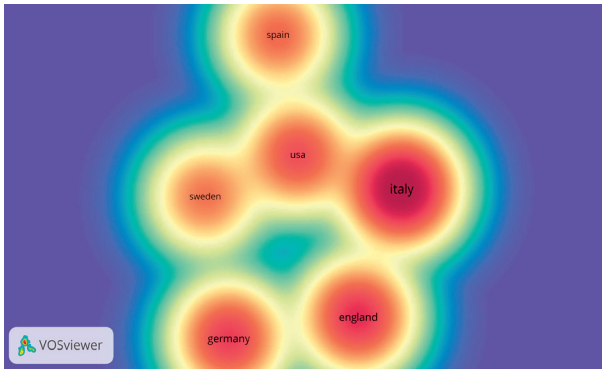
Figure 2 shows the most productive countries with the highest number of citations in the publications on dynamic capabilities in the field of Family firms. Among them, England stands out with 19 articles and 320 citations, followed by Spain with 15 articles and 195 citations, then Italy with 12 articles and 486 citations, the United States with 9 articles and 247 citations, Germany with 6 articles and 290 citations and Sweden with 5 articles and 177 citations.

In conclusion, England and Spain are the main producers of the sample documents, followed by other European countries, especially Italy and Germany. At the same time, the leading role of Italy should be highlighted, with a significant number of documents cited with international collaboration and references on these themes.

4.5. Most productive and most cited authors

In analysing the most productive authors in the field of dynamic capabilities in the field of Family firms, out of a total of 136 authors, 15 have written more than 1 article on these topics and

Figure 2: Most productive countries and highest number of citations.



only the authors De Massis, Frattini, Chirico, Nordqvist, Alonso and Kok bring together between 5 and 3 publications each (Table 6).

Table 6. Authors who have published more than 1 article, 2009-2019

#	Authors	# Publications	Times cited	h-index (Hirsch)
1	De Massis, Alfredo	5	331	43
2	Frattini, Federico	3	265	39
3	Chirico, Francesco	3	170	26
4	Nordqvist, Mattias	3	133	46
5	Alonso, Abel Duarte	3	1	29
6	Kok, Seng	3	1	7
7	Wright, Mike	2	158	141
8	Kotlar, Josip	2	86	24
9	Audretsch, David	2	72	135
10	Calabrò, Andrea	2	58	21
11	Jones, Oswald	2	15	37
12	Hernandez-Perlines, Felipe	2	8	13
13	Martin-Cruz, Natalia	2	9	21
14	Wang, Yong	2	11	12
15	O'Shea, Michelle	2	1	9

Table 6 shows the most representative authors in research on dynamic capabilities in the field of Family firms, where it can be seen that 15 of them have published a number equal to or greater than two articles in the period of analysis. It is also noted that the authors De Massis Alfredo and Frattini Federico are the most often cited and have the largest number of publications. This is in line with what was observed previously where the article "Research on Technological Innovation in Family Firms: Present Debates and Future Directions" is one of the most cited and referenced in this topic.

To measure more effectively the quality of the researcher, in addition to the count of citations received, the Hirsch h index has been estimated (Hirsch, 2005) and is included in table III. A scientist has an h index if he or she has published h papers with at least h citations each; thus, the h index is the balance between the number of citations in one or a few papers. The indicator acquires an ascending value as the citations received are distributed in the scientist's body of work.

In the area of study of dynamic capabilities in a specific field such as Family firms, the authors with the highest number of articles and citations received, also reach higher values of the h index; this shows their relevance in the area through various contributions.

4.6. Keyword co-occurrence

Keyword co-occurrence analysis produces a network of themes and their relationships that represent the conceptual space of a field (Cancino, Merigó, Coronado, Dessouky, & Dessouky, 2017; Martínez-López, Merigó, Valenzuela, & Nicolás, 2018). In graphic visualization, the size of a circle denotes the relevance of an element and network connections identify the most closely linked elements. The placement of the circles, the colours and the delimitation are used to group the items. The distance between two nodes is inversely proportional to the number of matches between keywords. Therefore, shorter distances suggest a greater match between keywords.

In the sample of 56 articles a total of 353 keywords were obtained. To simplify the knowledge representation only the keywords with a frequency of ≥ 3 (i.e. 50 keywords) were selected (a lower threshold would have resulted in a long list of keywords and complex maps that are difficult to visualize and interpret). Then the list of keywords was entered into the Vosviewer program which calculated the total strength of the matching links to other keywords.

Previously, and before visualizing the co-word network, the keywords 'dynamic capabilities 'family firms' and 'family firm' were manually removed because they were related to most of the items. A total of 27 keywords were obtained. Figure 4 shows what the keyword co-occurrence network generated, resulting in three item clus-

ters. As expected, the keywords that are most repeated are dynamic capabilities and Family firms. The size of the tags and the diameter of the circles are shown to be proportional to the frequency and strength of the connections of the respective keywords. Each of the three clusters was named according to most of the keywords that formed it. The interpretation of the map considered the number of keywords within each cluster, the number of occurrences of each keyword and their interrelationship. The different aggregates revealed the actual contents and research topics of the documents (Table 7), as well as the different authors who highlighted these topics by each cluster. The clusters located in the centre of the maps indicated the thematic areas of greatest scientific activity:

- **Cluster 1:** "The performance of Family firms", included 10 key words related to entrepreneurship, innovation, strategic management, and resource-based vision.
- **Cluster 2:** "The creation of value in Family firms", Included 9 key words related to the competitive advantage of the companies, the socio-emotional wealth of the companies, and the familiness which is the intangible value that the family brings to the company.
- **Cluster 3:** "The entrepreneurial orientation in Family firms", Included 8 key words related to the approach of dynamic capabilities, the moderator role, knowledge transfer and strategic management.

Figure 4. Co-occurrence of keywords

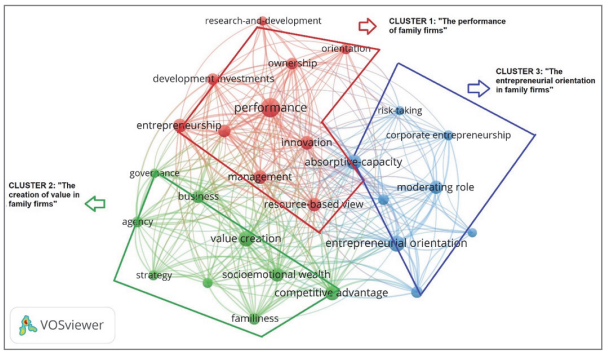


Table 7. Cluster, keywords, and authors

Clusters	Keywords	Authors	Most cited article
CLUSTER 1: "The performance of Family firms"	Development investments, Entrepreneurship, Innovation, Knowledge, Management, Orientation, Ownership, Performance, Research and development, Resource based view.	(Hernández-Perlines et al., 2019) (Meuleman et al., 2019) (Park et al., 2019) (Hernandez-Perlines, 2018)	"Agency, strategic entrepreneurship, and the performance of private equity-backed buyouts" (Meuleman et al., 2019)
CLUSTER 2: "The creation of value in Family firms"	Agency, Business, Competitive advantage, Familiness, Governance, Resources, Socioemotional wealth, Strategy, Value creation.	(Martínez-Romero et al., 2019) (Chirico et al., 2015) (Chirico et al., 2010)	"Dynamic capabilities and trans-generational value creation in family firms: The role of organizational culture" (Chirico et al., 2010)
CLUSTER 3: "Entrepreneurial orientation in Family firms"	Absorptive-capacity, Corporate entrepreneurship, Dynamic capabilities, Entrepreneurial orientation, Firm performance, Knowledge transfer, Model, Moderating role, Risk-taking, Strategic management.	(Hernández -Perlines et al., 2019) (Hernández -Perlines, 2018) (Rodrigo-Alarcón et al., 2018)	"Moderating effect of absorptive capacity on the entrepreneurial orientation of international performance of Family firms" (Hernández-Perlines, 2018)

5. Conclusions

Research on dynamic capabilities in the field of Family firms offers opportunities to better understand the complexity of family business and to advance in the consolidation of this discipline (Benavides et al., 2011). Therefore, it is an open knowledge gap for future research.

This research paper examined the literature based on 2009-2019, using publications available in the WOS database. The evolution of the study shows that the general trend has been upward, especially since 2016. Therefore, two different periods are distinguished: the initial period from 2009-2015 (Period 1), and the ascending period from 2016 to 2019 (Period 2).

Among the most cited works on these topics are: "Research on Technological Innovation in Family Firms: Present Debates and Future Directions" by De Massis, Frattini, Lichtenthaler and Ulrich in 2013 (181 times cited), "Dynamic capabilities and trans-generational value creation in family firms: The role of organizational culture" by Chirico and Nordqvist , 2010 (111 times cited) and "Trends in family business research" by Benavides-Velasco and Quintana-Garcia, 2013 (98 times cited). The most outstanding authors are also mentioned, which are De Massis, Alfredo (331 times cited with a Hirsch index of 43), then Frattini, Federico (265 times cited with a Hirsch index of 39) and Chirico, Francesco (179 times cited with a Hirsch index of 26). Among the most influential journals in these areas are: Family Business Review, Small Business Economics, and the Journal of Family Business Strategy. In conclusion and taking as reference the co-occurrence analysis of words, it is observed that the tendencies of the concept of dynamic capabilities in the field of Family firms are focused towards 3 clusters duly identified as: "The performance, the creation of value and the entrepreneurial orientation of Family firms", leaving as potential lines of research innovation, strategic agility and entrepreneurship.

Although this study is the first attempt to carry out a systematic review in academic research on dynamic capabilities in the field of Family firms, studies with these two variables have previously been carried out, but analysing them independently (Benavides et al., 2011; Meirelles & Bueno, 2014).

This article tries to give a clearer view of what are the predominant issues being researched today in the scientific community. Therefore, it provides a broader vision of research in this field and tries to contribute to a greater generation of literature on the dynamic capabilities approach in Family firms, which facilitates the work of academics, students and consultants who are looking for a knowledge gap on these topics.

Based on the limitations of the study, these results are expected to be complementary and informative for other literature reviews, since the study only collected data from the WOS database. Finally, the use of bibliometric methods has allowed to know more cited articles, types of studies with their respective data sources, evolution of the production of articles, more influential journals, more productive countries in the theme, productivity of authors and the analysis of co-occurrence of key words and main research topics discussed, in order to propose future lines of research in this field.

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The Total Compensation Model in Family Business as a Key Tool for Success

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KEYWORDS
Total compensation, Family business, Human resources management, Organisational behaviour, Strategic management

Abstract The purpose of this research study is to examine the importance of the total compensation model in family business as an essential element for human resources management, in line with the organisation's strategic management, in order to optimise organisational behaviour. This is based on the useful and efficient use of different compensation tools and methods, taking into consideration both the differences and common aspects of family businesses with regard to other type of companies, as well as their size.

CÓDIGOS JEL
M52

PALABRAS CLAVE
Compensación total, Empresa Familiar, Gestión de recursos humanos, Comportamiento organizacional, Gestión estratégica

El modelo de compensación total en la empresa familiar como herramienta clave para el éxito

Resumen El objetivo de esta investigación es examinar la importancia del modelo de compensación total en la empresa familiar como elemento esencial para la gestión de los recursos humanos, en línea con la gestión estratégica de la organización, para optimizar el comportamiento organizacional. Esto se basa en el uso útil y eficiente de diferentes herramientas y métodos de compensación, teniendo en cuenta tanto las diferencias y aspectos comunes de la empresa familiar con respecto a otro tipo de empresas, como su tamaño.

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1. Introduction

A company's success depends on its ability to maintain stability while managing change with regard to internal and external pressures. Although all organisations have some difficulties to adapt to changing conditions, family businesses present specific and unique issues and problems (Beckhard & Dyer Jr., 1983).

Studying the problematic differences that affect family businesses is becoming more and more relevant in the management field (Sánchez Carrasco & Madera, 2010). This is a consequence of the significant importance of family business's activity on the economy of developed countries (Gallo et al., 2004). The interdependence between ownership and management in these companies creates strengths that tend to make executive and strategic decisions more complex and subjective (Beckhard & Dyer Jr, 1983). One of the main challenges that family businesses often have to face relates to worries regarding human resources (Heneman et al., 2000; McCann et al., 2001).

Various authors highlight that one of the main aspects to consider when designing a family business nowadays is the compensation system (Cardon & Stevens, 2004; Gómez-Mejía et al., 2003; Rutherford et al., 2003). Likewise, a key factor is the total compensation system, which consists of both a financial and non-financial extrinsic rewards and an intrinsic reward (Delgado-Planas 2004; Saqib et al., 2015). This system constitutes a normal practice in the business dynamic and is an invaluable management tool, since it can be used to attract, keep, motivate and satisfy workers (World at Work, 2000).

People and organisations should not be understood as repaired entities. Their interaction produces joint behaviour, known as organisational behaviour, which introduces the study of the activities which are being carried out by people in an organisation and the implications on the performance of the business itself (Robbins, 1992).

It is assumed that each person presents a unique condition, an idiosyncrasy that influences the need to generate and analyse a contingency structure of organisational behaviour on the basis of the use of situational variables that moderate cause-effect relationships (Robbins, 1992).

This diverse and conditional essence is also directly influenced by the organisation's nature, from which it is ultimately deduced that the compensation strategies are different, as is the case of all organisations (Murlis, 1996).

From a strategic perspective, family businesses build their mission, prioritising the family link itself. Firstly, because in order to maintain interest and business involvement they must feel a family purpose, and the second reason is the need for a sense of cohesion and pride that will make people want to overcome problems (Ward, 2016). Likewise, compensation practices must be aligned with both the business objectives and employees' values (Brown, 2001), so that the sense of family proves to be the context through which the strategy should be understood.

Therefore, human resources management in family businesses is a complex task in an environment in which the relationships between owners, managers, employees and family are not clearly defined in terms of authority and responsibilities (Leon-Guerrero et al., 1998; Reid & Adams, 2001).

The adoption of formal compensation practices in family businesses could be important in at least two ways (Anneleen, 2017). Firstly, the compensation system may be an important communication device to encourage business activities and highlight the legitimacy to external parties involved (Cardon & Stevens, 2004; Graham et al., 2002). Secondly, family businesses are recently beginning to recognise the benefits that the implementation of formal human resources management practices may bring (Sheehan, 2014), given that the implementation of best human resources management practices generally leads to an improvement in business performance (Carlson et al., 2006; Sheehan, 2014). Thus, adopting more formal compensation practices could be a sign of professionalisation, and, therefore, making the business more attractive to possible applicants.

On the other hand, the introduction of formalised compensation practices may also have disadvantages for family businesses. For example, the high cost associated with these practices for businesses with limited resources; it could limit the possibility of employees negotiating with regard to their salary and benefits, which could consequently lower their motivation (Marlow & Patton, 2002). Moreover, formalising compensation could undercut the advantages of having an informal business culture.

If a deductive method is assumed, it is revealed that one of the essential aspects of the compensation strategy is the application of a compensation policy, which is presented as a set of principles and guidelines reflecting the business' orientation and philosophy regarding workers' remuneration (Chiavenato, 1993).

Accordingly, the need of a specific study on total compensation in family businesses is apparent. This study aims to respond to a series of questions: What are the differences in the various compensation policies between family businesses and other types of businesses? How does the size of a business influence on this difference? How do the employees of family businesses value financial and non-financial elements?

The criteria to be considered are:

- Human resources professionals in family businesses are familiarised with the functions of human resources management, specifically with the total compensation model.

- With the alignment existing between human resources management and strategic management in family businesses, compensation, in general terms, is fundamental not only for the human resources strategy, but also for the organisation as a whole.

2. Theoretical Framework: Total Compensation

Over time, the study of family businesses has proven to be an increasingly valued topic (Catry & Buff, 1996), since it always appears to be linked to some specific dynamics that require qualitative and quantitative analysis separate from other possible business paradigms.

Strategic planning in family businesses is different from planning in other types of businesses, mainly because family problems must be included in the planning (Ward, 1988).

In the family business model a situation with three main components arises: ownership, management and family, the latter representing the unique part of its nature and becoming in many cases the fundamental pillar on which the business dynamic is driven (Walsh, 2011).

The interaction of these three component results in both unique challenges and opportunities. The benefits deriving from belonging to a family business vary depending on its size and state of evolution. Likewise, this aspect provides an interesting perspective to consider when developing human resources strategies for the construction of the appropriate structures shaping each family business, lastly being reflected in the total compensation system (Walsh, 2011).

In the study of the people's behaviour in organisations, there is a relationship which feedbacks from the interaction of both parties. This study raises unique questions under the family environment spectrum. It is based on pillars that differ from other types of companies, insofar as the dynamics of this sector directly and indirectly influence organisational behaviour, more specifically, in the direction of three fundamental discrepancies that completely separate family businesses in the scope of organisational behaviour: the control of capital by the family, their participation in business management and the intimate link between family and business (Catry & Bluff, 1996).

This model is understood as a fusion of two systems or institutions, with the family system being deeply emotional and the business system being based on labour. Both systems overlap and may become independent, since they are often opposites, with dissimilar objectives and priorities (Steckerl, 2011).

Generally, empirical evidence highlights that human resources practices in family businesses are significantly less professional than those in non-family businesses. In terms of agency, these less formal and professional human resources practices are explained by the high alignment of principal-agent interests and the altruism of those linked to family businesses (Chua et al., 2009; Schulze et al., 2001).

Some studies found that family businesses have less probabilities of adopting formal human resources management practices than their non-family counterparts (Astrachan & Kolenko, 1994; de Kok et al., 2006; Reid & Adams, 2001). Others found that family ownership had no significant influence on the use of formal human resources management practices (Newman & Sheikh, 2014; Wu et al., 2014).

The situation posed encourages to think about these specific qualities of family organisations that govern certain patterns to which the behaviour determining the total compensation model must conform.

On the other hand, the total compensation system consists of the addition of variable and fixed rewards. These integrate what is known as direct rewards, to which indirect financial and non-financial reward is added, resulting in extrinsic reward. Likewise, intrinsic compensation is also taking into account, forming a total adhesion known as total remuneration or total compensation. Problems relating to compensation are considered to be one of the main challenges faced by family businesses (Michiels et al., 2017).

Generally, compensation is understood as the process of planning the factors to be included in the salary system, coordinating, organising, communicating, applying, controlling and evaluating them (Morales & Velandia, 1999). For this reason, it is evident its weight on organisational behaviour in these kinds of businesses, given that, moreover, the business's values, objectives and culture are taken into account (Lawler, 1990).

The essence of the family shapes this nature and provides a perspective which impacts on behaviour, since compensation systems are part of the process which helps employees to achieve their objectives (Cummings & Worley, 2001). This is, in turn, a key objective of total compensation, since keeping in mind that measures lead to behaviour is considered as a key element in businesses. Likewise, rewarding appropriate behaviour leads to obtain the desired results are obtained (Bussin, 2009). This emphasises the fact that a total compensation system directed towards the desired organisational behaviour of every generation of employees may be essential (Van Rooy, 2014).

Another sense which gains importance in the developed analysis is that compensation is understood as a set of rules and procedures used to established or maintain equal and fair salary structures in the organisation (Chiavenato, 2002).

The salary structure is based on the following main pillars:

- Fixed remuneration: formed by the agreed salary, called basic salary, and the voluntary salary, which can be presented under personal bonus

payments, due to job position, and extraordinary bonuses.
- Variable remuneration: section of payments which are not guaranteed, since the employee's benefits are directly linked to a framework of work effectiveness, whether this is in the short term or long term, made up of bonuses, incentives, prizes for business objectives and awards.
Total compensation is the result of the addition of fixed and variable remuneration, as well as indirect fringe benefits, payment in kind, and certain goods or products belonging to the business, such as cars, tax benefits, business services, as well as anything that consists of non-financial and intangible elements which conform to the attributes that workers receive, transcending the concept of monetary remuneration; for example, the business' organisational culture, personal development and the family business environment.
This is based on the deductive method, using the family environment as a starting point to study the behaviour of the people which results in the total compensation method, in order to pose three specific hypotheses which support the objectives of the exploratory study:
Regarding the first hypothesis and once the different types of remuneration making up total compensation are proposed, direct financial extrinsic reward, which is fixed, provides more positive results than the rest, since it is the most valued; as a result, it conditions variables depending on organisational behaviour:

Hypothesis 1: Direct financial extrinsic reward, which is fixed, provides more positive results than the rest.

In accordance with the second hypothesis, a positive correlation arises between human resources professionals and their impact on effective compensation policy development management, as well as the operation of total compensation. This is based on the fact that organisational behaviour is responsible for studying people within an organisation and how their behaviour influences performance:

Hypothesis 2: A positive correlation arises between human resources professionals and their impact on effective compensation policy development management, as well as the operation of total compensation.

By focusing on the third hypothesis, independent variables of absenteeism, rotation and productivity appear, conditioning organisational behaviour. The model presented by Robbins is used as a reference point for this approach, assuming as dependent variables at individual, group and organisation level, those conditioning the behaviour of people in the organisation, even though other independent conditioning factors are present, being integrated by the variables initially stated: rotation, absenteeism and productivity (Bowie-McCoy et al., 1993; Kruse, 1993; Peterson & Luthans, 2006; Stajkovic & Luthans, 1997):

Hypothesis 3: Independent variables of absenteeism, rotation and productivity appear, conditioning organisational behaviour.

3. Materials and Methods

The approach of this research is empirical-analytical and is considered to be an exploratory study, since it is based on the theory to cover and explain the behaviour of a particular phenomenon: total compensation in family businesses. The study is descriptive and transversal, as it aims to characterise the analysis' dimensions: family organisations, the people in said organisation, the compensation strategy and total compensation.
For that purpose, independent variables of organisational behaviour (Robbins, 1992) are analysed aiming at proving their importance and repercussion on the organisation's dependent variables: the influence of strategic management and the adoption of certain compensation policies, as well as other with a transversal impact on the management of the family business and its members.
The survey population is made up of human resources professionals from a family business in the province of Malaga, Spain.

Table 1. Population, sample and participants

	No. businesses	Population%	Sample%
Population	631	100%	
Sample	105	17%	100%
Participants	40	6%	38%

Source: authors of the paper

Table 2. Business sector of organisations

Sector	No. businesses	%
Hospitality	6	15.00%
Business and Services	8	20.00%
Metal Industry	9	22.50%
IT and Engineering	6	15.00%
Others	11	27.50%

Source: authors of the paper

Table 3. Organisation staff

No. of workers	No.	%
From 1 to 49	8	20.00%
From 50 to 250	16	40.00%
More than 250	16	40.00%

Source: authors of the paper

The method used for the research analysis is a questionnaire-style tool (Arribas, 2004; Murillo, 2006). The development, design planning and subsequent preparation is based on previous works linked to the analysis of independent variables of organisational behaviour and the state of the company itself (Bussin & Rooy, 2014; Nienaber, 2011), without forgetting previous studies on compensation practices (Hatice, 2012; Machorro et al., 2008; Madero, 2012; Sánchez-Alcaraz & Parra, 2013).
The questionnaire is designed on the basis of previous tools, such as "scales on compensation practices PRG-13 and PRE-21" (Boada-Grau et al., 2012) for the elaboration of the structure and development process of items relating to the subject of the study and, finally, the "Measure of human resource practices: psychometric properties and factorial structure of the questionnaire PRH-33" (Boada-Grau & Gil-Ripoll, 2011). A Likert scale is used to measure the items, with 1 meaning "strongly disagree" and 5 meaning "strongly agree", which is very useful for studying peoples' behaviour (Mercadé et al. 2017, 2018, 2019).

4. Results

The results regarding human resources professionals are considerably positive in general terms, taking into account that these professionals are part of the management of the family organisation and bear in mind their capacity to influence the family business on the basis of remuneration policies aligned with the strategic management. In accordance with the hypothesis two, it is therefore deduced that, effectively, human resources professionals influence the organisation. This fact favours the development and subsequent application of the practices studied under the total compensation model in family businesses, positively impacting them. Since most of the human resources professionals are part of management committees and influence the organisation, combined with the fact that compensation is aligned with the organisation's strategy, the hypothesis is verified.

Table 4. Are they a member of the Management Committee?

Answer	No.	%
Yes	24	60.00%
No	16	40.00%

Source: authors of the paper

Table 5. Do they have the ability to influence the Management Committee?

Answer	No.	%
Yes	29	72.50%
No	11	27.50%

Source: authors of the paper

Table 6. Are the HR policies aligned with the organisation's strategy?

Answer	No.	%
Yes	24	60.00%
No	16	40.00%

Source: authors of the paper

On the other hand, when it comes to evaluating the results regarding the importance of dependent variables that condition organisational behaviour, as well as its correlation with the compensation policy, interesting data are gathered. These data refer to motivation, leadership and culture, based on a qualitative item.
It is concluded that, regarding the conclusions on organisational behaviour following Robbins's model, positive dimensions of the analysed dependent variables mentioned are obtained, thus verifying the third hypothesis (as an individual through motivation, as a group through leadership and, lastly, as an organisation through culture), and its weight in order to achieve internal variables.

Table 7. In general, which factors do you think condition staff behaviour in your organisation (rotation, satisfaction, absenteeism, etc.)?

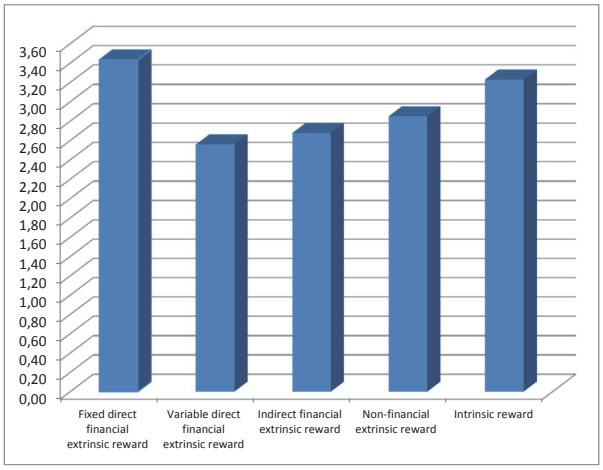
Aspect	%
Job stability	40.00%
Importance of human capital and the sense of belonging to the group	20.00%
Flexibility of hours and days, work-life balance	20.00%
Motivation	15.00%
Others (professional career, quality, etc.)	15.00%

Source: authors of the paper

Lastly, with regards to the first hypothesis, it is considered relevant to devote a section in which the results obtained are presented in more depth, given that, although the empirical evidence is enough to conclude that fixed direct financial extrinsic reward is more valued and conditions dependent variables of organisational behaviour—as stated before—other approaches presented are also fulfilled; that is to say, the analysis allowed to detect that the size of the family business, in turn, influences the determination of the preferred compensation model, since in the case of organisations with more than two hundred and fifty people, intrinsic reward is more valued than other types, thus shedding light on a new divergence in the study of this matter. As a result, the hypothesis proposed is verified following the approaches in the literature consulted before this study was conducted.

Accordingly, although the new compensation models, which are linked to this new industrial revolution formulated on massive amounts of information, lead to a commitment to human capital and the retention of talent, as they provide better results both in non-financial and intrinsic remuneration, it is deduced that these new concepts seem to go against professionals' current valuation. This is due to the fact that although organisations are increasingly supporting total compensation, there is still an important point of reference towards fixed remuneration. As a result, the first hypothesis is verified.

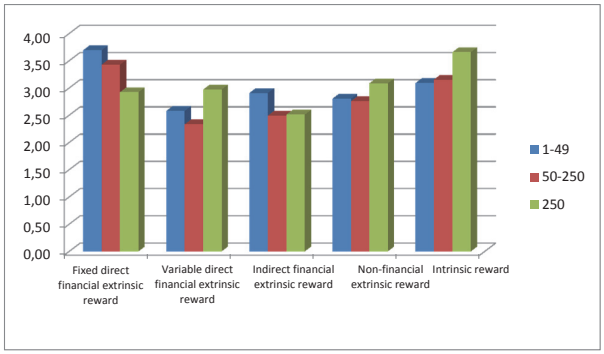
Figure 1. Remuneration levels in total compensation



Source: authors of the paper

If data are crossed with the size of the organisations, the fixed direct financial extrinsic reward is higher in organisations with 1-49 employees, where intrinsic reward exceeds them.

Figure 2. Reward levels in total compensation according to the organisation's size



Source: authors of the paper

5. Discussion and Conclusions

Firstly, based on the results, it can be stated that family businesses consider total compensation to be an interesting model, although they indicate a clear preference for fixed reward. An exception is found for businesses with more than 250 employees, where the focal point is more inclined to intrinsic reward.

In some studies (Carrasco & Sánchez, 2014; Gómez-Mejía et al., 2003) it has been discovered which characteristics define the compensation practices of family businesses compared to non-family businesses.

In general, employees' remuneration in family businesses is mainly fixed, while variable remuneration barely exists. However, it should be stated that directors who are not part of the family receive more fixed remuneration instead of variable or in kind compensation in compari-

son to family members. Nevertheless, it should be noted that some types of businesses design systems which are more orientated towards performance. In this sense, it can be concluded that Directors, both family members and non-family members, are compensated more adequately –less fixed salary and more variable remuneration (annual bonus) in companies with a higher average seniority and belonging to the industrial sector and other services. Therefore, there are no significant differences in treatment with regard to the existence or non-existence of a family link. Other employees are compensated to a greater extent on the basis of bonuses or incentives—whether in the short or long term—by family businesses with mixed management and larger size which belong to the industrial section (Carrasco & Sánchez, 2014).

Moreover, regarding family businesses, there are also studies which find differences between types of employees. For example, incentives usually have less weight on the total salary for family employees compared to non-family employees (Pérez et al., 2007) and the opposite with regards to fixed salaries. Additionally, if they are not the business owner, extra compensation given to family members are often fixed by emotional and altruistic criteria rather than their efficiency at their job. Family owners and entrepreneurs understand that this path is a way of helping family members with less resources.

Thus, one of the most significant risks of family businesses is that, with the aim of strengthening emotional and family ties, the business management considers making special compensation packages for employees who are family members, using indirect remuneration; that is, compensating family members using specific goods such as company cars, mobiles, trips, etc. This has a devastating effect on the rest of the employees' perception of equality and supposes a reason for high dissatisfaction and work disputes that damage the business's efficiency.

If family businesses are able to achieve balance, equality and professionalism when compensating their employees, regardless of their family ties, whose compensation will come through ownership shares, they will undoubtedly obtain an advantage with regards to employee satisfaction and business productivity (Carrasco & Sánchez, 2014). Non-managerial employees' salary of family owned and managed businesses is lower and have a higher fixed amount in comparison to employees working for a professionalised family business (Sánchez-Marín et al., 2010).

Secondly, a positive correlation appears between compensation and the organisation's strategy, as well as its evaluation and correction in accordance with the modifications in the business's structures and systems, as well as processes, technology and new demands that arise as a result of these changes.

Some studies highlight that one of the main aspects that should be considered when designing a current family business is its employees' compensation system, since aligning the business's performance and results with workers' needs and compensations represents a challenge (Gómez-Mejía et al., 2003).

Family businesses are characterised by having few managers and, therefore, an operating base of employees that is considerably larger in comparison to non-family businesses (Van Steel & Stunnenberg, 2006). Consequently, non-managerial employees' compensations acquire even more relevance (Carrasco & Sánchez, 2014), since both in terms of cost—which may amount to 80% of operative costs—and motivation, they are more representative of the business'reality in the design of compensation than those relating to management staff.

Finally, human resources professionals mainly form part of the organisations' management committees and have the necessary influence to decide the convenience of the application and development of compensation practices through them, with a clearly positive influence on the strategic dynamic of family businesses.

Studies on human resources practices in family businesses are particularly important if they also consider the particularities of these organisations. Generally, the orientation of said practices is conditioned by the complexity of relationships between family members, non-family members and the business (Pérez et al., 2007).

Despite the importance of human resources for the business's competitiveness, few studies have focused on the analysis of the best management practices to attract, keep and motivate the most efficient employees for family businesses (Carrasco & Sánchez, 2014). Research has been mainly carried out for large businesses and to a lesser extent for SMEs (De Kok et al., 2006); however, barely any studies are found on human capital management in family businesses, even though the importance of human resources and its management in these types of organisations are continuously highlighted (Astrachan & Kolenko, 1994; Reid & Adams, 2001). Hence, the purpose and importance of this article to discover and analyse the development of human resources in family businesses, characterising the compensation practices used in these businesses.

Ultimately, despite the improvements required—particularly by family businesses and smaller businesses, and generally by all businesses regarding compensation policies—it can be stated that the family businesses analysed show an ef-

ficient orientation in the use of their human resources (Ashtrachan & Kolenko, 1994).

As stated at the beginning of this paper, the study of total compensation in family businesses is not only of great interest, as supported by the literature discussed, but it also allows to cover small gaps that have not been filled yet and focuses on the unique problem present in this type of business with an outstanding relevant weight in the international market.

6. Limitations and Future Lines of Investigation

As in any study of this kind, a series of limitations are found in different aspects of the analysis which must be considered:

a) With regards to the method, the information outlined in the survey carried out does not encompass the maximum that such a broad and interesting topic may cover. Likewise, it is important to highlight that more research of greater analytical-statistical rigour on this topic must be proposed to complement the data presented in this study.
b) As for the sample, it is carried out on professionals in human resources departments in organisations in the city of Malaga; as a result the sample constitutes a limited sample in geographical terms. The aforementioned respondents are in charge of different functions in their respective businesses which also gives certain heterogeneity to the sample. Lastly, it is also considered relevant to highlight that it does not cover the wide range of functions involved in human resources, thus the sample does not have all of the desired perspectives on the subject.
c) Lastly, based on the sample's limitations, it would be a mistake to extrapolate the information provided by the study without considering the essential difference to be considered in different contexts. It is also essential to remember the need to pay attention and promote future studies in an increasingly changing and disruptive environment.

As a result of all of the above, future lines of investigation are proposed which serve as an addition to the conclusions and results obtained in the study conducted.

Firstly, since the family businesses' size was the main discriminatory variable regarding results, to observe the potential changes in preferences and the level of importance of the compensation package, it would be interesting to propose in the analysis a discrimination focused on more demographic terms, as for example, the worker's gender, in order to consult any possible discrepancies to be taken into account. With the importance of the incorporation of women into the business world, and specifically, to the family business, this seems to be quite topical.

Furthermore, in order to understand to what extent these specific results are transferable to other cities, it would be essential to broaden and repeat this study in other areas. In this case, the different ways of understanding total compensation would be revealed, whether on a purely cultural level or based on other determining factors.

Lastly, the examination of the underlying differences between family businesses and other business models, as regards of human resources, beyond total compensation, also generates and proposes debates and questions which may be quite attractive for future research, such as employee training in family businesses, on-site organisational behaviour or the approach of the promotion strategy.

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