The benefits of related and unrelated diversification strategies in the Spanish context:

What is the difference that executive leadership style can make?

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Abstract

This article builds on the agency-stewardship approach to examine if the impact of related and unrelated diversification strategies on firm performance is contingent on the leadership style of diversifying CEOs ranging from the agent model to the steward model. For this purpose, it proposes four hypotheses which are empirically tested using data from a sample of 183 Spanish firms. The findings provide new insights about the relevance of CEOs´ leadership style so that a right fit between diversification type and executive leadership style seems to be crucial for firms pursuing growth and profitability benefits.

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Introduction

The link between diversification strategy and firm performance is arguably the most widely researched topic in the field of strategic management. However, there are still many unanswered questions concerning this matter and recent research is showing interest in continuing with this line of inquiry (Wan *et al*., 2011; Benito-Osorio *et al*., 2012; Purkayastha *et al*., 2012).

Specifically, there are three dimensions on which this research field is developing in the last years: *First*, to establish the cross-country validity of the theoretical arguments and empirical findings obtained mainly in the US context in an attempt to confirm whether they are generalizable across countries (Mayer and Whittington, 2003; Chakrabarti *et al*., 2007; Martínez-Campillo and Fernández-Gago, 2011). *Second*, to advance in the study of the real performance effects of the two basic types of strategy, namely related and unrelated diversification, since although the benefits of this strategic option appear to be closely associated with the way new businesses are related to existing ones (Wan *et al*., 2011; Marinelli, 2011; Purkayastha *et al*., 2012), the evidence is still inconclusive. *Third*, to shift the focus from simply investigating the diversification-performance relationship to examining the factors on which this relationship may be dependent. Specifically, recent studies claim the need for further research about the role of a set of moderators broadly defined as "organizational factors" (Kim *et al*., 2004; George and Kabir, 2012). In line with the contingency-based

approach (Ginsberg and Venkatraman, 1985)[2], the central idea here is that a higher relative performance can be derived from a better fit between the firm´s strategy and its internal organizational mechanisms.

This paper aims to achieve two goals in order to shed some light on these dimensions. One is to empirically investigate the causal link between diversification type and firm performance in Spain. Although the study by Súarez González (1994) suggests that related diversification is more associated with profitability benefits while unrelated diversification is more associated with growth benefits in the Spanish context, none of these two associations has been empirically tested in Spain through a causal analysis[3].

Moreover, since the leadership style of CEOs may create variance among performance effects of diversification because it has implications on how they formulate and implement this strategy (Hoskisson and Hitt, 1990; Datta *et al*., 1991; Kim *et al*., 2009), the economic benefits of related and unrelated diversification strategies could be better realized if the appropriate executive leadership style was in place (Bertrand and Schoar, 2003; Storey, 2005; Håkonsson *et al*., 2012). However, to date, no effort has been devoted to empirically examining the fit between the type of diversification strategy and the leadership style of CEOs. Consequently, the second goal of this study is to throw light on this question by analyzing the moderating role

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[2] The concept of fit is a key issue in the contingency-based approach, whose basic proposition is that organizational performance is a consequence of the fit between two or more factors, such as environment, strategy, structure, system, executive style, and/or culture (Ginsberg and Venkatraman, 1985). From the empirical perspective, this fit is operationalized within a moderation perspective (Carte and Russell, 2003).

[3] Only two previous studies have considered the relationship between diversification type and firm performance in Spain (Suárez González, 1994; Ramírez and Espitia, 2002), but none of them has performed a causal analysis to evaluate such a link. Indeed, both studies are focused on a comparative analysis. Specifically, Suárez González (1994) compares firm performance in terms of growth and profitability among four groups of strategies (single-business, dominant-business, related diversification, and unrelated diversification), albeit at an industry level, whereas Ramírez and Espitia (2002) compare a market-based measure of performance (Tobin´s *q*) among firms with low, intermediate and high level of diversification.

of the leadership style of diversifying CEOs on both the link between related diversification and firm profitability, as well as that between unrelated diversification and firm growth.

In this study, CEOs´ leadership style is identified according to the agency-stewardship approach, which argues that executive style may range from the agent model to the steward model (Davis *et al.*, 1997, 2004; Martynov, 2009; Segal and Lehrer, 2012). Whereas agents are inclined to behave opportunistically and are mainly concerned with improving their own welfare, stewards are inclined to behave collectively and cooperatively in the interests of both their firms and of all stakeholders (Godos-Díez *et al.*, 2011). Specifically, the agency-stewardship approach suggests that, when managing diversification, CEOs more inclined to act as stewards will place a greater emphasis than agents on profitability benefits and hence they will seek to implement successful related diversification strategies to exploit economies of scope. However, CEOs closer to the agent model will place a greater emphasis than stewards on growth benefits in order to increase their own private gains. So, these top managers will be more likely to successfully develop unrelated diversification strategies to build empires and hence improve their compensation, power, and status (Fox and Hamilton, 1994; Ramaswamy *et al.*, 2004). As a result, the benefits of related and unrelated diversification strategies seem to depend on if CEOs´ leadership style is closer to the agent model or to the steward model, so that an appropriate fit between the type of diversification strategy and the leadership style could enhance firm performance in terms of profitability and growth.

This paper provides three important contributions to the literature. *First*, it adds to the international research on the diversification-performance link by analyzing for the first time both the causal relationship between related diversification and firm profitability, as well as that between unrelated diversification and firm growth in Spain. As a late-developed country, its firms faced the strategic choices between related and unrelated

diversification later than those in most leading developed countries and hence they are smaller in size. These circunstances, in addition to the particularities of its institutional environment, make Spain a especially good context for testing the aforementioned debate about the benefits of each type of diversification. *Second*, the study seeks to advance the state of the art of such line of inquiry by examining whether the right fit between diversification type and executive style has positive effects on profitability and growth benefits derived from this strategy. Although the contingency-based approach provides legitimate theoretical arguments in this regard, to our knowledge there is no previous empirical evidence on such a fit. *Thirdly*, this work contributes to the knowledge of this unexplored question by identifying CEOs´leadership style according to the agency-stewardship approach.

The structure of the article is as follows. Section 2 proposes and justifies the four hypotheses under study. Section 3 explains sample and measures. Section 4 reports the empirical results. The final section offers some concluding remarks.

Theory development and hypotheses

The Spanish context: historical perspective and institutional environment

The institutional environment of a country has an important impact on strategic choices of its firms in general and on the spread of diversification strategies in particular (Mayer and Whittington, 2003; Peng and Delios, 2006; Galán and Sánchez-Bueno, 2009). Specifically, the institutional origins of Spain meant it developed later than other leading countries. Consequently, Spanish firms began to adopt diversification after these countries and in a period in which the relationship between diversification type and firm performance was being questioned. All this makes the Spanish context of general importance in this question.

During the Francoist period (1939–1975) Spain experienced autarchy and public interventionism, which led to a late industrialization process and the interruption of the growth of firms. Moreover, the banking system was a regulated oligopoly, the foreign capital penetration was restricted and Spanish firms had problems obtaining financial resources (Binda and Iversen, 2007). As a result, this period had negative implications for the adoption of diversification strategies in Spain (Galán and Sánchez-Bueno, 2009).

Later, during the period of transition to democracy (in the 1980s and early 1990s), the situation began to change. The domestic market opened up when Spain joined the EEC and the state lost its influence on the strategic choices of firms, which had an increasing role as foreign investors. Moreover, the banking system changed to a liberalised situation so that Spanish firms could obtain financial resources more easily (Binda and Iversen, 2007). But despite these changes, the destabilizing effects of this period were still evident and the general framework was one of low development and a relatively closed economy. So, Spanish companies were characterized by a low level of diversification (Galán and Sánchez-Bueno, 2009).

Finally, a process of recovery started in 1993 when the competitive environment began to change dramatically, so that firms were immersed in a highly competitive world, determined basically by the globalization of markets and a growing emphasis on knowledge and innovation (Sánchez-Bueno *et al*., 2006). In this context, Spain experienced important waves of privatizations and liberalizations, which led to a decline in the importance of state and bank ownership, and to an increase in overseas investments (Binda and Iversen, 2007). Consequently, Spanish companies increased their levels of diversification in line with trends observed in previous decades in other developed countries (Galán and Sánchez-Bueno, 2009).

Type of diversification strategy and firm performance in the Spanish context

The relationship between diversification type and firm performance has been at the heart of strategic management research over more than thirty years (Datta *et al*., 1991; Palich *et al*., 2000; Purkayastha *et al*., 2012). Despite this long research tradition, there is still a lot of disagreement about the best strategic option, especially because each type of diversification can be associated with different economic benefits (Marinelli, 2011; Griffin, 2013).

Recent studies suggest that national differences in terms of business practices and institutional environment influence how firms develop with respect to diversification and ultimately the specific benefits derived from related and unrelated strategies (Chakrabarti *et al.*, 2007; Galán and Sánchez-Bueno, 2009; Purkayastha *et al*., 2012). Specifically, some studies stress the peculiarity of the Spanish context in this regard (Súarez González, 1994; Sánchez-Bueno *et al*., 2006; Benito-Osorio *et al*., 2012).

Although Spanish firms have traditionally been characterized by being small in size and having a low level of diversification, the entry into new lines of activity has become a common practice in business reality during the two last decades (Sánchez-Bueno *et al*., 2006). In an extremely competitive business environment like the Spanish one, diversification is a critical strategy for continued existence of firms (Colpan and Hikino, 2005). For this reason, since the early 1990s Spanish firms have raised their levels of diversification, so that related strategy has been more prevalent that unrelated strategy (Galán and Sánchez-Bueno, 2009; Martínez-Campillo and Fernández-Gago, 2011).

The study by Súarez González (1994) underlines the particular business environment in Spain and it suggests that although in theory both types of diversification can allow firms to improve their profitability and increase their size, the related diversification strategies of Spanish firms would be more associated with profitability

benefits, whereas their unrelated diversification processes would be more linked to growth benefits, at least in the short-term[4]. This would be strongly related to both the prevailing growth mode in Spain and the specific motivation for diversifying of Spanish firms, all which would affect the type of diversification and its relation with firm performance.

The dominant growth method in a country depends on the transaction costs associated with different governance structures (Hoskisson *et al*., 2004). Specifically, capital markets in French civil law countries, such as Spain, are typically narrow and under-developed. So, although external growth through mergers and acquisitions can lead to a more substantial and faster increase in firm size than internal growth, it also involves prohibitive transaction costs for companies in these countries (Capaldo *et al*., 2009). For this reason, most Spanish firms are more prone to internal growth rather than external growth. Thus, since internal growth usually encourages related diversification, whereas external growth is more associated with unrelated diversification (Chang and Singh, 1999), it is possible to expect, at least in a short-term setting, lower implementation costs and hence a higher profitability when Spanish firms adopt a related diversification strategy, while they will be more likely to show a higher growth rate if they engage in an unrelated diversification.

Regarding the specific motivations for diversifying, most Spanish firms decide to diversify into related businesses to achieve economies of scope (Súarez González, 1994). Thus, this strategy seems to be the result

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[4] Both associations are also widely recognized and accepted by the international academic community (Fligstein and Dauber, 1989; Furrer, 2010; Dringoli, 2011; Griffin, 2013). All these theoretical studies argue that related diversification fits better into a profit-maximization argument, whereas unrelated diversification fits better into a growth-maximization argument.

of a profit-seeking behaviour to survive and thrive in the new Spanish business context due to economies of scope can lead to a reduction of total costs and hence to an increase in firm profitability (Súarez González, 1994; Galán and Sánchez-Bueno, 2009). In particular, related diversification can allow a firm to share and transfer critical success factors across different businesses leading to efficiencies in resource allocation and ultimately to cost advantages (Teece, 1982; Wan *et al.*, 2011). Moreover, firms can also reduce total costs by exploiting interrelationships between businesses based on technical and managerial skills and functional specialization (Rumelt, 1982; Miller, 2006; Zhou, 2011). Thus, the related diversification of Spanish firms seems to be a strategy for improving profitability via economies of scope (Súarez González, 1994; Benito-Osorio *et al*., 2012).

In contrast, the unrelated diversification strategies of Spanish firms are mostly motivated by the empire-building desire of some managers (Súarez González, 1994). Although unrelated diversification may involve some unique benefits resulting from financial synergies, like risk reduction and coinsurance, this strategy is, first and foremost, an easy alternative for rapidly increasing firm size (Colpan and Hikino, 2005; Furrer, 2010; Griffin, 2013). But corporate growth is especially beneficial to top managers whose salaries, power, status, and job security tend to be determined more by the size of the company than by its profitability (Aggarwal and Samwick, 2003; Laeven and Levine, 2007). Accordingly, due to Spanish firms are smaller in size than those in most developed countries, the pursuit of managerial self-interest via empire-building seems to be the most powerful motive for their conglomerate strategies. So, the unrelated diversification of Spanish firms can be considered a strategy for enhancing firm size and benefiting especially top managers, subject to a minimum profit constraint (Súarez González, 1994; Benito-Osorio *et al*., 2012).

As a consequence of all this, it is reasonable to expect that, in a short-term setting, related diversification should lead to higher profitability, whereas unrelated diversification should lead to higher growth for Spanish firms. Then, this study proposes the following hypotheses:

H₁: Related diversification has a positive effect on firm profitability

H₂: Unrelated diversification has a positive effect on firm growth

Type of diversification strategy, CEO leadership style and firm performance

CEO leadership style: from the agent model to the steward model

Agency theory and Stewarship theory are two theories that provide conflicting assumptions about the leadership style of CEOs in a context of separation between ownership and management (Davis *et al.*, 1997, 2004; Segal and Lehrer, 2012). Agency theory is an economic approach to corporate governance that suggests that CEOs as agents are economically rational individuals that seek to maximize their own interests even at the expense of corporate wealth (Jensen and Meckling, 1976). So, this theory depicts the leadership style of agents as individualistic, opportunistic, and self-serving. Thus, control mechanisms must be in place to detect mismanagement (Tosi *et al.*, 2003). However, these top managers are not only motivated to maximize their own utility, but also have the capability to overcome control mechanisms designed to prevent such self-interest. For this reason, Agency theory claims that the model of the agent remains as inherently opportunistic (Hoskisson and Hitt, 1990).

Stewardship theory is a new perspective to understanding top managers´ leadership behaviour (Hernández, 2008, 2012). Specifically, it is a psycho-sociological approach to corporate governance that depicts CEOs as stewards of firms. Accordingly, their leadership style is such that pro-organizational and collectivist conducts

in favor of both firms and all stakeholders have a higher utility than individualistic and selfish ones (Davis *et al*., 1997, 2004; Martynov, 2009; Segal and Lehrer, 2012). Specifically, this theory assumes that the main way to satisfy all stakeholders with competing interests is to maximise corporate wealth (Hernández, 2008, 2012) and it promotes governance mechanisms that empower CEOs to facilitate their pro-organizational actions (Tosi *et al*., 2003).

Drawing on these two theories, the agency-stewardship approach suggests that CEOs´ leadership style ranging from the agent model to the steward model depends on psychological and situational factors (Davis *et al*., 1997, 2004; Martynov, 2009; Godos-Díez *et al*., 2011). A detailed study on how each psychological and situational factors affects the leadership style of CEOs may be found in Davis *et al.* (1997, 2004). However, a summary of the main differences between the two theories is shown in Table 1.

(*Insert Table 1*)

The impact of the fit between diversification type and CEO leadership style on performance of Spanish firms

The leadership style plays an important role in defining the priorities of CEOs and has implications on how they formulate and implement corporate strategies (Bertrand and Schoar, 2003; Jensen and Zajac, 2004; Storey, 2005). Thus, the potential benefits derived from these strategies will be better realized if the right executive leadership style is in place (O´Reilly *et al*., 2010; Håkonsson *et al*., 2012). As Gupta (1984: 399) states, '*After all, if the choice of the appropriate strategy and its implementation is crucial to effective organizational performance, then the selection of specific individuals most directly responsible for the formulation and implementation of this strategy also should be regarded as crucial*'. Consequently, although the economic benefits of diversification depend on the type of strategy chosen (Datta *et al*., 1991; Wan *et al*., 2011; Purkayastha *et al*., 2012), the leadership style of diversifying CEOs could create variance among such

benefits (Hoskisson and Hitt, 1990; Kim *et al*., 2009). For this reason, the extend to which the potential benefits of related and unrelated diversification are actually achieved could depend on the leadership style of CEOs that manage this strategy.

Specifically, the agency-stewardhip approach helps to clarify why and how the relationship between diversification type and firm performance could be contingent on the leadership style ranging from the agent model to the steward model (Fox and Hamilton, 1994; Ramaswamy *et al*., 2002, 2004). Just in line with the contingency-based approach (Ginsberg and Venkatraman, 1985), a higher relative performance could be expected from an appropiate fit between diversification type and executive style, so that the alignment of related diversification and steward leadership style would have a beneficial effect on profitability benefits, while the alignment of unrelated diversification and agent leadership style would imply a higher performance in terms of firm growth.

According to the Stewardship theory, CEOs whose leadership style is closer to the steward model, as individuals prone to serve the good of the firm and of all its stakeholders, will use their position to pursue profit-maximizing diversification strategies (Fox and Hamilton, 1994; Ramaswamy *et al*., 2002). Thus, it is possible to assume that they will place a greater emphasis than agents on profitability benefits of related diversification due to this strategy is seen as a means of gaining economies of scope and maximizing the chances to make more profits (Fox and Hamilton, 1994; Miller and LeBreton-Miller, 2006).

As a result, these CEOs will be particularly interested in developing successful related diversification strategies. Specifically, it has been argued that a centralized multidivisional structure designed to exploit interrelations among business units, an organizational culture designed to promote cooperation among them, and strategic controls featured by the openness in business units relations and the use of subjective data in

evaluating the performance of business units, should lead to higher success of this type of diversification (Hill *et al.,* 1992; Zhou, 2011; Griffin, 2013). Therefore, to survive and thrive in the new business context, Spanish CEOs more inclined to act as stewards will become more involved than agents in implementing such mechanisms for appropriately managing related diversification in order to maximize profits.

Although there is no empirical evidence for these arguments, some anecdotal evidence in Spain seems to support their validity. For example, *Telefónica* S.A. is a Spanish public firm created in 1924 to provide fixed telephony services in régime of monopoly, operating also in the mobile telephony business since 1990. After its full privatization and the market liberalization in the telecommunications sector at the end of 1990s, C. Alierta takes charge of *Telefónica* in 2000. With him at the helm, the company starts a new profitable growth process based on a diversification strategy into related businesses such as Internet, Television, and Digital services, using mainly common technological infrastructures and global techniques services to generate economies of scope. During his tenure as CEO, corporate profits have doubled and *Telefónica* has got the fifth position in terms of market capitalization in the telecommunications sector worldwide and the first one as European integrated operator. As a result, Alierta has been broadly recognized and awarded for the excellence of his managerial style and he has been nominated as "The best Spanish CEO" in 2012.

Consequently, it is possible to assume that the profitability benefits of related diversification will be better realized if the leadership style of Spanish CEOs fits in the steward model. Thus, this work proposes that:

> **H_3:** <u>The closer the leadership style of the diversifying CEO is to the steward model versus agent model, the higher the positive effect of related diversification will be on firm profitability</u>

According to the Agency theory, CEOs more inclined to act as agents will be only willing to diversify when large personal gains are likely to ensue (Aggarwal and Samwick, 2003; Laeven and Levine, 2007). Specifically, it is argued that most CEOs´ personal gains from diversification arise from privileges of managing a larger firm as these top managers benefit most directly from the economic and social perquisites that accompany growing their corporations (Denis *et al.*, 1997, 1999; Jensen and Zajac, 2004; Furrer, 2010). Consequently, these top managers will place a greater emphasis than stewards on growth benefits of unrelated diversification because this strategy is seen as a way to achieve firm growth, to enable empire building, and to increase their own personal gains (Fox and Hamilton, 1994; Ramaswamy *et al.*, 2002, 2004; Miller and LeBreton-Miller, 2006).

As a result, CEOs whose leadership style is closer to the agent model will be particularly interested in successfully developing unrelated diversification projects**,** so that they will establish a decentralized multidivisional structure planned to preserve autonomy of the different business units, an organizational culture designed to promote competition among them, and financial controls featured by the use of objective financial criteria to track a loose collection of dissimilar businesses, since these internal mechanisms should lead to higher success of this type of diversification (Hill *et al.,* 1992; Dringoli, 2011; Griffin, 2013). Therefore, since firms in Spain are smaller in size in comparison to those from most developed countries, Spanish CEOs more inclined to behave as agents will become more involved than stewards in implementing the most effective organization for managing unrelated diversification in order to maximize growth opportunities and hence their own personal gains.

There is also anecdotal evidence in Spain to confirm these arguments. So, *Sacyr Vallehermoso S.A.* is a Spanish firm created in 2003 after the merger between Sacyr -a Spanish construction company founded in

1986- and Vallehermoso -a Spanish housing company founded in 1921-. In 2004, L. F. Del Rivero becomes its CEO, and, for the next several years, the firm adopts an aggressive unrelated diversification into Concessions, Multi-services and Energy businesses. With him at the helm, *Sacyr Vallehermoso* massively expands its potential client base and its sales grow significantly, but it faces big losses. Moreover, the company's share price falls by 55 percent. In this context, Del Rivero develops for him a compensation package with strong incentives based on growth. In 2011, the year in which *Sacyr Vallehermoso* posts the biggest annual loss in its history (1600 million of euros), the Board of the company ousts Del Rivero as CEO amid controversy about some business dealings.

Consequently, it is possible to undertake that the growth benefits of unrelated diversification will be better realized if the leadership style of Spanish CEOs fits in the agent model. Thus, this study proposes that:

> **H$_4$:** <u>The closer the leadership style of the diversifying CEO is to the agent model versus steward model, the higher the positive effect of unrelated diversification will be on firm growth</u>

Metodology

Sample and data collection

The performance effects of diversification strategies are best estimated when companies decide to diversify for the first time (Miller, 2004; Villalonga, 2004). For this reason, this study initially considers a group of specialized firms in 1997 and then it only focuses on those that move from a single-business strategy to a multi-business strategy during the period 1998-2001. Thus, the sample period is 1997 to 2001.

As a result, this work starts from all Spanish firms that satisfy the three following conditions in such a five-year period: (a) they only have one business segment at the four-digit SIC code level in 1997 to ensure that they are specialized in this year[5]; (b) they are public limited companies to guarantee a context of separation between ownership and management; and (c) they have at least three million euros in total sales and more than 100 employees to increase the availability of data. The source of information about these conditions is the Dun&Bradstreet Directory, which is a database that annually offers key industrial, economic and financial information for the 50,000 largest Spanish firms[6]. After applying the three screening criteria, this Directory yields a total of 1412 firms, of which 736 remain specialized between 1998 and 2001, 520 decide to diversify in this period by increasing their number of business segments at the four-digit SIC level from one to two or more, and 156 are excluded for missing data or outlier values.

Questionnaires were sent between May and July 2003 to the CEOs of the 520 diversifying firms to obtain information about their psychological and situational characteristics in order to identify their leadership style. The questionnaire also inquired about the year they occupied the CEO position. Since the year when each firm diversified between 1998 and 2011 was publicly available, it was possible to determine whether the manager answering the questionnaire was also the CEO that managed diversification. If this was not the case, the firm was dropped from the sample. A total of 183 valid questionnaires were returned after two mailing waves, which meant an overall response rate of 35.2% (with a margin of error of 5.84% at a 95% confidence level).

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[5] All companies specializing in financial services, regulated utilities, government, and non-classifiable establishments were excluded due to their special functioning and regulation.

[6] The Dun&Bradstreet Directory is the only source of annual information on the number of business segments at the four-digit SIC level for the 50,000 largest Spanish firms.

The Chi-square statistic was used for testing the representativeness of the sample with regard to principal business and firm size[7]. Results indicated that the observed group of 183 diversifying firms in the sample had similar characteristics to the group of 520 diversifiers in the population with respect to principal business [$\chi^2(14)=5,756$; $p=0,795$] and total employees [$\chi^2(2)=7,016$; $p=0,521$]. Thus, our final sample of 183 diversifying firms is adequate to make valid inferences about the population.

Variables

Dependent variable: Firm performance

Two accounting-based variables were used as indicators of firm performance and hence of diversification benefits: firm profitability and firm growth (Palich *et al.*, 2000; Kim *et al.*, 2004). On the one hand, *Firm Profitability* was measured as return on assets -ROA-; that is, an operational measure of the efficiency of a firm with regard to the profitable use of its total asset base. This variable was quantified as the average ROA in the three years following the diversification event. On the other hand, *Firm Growth* was measured in terms of sales growth; that is, a measure of performance that reflects how well a firm relates to its environment in order to successfully expand its product-market domain. Specifically, after estimating the average sales for three-year pre- and post-diversification periods, the percentage change in average sales between the two periods was calculated. The data for constructing both variables were obtained from the SABI (Sistema de Análisis de Balances Ibéricos) database.

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[7] Firms were divided into fifteen groups based on the firm´s primary industry at the two-digit SIC level, and into three groups on the basis of total employees (100-249 employees / 250-500 employees / more than 500 employees) in order to apply the Chi-square test.

Independent variable: Type of diversification strategy

The degree of related and unrelated diversification was measured by using two business-count measures. Specifically, both mean narrow spectrum diversification (MNSD) and broad spectrum diversification (BSD) were calculated (Varadarajan and Ramanujam, 1987), so that MNSD is defined as the number of four-digit SIC codes in which a firm operates divided by the number of two-digit SIC codes in which it participates, while BSD is defined as the number of two-digit SIC codes in which a firm concurrently operates. As in prior research about the diversification-performance relationship (e.g., Ramírez and Espitia, 2002; Kim *et al.*, 2004; Marinelli, 2011; Hoechle *et al.*, 2012), MNSD is viewed as an indicator of *Related Diversification*, whereas BSD is considered an indicator of *Unrelated Diversification*. The year of diversification was used as the reference year to calculate both indicators for each sample diversifying firm and the data about business segments at the two-digit and four-digit SIC levels were taken from the Dun&Bradstreet Directory. The log of MNSD and BSD was used in statistical analysis to improve the distributional characteristics.

Conceptually MNSD and BSD are similar to the related and unrelated components of the entropy measure, but they are more objective and easier to calculate, and have lower information requirements (Hoechle *et al.*, 2012). Although business-count measures are not without criticism, a study by Lubatkin *et al.* (1993) found support for their construct validity and recommend them as adequate substitutes for entropy measures.

Moderating variable: CEO leadership style

The scale developed and validated by Godos-Díez *et al.* (2011) was used to measure the CEOs' leadership style. This scale consists of six items capturing the six theoretical dimensions that define the construct to be measured according to Davis *et al.* (1997, 2004): on the one hand, the three *Psychological Factors* -work motivation, organizational identification, and use of power- and, on the other hand, the three *Situational*

Factors -management philosophy, individualism/collectivism, and power distance- (Appendix A). Individual responses were provided on a Likert-type scale using a seven-point -'strongly disagree' to 'strongly agree'- response selection.

An exploratory factor analysis with varimax rotation revealed that the factorial structure of this scale could be viewed as one single dimension -only one principal component with eigenvalue higher than 1 was extracted and the proportion of variance explained was 64.15%- (Table 2). In addition, the internal consistency of the CEO leadership style scale was good, with a Cronbach's alpha coefficient of 0.882 (Nunnally, 1978). Thus, the scale used to measure the executive style largely satisfies the criteria for unidimensionality, construct validity, and reliability.

(*Insert Table 2*)

After that a composite index was created by adding up the scores for the six items, providing a range of values between 6 and 42. This index was normalized to provide values of between 0 and 100, with CEOs closer to the agent model having the lower values and CEOs closer to the steward model having higher index scores[8].

Control variables

Three groups of control variables were added to the analyses, which are related to both diversification type and firm performance[9] (Villalonga, 2004; Hoechle *et al*., 2012): The first group refers to pre-diversification

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[8] This expression was used to normalize the index obtained: **$[(X_i-X_{min}/X_{max}-X_{min}) \times 100]$**, where X_i is the index score for a single case and X_{min} and X_{max} are the minimum and maximum values that can be reached in the index, respectively.

[9] This study applies Heckman´s two stage method in order to empirically test the hypotheses under study. As shown in the "*Analysis and results*" section, this method requires to incorporate control variables that may influence simultaneously both the choice to diversify and firm performance.

corporate governance characteristics, which are used as indicators of both the degree of monitoring that external owners may exercise over managers and the alignment of interests between them, including *External Monitoring*, which is a dummy variable that takes a value of 1 if external owners have 5% or more of the outstanding shares, and a value of 0 otherwise[10]; *CEO Ownership*, which is a dummy variable that takes a value of 1 if CEOs have equity stakes in their firms, and a value of 0 otherwise; and *Board Independenc*e, that is measured by the proportion of inside directors to the total number of directors. The second group refers to pre-diversification organizational characteristics, which measure the availability of firm resources prior to diversifying, including *Initial Size*, as measured by log of total assets; *Initial Profitability*, as measured by ROA; *Initial Investment*, as measured by capital expenditures/sales; and *Export Activity*, which is a dummy variable that takes a value of 1 if the firm exports, and a value of 0 otherwise. Finally, the third group refers to pre-diversification industry characteristics in order to capture the attractive of the origin industry and it contains only one variable such as *Industry Profitability*, defined as ROA of the primary four-digit SIC industry.

Three-year pre-diversification averages were calculated for all continuous variables, while dummy variables were measured the year prior to the diversification event. These data come from the SABI database.

Distribution of sample by type of diversification and descriptive analysis of variables

The type of diversification strategy followed by each sample firm was identified according to the following criterion (Varadarajan and Ramanujan, 1987; Hoechle *et al*., 2012): a company is classified as *Related*

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[10] According to Mayer & Whittington (2003), this study uses the cut-off point of 5% of outstanding shares given the importance of powerful owners in Western European countries.

Diversifier if it reports more than one business segment at the four-digit SIC level but with the same two-digit SIC code and as *Unrelated Diversifier* if it reports more than one business segment at the two-digit SIC level.

The distribution of the sample between both categories is as follows: 124 companies out of a total of 183 specialized firms in 1997 shifted to a related diversification strategy between 1998 and 2001 (67.7%) and only 59 firms to an unrelated diversification strategy (32.3%). Thus, it is possible to arrive at the same conclusion as Sánchez-Bueno *et al.* (2006) and Martínez-Campillo and Fernández-Gago (2011): the most frequent strategic changes of Spanish firms are those from single-business strategy to related diversification; that is, towards moderate levels of diversification.

Finally, Table 3 presents the main descriptive statistics and the correlation coeficients for all variables included in the study. Although some explanatory variables show a statistically significant correlation, the highest VIF-value encountered is 3.367, which is well below the recommended maximum value of 5. This demonstrates the absence of multicollinearity in the models estimated[11].

(*Insert Table 3*)

Analysis and results

This study applies Heckman´s (1979) two-stage method in order to control for the endogeneity bias in the link between diversification type and firm performance. In this case, in the first stage the procedure estimates

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[11] Multicollinearity was analysed by examining the Variance Inflation Factor (VIF) for each explanatory variable. The VIF-value is defined as $1/(1- R^2_j)$, where R^2_j is the R^2 coefficient of the auxiliary regression of the variable X_j on the other predicting variables included in each model. A rule of thumb is that VIF-values bigger than 5 could imply multicollinearity, while VIF-values bigger than 10 would indicate severe multicollinearity (Marquardt and Snee, 1975; Kleinbaum *et al.*, 1998).

selection equations as maximum-likelihood probit models to predict the propensity to diversify into related/unrelated businesses and calculate the *inverse Mills ratio* (λi). In the second stage, the two corrected regression equations are estimated by OLS regression to examine the performance effects of both types of diversification (Appendix B). Specifically, according to the moderation perspective that allows to operationalize the concept of fit in contingency approach (Carte and Russell, 2003), this study uses a hierarchical regression analysis in the second stage of Heckman´s method for testing hypotheses[12]. The estimation results are reported in Tables 4 and 5[13].

Table 4 contains the results of the regression estimating the impact of related diversification on firm profitability. Sample selection bias was detected and corrected when Heckman's procedure was employed. *Model 1* includes the control variables only. The coefficients for external monitoring, CEO ownership, the proportion of insider directors, and export activity are significantly and positively associated with ROA. In *Model 2*, related diversification and CEO leadership style variables are added. The positive and significant coefficients for these two variables suggest that both the level of diversification into related businesses (β =.43; p<.10) and a leadership style of CEOs closer to the steward model versus agent model (β =.55; p<.05)

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[12] The results of the estimation of selection equations; that is, the results of first-stage probit regressions predicting the propensity to diversify into related/unrelated businesses are not reported in order to save some space, although they are available upon request.

[13] All estimations reported in Tables 4 and 5 by using MNSD and BSD measures of the type of diversification were repeated with the related and unrelated components of the entropy measure. Both the sign and significance of the main results remained the same. However, the need to break down a firm's total sales by activity codes to calculate both components of the entropy measure reduced the sample size from 183 to 118 diversifying firms.

have an impact on enhancing firm profitability. So, the result found for the first variable led us to accept the hypothesis H_1, but only at the 10% significance level[14].

Lastly, *Model 3* shows a significant moderator effect of CEOs´ leadership style on the related diversification-profitability link ($\beta =.31; p<.10$). Specifically, the positive and significant coefficient for the interaction term would suggest that the greater the value of the CEO leadership style variable (that is, the closer the diversifying manager is to the steward model versus agent model), the greater the positive effect of related diversification on firm profitability. Moreover, after verifying the statistical significance of the interaction term, Carte and Russell (2003) advise to use ΔR^2 instead of β_3 as an index of moderator effect size. In this case, an increase in R^2 of Model 3 compared to Model 2 equal to 0,05 ($p<.10$) would reveal that the interaction between both variables explains a 5% of variance in ROA. As a result, the hypothesis H_3 is also weakly supported.

(*Insert Table 4*)

Table 5 summarizes regression results on the relationship between unrelated diversification and firm growth. All models show that the coefficient of the λ_i variable is not significant, indicating the absence of sample selection bias. Results for control variables are shown in *Model 1*. In particular, CEO ownership and board independence, as well as both initial firm and industry profitability have a significant positive relationship with firm growth. *Model 2* reflects the main effects of unrelated diversification and CEO leadership style

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[14] As further tests of robustness, two more estimations were conducted: First, the relationship between unrelated diversification and firm profitability was also tested in Model 2. Results indicate that such a link is negative ($\beta =-.15$), but not statistically significant. Second, the Mann-Whitney U test demonstrated that there are statistically significant differences between related and unrelated diversifiers with respect to firm profitability (at the 5% level), so that the former obtain the highest mean profitability value (0.14 versus -0.02).

variables. As shown, neither variable appears to have a substantial direct impact on enhancing firm size. Specifically, results show that diversification into unrelated businesses has a positive but not significant effect on firm growth. Thus, the hypothesis H_2 is not supported by data[15].

Finally, *Model 3* includes the interaction term between both variables. Results indicate that this term is statistically significant ($\beta = -.34; p<.05$). Moreover, as predicted, the negative coefficient would suggest that the lower the value of the CEO leadership style variable (that is, the closer the diversifying manager is to the agent model versus steward model), the greater the positive effect of unrelated diversification on firm growth. Thus, although the main effects of unrelated diversification and CEO leadership style are not significant, the combined effect of both variables affects negatively and significantly corporate growth. Specifically, an increase in R^2 of Model 3 compared to Model 2 equal to 0,15 ($p<.05$) would demonstrate that such interaction explains a 15% of variance in firm growth. Thus, results find support for the hypothesis H_4.

(*Insert Table 5*)

Conclusions

This paper aims to accomplish two objectives. The first is to shed light on both the relationship between related diversification and firm profitability, as well as that between unrelated diversification and firm growth in the Spanish context, since none of these two causal links has been empirically tested to date. The second goal is to study the moderating role of the leadership style of the diversifying CEO on both linkages, so that

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[15] As further tests of robustness, two more estimations were conducted: First, the relationship between related diversification and firm growth was also tested in Model 2. Results indicate that such a link is also positive ($\beta =.09$) and not statistically significant. Second, the Mann-Whitney U test demonstrated that firms with unrelated diversification have a higher mean growth rate than those with related diversification (0.59 versus 0.53), but this difference is not significant.

the executive leadership style is identified according to the agency-stewardship approach. Empirical results show the following findings from a sample of Spanish firms.

Regarding the first goal, the hypotheses are only partially validated by data. As predicted, the related diversification moves of Spanish firms have been translated into profitability benefits. Since these companies have been immersed in an extremely fierce competitive environment during the period of study, their related diversification processes seem to have been the outcome of a rational profitability-seeking behaviour to survive and thrive in that business context so that profits derived from exploiting economies of scope have been greater than costs associated with its implementation. Moreover, related diversification could have had profitability advantages in Spain due to late-developed countries are characterized by greater imperfections in the markets for capital, products and managerial talent, and related diversified firms could have acted as intermediaries between individual entrepreneurs and imperfect markets. Thus, our result supports the empirical findings of several previous studies from different countries that also find that related diversification predicts higher profitability (Collis and Montgomery, 1997; Palich *et al*., 2000; Miller, 2006; Dess *et a*l., 2010).

Contrary to our arguments, unrelated diversification has not been as closely tied to growth benefits as was theoretically assumed. The previous studies by Geringer *et al.* (2000) and Kim *et al.* (2004) also find that the relationship between this strategy and firm growth is not statistically significant. This could be due to an inadequate implementation of internal mechanisms necessary to successfully manage unrelated diversification since, as with any other strategy, the extent to which its potential benefits are actually achieved depends largely on how effectively it has been implemented and managed. One other possible explanation could be that, in general, the strategic objectives of such investments for Spanish firms have been different during the

period of study. So, the unrelated diversification moves of Spanish firms could have been a defensive reaction to a perceived threat in a business reality characterized by mature, risky, and inefficient markets rather than a means to achieve firm growth and to enable empire-building.

Concerning the second goal, results suggest that a higher relative performance in terms of firm profitability and growth can be derived from a better fit between diversification type and executive leadership style. On the one hand, empirical findings evidence that Spanish CEOs closer to the steward model are particularly influential when managing related diversification. Specifically, this study provides support for the notion that these CEOs show a more positive relationship between related diversification and firm profitability that CEOs closer to the agent model. This would be related to stewards tend to be more concerned than agents with achieving profitability benefits. For this reason, in order to enable their companies to improve their competitive position in a highly fierce environment, Spanish CEOs closer to the steward model have been more likely than agents to establish the best organization to attain effectively the potential profitability benefits of related diversification.

On the other hand, although unrelated diversification *per se* does not significantly affect the growth of Spanish firms in general, surprisingly, the unrelated diversification-firm growth relationship seems to differ significantly in function of if diversifying CEOs are more inclined to act as agents or as stewards. Specifically, the closer Spanish CEOs´ leadership style is to the agent model, the greater the positive effect of unrelated diversification will be on firm growth. This would be due to that these CEOs have been more involved than stewards in implementing the most appropriate organization to allow the growth benefits of unrelated diversification to be successfully achieved. Indeed, as well as providing other important managerial perquisites which can not be attained with other strategies -for example, reductions in both earnings

variability and unemployment risk-, unrelated diversification usually allows a more substantial and rapid increase in firm size and hence in promotion opportunities, status, independence, and remuneration of CEOs. Thus, since the average firm size in Spain is smaller than in most developed economies, the desire of Spanish CEOs closer to the agent model to grow their firms to build empires and increase their economic and social privileges could well explain why their unrelated diversification strategies had been more successfull in terms of growth than those implemented by CEOs more inclined to act as stewards.

Theoretical and practical implications

This article may be relevant to both researchers and practitioners. For researchers, it suggests that the contradictory findings about the relationship between diversification type and firm performance might be partially explained by considering that such a link may be contingent on CEOs´ leadership style, so that this organizational factor should not be ignored *vis-à-vis* other moderating variables considered in previous research. Moreover, since the relevance of CEOs´ leadership style on how they make strategic decisions in organizations and hence on the ultimate effects derived from them, this research encourages reflection on those critical factors that may influence how the leadership style of future CEOs takes shape.

This work also has two important implications for practitioners. First, it offers general support for the idea that both the relationship between related diversification and firm profitability, as well as that between unrelated diversification and firm growth, are not homogeneous across all CEOs managing diversification. Generally speaking, the profitability benefits of related diversification 'will be better realized' if diversifying CEOs are closer to the steward model, while the potential growth benefits of unrelated diversification 'will only be realized' if the leadership style of CEOs that manage this strategy is closer to the agent model. In contrast, profitability and growth benefits will suffer when there was a mismatch between diversification type

and executive style. Second, in an era in that the leadership style is a key to organizational success (Storey, 2005; O'Reilly *et al.*, 2010), this study provide insights into the best style to manage each type of diversification in order to achieve more effectively the goals set up in business management plans. Indeed, depending on firms´ priority regarding the diversification benefits -profitability or growth-, one leadership style can be more effective and hence more convenient than the other. This means that firms, in order to attain their specific diversification goals, as well as considering the psychological characteristics of individuals occupying the CEO position, also have to foster the situational conditions under which agent or steward behaviours can flourish.

Limitations and future avenues of research

Although there are many implications, the study has some limitations. First, although this article emphasizes the importance of the Spanish institutional environment to better understand the debate about the benefits of each type of diversification, it is limited to infer which kind of relationship is more likely to exist in Spain in the light of its institutional conditions, without considering any specific variable related to such conditions in empirical models. Second, this work implicitly assumes that diversification always coincides with CEOs´ preferences. Although they often dominate strategic decision processes, the other corporate executives may also affect the scope of firms in some countries. Third, the study supposes that CEOs´ leadership behaviour remains constant over time.

For future researchers, this study suggests the convenience of complementing the early works on the benefits of related and unrelated diversification strategies with new studies from diferent contexts in order to determine how the differences in the institutional environment across countries can influence entrepreneurial and managerial behaviour regarding corporate diversification. Another potential area for future research

would include the incorporation of variables that capture the dynamic nature of owner-manager relationships in order to allow for today´s agent becoming tomorrow´s steward. Lastly, our findings also encourage new research examining if the influence of CEOs leadership style on firm performance might be mediated by the type of diversification strategy. No doubt these questions need more attention and point to promising areas for future research.

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Appendix A

Measure items of CEO Leadership Style (CLS)

DIMENSIONS	ITEMS	
Psychological Factors		
Work Motivation	CLS1	I need to feel proud of my own work
Organizational Identification	CLS2	I find that my values and the organization´s values are very similar
Use of Power	CLS3	Employees acknowledge my experience when they have to comply with my orders
Situational Factors		
Management Philosophy	CLS4	There is fluent communication between employees and management team within this firm
Individualism-Collectivism	CLS5	There is a cooperative atmosphere in this firm to benefit group success
Power Distance	CLS6	All members of this company are encouraged to express their own ideas and opinions

Appendix B

Selection and regression equations (Heckman´s two-stage method)

Heckman´s method corrects for the endogeneity bias in the following way (Wooldrigde, 2002): (a) it requires identifying at least one variable that may be a significant regressor in selection equations but not in regression equations. The fraction of firms in the primary industry that are diversified resulted to be appropriate for such a purpose (Villalonga, 2004). Due to data limitations, this variable had to be calculated from the sample; and (b) it requires most regressors in regression equations may be included in selection equations.

Specifically, this study considers the following selection and regression equations:

Initial regression equations:

$$PROFITABILITY_i = \alpha + \beta_1 RD_i + \beta_2\ CLS_i + \beta_3\ (RD_i \times CLS_i) + \beta_4\ X_i + \varepsilon_i \qquad (1)$$

$$GROWTH_i = \alpha + \beta_1 UD_i + \beta_2\ CLS_i + \beta_3\ (UD_i \times CLS_i) + \beta_4\ X_i + \varepsilon_i \qquad (2)$$

where $PROFITABILITY_i$ is the ROA of the diversifying firm i; $GROWTH_i$ the sales growth of the diversifying firm i; RD_i a related diversification index; UD_i an unrelated diversification index; CLS_i an index of the CEO´s leadership style; X_i a vector of control variables and ε_i a normal error term. Both regression equations were estimated from the final sample of 183 diversifying firms.

Selection equations:

$$RD_i^* = \gamma\ Z_i + \mu_i \qquad (3)$$

$$UD_i^* = \gamma\ Z_i + \mu_i \qquad (4)$$

where the latent variables RD_i^* and UD^* are observed as:

$RD_i = 1$ (the firm i decides to diversify into related businesses) if $RD^* > 0$,

$UD_i = 1$ (the firm $_i$ decides to diversify into unrelated businesses) if $UD_i{}^* > 0$,

or as:

$RD_i = 0$ (the firm $_i$ decides not to diversify into related businesses) if $RD_i{}^* \leq 0$,

$UD_i = 0$ (the firm $_i$ decides not to diversify into unrelated businesses) if $UD_i{}^* \leq 0$,

and where Z_i is a vector of variables that affect a firm´s propensity to diversify (all control variables from the regression equations since they also relate to the choice to diversify, as well as the fraction of diversified firms in the primary industry) and μ_i is a normal error term. Selection equations require data from both diversifying and specialized firms. For this reason, each diversifying firm in the final sample was paired with one of the 736 specialized firms in the population. Matching criteria were proposed by Miller (2004) for a similar purpose: sharing the same principal business at the two-digit SIC code level and having a similar size (within 70-130% of sales and/or employees) in the year prior to the diversification event.

Lastly, the fact that the benefits of related and unrelated diversification strategies are only observed if firms decide to diversify might lead to endogeneity bias from self-selection. Heckman´s method controls for this bias by meeting the two previously cited identification conditions, as well as including the *inverse Mills ratio* (λ_i) as an additional regressor in regression equations. After incorporating this correction, the final regression equations are:

Corrected regression equations:

$$PROFITABILITY_i = \alpha + \beta_1 RD_i + \beta_2\ CLS_i + \beta_3\ (RD_i\ x\ CLS_i\ ) + \beta_4\ X_i + \theta\lambda_i \qquad (5)$$

$$GROWTH_i = \alpha + \beta_1 UD_i + \beta_2\ CLS_i + \beta_3\ (UD_i\ x\ CLS_i\ ) + \beta_4\ X_i + \theta\lambda_i \qquad (6)$$

Table 1. Overview of agency and stewardship theories.

	Agency Theory	Stewardship Theory
CEO Leadership Style	Agent	Steward
Model of Man	Economic man	Self-actualizing man
Behavior	Self-serving	Collective-serving
Psychological Factors		
Work Motivation	Extrinsic factors / Lower order needs	Intrinsic factors / Higher order needs
	▪ Income, working conditions, security, status	▪ Self-actualization, recognition, achievement, responsibility, personal growth
Organizational Identification	Low identification with the organization	High identification with the organization
	▪ Low value commitment, low belief in and acceptance of the goals of the organization	▪ High value commitment, high belief in and acceptance of the goals of the organization
Use of Power	Institutional	Personal
	▪ It is vested in the individual by virtue of his/her position in the firm	▪ It is an inherent part of the individual and it is not affected by his/her position in the firm
Situational Factors		
Management Philosophy	Control oriented	Involvement oriented
	▪ It is designed to avoid the need of trust	▪ It is focused on the establishment of trust
Cultural Differences	Individualism	Collectivism
	▪ Subordination of group goal to individual goals	▪ Subordination of individual goals to group goal
	High power distance	Low power distance
	▪ It is accepted that less powerful members are dependent on more powerful members	▪ The independence of the less powerful members is valued and encouraged

Source: Adapted from Davis *et al.* (1997: 37)

Table 2. Exploratory factorial analysis.

CEO Leadership Style (CLS)		
Dimensions	Items	Factorial loads (Factor 1)
Work Motivation	CLS1	0,778
Organizational Identification	CLS2	0,795
Use of Power	CLS3	0,811
Management Philosophy	CLS4	0,843
Individualism-Collectivism	CLS5	0,773
Power Distance	CLS6	0,804

K.M.O. = 0,900
Bartlett's test of sphericity: $\chi^2 (15) = 337.11$ ($p < 0,01$)
Eigenvalue = 3.849
Explained variance = 64.15%

Table 3. Descriptive statistics and correlations.

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1.ROA	0.06	15.32	1.00											
2.Sales Growth	0.56	0.79	0.05	1.00										
3.CEO Leadership Style	45.65	22.28	0.28**	-0.02	1.00									
4. Related diversification	3.12	2.41	0.20*	0.04	0.16*	1.00								
5. Unrelated diversification	1.71	0.77	-0.08	0.07	-0.11	0.17*	1.00							
6.External monitoring	0.77	0.43	0.19*	-0.06	0.06	0.14	-0.10	1.00						
7.CEO ownership	0.47	0.49	0.49***	0.26**	0.15	0.07	0.04	0.41***	1.00					
8.Board independence	0.21	29.18	0.45***	-0.17*	0.24**	-0.08	0.11	-0.29**	-0.14*	1.00				
9. Initial size	13.36	0.87	-0.05	-0.09	0.09	-0.18*	-0.12	0.08	0.09	0.06	1.00			
10.Initial profitability	0.04	10.11	0.06	0.45***	0.07	0.06	0.03	-0.05	0.01	-0.05	0.11	1.00		
11.Initial investment	0.51	0.59	-0.04	-0.05	0.10	-0.03	-0.02	-0.11	-0.12	-0.10	0.02	0.01	1.00	
12.Export activity	0.64	0.32	0.34**	0.08	0.24**	0.20*	0.02	0.10	-0.01	0.16*	0.13	0.03	-0.01	1.00
13.Industry profitability	-0.03	11.41	0.02	0.13*	0.03	0.15	0.01	0.09	0.08	-0.01	0.08	0.10	-0.11	0.06

n =183

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Table 4. Results of second-stage regressions predicting firm profitability.

Variables	Model 1	Model 2	Model 3[a]
External monitoring	0.28*	0.22*	0.29*
	(0.19)	(0.14)	(0.14)
CEO ownership	0.80**	0.99**	0.98**
	(0.37)	(0.31)	(0.31)
Board independence	1.02***	1.18***	1.11***
	(0.21)	(0.25)	(0.30)
Initial size	0.13	0.06	0.07
	(0.11)	(0.10)	(0.10)
Initial profitability	0.21	0.16	0.13
	(0.15)	(0.09)	(0.11)
Initial investment	-0.01	-0.01	-0.01
	(0.01)	(0.01)	(0.01)
Export activity	0.59*	0.30*	0.29*
	(0.25)	(0.21)	(0.21)
Industry profitability	0.08	0.02	0.04
	(0.18)	(0.15)	(0.16)
Related Diversification		0.43*	0.40*
		(0.29)	(0.23)
CEO Leadership Style		0.55**	0.58**
		(0.20)	(0.20)
Related Diversification x CEO Leadership Style			0.31*
			(0.17)
λ_i	0.76*	0.64*	0.65*
	(0.52)	(0.48)	(0.27)
Wald[b]	$\chi^2 (8) = 170.40$***	$\chi^2 (10) = 263.97$***	$\chi^2 (11) = 273.15$***
R^2	0.31	0.41	0.46
ΔR^2			0.05*

Dependent variable: *ROA*

n = 183

[a] The two continuous variables used in the interaction term were centred. Results are similar if un-centred.

[b] Wald test is a χ^2 test of all coefficients in the regression model, except the constant, are equal to 0.

Values are un-standardized coefficients, with standard errors in parentheses.

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Table 5. Results of second-stage regressions predicting firm growth.

Variables	Model 1	Model 2	Model 3[a]
External monitoring	-0.54	-0.57	-0.55
	(0.37)	(0.34)	(0.34)
CEO ownership	0.77**	0.74**	0.75**
	(0.35)	(0.32)	(0.31)
Board independence	-0.50**	-0.62**	-0.51**
	(0.21)	(0.23)	(0.24)
Initial size	-0.15	-0.10	-0.11
	(0.11)	(0.09)	(0.09)
Initial profitability	1.34***	1.14***	1.08***
	(0.31)	(0.29)	(0.29)
Initial investment	0.07	0.10	0.08
	(0.16)	(0.15)	(0.15)
Export activity	0.10	0.18	0.20
	(0.23)	(0.21)	(0.21)
Industry profitability	0.16	0.22*	0.24*
	(0.09)	(0.13)	(0.13)
Unrelated Diversification		0.16	0.13
		(0.19)	(0.19)
CEO Leadership Style		-0.07	-0.05
		(0.05)	(0.01)
Unrelated Diversification x CEO Leadership Style			-0.34**
			(0.14)
λ_i	0.18	-0.16	-0.14
	(0.56)	(0.48)	(0.48)
Wald[b]	χ^2 (8) = 77.71***	χ^2 (10) =104.81***	χ^2 (11) =112.06***
R^2	0.24	0.25	0.40
ΔR^2			0.15**

Dependent variable: *Sales Growth*

n =183

[a] The two continuous variables used in the interaction term were centred. Results are similar if un-centred.

[b] Wald test is a χ^2 test of all coefficients in the regression model, except the constant, are equal to 0.

Values are un-standardized coefficients, with standard errors in parentheses.

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$