

**THE ROLE OF ENTREPRENEURIAL ORIENTATION AND FAMILY  
CONTROL OF THE FIRM IN THE ECONOMIC RECOVERY OF  
UNDERPERFORMING FIRMS**

**Authors:**

**Joan-Lluís Capelleras**

**Ignacio Contín Pilart**

**Lucía Garcés-Galdeano**

**Martin Larraza-Kintana**

**ABSTRACT**

**Purpose:**

The article analyzes how entrepreneurial orientation and the family control of the company influence the performance of underachieving firms and how they contribute to economic recovery.

**Design:**

We test our predictions on a unique and representative sample of 1500 Spanish small firms in high and medium technology manufacturing and service industries. Given the nature of our dependent variable, we estimate a series of regression models to test our hypotheses. In addition, we use interaction effect where the underperforming firm's variable is interacted with family firms and EO.

**Findings:**

Our analysis contribute to further enlighten our knowledge about underperforming firms by showing that entrepreneurial orientation and family ownership have increased subsequent performance particularly for underachieving firms.

**Originality:**

The study contributes to expand the literature of underperforming firms analyzing how strategic and structural factors affects the performance of firms that face an economic downturn. We also provide some guidance for practitioners on the decision and contexts that had better serve to the economic recovery of underperforming firms.

# **EL PAPEL DE LA ORIENTACIÓN EMPRENDEDORA Y EL CONTROL FAMILIAR DE LA EMPRESA EN LA RECUPERACIÓN ECONÓMICA DE LAS EMPRESAS DE BAJO RENDIMIENTO**

## **RESUMEN**

### **Objetivo:**

El artículo analiza cómo la orientación emprendedora y el control familiar de la empresa influyen en el desempeño de las empresas con bajo rendimiento y cómo contribuyen a la recuperación económica.

### **Diseño:**

Testamos nuestras hipótesis en una muestra única y representativa de 1500 pequeñas empresas españolas en industrias de fabricación y servicios de alta y media tecnología. Dada la naturaleza de nuestra variable dependiente, estimamos una serie de modelos de regresión para probar nuestras hipótesis. Además, utilizamos el efecto de interacción donde la variable de las empresas de bajo rendimiento interactúa con las empresas familiares y la orientación emprendedora.

### **Conclusiones:**

Nuestro análisis contribuye a aclarar nuestro conocimiento sobre las empresas con bajo rendimiento al mostrar que las empresas con mayor orientación emprendedora cuya propiedad sea familiar han aumentado el rendimiento posterior de las empresas, especialmente para las empresas con bajo rendimiento.

### **Originalidad:**

El estudio contribuye a expandir la literatura de empresas con bajo rendimiento que analizan cómo los factores estratégicos y estructurales impactan en el desempeño de las empresas que enfrentan una recesión económica. También brindamos orientación a los profesionales sobre la decisión y los contextos que mejor sirven para la recuperación económica de las empresas con bajo rendimiento.

**THE ROLE OF ENTREPRENEURIAL ORIENTATION AND FAMILY  
CONTROL OF THE FIRM IN THE ECONOMIC RECOVERY OF  
UNDERPERFORMING FIRMS**

**ABSTRACT**

This article examines how entrepreneurial orientation and the family control of the company influence the economic recovery of underperforming firms. We test our predictions on a unique and representative sample of 1500 Spanish small firms in high and medium technology manufacturing and service industries. Our analysis contributes to increasing our knowledge about underperforming firms by showing that entrepreneurial orientation has a positive effect on subsequent firm performance particularly for underachieving firms. We also show that family control of the firm positively affects the performance of underperforming firms. The implications of these findings are discussed.

**Keywords:** underperforming firms, entrepreneurial orientation, family control, economic performance, small firms.

## 1. INTRODUCTION

Underperforming firms are “organisations whose performance, by any standard, falls short... yet whose existence continues, sometimes indefinitely” (Meyer and Zucker, 1989, p. 19). The phenomenon of underperforming firms has attracted considerable interest from scholars from different disciplines including evolutionary (Winter, 1964), organisational (Williamson, 1991) and behavioural economics (Bromiley & Papenhausen, 2003) as well as sociology (Carroll, 1993; Ruef, 2003).

Declining firms have been an important part of the scholarly agenda also in strategic management. In particular, the topic of managerial response and organisational adaptation to firms experiencing performance deterioration has attracted particular interest (Barker & Barr, 2002; Castrogiovanni, 1991; Filatotchev, Buck, & Zhukov, 2000; McKinley, 1993). The main focus has been on the management’s reaction to decline, the problemistic search for options to achieve turnaround, and the risks inherent in those options (e.g., Chakrabarti, Singh, and Mahmood 2007; Firth, Fung and Rui, 2006). In these studies, the correlation between performance and managerial decisions such as strategic change is modelled uniformly across firms and with few contingencies. Little is known, however, about how those decisions influence subsequent performance, and consequently to what extent such change is effective in overcoming the negative situation (Chakrabarti, Singh and Mahmood 2007; Hatch and Dyer, 2004). Likewise, no studies have clearly established the characteristics of the organisations (e.g., ownership type), which may best serve the recovery goal. As such, past research on underperforming firms has focused on how firms react to underperformance, leaving relatively unattended the analysis of those factors that favour economic turnaround. In this paper, we seek to further our knowledge on underperforming firms by analysing for the first time two factors that may be important in understanding the firm’s ability to revert a negative situation: entrepreneurial orientation and the family control of the company.

While these two factors are important in explaining firm performance (see e.g., Anderson and Reeb, 2003; Rauch et al., 2009), it is not clear how they can contribute to the economic performance of underperforming firms. In the case of entrepreneurial orientation (EO), defined as the strategy-making practices used to identify and pursue opportunities

arising in the environment (Dess & Lumpkin 2005), many scholars have noted that a firm's EO, despite the fact that it may introduce considerable risks to firms and is fraught with difficulties (Abrahamson, 1991; March & Olsen, 1976), could lead to performance advantages, long-term competitive advantage, and firm growth (Damanpour, 1991; Lumpkin and Dess, 1996; Rauch, 2009; Zahra et al., 1999), as it encourages the innovative behaviour of firms and their adjustment to customer needs (Huang and Wang, 2011; Kollmann and Stöckmann, 2012 Tang, Chen, and Jin, 2015). Previous studies have also shown that EO leads to better performance under environmental hostility (Covin & Slevin, 1989; Covin & Covin, 1990; Lumpkin and Dess, 2001), and in dynamic, unpredictable, environments (Casillas et al., 2011). However, in spite of its expected benefits, no study has looked at the role of EO in favouring the economic turnaround of underperforming firms. In this study we argue that EO will have a more pronounced effect on performance for these firms, mainly because it encourages them to identify and exploit opportunities, to increase their responsiveness to external changes and their capacity to innovate, and to mobilise and fully exploit their resources.

Firm ownership may also influence the likelihood of an economic turnaround. A decline in performance is likely to trigger change within firms in an attempt to find a way to escape from the negative spiral (Cyert and March, 1963). Such changes may include, for example, the exploration of new strategic alternatives or some sort of organisational restructuring, which may come up against internal resistance from existing power structures that then lead to internal conflicts among various constituencies within the company and thus, paralyse the change process (Dougherty & Hardy, 1996; Shane, Venkataraman, & MacMillan, 1995). In this context, having a powerful shareholder at the helm may reduce goal conflict and facilitate decision-making and change. This may be the case for family controlled firms (i.e., family firms). Families are one of the most common types of firm owners (Gomez-Mejia et al., 2011). There is ample evidence indicating that controlling families in family firms hold a strong commitment and identification with the firm as well as a long-term view that seeks to guarantee the survival of the business and its transfer to the next generation (Berrone et al., 2012). Consistent with this, it has been observed that controlling families are more willing to accept poorer performance, and to resist short-term urges to sell or liquidate (DeTienne et al., 2013; Zellweger & Astrachan, 2008; Zellweger,

Kellermanns, Chrisman, & Chua, 2012). In this study, we suggest that having a controlling family at the helm (i.e., being a family firm) may help the firm to navigate bad times for a longer period of time and therefore explore and exhaust all possible forms of recovery from bad performance. Despite the above, there is, as yet, surprisingly limited evidence on the ability of family businesses to cope with events that require them to be resilient (Revilla et al., 2016).

We seek to fill this gap and contribute to the literature on underperforming firms by examining the impact of EO and family control of the firm on the economic recovery of these companies. Grounded in previous literature on strategic management, entrepreneurship, agency theory, and the socioemotional wealth (SEW) approach, in this paper, we argue that while EO and family control may have a positive impact on firm performance, they are particularly important to improve the performance of underperforming firms. In doing so, the study contributes to expanding the literature on underperforming firms analysing how specific actions and firm characteristics impact the performance of firms facing economic downturn. We also provide some guidance for practitioners on the decision and contexts that better serve the economic recovery of underperforming firms.

We test our predictions on a unique representative sample of 1500 Spanish small firms in high and medium technology manufacturing and service industries. This group of firms is particularly suitable to study the influence of EO and family control on the economic recovery of underperforming firms, first because entrepreneurial and innovation behaviour is likely to be more salient for high and medium technology firms. These businesses usually face technological changes and thus need to develop strategies geared towards change and innovation (Cloudt et al., 2006; Yu et al., 2018). Also, the influence of controlling owners (e.g., a family) on firms' strategic decision-making process is likely to be more noticeable in small firms. Thus, those decisions will more closely match the preferences of such an owner. Additionally, the capacity of a single actor to financially support the firm, an aspect that is vital in the case of underperforming firms, is bigger in small firms where the absolute value of the necessary investment is smaller. Finally, Spain provides an interesting case for a study of the factors contributing to the economic recovery of underperforming firms, since the period covered by our analysis was characterised by weak general economic conditions and a significant number of firms experiencing declining performance.

The paper is organised as follows: in the next section, we discuss the implications of entrepreneurial orientation and family control of the firm on the economic performance of underachieving firms, and develop testable hypotheses. Section three describes the sample and the measurement of variables. Section four provides the results of the empirical analyses conducted to test the hypotheses. The final section discusses the results and summarises our findings.

## **2. THEORETICAL FRAMEWORK AND HYPOTHESES**

### ***2.1. The influence of entrepreneurial orientation***

Strategy making practises incorporate planning, analysis, and decision making, together with many other aspects of a firm's culture, value system, and mission (Hart, 1992). In this sense, EO describes firm level strategic processes that businesses use to create competitive advantage by using entrepreneurial initiatives to identify and exploit opportunities. The exploitation of these opportunities requires a recombination of resources to make it possible to generate a profit. As such, EO reflects how a firm operates rather than what it does (Lumpkin and Dess, 1996). In this vein, Miller (1983) argues that an entrepreneurial firm "engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with "proactive" innovations, beating competitors to the punch". This suggests -and several researchers agreed to this- that EO is a combination of three dimensions: innovativeness, proactiveness, and risk-taking (Covin and Slevin, 1989, Namen and Slevin, 1993, Wiklund, 1999, Zahra and Covin, 1995). Other authors, like Lumpkin and Dess (1996) and Lumpkin et al., (2009), propose the inclusion of autonomy and competitive aggressiveness as critical dimensions of EO. Based on Lumpkin and Dess' (1996) dimensions of EO, entrepreneurial orientation applied to small businesses refers to how these five dimensions -innovativeness, proactiveness, risk-taking, competitive aggressiveness, and autonomy- collectively enable small firms to discover and exploit opportunities.

The strategic management literature has long noted that EO is associated with superior firm performance and that the strength of this relationship depends on the presence of business and environmental factors (e.g., Lumpkin and Dess, 1996, 2001; Rauch et al., 2009; Wales et al., 2013; Wiklund and Shepherd, 2003). Here, we argue that EO can be

particularly beneficial for underperforming firms. This is in line with the view, derived from the behavioural theory of the firm (Cyert & March, 1963; Greve, 2003) and the related prospect theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981), that firms and managers experiencing subpar performance are prone to try new courses of action and to accept the risk inherent to novel strategies. Although risky actions may exacerbate their poor performance (Fiegenbaum and Thomas, 1988), some specific strategic actions are likely to produce organisational recoveries (Bowman, 1982; Morrow et al., 2007). Our suggestion is that EO is a particular strategic approach that can be adopted to address and resolve poor performance.

More specifically, we contend that the positive impact of EO on performance will be stronger for underperforming firms and will assist them in the process of recovering from poor performance. There are several reasons to expect this to be the case. First, EO is likely to lead to better performance under environmental hostility (Covin and Covin, 1990 and Covin and Slevin, 1999) and under dynamic environments (Casillas et al., 2011) as it helps firms to identify and exploit opportunities under difficult circumstances, like poor performance. In fact, a firm that rates high in EO helps managers and employees to focus on industry changes or demand, and allows them to explore the possibilities offered by new technologies. Thus, businesses with EO are more prone to focusing their attention and efforts towards discovering and exploiting opportunities, which, given adequate access to resources, will translate into improved performance for the underperforming firm.

Second, EO may be particularly useful for underperforming firms in mobilising and exploiting firm resources. Since EO provides a clear direction for entrepreneurial efforts (Wiklund & Shepherd, 2005), it will likely help identify the resources necessary to support these efforts (Chirico et al., 2011). In this vein, underperforming firms with high levels of EO will be more deliberate in using and combining underutilised resources. They will also be more likely to look for new business models that can be applied to address their current needs.

Third, specific actions related to innovativeness, one of the major components of an entrepreneurial posture, are also likely to have a stronger positive effect on the subsequent performance of underperforming firms. As such, it is in negative contexts where new initiatives in the form of new products or markets may help the firm to abandon the failing



business lines and to find new ones that may feed the firm's finances and overcome the negative situation. In fact, firms in decline are more likely than their higher-performing rivals to modify their product or service offerings (Ketchen & Palmer, 1999).

Finally, the proactiveness that typically characterises EO may also play an important role in the turnaround of underperforming firms. In fact, creating a turnaround often requires proactive actions that are difficult to imitate by competitors (Morrow et al., 2007), which may enable them to take advantage of potential emerging opportunities. In addition, a very proactive strategic orientation will be particularly beneficial for underperforming firms as it allows these firms to be more responsive to externally acquired knowledge (Liao et al., 2003) and to intensify their information utilisation efforts (Keh et al., 2007), which ultimately may enhance their performance.

It is necessary to acknowledge that engaging in EO activities is not free of risk. The discovery and exploitation of opportunities entails venturing into the unfamiliar and committing substantial resources to firms in ambiguous settings (Miller, 1983), in a context where such resources are limited. Such limitation may be particularly salient for small underperforming firms. However, in spite of this, if successful, the impact of EO on underperforming firms will be more noticeable than in firms with already good performance, since the former may imply a shift from failing organisations with losses to profitable ones. Thus, our first hypothesis is as follows:

***Hypothesis 1:*** Entrepreneurial orientation will be more beneficial for underperforming firms.

## ***2.2. The influence of controlling families***

Firm ownership may be a factor that can have an effect on firm performance (Thomsen and Pedersen, 2000). As advanced in the introduction, firms tend to look for alternatives to overcome difficult economic situations (Cyert and March, 1963). The existing alternatives, which may include for example a company restructuring or the decision to look for new markets, may engender internal conflicts among various constituencies within the company and paralyse the change process (Dougherty & Hardy, 1996; Shane, Venkataraman, & MacMillan, 1995). In this context, having a controlling shareholder at the helm may reduce

goal conflict and facilitate decision-making and change. According to agency theory (Jensen & Meckling, 1976), agency costs generally arise due to the separation of ownership and management, because of the different preferences and information asymmetries between the owner (principal) and the employed manager (agent). In the case of family firms, goal conflict between owners and managers would be weaker. Controlling families both own significant percentages of firm stocks and are involved in management activities through their presence on the board of directors or in the top management team (Sciascia, Mazzola & Chirico, 2013). Family members are more likely to share goals, which, to a certain extent, avoid the need for incentives (Carney, 2005). This goal alignment reduces the internal conflicts that are likely to arise when firms are underperforming (Dougherty & Hardy, 1996), favouring a quicker decision making process and the implementation of -sometimes extreme- actions aimed at overcoming the negative situation. Thus, the presence of a single controlling shareholder may be an advantage for underperforming firms.

Completing this argument, family control of a firm brings additional advantages to underperforming firms. One of the main characteristics of family-controlled firms is that their decisions are strongly influenced by their desire to protect their socio emotional wealth (SEW) (Gomez-Mejia et al., 2007; Gomez-Mejia et al., 2010). SEW is the stock of affect-related value that the family has invested in the firm (Berrone et al., 2010) and is a composite of different factors such as control of the business, identification of the family members with the business, the emotional attachment of family members, or the renewal of family bonds through dynastic succession (Berrone et al., 2012). Hence, inherent in family control of the firm is a strong commitment and identification with the firm as well as a long-term view that seeks to guarantee the survival of the business and its transfer to the next generation. There are reasons to expect that this commitment and identification, and what this means for the long-term survival of the controlling family, helps underperforming family firms to recover. First, it has to be noted that while some authors have argued that controlling families may exploit their power position to expropriate minority shareholders and attend family goals (Schulze et al., 2001; Schulze et al., 2003), other research has suggested that when performance is below the desired levels, family goals and economic goals will tend to converge (Chrisman and Patel, 2012). This renewed attention to economic goals is not a surprise if we consider that the family's financial wealth is closely tied to that of the firm,

and that therefore the family may lose all its financial and SEW if the firm fails (Gomez-Mejia et al., 2007).

Second, and linked to the previous argument, controlling family members will show greater interest than shareholders in non-family companies to save the company and protect their SEW. As noted by Berrone et al., (2012) the key here is that controlling families are “more likely to bear the cost and uncertainty involved in pursuing certain actions, driven by a belief that the risks that such actions entail are counterbalanced by noneconomic benefits rather than potential financial gains”. In this vein, there is evidence indicating that controlling families are more willing to accept lower performance, and to resist short-term urges to sell or liquidate (DeTienne et al., 2013; Zellweger & Astrachan, 2008; Zellweger, Kellermanns, Chrisman, & Chua, 2012). This patient capital, that is likely to sacrifice short-term performance to guarantee control and long-term survival of the firm, is an asset of family firms as it allows the firm to navigate bad times for a longer period of time and therefore explore and exhaust all possible ways to recover. A third and related argument is that this commitment with the firm leads controlling families to “actively intermingle business and family resources” (Haynes, Walker, Rowe, & Hong, 1999, p. 238) and invest all the necessary resources at their disposal to support the firm and help recovery. In this vein, Lins et al. (2013) observed that families controlling multiple firms take resources from good performing firms under their control to support other firms experiencing financial trouble. Thus underperforming family firms may have more resources than non-family counterparts to overcome negative situations.

Finally, this commitment of the controlling family with the long-term success of the firm may be valued by the owners of key assets, as it may be interpreted as a signal that the family at the helm will do everything in its power to overcome the negative situation. This “trust” by external resource providers may improve the access to necessary resources to family controlled underperforming firms favouring their chances to recuperate economic performance. Taking all the previous arguments into account, we advance the following hypothesis:

***Hypothesis 2:*** Family control of the firm will be more beneficial for underperforming firms.

### **3. METHODOLOGY**

#### ***3.1. Data collection***

The hypotheses are tested on a unique representative sample of Spanish small firms in high and medium technology manufacturing and service industries. The population of Spanish small firms was initially identified using the SABI database, the most comprehensive dataset of incorporated firms in Spain. First, high and medium-high technology sectors (in both manufacturing and services industries) were identified using the classification created by the Organisation for Economic Co-operation and Development (OECD) and the “*Instituto Nacional de Estadística*” (INE). Based on this industry classification, we searched for firms with between 10 and 50 employees whose primary or secondary activity code corresponded to one of those sectors. In addition, we removed the few firms that were not incorporated businesses or limited partnerships (Wiklund et al., 2009), obtaining a total population of 10,565 firms. A representative sample of 1500 firms was selected to guarantee industry and legal form representativeness (sampling error was  $\pm 2.34\%$  with a confidence level of 95%). Firms were randomly selected within each industry segment for a phone interview conducted between November and December of 2010 by a firm specialised in market studies with ample experience in conducting similar research oriented interviews.

Fifteen hundred firms agreed to participate and responded to the questionnaire (14.20% response rate). Missing values reduced our effective sample to 1314 for multivariate analyses (12.43% effective response rate). We found no differences in terms of size or industry between those that participated and those that refused to do so. The survey was answered by the firms’ managers.

Thus, primary data was obtained from the survey questionnaire answered by the managers during the interviews. This was the core source of information to measure several key constructs of our model. This data was complemented with some secondary information obtained from the SABI database, as described in the next section.

### ***3.2. Variable measurement***

#### *Dependent variable*

*Firm performance.* In this study, firm performance is measured by Return on Assets (ROA), which is an indicator of how profitable a company is in relation to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. ROA is calculated by dividing a company's annual earnings by its total assets in 2010. Secondary information to compute the firm's ROA was obtained from the previously cited SABI database. To check the robustness of our results, we also used an alternative, more market-oriented measure of firm performance, which is sales growth expectation (in percentages). This variable takes positive (negative) values when the survey respondent expects an increase (decrease) of sales in the following year.

#### *Independent variables*

*Entrepreneurial orientation (EO)* . It is measured using well-established scales. Specifically, we employed (see appendix) 13 items proposed and employed by Covin and Slevin (1989), Lumpkin and Dess (1996) and Lumpkin and Dess (2001). As originally proposed, all items were measured in a seven-point Likert scale. These authors considered items to approach different dimensions of the EO concept, namely: risk taking, innovativeness, proactiveness, autonomy, and aggressiveness. There has been a long debate in the EO literature on the unidimensionality or multidimensionality of the construct (Wales et al., 2013; Covin and Wales, 2012). The exhaustive review conducted by Wales and colleagues (2013: 375) concurs that “the choice between unidimensional versus multidimensional conceptualisations should be driven by the research question being investigated (Wales et al., 2013: 375)” In our case, the unidimensional conceptualisation provides a better fit because our research question is about how EO can have a global impact on the recovery of underperforming firms. This view was further confirmed by the empirical analyses we conducted. We used an exploratory factor analysis to confirm that a single factor that made up the EO construct was properly identified. Cronbach's alpha for this construct is 0.70. As expected, the factor analysis revealed the existence of one factor that explained 64.1% of total variance. The single factor represents EO as the average value of the 13 items.

This measure ranges between one and seven. The greater its value, the greater the entrepreneurial orientation of the firm. Appendix I shows the list of items included in this measure as well as the type of scale used. It is worth noting that the statistical test shows that this variable is normally distributed.

*Family ownership* indicates the percentage of family ownership in the firm. Consistent with previous studies (e.g., Gomez-Mejia et al. 2001; Gomez-Mejia et al. 2010) and taking into account the size of businesses in our sample, a firm is considered a family firm when the respondent confirms that there is a family that directly or indirectly controls more than 50% of the company's shares and at least one family member is on the board of directors. This variable is a widely used proxy for family control and influence on the firm as it is related to the power and legitimacy of the family to impose its own agenda (Chrisman et al., 2012) and to the family goals associated with participation in management (Revilla et al., 2016). In this vein, previous research has considered that SEW would increase with family ownership, and therefore firm control (Anderson & Reeb, 2003a; Miller et al., 2012, Gomez-Mejia et al., 2007).

*Under performing.* A firm's past performance is measured by net profits, also referred to as the "bottom line" (Smith, N., Smith, V., & Verner, M., 2006; Waldman, Ramirez, House, and Puranam, 2001). This is a measure of the profitability of a venture after accounting for all costs. In accounting, net profit is equal to the gross profit minus overheads, minus interest payable for a given time period. In our analysis, we measure this variable as a dummy taking the value of one when the mean value of net profit in the previous three years (2007-2008-2009) is less than zero, and zero otherwise. It therefore marks whether the firm is underperforming or not. This information about net profits was collected from the SABI database.

*Control variables.* Firm performance may be influenced by several other factors, leading us to include a series of control variables in the estimations. *Firm size* captured the number of a firm's employees through a question in the survey instrument. This was measured as a dummy variable taking the value of one when the firm has more than 20 employees, and zero when the firm has between 10 and 20 employees (Correa et al., 2007; OECD, 1995). *Environmental dynamism.* We asked respondents about the obsolescence of

the product as proxy, where consumer preferences and the organisations' products change over time. We used a five-point Likert scale (1=totally disagree, 5=totally agree), according to which they assessed whether the products/services and the technology they offered could become obsolete in the business sector in which they compete. *Intensity of competition*. Given that the firm's decision to engage in EO may be influenced by the competitive environment (Zahra, 1996), we included a control variable labelled intensity of competition, and used a five-point Likert scale where CEOs assessed whether the facility is considered to be operating under very intense competition. *Absorptive capacity*. Based on the important role of a firm's absorptive capacity in acquiring, assimilating, transforming, and exploiting new knowledge (Wales et al., 2013), which may be key to recovering from underperformance, we decided to include it as a control variable. We employed the nine-item scale proposed and validated by Cadiz and colleagues (2009), which takes into account the assessment, assimilation, and application elements of the absorptive capacity construct (Zahra and George, 2002). Responses were provided in a five-point Likert scale. All nine responses were loaded in a single factor in exploratory and confirmatory factor analyses. The Cronbach's alpha for these nine items was 0.85, showing high internal reliability. The value of the firm's absorptive capacity was computed as the average value of all the responses to the cited nine items. *High-tech manufacturing* is a dummy variable that takes the value one when the firm belongs to a high technology manufacturing sector and zero when it belongs to a medium-high technology-manufacturing sector. *High-tech service* was used as a dummy variable that takes value one when the firm belongs to a high technology service sector and zero when it belongs to a medium-high technology service sector. *Export* is a variable that collects the percentage of its sales that come from the export activity in intervals. The first interval includes up to 5% of sales, the second from six to 15%, the third between 16 and 25%, the fourth between 26 and 50%, the fifth between 51 and 75%, and the sixth between 76 and 100%. Firm age is computed as the difference between 2010, the year the survey was applied, and the year the facility or plant was founded. *Patent* is a variable that measures the number of patents registered in the last three years. Finally, *Manager's age* is a variable that measures the age of the firm manager.

As described above, independent and dependent variables were measured through different sources and using different methods to minimise the potential threat of common

method variance. Nonetheless, to further reduce any remaining concern about a potential common method bias problem, we ran, as an additional test, a single factor analysis on the survey instrument variables (Podsakoff et al. 2003). The results reject that all the variables have significant loadings on a single factor; that is, they reject the existence of a single factor capturing a significant portion of total variance. Thus, we are confident that our conclusions are free of a common method variance bias.

### ***3.3. Estimation procedure***

Given the quantitative nature of our dependent variable, we estimated a series of OLS regression models to test our hypotheses. We began with a model including only control variables. We then ran two models separately adding two interaction terms where the underperforming firm variable is interacted with EO and family ownership.

We checked the main assumptions underlying the classical linear regression model, under which OLS gives the best, linear, unbiased estimators (Kennedy, 2003). In doing so, we decided to use robust standard errors in all our multivariate estimations to mitigate concerns about heteroscedasticity. Continuous variables were also centred in order to avoid multicollinearity. In fact, variance inflation factors were computed and the results indicated that our estimations are free of any multicollinearity problems (Hair et al., 2009).

## **4. RESULTS**

The means, standard deviations, and zero-order correlations are shown in Table 1. The mean value of entrepreneurial orientation is 3.81 (on a scale of 1 to 7), while that of the family ownership is 39.58% of shares. As shown in Table 1, the relationship between EO and subsequent performance of firms is positive and significant. It is also important to note that the relationship between underperformance and subsequent performance is also highly significant and negative. Multivariate analyses are necessary to provide a more qualified test of our hypotheses.

[Table 1 about here]



Table 2 shows the results of the OLS regression estimated to test hypotheses 1 and 2. This first column shows Model 1, where only control variables are included. Entrepreneurial orientation, dynamism, absorptive capacity and industrial high tech sector have a positive and significant impact on subsequent performance. This indicates that firms with high EO, high environmental dynamism, with more absorptive capacity and competing in industrial high tech sectors will have better subsequent performance. The variable indicating whether or not the firm was underperforming in the past shows a negative significant coefficient, indicating that bad (good) past performers have lower (greater) current performance. Under-resourced firms have a negative and significant impact on subsequent performance. As could be expected, shortcomings in capital availability will also have less successful subsequent performance.

[Table 2 about here]

The second column of Table 2 (Model 2) shows the results of the OLS regression estimated to test Hypothesis 1. The interaction effect between EO and the variable indicating past bad performance is positive and significant, thus providing support for Hypothesis 1, which means that the positive effect of EO on subsequent performance will be stronger for underperforming firms. This effect is presented in Figure 1. As shown, EO improves the performance of all firms, but this effect (slope) is stronger in the case of underperforming firms. Interestingly, while the effect is positive and significant the figure suggests that the improvement in subsequent performance is not big enough to reach positive results. At least not during the time frame (one year) considered in this study. In any case, the results suggest that while, in the short term, EO may not achieve full recovery it may build capabilities that may lead to better than aspired performance in the long term.

[Figure 1 about here]

The third column of Table 2 (Model 3) shows the results of the OLS regression estimated to test Hypothesis 2. As shown, the interaction effect between ownership and the indicator of bad past performance is positive and significant, thus providing support for Hypothesis 2. Hence, for underperforming firms, family ownership will be even more beneficial than for those firms with a good past performance. Figure 2 displays this

interaction. For underperforming firms, family ownership helps them to increase the subsequent performance level.

[Figure 2 about here]

Finally, we test the robustness of our findings estimating the same models using a more market-oriented measure of performance, which is sales growth expectation (in percentage). Results are shown in Table 3. We found that both EO and family control have a positive impact on this growth measure of underperforming firms. Therefore, our findings remain robust to the inclusion of this alternative dependent variable.

[Table 3 about here]

## **5. DISCUSSION**

In this article, we sought to contribute to our understanding of underperforming firms by examining how entrepreneurial orientation and family control of the firm impact subsequent firm performance depending on whether or not the firm was underperforming. With this research, we have gone beyond previous studies of underperforming firms that looked at the strategic actions pursued by these firms, and have investigated the extent to which those decisions and firm characteristics contribute to economic recovery. Results suggest that, at least in the short term, there is strong performance inertia. Past performance is a significant determinant of future (short term) performance. As observed, underperforming firms show systematically lower average performance in the future. However, consistent with our view, they also show that while the recent past is a heavy weight, manager's actions and decisions may be instrumental in changing this trend. In this vein, we have proven that decisions linked with EO and those referred to the organisation's ownership structure may help the firm in its quest for improvement.

An entrepreneurial orientation may be particularly helpful for underachieving firms in their efforts to overcome the negative situation. Such an orientation is likely to help them to seek out new opportunities, increase their focus on developing new innovative products and services, and use their underutilised resources more effectively. However, the estimations showed that while EO in underperforming firms is positively related to performance, it was not enough to reach positive performance in the short term (one year).

Nevertheless, it is interesting to note that this may highlight a path that could be followed in the future. Particularly, if we take into account that our results have shown that EO also has a positive effect on the performance of firms with positive past performance. This is consistent with the positive influence of EO on performance showed in the EO literature (Rauch et al., 2009). In sum, besides having confirmed the positive effect of EO on the performance of underperforming firms, our results hold practical implications since they strongly suggest that taking the steps to build an entrepreneurial organisation may be a valid, while not easy nor immediate, path towards transforming a failing organisation into a winning enterprise.

Family ownership is another factor that has been revealed to have some relevance for underperforming firms. We have argued that in situations of economic downturn, when controversial decisions may need to be taken, having a powerful shareholder and owner-manager goal alignment may provide the necessary speed in the decision making process. Controlling families in family firms may be a clear example of such a dominant shareholder. The high percentage of stock and the strong involvement in management activities of such families favours a decrease in agency costs. In addition, we have noted that families have long term goals and a strong commitment with the organisation, which coupled with the tight connection between family and firm financial wealth, may help the company to feed key asset holders' trust that the company and its owners and managers will do whatever is necessary to overcome the situation. This may be a further asset in a context of performance trouble. Evidence seems to be consistent with this expectation, as family ownership has been found to be a positive factor for underperforming firms. This result can also be seen as a contribution to the old debate in family firm literature concerning the performance advantages or disadvantages of family control of firms (Anderson and Reeb, 2003; Villalonga and Amit, 2006).

Taken together, our findings suggest that a strong commitment to the future of the firm appears to be beneficial for the economic recovery of underperforming businesses. On the one hand, those firms with an EO, which tend to be innovation-oriented, risk-taking and proactive, will be willing to persist with the hope of achieving their goals when they find new opportunities that are attractive (Khelil, 2016). On the other hand, family firms are also more

likely to identify strongly with the firm and, thus, the controlling family will put a greater effort into firm recovery.

### *5.1. Limitations and future research*

Like other studies, our research is not free of limitations, and this introduces several future research opportunities. Firstly, the data are cross-sectional. Cross-sectional studies hamper inferences about causal relationships or effects over time. To tackle this issue and in order to provide a more thorough test of our framework, which implied a causal relationship between the variables, our dependent variable captures the performance of the firm in 2010, one year after the end of the three-year period used to measure whether or not the firm was underperforming, and also the period of time in which the entrepreneurial orientation and the ownership structure of the firm was measured. Nonetheless, it would be interesting to see what would happen in a longer time frame (e.g., three years or longer).

Secondly, it should be noted that, while our research design considers EO as a unidimensional construct (Covin and Wales, 2012), it could also be conceptualised as a multidimensional construct (Wales et al., 2013). We believe that future research should also explore potential differences between underperforming firms across the different dimensions in which EO has an impact. Although different in nature (Covin and Wales, 2012), the unidimensional and multidimensional approaches could be used to complement each other and enable a better understanding of the determinants and consequences of EO.

Thirdly, an increasing number of scholars have argued that family firms do not constitute a homogeneous population (Salvato, 2004; Gomez-Mejia et al., 2011) but in fact differ on a range of dimensions (Klein et al., 2005). The family SEW and ultimately the goals and aspirations of controlling families may vary with aspects such as the generation that leads the firm (e.g., founder firm versus cousin consortia) or with the presence of non-family members in the board (Le Breton-Miller and Miller, 2013). These differences may lead to differences in reactions to the negative performance situation and, obviously, to different subsequent performance. While we lack the necessary information to enable further differentiation between different types of family firms, we make a call for future research on this topic.

Fourthly, it is worth noting that our results have been obtained in a sample of small businesses (less than 50 employees) where “all revolves” around the entrepreneur (Mintzberg, 1984). Hence, some caution about the generalizability of the results is in order, as larger firms may somehow compensate the disadvantage of their lack of flexibility with their greater access to other resources that may also be important to overcome a negative performance situation. Additionally, our sample consists entirely of Spanish firms, thus, any inference to other countries must be made with caution. Country-specific cultural and traditional influences may reduce the generalizability of our findings.

Finally, data collection also captured a unique environmental context of economic and financial crisis. This added further difficulty to the already challenging environment of firms in the high tech and medium-high tech industries, characterised by high degrees of dynamicity and stiff competition. This particularly harsh context may have reduced the latitude of action of firms, as well as influenced the impact of their decisions on subsequent firm performance. We extend a call to other researchers to explore the issues analysed here to multiple economic, social and cultural contexts, as well as to time periods absent of any global economic crisis.

In conclusion, the economic performance of small firms in the short term is strongly driven by past performance. However, firm owners and managers have a say in the immediate future of the business as underperforming firms will be better off taking steps to increase their entrepreneurial orientation, as well as under the guidance of a controlling family.

## **6. REFERENCES**

Abrahamson, E. (1991). Managerial fads and fashions: The diffusion and rejection of innovations. *Academy of Management Review*, 16, 586-612.

Anderson, R.C. & Reeb, D.M. (2003). Founding-family ownership and firm performance: evidence from the s&p 500. *Journal of Finance*, 58, 1301– 1328.

Barker III, V.L. & Barr, P.S., (2002). Linking top manager attributions to strategic reorientation in declining firms attempting turnarounds. *Journal of Business Research*, 55 (12), 963-979

Berrone, P., Cruz, C., & Gomez-Mejia, L. R. (2012). Socioemotional Wealth in Family Firms: Theoretical Dimensions, Assessment Approaches, and Agenda for Future Research. *Family Business Review*, 25(3), 258-279.

Berrone, P., Cruz, C., Gomez-Mejia, L.R. & Larraza-Kintana, M. (2010). Socioemotional wealth and corporate responses to institutional pressures: do family-controlled firms pollute less? *Administrative Science Quarterly*, 55, 82–113

Bowman, E.H. (1982). Risk seeking by troubled firms. *Sloan Management Review*, 23(4), 33-42.

Bromiley P, Papenhausen C. (2003). Assumptions of rationality and equilibrium in strategy research: The limits of traditional economic analysis. *Strategic Organization*, 1(4), 413-437.

Cadiz, D, Sawyer, J.E., Griffith, T.L., (2009). Developing and validating field measurement scales for absorptive capacity and experienced community of practice. *Educational and Psychological Measurement*, 69(6), 1035-1058.

Carney, M. (2005). Corporate governance and competitive advantage in family-controlled firms. *Entrepreneurship Theory and Practice*, 29 (3), 249-265.

Carroll, GR. (1993). A sociological view on why firms differ. *Strategic Management Journal*, 14(4), 237-249.

Casillas, J.C., Moreno, A.M., Barbero, J.L. (2011). Entrepreneurial orientation of family firms: Family and environmental dimensions. *Journal of Family Business Strategy*, 2(1), 90-100.

Castrogiovanni, G. (1991). Environmental munificence: A theoretical assessment. *Academy of Management Review*, 16, 542-565.

Chakrabarti A, Singh K, Mahmood I. (2007). Diversification and performance: evidence from East Asian firms. *Strategic Management Journal*, 28 (2), 101-120.

Chirico, F., Sirmon, D., Sciascia, S., & Mazzola, P. (2011). Resource orchestration in family firms: Investigating how entrepreneurial orientation, generational involvement, and participative strategy affect performance. *Strategic Entrepreneurship Journal*, 5(4), 307-326.

Chrisman, J.J. & Patel, P.C. (2012). Variations in R&D investments of family and nonfamily firms: Behavioral agency and myopic loss aversion perspectives. *Academy of Management Journal*, 55(4), 976-997.

Cloodt, M., Hagedoorn, J., & Van Kranenburg, H. (2006). Mergers and acquisitions: Their effect on the innovative performance of companies in high-tech industries. *Research Policy*, 35(5), 642-654.

Correa, P., Dayoub, M., Francisco, M. (2007). *Identifying Supply-side Constraints to Export Performance in Ecuador: An Exercise with Investment Climate Survey Data*. World Bank Publications.

Covin, J.G. & Covin, T. (1990). Competitive aggressiveness, environmental context, and small firm performance. *Entrepreneurship, Theory and Practice*, 14(4), 35-50.

Covin, J.G. & Slevin, D.P. (1989). Strategic management of small firms in hostile benign environments. *Strategic Management Journal*, 10, 75-87.

Covin, J.G., & Wales, W.J., (2012). The measurement of entrepreneurial orientation. *Entrepreneurship Theory and Practice*, 36(4), 677-702.

Cyert, R. M., J. G. March. 1963/1992. *A Behavioral Theory of the Firm*. 2<sup>nd</sup> ed. Prentice Hall, Englewood Cliffs, NJ.

Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of Management Journal*, 34, 555-590.

Dess, G.G. & Lumpkin, G.T. (2005). The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship. *Academy of Management Executive*, 19(1), 147-156.

DeTienne, D.R. & Chirico, F., (2013). Exit strategies in family firms: how socioemotional wealth drives the threshold of performance. *Entrepreneurship Theory and Practice*. 37 (6), 1297-1318.

Dougherty, D., & Hardy, C. (1996). Sustained product innovation in large, mature organizations: Overcoming innovation-to-organization problems. *Academy of Management Journal*, 39, 1120-1153.

Fiegenbaum, A, & Thomas, H. (1988). Attitudes toward risk and the risk-return paradox: prospect theory explanations. *Academy of Management Journal*, 31(1), 85-106.

Filatotchev, I., Buck, T., & Zhukov, V. (2000). Downsizing in privatized firms in Russia, Ukraine, and Belarus. *Academy of Management Journal*, 43, 286-304.

Firth M, Fung PMY, Rui OM. (2006). Firm performance, governance structure, and top management turnover in a transitional economy. *Journal of Management Studies*, 43(6), 1289-1330.

Gomez-Mejia, L.R., Haynes, K.T., Núñez-Nickel, M., Jacobson, K.J.L. & Moyano-Fuentes, J. (2007). Socioemotional wealth and business risks in family-controlled firms: evidence from Spanish olive oil mills. *Administrative Science Quarterly*, 52(1), 106-137.

Gomez-Mejia, L.R., Makri, M. & Kintana, M.L. (2010). Diversification decisions in family-controlled firms. *Journal of Management Studies*, 47(2), 223-252.

Gomez-Mejia, L.R., Núñez-Nickel, M., Gutierrez, I. (2001) The Role of Family Ties in Agency Contracts. *Academy of Management Journal*, 44, 81-95.

Gomez-Mejia, L.R., Cruz ,C., Berrone, P. & de Castro, J. (2011). The bind that ties: socioemotional wealth preservation in family firms. *Academy of management annals*, 5(1), 653-707.

Greve, H. (2003). *Organizational learning from performance feedback: A behavioral perspective on innovation and change*. Cambridge, UK: Cambridge University Press.

Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E. (2009). *Multivariate Data Analysis* (7th Edition), Prentice Hall

Hart, S. L. (1992) An integrative framework for strategy-making processes. *Academy of Management Review*, 17(2), 327-351.

Haynes, G. W., Walker, R., Rowe, B. S., & Hong, G. S. (1999). The intermingling of business and family finances in family-owned businesses. *Family Business Review*, XII, 225-229.

Huang, S.K. and Wang, Y.L. (2011). Entrepreneurial orientation, learning orientation, and innovation in small and medium enterprises. *Procedia - Social and Behavioral Sciences*, 24. 563-570.

Jensen, M.C. and Meckling, W.H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3 (4), 305-360.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47, 262-291.

Keh, H.T., Nguyen, T., & Ng, H.P. (2007). The effects of entrepreneurial orientation and marketing information on the performance of SMEs. *Journal of Business Venturing*, 22, 592-611.

Kennedy, P. (2003). *A Guide to Econometrics* (5th Edition), Cambridge, MA: The MIT Press.

Ketchen, D.J. & Palmer, T.B. (1999). Strategic responses to poor organizational performance: a test of competing perspectives. *Journal of Management*, 25(5), 683-706.

Khelil, N. (2016). The many faces of entrepreneurial failure: Insights from an empirical taxonomy. *Journal of Business Venturing*, 31, 72-94.

Klein, S.B., Astrachan, J.H. & Smyrnios, K.X. (2005). The F-Pec scale of family influence: construction, validation, and further implication for theory. *Entrepreneurship Theory and Practice*, 29, 321–339.

Kollmann, T., & Stockmann, C. (2012). Filling the entrepreneurial orientation–performance gap: The mediating effects of exploratory and exploitative innovations. *Entrepreneurship Theory and Practice*, 38(5), 1001-1026.

Le Breton-Miller, I., & Miller, D. (2013). Socioemotional wealth across the family firm life cycle: A commentary on family business survival and the role of boards. *Entrepreneurship Theory and Practice*, 37(6), 1391-1397.

Liao, J., Welsch, H., & Stoica, M. (2003). Organizational absorptive capacity and responsiveness: An empirical investigation of growth-oriented SMEs. *Entrepreneurship Theory and Practice*, 28, 63-85.



Lins, K.V., Volpin, P. & Wagner, H.F. (2013). Does family control matter? International evidence from the 2008-2009 financial crisis. *The Review of Financial Studies*, 26 (10), 2583-2619.

Lumpkin, G. T., Cogliser, C. C., & Schneider, D. R. (2009). Understanding and measuring autonomy: An entrepreneurial orientation perspective. *Entrepreneurship Theory and Practice*, 33(1), 47-69.

Lumpkin, G.T. & Dess, G.G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135-172.

Lumpkin, G.T. & Dess, G.G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: the moderating role of environment and industry life cycle. *Journal of Business Venturing*. 16, 429-451.

March, J., & Olsen, J. (1976). *Ambiguity and choice in organizations*. Oslo, Norway: Universitetsforlaget.

McKinley, W. (1993). Organizational decline and adaptation: Theoretical controversies. *Organization Science*, 4, 1-9.

Meyer M, and Zucker L. (1989). *Permanently failing organizations*. Newbury Park CA: Sage Publications.

Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770-791.

Mintzberg, H. (1984). Power and Organization Life Cycles. *The Academy Of Management Review*, 9(2), 207-224.

Morrow, J.L., Sirmon, D.G, Hitt, M.A. & Holcomb, T.R. (2007). Creating value in the face of declining performance: firm strategies and organizational recovery. *Strategic Management Journal*, 28(3), 271–283

Namen, J.L. & Slevin, D.P. (1993). Entrepreneurship and the concept of fit: A model and empirical tests. *Strategic Management Journal*, 14(2), 137-153.

OECD (1995). *Reducing the Regulatory Burden on Business in the Netherlands: How Can This be Achieved? Best Practice Policies for Small and Medium-sized Enterprises*, Paris.

Rauch, A., Wiklund, J., Lumpkin, G.T. & Frese, (2009). Entrepreneurial orientation and business performance: an assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 33(3), 761-787.

Revilla, A. J., Pérez-Luño, A., & Nieto, M. J. (2016). Does family involvement in management reduce the risk of business failure? The moderating role of entrepreneurial orientation. *Family Business Review*, 29, 365-379.

Ruef M. (2003). A sociological perspective on strategic organization. *Strategic Organization*, 1(2), 241-251.

Salvato, C. (2004). Predictors of entrepreneurship in family firms. *Journal of Private Equity*, 7(3), 68-76.

Sciascia S., Mazzola P. and Chirico F. (2013). Generational involvement in the top management team of family firms: Exploring non-linear effects on entrepreneurial orientation. *Entrepreneurship Theory and Practice*, 16(1), 7–25.

Schulze, W. S., Lubatkin, M. H., Dino, R. N., & Buchholtz, A. K. (2001). Agency relationships in family firms: Theory and evidence. *Organizational Science*, 12(2), 99–116.

Schulze, W., Lubatkin, M., & Dino, R. (2003). Toward a theory of agency and altruism in family firms. *Journal of Business Venturing*, 18, 473-490.

Shane, S., Venkataraman, S., & MacMillan, I. (1995). Cultural differences in innovation championing strategies. *Journal of Management*, 21, 931-952.

Smith, N., Smith, V., & Verner, M. (2006). Do women in top management affect firm performance? A panel study of 2,500 Danish firms. *International Journal of Productivity and Performance Management*, 55(7), 569-593.

Tang, G. , Chen, Y. and Jin, J. (2015). Entrepreneurial orientation and innovation performance: roles of strategic HRM and technical turbulence. *Asia Pacific Journal of Human Resources*, 53: 163-184.

Thomsen, S. and Pedersen, T. (2000). Ownership structure and economic performance in the largest European Companies. *Strategic Management Journal*, 21, 689-705.

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211, 453-458.

Villalonga, B. & Amit, R. (2006). How do family ownership, control and management affect firm value? *Journal of Financial Economics*, 80, 385-417.

Wales, W.J., Gupta, V.K. & Mousa, F-T. (2013). Empirical research on entrepreneurial orientation: an assessment and suggestions for future research. *International Small Business Journal*, 31, 357-383.

Waldman, D.A., Ramirez, G.G., House, R.J., & Puranam, P., (2001). Does leadership matter? CEO leadership attributes and profitability under conditions of perceived environmental uncertainty. *Academy of Management Journal*, 44, 1134-143.

Wiklund, J. (1999). The sustainability of the entrepreneurial orientation – performance relationship. *Entrepreneurship Theory and Practice* (Fall), 37-48.

Wiklund, J., & Shepherd, D.A. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium sized businesses. *Strategic Management Journal*, 24, 1307-1314.

Wiklund J., & Shepherd, D.A. (2005). Entrepreneurial orientation and small business performance: A configuration approach. *Journal of Business Venturing*, 20, 71-91.

Williamson OE. (1991). Strategizing, economizing, and economic organization. *Strategic Management Journal*, 12(S2), 75-94.

Winter SG, Jr. (1964). Economic natural selection and the theory of the firm. *Yale Economic Essays*, 4(1), 225-272.

Yu, W., Minniti, M., & Nason, R. (2018). Underperformance duration and innovative search: Evidence from the high-tech manufacturing industry. *Strategic Management Journal*. <https://doi.org/10.1002/smj.2988>.

Zahra, S. A., & Covin, J. G. (1995). Contextual influences on the corporate entrepreneurship performance relationship: A longitudinal analysis. *Journal of Business Venturing*, 10(3), 43-58.

Zahra, S. A. (1996). Governance, ownership, and corporate entrepreneurship: the moderating impact of industry technological opportunities. *Academy Management Journal*, 39, 1713–1735.

Zahra, S.A., Jennings, D. & Kuratko, D. (1999). The antecedents and consequences of firm level entrepreneurship: The state of the field. *Entrepreneurship Theory and Practice* 24, 45-65.

Zahra, S. and S. George, (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review*, 27, 185–203.

Zellweger, T., & Astrachan, K.J., (2008). Performance of family firms: A literature review and guidance for future research. DOI: 10.3790/zfke.56.1\_2.1c

Zellweger, T.M., Kellermanns, F.W., Chrisman, J.J. & Chua, J.H. (2012). Family Control and Family Firm Valuation by Family CEOs: The Importance of Intentions for Transgenerational Control, *Organization Science*, 23 (3), 851-868.

## APPENDIX

Entrepreneurial Orientation scale: 13 items

In general, management in my firm favors

<b>1.</b>	A strong emphasis on the marketing of tried and true products and services	1 2 3 4 5 6 7 &	A strong emphasis on R&D, technological leadership, and innovation
<b>2.</b>	A strong proclivity for low-risk projects (with normal and certain rates of return)	1 2 3 4 5 6 7 &	A strong proclivity for high-risk projects (with chances of very high returns)
<b>3.</b>	A cautious, “wait and see” posture under uncertainty in order to minimize the probability of making costly decisions	1 2 3 4 5 6 7 &	A bold, aggressive posture under uncertainty in order to maximize the probability of exploiting potential opportunities

How many new lines of products or services has your firm marketed in the last 3 years?

<b>4.</b>	No new lines of products or services	1 2 3 4 5 6 7 &	Very many new lines of products or services
<b>5.</b>	Changes in product or service lines have been mostly of a minor nature	1 2 3 4 5 6 7 &	Changes in product or service lines have usually been quite dramatic

In dealing with its competitors, my firm

<b>6.</b>	Typically responds to actions which competitors initiate	1 2 3 4 5 6 7 &	Typically initiates actions which competitors respond to
<b>7.</b>	Is very seldom the first business to introduce new products/services, administrative techniques, operating technologies, etc.	1 2 3 4 5 6 7 &	Is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc.

In general, the top managers of my firm believe that owing to the nature of the environment

<b>8.</b>	It is best to explore it gradually via timid, incremental behavior	1 2 3 4 5 6 7 &	Bold, wide-ranging acts are necessary to achieve the firm’s objectives
-----------	--	--------------------	--

In general, my firm (*Reverse scored*)

<b>9.</b>	Supports efforts of individuals and/or teams that work autonomously	1 2 3 4 5 6 7 &	Requires individuals and/or teams to rely on senior managers to guide their work
-----------	---	--------------------	--

As per the business opportunities to be identified and exploited, in general my firm

<b>10.</b>	Considers that the best results occur when individuals and/or teams decide for themselves ( <i>Reverse scored</i> )	1 2 3 4 5 6 7 &	Considers that the best results occur when the CEO and top managers provide the primary impetus for pursuing business opportunities
<b>11.</b>	Individuals and/or teams pursue business opportunities make decisions on their own without constantly referring to their supervisors ( <i>Reverse scored</i> )	1 2 3 4 5 6 7 &	Individuals and/or teams have to obtain approval from their supervisor before making decisions

<b>12.</b>	The CEO and top management team play a major role	1 2 3 4 5 6 7 &	Employee initiatives and input play a major role
------------	---	--------------------	--

In dealing with its competitors, when it comes to capture clients from competitors my firm  
(Reverse scored)

<b>13.</b>	Shows an aggressive behavior	1 2 3 4 5 6 7 &	It is not particularly aggressive
------------	------------------------------	--------------------	-----------------------------------

**Table I:**

Means, standard deviations, and correlation of all the variables. Significance levels are based on a two-tailed test, +:  $p < 0.1$ ; \*:  $p < 0.05$ ; \*\*:  $p < 0.01$ ; \*\*\*:  $p < 0.001$ .

	Mean	S.d.	ROA	EO	Family ownership	Underperforming	Firm size	Environmental dynamism	Intensity of competition
<b>ROA</b>	0.4036	0.3652	1						
<b>EO</b>	3.8058	0.0244	0.05 +	1					
<b>Family ownership</b>	39.5811	1.2933	0.0058	0.0407	1				
<b>Underperforming</b>	0.7535	0.0120	-0.2554 ***	0.0189	0.0378	1			
<b>Firm size</b>	0.5905	0.0137	-0.0342	-0.1122 ***	-0.0664 *	0.0728 **	1		
<b>Environmental dynamism</b>	3.5302	0.0433	0.066 *	0.2592 ***	-0.0586 *	0.0282	-0.0818 **	1	
<b>Intensity of competition</b>	3.5390	0.0432	-0.0005	0.046 +	-0.0304	0.0145	-0.0051	0.1477 ***	1
<b>Absorptive capacity</b>	3.9961	0.0173	0.0596 *	0.0407	-0.0036	-0.028	0.0146	0.0721 **	-0.0625 *
<b>High-tech manufacturing</b>	0.0647	0.0069	0.0537 *	0.038	0.031	0.0018	-0.0557 *	0.0154	-0.002
<b>High-tech service</b>	0.3042	0.0129	0.0291	0.0768 **	-0.1977 ***	0.0463 +	-0.0416	0.2788 ***	0.0216
<b>Export</b>	2.1100	0.2336	0.0028	0.0634 *	-0.0023	0.0047	-0.0432 +	0.0406	0.0094
<b>Firm age</b>	23.8058	0.4828	-0.0611 *	-0.0205	0.1768 ***	0.0301	-0.0456 +	-0.1341 ***	0.0178
<b>Patents</b>	1.7051	0.0127	0.0014	-0.1446 ***	-0.0262	-0.0054	0.0715 **	-0.0262	-0.0066
<b>Manager age</b>	45.3206	0.2871	-0.0398	0.0103	0.0395	-0.0331	0.0129	-0.0284	0.0774 **

**Table I: (cont.)**

	<b>Absorptive capacity</b>	<b>High-tech manufacturing</b>	<b>High-tech service</b>	<b>Export</b>	<b>Firm Age</b>	<b>Patents</b>	<b>Manager age</b>
<b>Absorptive capacity</b>	1						
<b>High-tech manufacturing</b>	-0.0208	1					
<b>High-tech service</b>	0.0831 **	-0.1728 ***	1				
<b>Export</b>	0.046 +	0.0253	-0.042	1			
<b>Firm age</b>	-0.0101	0.0186	-0.2911 ***	0.0154	1		
<b>Patents</b>	-0.0239	-0.0435 +	0.111 ***	-0.0601 *	-0.059 *	1	
<b>Manager age</b>	0.049 +	-0.0125	-0.1041 ***	-0.032	0.1135 ***	-0.0291	1

**Table II**

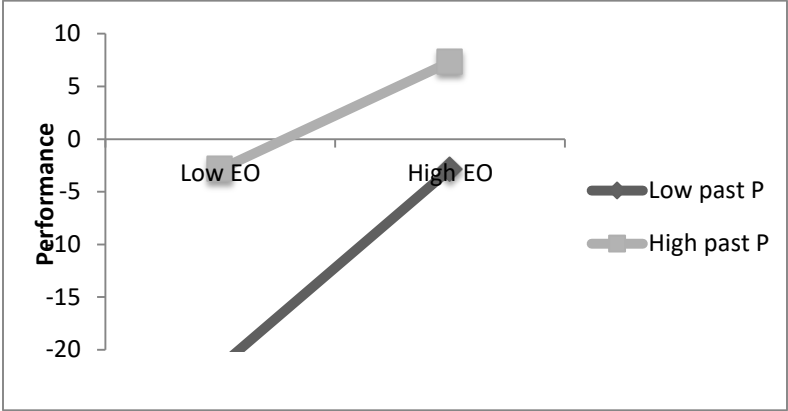
OLS regression coefficient estimates, standard errors, F statistics, R2s and number of observations. Dependent variable in the three models is the ROA (Return on Assets). Reported in parentheses are the coefficient standard errors. Model 1 reports the coefficient estimates and standard errors for the baseline model with all the control variables. Model 2 includes the interaction between the underperforming firms and the EO. Model 3 includes the interaction between underperforming firms and family ownership. Significance levels are based on a two-tailed test, +:  $p < 0.1$ ; \*:  $p < 0.05$ ; \*\*:  $p < 0.01$ ; \*\*\*:  $p < 0.001$

	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>	
	<b>ROA</b>		<b>ROA</b>		<b>ROA</b>	
<b>EO</b>	0.5683 (0.4038)	+	2.2050 (1.0330)	**	0.5733 (0.4029)	
<b>Family ownership</b>	0.0041 (0.0072)		0.0043 (0.0072)		0.0294 (0.0187)	+
<b>Underperforming</b>	-7.8893 (1.0312)	***	-7.8175 (1.0165)	***	-7.9135 (1.0360)	***
<b>Firms size</b>	0.3233 (0.7776)		0.3614 (0.7787)		0.2478 (0.7700)	
<b>Environmental dynamism</b>	0.4097 (0.2387)	+	0.3898 (0.2381)	+	0.4190 (0.2384)	+
<b>Intensity of Competition</b>	0.0370 (0.2161)		0.0515 (0.2169)		0.0291 (0.2166)	
<b>Absorptive capacity</b>	1.1084 (0.6137)	+	1.1374 (0.6151)	*	1.0896 (0.6090)	+
<b>High-tech manufacturing</b>	3.1537 (1.1211)	**	3.0818 (1.1283)	***	3.1178 (1.1273)	***
<b>High-tech service</b>	0.0166 (0.9417)		-0.0147 (0.9393)		0.0708 (0.9353)	
<b>Export</b>	0.0085 (0.0748)		0.0057 (0.0743)		0.0074 (0.0739)	
<b>Firm age</b>	-0.0303 (0.0210)		-0.0295 (0.0212)		-0.0323 (0.0211)	
<b>Patents</b>	0.6493 (0.8016)		0.5742 (0.7987)		0.6366 (0.8003)	
<b>Manager age</b>	-0.0459 (0.0305)		-0.0446 (0.0307)	+	-0.0443 (0.0306)	
<b>Underperforming*EO</b>			2.1728 (1.0961)	**		
<b>Underperforming*Family</b>					0.0334 (0.0202)	+
<b>F</b>	5.75	***	5.37	***	5.47	***
<b>R square</b>	0.0833		0.0872		0.0859	
<b>N. Observations</b>	1282		1282		1282	



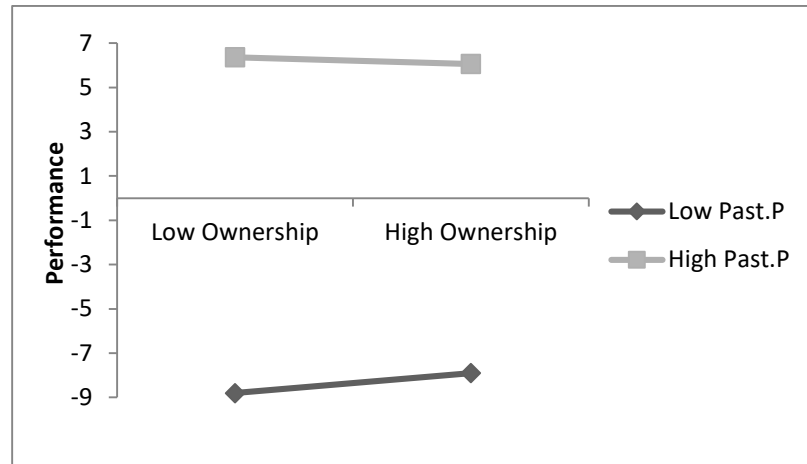
**Figure I**

Plot of the interaction effect between the EO and the past performance of the firms. High levels of EO improve the performance of all firms, but this effect (slope) is stronger in the case of underperforming firms (firms with low past performance).



**Figure II**

Plot of the interaction effect between the EO and the past performance of the firms. For underperforming firms (firms with low past performance), family ownership helps them to increase the subsequent performance level.



**Table III**

OLS regression coefficient estimates, standard errors, F statistics, R2s and number of observations. Dependent variable in the three models is “Sales growth”. Reported in parentheses are the coefficient standard errors. Model 1 reports the coefficient estimates and standard errors for the baseline model with all the control variables. Model 2 includes the interaction between the underperforming firms and the EO. Model 3 includes the interaction between underperforming firms and family ownership. Significance levels are based on a two-tailed test, +:  $p < 0.1$ ; \*:  $p < 0.05$ ; \*\*:  $p < 0.01$ ; \*\*\*:  $p < 0.001$ .

	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>	
	<b>Sales growth</b>		<b>Sales growth</b>		<b>Sales growth</b>	
<b>EO</b>	3.0575 (0.7384)	***	5.0453 (1.4266)	***	3.0657 ( 0.7375)	***
<b>Family ownership</b>	0.0088 (0.0145)		0.0091 (0.0136)		0.0502 ( 0.0269)	+
<b>Underperforming</b>	-2.5420 (1.6645)		-2.6292 (1.4292)	*	-2.5023 (1.4280)	+
<b>Firms size</b>	-1.2257 (1.1881)		-1.1794 (1.2651)		-1.3491 (1.2664)	
<b>Environmental dynamism</b>	1.1022 (0.3803)	***	1.0780 (0.4322)	**	1.1175 (0.4320)	**
<b>Intensity of Competition</b>	-0.4820 (0.3791)		-0.4644 (0.4018)		-0.4950 (0.4016)	
<b>Absorptive capacity</b>	1.1874 (0.9777)		1.2228 (1.0012)		1.1568 (1.0009)	
<b>High-tech manufacturing</b>	-3.0883 (2.2558)		-3.1756 (2.5327)		-3.1470 (2.5318)	
<b>High-tech service</b>	-0.6455 (1.4351)		-0.6835 (1.5044)		-0.5568 (1.5047)	
<b>Export</b>	-0.0261 (0.0418)		-0.0294 (0.0738)		-0.0278 (0.0737)	
<b>Firm age</b>	-0.1005 (0.0370)	**	-0.0996 ( 0.0376)	**	-0.1039 ( 0.0376)	**
<b>Patents</b>	-0.8960 (1.3432)		-0.9872 ( 1.3736)		-0.9168( 1.3723)	
<b>Manager age</b>	-0.0635 (0.0542)		-0.0620 (0.0602)		-0.0610 (0.0602)	
<b>Underperforming*EO</b>			2.6388 (1.6210)	+		
<b>Underperforming*Family</b>					0.0547 (0.0306)	*
<b>F</b>	3.62	***	3.99	***	4.03	***
<b>R square</b>	0.0403		0.0423		0.0427	
<b>N. Observations</b>	1282		1282		1282	

