

# The Impact of Managers' Global Orientation on SME Export and Economic Performance

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**Abstract** This study investigates the relationship between selected managers' attitudinal and cognitive aspects, proxied through observable demographic variables, and small and medium-sized enterprises' export and economic performance. We argue that a manager's positive attitude, vision, and commitment towards international business reflected in his/her level of global orientation (MGO) will positively influence various dimensions of the firm's performance. We contend further that this impact is consistent in the long term and differs according to firm size and industry. Based on a sample of 271 manufacturers between 2005 and 2014 (2710 observations), empirical findings provide overall support for our arguments, showing that MGO is positively related to firms' export intensity, scope and speed. Accordingly, firms whose managers have a higher MGO perform a more rapid first-time foreign market entry, they export to more countries, and they sell a higher percentage of their total turnover abroad. The level of MGO is also associated with some export-marketing outcomes, namely the creation of a network of sales partners and export planning. Finally, a higher MGO is also related to increases in overall profitability, particularly for smaller firms and for the Manufacturing and wholesale industry. The paper concludes with a discussion about managerial and public policy implications.

**Keywords** Manager's global orientation · Export performance · Managerial cognition · SME · Upper echelons

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## 1 Introduction

The factors that determine which companies are better equipped to achieve success in international markets has been widely acknowledged as a seminal research issue in both the international business and strategic management literatures (Leonidou et al. 2002; Chetty and Hamilton 1993), and it is particularly crucial in the present context of increasingly globalized and highly competitive markets.

Extensive evidence exists of the positive effects both at the micro- and macro-economic level of firms' higher exports. An increase in aggregate exports creates several benefits to national economies, such as improvements in the balance of payments, an increase in employment, and enhanced competitiveness (Seringinghaus and Botschen 1991; Kotabe and Czinkota 1992). As a consequence, most countries have created export promotion programs (EPPs) to motivate and assist companies in their internationalization process, providing them with information, financial aid, contacts, and export know-how (Freixanet 2012). Identifying the factors that make some companies more internationally successful is fundamental to improve EPPs targeting and make promotion systems more effective and efficient.

An area that has attracted considerable attention is the role of the decision maker in a firm's success in international markets. Several studies have tried to elucidate the factors that enable some individuals rather than others to recognize and exploit opportunities across borders, resulting in improved export performance for their firms (Cavusgil and Nevin 1981; Knight 2001; Manalova et al. 2002). A subset of studies in this area has focused on the antecedents and effects of the so-called manager's global orientation (MGO), which refers to his/her positive attitude, vision, and commitment towards international business, and to his/her ability to adapt to different environments and cultures (Moen and Servais 2002; Nummela et al. 2004). These attitudinal and cognitive aspects derive from managers' international experiences and knowledge (Acedo and Jones 2007).

Previous studies have found that MGO is a prerequisite for the emergence of rapidly internationalizing firms (Harveston et al. 2000; Fletcher 2001; Townsend and Cairns 2003); that it increases the use of full-control foreign market entry modes (Nielsen and Nielsen 2011); and that it has a positive impact on international performance (Athanasios and Nigh 2002; Dichtl et al. 1990; Gray 1997; Kyvik et al. 2013). As these early studies suggest, the link between MGO and firm export activity is a relevant and promising field with important management and public policy implications. However, despite calls for further research, the literature in this area is surprisingly underdeveloped. Besides an evident paucity of recent studies, earlier research exhibits important limitations, such as the measurement of the effects of MGO basically through only one financial outcome (export volume/intensity), the measurement of MGO only through managers' international experience, the neglect of long-term evolution, or the absence of any kind of industry analysis. We still know little about the full extent of the impact of MGO or the firm-specific factors

that influence it. To date, no studies have entirely considered the different dimensions of export performance and firm heterogeneity in MGO impact, in relation to firm resources and industry contextual elements.

This paper aims to fill this gap by analyzing the relationship between selected managers' attitudinal and cognitive aspects, measured through observable demographic characteristics (Hambrick and Mason 1984), and the international and economic performance of firms of different sizes and industries. Drawing on the resource-based view (RBV), the upper echelons and internationalization process theories, we assume that the level of MGO will affect a firm's intermediate and final exports and economic outcomes, this impact being consistent in the long term, and different, depending on firm size and industry.

To analyze these hypothesized relationships, we studied a sample of 271 manufacturing firms operating in nine different sectors over the period 2005–2014 (2710 observations). The empirical results provide overall support for our hypotheses, showing a positive relationship between the level of MGO and export intensity, as well as with internationalization scope and speed. Accordingly, firms whose managers have a higher MGO implement a more rapid, first-time entry into a foreign market, they export to more countries, and they sell a higher percentage of their total turnover abroad. The level of MGO is also associated with some export marketing outcomes, namely the creation of a network of sales partners and export planning. Finally, a higher MGO is also related to increases in overall profitability, particularly for smaller firms and for the Manufacturing and wholesale industry.

This study yields several academic contributions. First, it provides stronger empirical accuracy and a more comprehensive view of the impact of MGO in a firm's exports-related outcomes (Leonidou et al. 2002; Diamantopoulos et al. 1993). While previous papers have examined the effects of managers' global mindset, this is the first one to qualify this impact considering several dimensions of export performance (scale and geographic spread), as well as speed of internationalization, and including both objective performance indicators and subjective managerial perceptions (Freixanet 2012; Gençtürk and Kotabe 2001; Katsikeas et al. 1996). Second, this study helps to determine some firm-specific factors that shape the relationship between MGO and overall economic performance at the firm level, empirically analyzing the role of both firm size and industry (Kyvik et al. 2013; Chetty and Campbell-Hunt 2003; Acedo and Jones 2007). Third, it combines firm-level data from different sources into a unique, rich dataset, and conducts a longitudinal study enabling a dynamic perspective of the examined relationships and their long-term consistency (Filipescu et al. 2013; Leonidou and Katsikeas 2010). There are also relevant contributions for practitioners and policy makers. Our results provide managers with new insights on the importance of their cognition and attitudes regarding firm exports and performance, with significant implications for the process of hiring and training them. The conclusions also have important public policy implications with regard to the design and management of export promotion programs.

The remainder of the paper is organized as follows: Sect. 2 establishes the conceptual link between MGO, international, and economic performance, and sets out the hypotheses. Section 3 presents the methodology and data. Section 4 presents and analyzes the findings. Finally, Sect. 5 discusses the conclusions and the academic, managerial, and public policy implications.

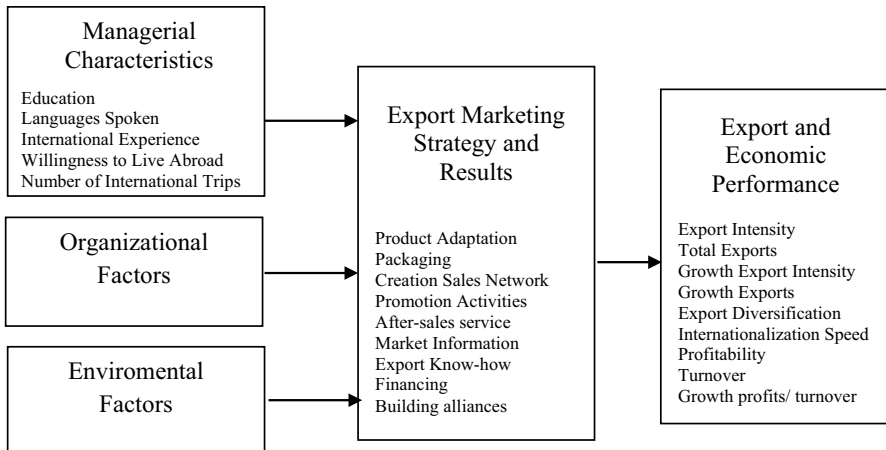
## 2 Conceptual Framework and Hypotheses

This study draws basically on the resource-based view (RBV), complemented by the upper echelons perspective and the internationalization process theory. The RBV (Barney 1991; Peng 2001) centers on the exploitation of firms' resources and capabilities to obtain a sustainable competitive advantage (Galbreath 2005; Grant 2016). Of these resources, intangible human resources are considered crucial for enhancing firm performance (Surroca et al. 2010). Upper echelons theory (Hambrick and Mason 1984) analyzes the role of top management in firms' strategic choices and performance. This study centers specifically on selected decision makers' attitudinal and cognitive elements, proxied through observable demographic factors (Nielsen and Nielsen 2011), and reflected in his/her level of MGO.

Complementarily, the internationalization process, or Uppsala model (Johanson and Vahlne 1977, 1990), focuses on firms' gradual acquisition, assimilation, and use of foreign market knowledge leading to an increased commitment to internationalization. The internationalization process model has been challenged by the emergence of born-global firms (Oviatt and McDougall 1994; Knight 1997) or the big-step hypothesis (Pedersen and Shaver 2011), which may question some key assumptions of this theory, such as the slow progress in reaching further internationalization stages. In this sense, although some firms may internationalize shortly after their inception, leapfrog stages in the foreign market establishment chain, or follow a discontinuous process, previous research indicates that learning and accumulating experiential knowledge is both a requirement for, and a consequence of, more advanced levels of export involvement (García et al. 2012; Salomon and Jin 2010; Petersen et al. 2008; Prashantham 2005; De Clercq et al. 2012).

Managerial and organizational resources and capabilities, together with environmental factors, have an impact on export marketing strategy and results, which in turn affect exports and economic performance, as shown in Fig. 1 (Leonidou et al. 2002). Export marketing results include such aspects as developing marketing skills, export planning, obtaining market information, creating distribution networks, or establishing alliances (Freixanet 2012). These different marketing achievements are essential for a company to increase its export competitiveness (Crick and Czinkota 1995), the foundations that will enable it to succeed across borders (Spence 2003). Considering these types of 'soft' indicators is necessary to obtain a complete view of the impact any factor will have on export performance (Madsen 1998).

From the perspective of the behavioral theory of the firm (Cyert and March 1963; March and Simon 1958), it is the managers' perceptions and attitudes towards these internal and external factors that may explain why firms with similar resource endowments that compete in the same environment, make different strategic choices



**Fig. 1** The determinants of export performance. Adapted from Leonidou et al. (2002) and Hambrick and Mason (1984)

(Simon et al. 2000). Perceptions are conditioned and modified by individual cognitive differences (Baron 1998), and these, in turn, by managers' backgrounds and experiences (Hambrick and Mason 1984). These are 'idiosyncratic givens', a cognitive base that filters and distorts the decision maker's view of what is going on and what should be done about it (March and Simon 1958). That is to say, the manager's eventual perception of the situation combines with his/her values to provide the basis for strategic choices (Hambrick and Mason 1984), such as those concerning a firm's international expansion. Hence, following this same logic, decision makers' features are likely to significantly affect decisions on foreign market selection, entry, and marketing which, in turn, will have an impact on export economic performance (Gray 1997; Levy et al. 2007; Morgan and Katsikeas 1997; Halikias and Panayotopoulou 2003). Therefore, it is very important to take cognitive phenomena and managers' characteristics into account when analyzing export activities (Moen and Servais 2002; Townsend and Cairns 2003), which in this study we measure through the level of MGO.

## 2.1 MGO and Firms' Export and Economic Performance

Managers' global orientation has been described as a geocentric view of international markets (Perlmutter 1969; Calof and Beamish 1994), and an aspiration to exploit these with proper marketing strategies (Levitt 1983). Some attitudes that have been found to be connected to a high MGO are a global and cultural awareness and sensitivity, and a transnational view of market opportunities or segments (Barham 1987; Cateora 1993). Levy et al. (2007, p. 244) define a global mindset as "an

articulation of multiple cultural and strategic realities on both global and local levels, and the cognitive ability to mediate and integrate across this multiplicity". These attitudes render international managers with higher MGO less likely to be affected by psychic distance—the perceived political, cultural, and language barriers that may hamper expansion across borders (Johanson and Vahlne 1977; Williams 2011), and better at coping with diverse competitive environments than domestically oriented decision makers (Nielsen and Nielsen 2011; Gupta and Govindarajan 2002).

Furthermore, Acedo and Jones (2007) found MGO to be related to two qualities that characterize entrepreneurial behavior, namely risk taking and proactivity (Covin and Slevin 1991). Williams and Chaston (2004) also suggest that an MGO component, international experience, is related to more confidence regarding exporting activities. According to these studies, a higher MGO decreases the perception of risk associated with international business opportunities, so managers will be more willing to expand across borders. It also increases managers' international proactivity, which involves scanning the environment for opportunities, and showing initiative and perseverance (Crant 2000). This proactive attitude is anticipated to enable managers to change things and take advantage of such change (Bateman and Crant 1993), to respond quickly and properly to the market-changing requirements (Gupta and Govindarajan 2002), and to find strategic partners (Reuber and Fischer 1997; Spence et al. 2011). In summary, a high MGO is likely to influence the decision maker's attitudes, perceptions, and commitment towards international expansion, and to foster international entrepreneurial orientation by increasing proactivity and risk taking (Covin and Miller 2014).

In SMEs (small and medium-sized enterprises), the manager responsible for strategic internationalization-related decisions may exert decisive influence in the firm's export behavior (Kyvik et al. 2013). Thus, his/her dynamic behavior and better decision making is likely to bring about improvements in a SME's export marketing strategies and results. For instance, constantly scanning and monitoring the environment should increase information from the market and clients available to the firm; more proactive and dynamic export behavior may favor export planning and building partnership agreements with distributors or agents; a higher international awareness and sensitivity, together with quick responses to market requirements, may be expected to favor the appropriate adaptation of products, pricing, and promotion activities.

In sum, from the previous presentation of arguments, we support that managers with higher levels of MGO will be able to attain better export marketing results.

*Hypothesis 1: There is a positive relationship between MGO and a SME export marketing results.*

The final goal of the different export marketing activities is to increase international sales. Exports are the primary outcome of different international marketing activities and the yardstick of their effectiveness (Freixanet 2012). Following the logic depicted in Fig. 1, a higher MGO, by producing better decisions and achieving better export marketing results, is expected to generate increases in export performance (Knight 1997; Harveston et al. 2000). Better information on foreign markets will translate into the delivery of more adapted products and effective promotion

campaigns (Li 2017). Creating a larger and better network of agents/distributors will enable the firm to establish a higher presence in the market and generate more potential for sales (Crick and Czinkota 1995). A well-planned and structured international expansion is likely to enable the firm to allocate the necessary resources and better prepare itself for export activity, thus achieving higher exports (Nemkova et al. 2012).

Furthermore, as long as managers are present in the firm, the positive influence of their level of MGO should be felt consistently, year after year, thus also resulting in long-term growth in firms' export performance (Hambrick et al. 1996). Hence:

*Hypothesis 2a: There is a positive relationship between MGO and short-term export performance.*

*Hypothesis 2b: There is a positive relationship between MGO and long-term (growth in) export performance.*

A high level of MGO is also expected to directly and indirectly enhance firms' overall economic performance. First, potential improvements in firms' export marketing strategies and results should potentially help them to be more competitive in the local market (Francis and Collins-Dodd 2004), thus improving overall sales and profitability. Additionally, an increase in the company's international activities has been found to enhance firm profitability through mechanisms such as economies of scale in production and procurement (Cardinal et al. 2011; Hennart 2011; Kirca et al. 2011), economies of scope through a higher business exploitation of the firm's tangible and intangible assets (Hitt et al. 1997; Contractor et al. 2003), or greater learning and productivity (García et al. 2012; Salomon and Jin 2010; Golovko and Valentini 2014; Aw et al. 2007). To the extent that decision makers are managing the firm, and that their higher level of MGO translates into more exports and competitiveness, the firm should experience consistent economic improvements over the years. Therefore:

*Hypothesis 3a: There is a positive relationship between MGO and short-term economic performance.*

*Hypothesis 3b: There is a positive relationship between MGO and long-term (growth in) economic performance.*

## 2.2 MGO and Internationalization Speed

Internationalization speed may be defined as the rapidity with which a firm enters international markets after inception (Acedo and Jones 2007). This is a time-based outcome that is commonly associated with international entrepreneurial behavior (McDougall et al. 2003), and it is a concept that has raised increasing attention over the past two decades (e.g., Cavusgil and Knight 2015). This timespan has generally shortened in recent years because of different factors, such as lower government-imposed barriers to exports and lower transportation costs, coupled with an increase in competition and a reduction in the product's life cycle, which makes companies seek new markets to extend it (Nummela et al. 2004).

The relationship between managers' features and internationalization speed is an under researched area (Kyvik et al. 2013). The few published studies on the topic emphasize the role of the decision maker's global mindset. They point out that MGO determines the manager's capacity and willingness to expand across borders without a long previous period of domestic growth (Acedo and Jones 2007), and even suggest that it may be a requirement for early internationalization (Harveston et al. 2002; Nummela et al. 2004). The reduction of psychic distance pointed out above and managers' international acumen should both favor a more rapid first export market entry for managers with higher MGO. Hence:

*Hypothesis 4: There is a positive relationship between MGO and internationalization speed.*

### 3 Methodology

#### 3.1 Data

Our dataset was built by following several steps. In the first place, we created our sample by using a database named ACICSA<sup>1</sup>, which includes all exporters in the autonomous community of Catalonia (Spain). Following a recommendation by Gençtürk and Kotabe (2001), we limited data collection to a single region or state to reduce the influence of uncontrolled environmental factors. The initial dataset totaled 2763 companies, including firms with small or indirect exports and regular exporters. Primary sector and service firms were ruled out to obtain a more homogeneous sample. Subsidiaries from multinational groups were also removed because belonging to a large group distorts their strategies, marketing decisions, and export figures. This dataset thus consisted of 1874 manufacturers from different economic sectors, and which were not subsidiaries.

A questionnaire was developed by reviewing export literature related to our topic and by pre-testing it with 24 managers from different industries. The comments from these participants enabled us to improve the questionnaire and simplify some of the questions. They also allowed us to obtain managers' opinions and perceptions about the relationship between their cognitive and attitudinal elements and firms' export activities.

The process of data collection started by calling each firm to try to find out the name of the decision maker in charge of export activities, check the address, and obtain his/her agreement to fill out the questionnaire. Thus, we found correct contact data for 1210 firms. In 2005, the questionnaire was sent by mail to each manager, together with a stamped, self-addressed envelope and a letter of endorsement from the university. After this first mailing, we received 214 usable answers, which represent a 17.68% response rate. In order to increase this rate, we sent a follow-up letter to 400 of the firms that had not answered, after which we collected 57 new answers,

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<sup>1</sup> ACICSA (Anuari Català d'Indústria, Comerç, Serveis i Administració).



totaling 271 usable responses (a 22.40% response rate). To evaluate non-response bias, early and late respondents were compared (trend analysis), resulting in no significant differences.

The second step consisted of gathering longitudinal information about the international and economic performance of the companies in our sample, from 2005 until 2014. Regarding the latter, the following data were obtained from a database called SABI<sup>2</sup>: The date of establishment, sector, turnover, net income, total assets, and number of employees for the ten-year period. As for export performance, numerous authors have suggested the difficulty of obtaining reliable export data (e.g., Katsikias et al. 1996; Brouthers and Wilkinson 2006). Therefore, we complemented and triangulated the data coming from the following sources: The information provided by two export promotion organizations (EPOs), ICEX<sup>3</sup> and the Chamber of Commerce, the information from the ACICSA database, as well as information from corporate websites and reports. The use of data from several information sources minimizes potential common method bias problems, and the variables used in the statistical analysis have low correlations. This avoids possible bias problems in our results (Fuller et al. 2016).

In parallel, through company records and websites, we checked the years of departure of the decision makers, and in the event it was before 2014, we took only those years in which they had been in the firm. Note that in the combined dataset managers' characteristics are time-invariant (Kyvik et al. 2013), being available only for 2005.

## 3.2 Variables

### 3.2.1 *Dependent Variables*

An assessment of the impact a firm or management factors exerts on export performance is a challenging task, given the large number of factors that may influence final outcomes (Gillespie and Riddle 2004; Diamantopoulos et al. 1993). The difficulties involved have persuaded many previous studies to use subjective measurements, i.e., based on managers' perceptions (Leonidou et al. 2002). Other researchers have employed objective measures related to turnover, profits, or market share. In addition, as argued in Sect. 2, the effects may be measured not only in terms of final economic performance, but also regarding intermediate results. This study includes objective and subjective measurements of performance, and both intermediate and final results.

<sup>2</sup> SABI includes complete information and financial data coming from official sources such as the stock exchange, press, and company registers, and therefore it has a high degree of reliability.

<sup>3</sup> ICEX (España Exportación e Inversiones) is the main EPO in Spain.

### 3.2.2 Objective/Financial Measurements

*Export performance:* The most frequently used objective/financial indicators used to measure export performance are export volume, export intensity, exports to total assets, and the number of commercial areas or countries in which the firm operates (Katsikeas et al. 2000; Kotabe et al. 2002). Export volume shows the scale of a company's international business; export intensity (percentage of exports over total sales) indicates the importance of export activity for the company relative to its turnover, so it is more independent of the firm's size. It is the most commonly used variable to measure the firm's degree of internationalization (e.g., Kafourous et al. 2008). Furthermore, the number of countries gives an idea about the firm's geographic diversification. In this study, we used both export intensity and export volume to objectively assess export performance. *Economic performance:* A firm's accounting-based sales and net income are the most frequently used measurements of overall economic performance (Katsikeas et al. 2016). Profits determine a firm's viability and the sum shareholders will receive in returns on their investments (Grant 2016). A firm's turnover complements income as a key indicator because companies may increase their sales at the expense of decreasing their margins and profits (Morgan et al. 2009). Therefore, using only one of these outcomes may provide an imperfect picture of actual business performance (Katsikeas et al. 2016), so they were both included in this study.

For both export and economic performance, thanks to our panel data, we were able to consider both annual results, as well as their evolution over time. Longitudinal research has been recurrently recommended in management studies, since it presents several important advantages. First, it enables more reliable estimates of causality among the hypothesized relationships between the different internal and external factors and performance (Leonidou and Katsikeas 2010). Second, it allows establishing long-term effects, and determining whether these effects are consistent year after year (Skarmeas et al. 2002). Finally, it allows for the extraction of more information from data, more degrees of freedom, and less collinearity among variables (Wooldridge 2010).

Additionally, we measured internationalization speed by the number of years it took the firm to start exporting since its creation. Then, we drew on Coviello and Jones' (2004) statement that the age of starting to export for international new ventures averages six years across several studies. International new ventures (INVs) were defined as those firms for which the first market entry was comparatively rapid, taking less than five years since the date of establishment.

### 3.2.3 Subjective Measurements of Export Performance

Based on previous research, we selected a set of complementary indicators of the firm's international competitiveness. The main sources were Hibbert (1990) and Seringhaus (1986), who considered the elements included in our model and found that the creation of a sales partner network was the main factor behind export success, and Crick and Czinkota (1995), who found that product adaptation was paramount.

*Profitability of international sales:* This was measured by comparing it with the profitability of domestic sales, on a ten-point scale going from 'much less profitable' to 'much more profitable'.

*Export marketing results:* These were measured on a ten-point scale, ranging from 'not achieved' to 'completely achieved', and covered the following aspects:

- Marketing competencies: after-sales service, product adaptation, packaging, promotion activities, sales network, and international pricing.
- Market information,
- Information on business practices,
- Financing,
- Opening branch offices or subsidiaries, and,
- Reaching international alliances or cooperation agreements.

*Export planning:* This was measured on a ten-point scale, ranging from 'complete improvisation' to 'we plan to the last detail'.

### 3.2.4 Independent Variables

Previous research has not yet established a generally accepted scale to measure MGO. However, findings in the field indicate that internationally oriented managers are well educated, master foreign languages, have experience in foreign countries, and have a positive attitude towards exporting and staying abroad (Zhang et al. 2009; Dib et al. 2010; Freeman et al. 2012; Kyvik et al. 2013). Consequently, we have used the following items to form this construct:

*Educational level:* (e.g., Koh 1991; Gray 1997; Acedo and Jones 2007): this is measured on a 1–4 scale, ranging from no higher education to a master's degree or Ph.D.

*Languages spoken:* (e.g., Cavusgil and Naor 1987; Lautanen 2000; Williams and Chaston 2004): the number of languages the decision maker understands to the level of 'working knowledge'.

*International experience:* (Nielsen and Nielsen 2011; Caughey and Chetty 1993; Gray 1997; Nummela et al. 2004): this has been found to positively influence attitudes towards international business and management knowledge and skills. It was measured by the number of months the manager has lived abroad, and then graded by dividing the answer into three scales: 0, 1–6 (graded with 1), and more than 7 (graded with 2). Additionally, *willingness to live abroad* (Naor and Punj 1984) was measured by asking the manager if he/she would like to repeat the experience. This attribute was measured through a dichotomous variable (0 = no, and 1 = yes).

*Number of international trips per year:* (e.g., Dichtl et al. 1990): this was divided into four scales: 0, from 1 to 4, from 5 to 10, and more than 10.

These items were added into a single measure. According to upper echelons theory, managers' observable demographic characteristics can be used to infer psychological cognitive bases and values and as such may serve as potent predictors of their strategic decisions (Hambrick and Mason 1984; Nielsen and Nielsen 2011).

While this study focused on managers' characteristics, we also controlled for organizational factors, such as size, company age, industry, firm's export experience, and number of members of the export department.

We divided firm size into four categories following the definition from the European Union<sup>4</sup>: micro-enterprise (up to 10 employees), small firm (between 11 and 50), medium-sized firm (between 51 and 250), and large firm (more than 250). Industries were divided into Agro-industry, Chemicals and paints, Communication and graphic art, Machines and electronic products, Manufacturing and wholesale, Metal products, Paper, wood and furniture, Plastics and rubber, and Textile and apparels.

### 3.3 Statistical Analysis

Two types of models were estimated according to the analyzed data in this study. In the case of objective measurements, considering that longitudinal information was available (firms' international and economic performance from 2005 to 2014), we specified a mixed model with random effects (Pinheiro and Bates 2000). These models allow some of the coefficients to be random; that is, different for the various levels considered in the dataset. Thus, the intercept was allowed to be different for each firm, capturing in this way specific individual characteristics not already included in the model (i.e., unobserved individual heterogeneity). The statistical power is higher using the random effect approach because we are using less degrees of freedom than if we considered the firm as a fixed effect. A mixed model with random effects could be specified as:

$$Y_{it} = \alpha_i + \beta_i X_{it} + u_{it}$$

$$\alpha_i = \alpha + \varepsilon_i.$$

Moreover, in the case of objective performance measures and internationalization speed, we studied the effect of MGO using a linear regression model:

$$Y_i = \alpha + \beta_i X_i + u_i.$$

Interactions in some of the models were also added to observe whether the effect of MGO was different according to firm size or sector.

A natural way to compare mixed models is to use the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC). Both are based on the likelihood function, and a lower AIC together with a lower BIC indicate the best model (Fabozzi et al. 2014).

$$AIC = -2\log L(\hat{\theta}) + 2k$$

$$BIC = -2\log L(\hat{\theta}) + k\log n,$$

<sup>4</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Enterprise\\_size](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Enterprise_size).

where,  $\theta$  = the set (vector) of model parameters;  $-2\log L(\hat{\theta})$  = the likelihood of the candidate model given the data when evaluated at the maximum likelihood estimate of  $\theta$ , and  $k$  = the number of estimated parameters in the candidate model.

Based on AIC and BIC, we selected and present in this paper the best models for each variable.

Finally, to compare sample features by sector, we used the ANOVA and Chi square tests. All analyses were carried out with the free software R (version 3.2.2).

## 4 Data Analysis and Results

### 4.1 Sample Features

On average, the turnover of the 271 companies in our final sample was €16.5 million, and income €0.9 million (see Table 1). Sales grew in the studied period by €1.1 million, while income decreased by €3.3 million. This progression is not significantly different across sectors and is consistent with the macro-economic evolution: Our panel data start in 2005 (a year in which GDP grew by 3.7%) and end, in many cases, in the years of the financial crisis (GDP in Spain decreased by 3.9% in 2009, and continued declining in 2011 (1%), 2012 (2.6%), and 2013 (1.7%), with a growth of 1.4% in 2014).

The average size of the companies in our final sample, as reflected in the number of employees, was 193.3, without significant differences by sector. Our sample included micro-enterprises (12 firms), small (143), medium-sized (94), and large firms (22). Considering these average values, it can be argued that the sample is comprised largely of SMEs, and there are not any large multinationals on the scale of Fortune 500 sized companies represented. In fact, we removed the larger and smaller firms (micro-enterprises) from the sample to homogenize it further, and the results presented in the next sections remain unchanged, thus allowing a clearer generalization for SMEs. In the same vein, we tested without companies that hold foreign production subsidiaries, and the results also held, thus enabling a clearer generalization for exporters.<sup>5</sup>

The average company was 40.3 years old, with the oldest average age being in the Agro-industry (52.9), and the youngest in the Paper, wood, and furniture industry (31.4).

Regarding international activity, firms had an average of 4.4 members in the export department and had been exporting for 18.3 years, with exports amounting to €4.9 million, and export intensity (exports over total sales) of 27.06%. These exports increased by €0.5 million in the period under study, and were targeted mostly at the European Union (61.3% of firms directed more than 80% of their exports to other EU countries). This evolution is, however, different depending on the industry. The Agro-industry and the Chemicals and paints sectors appear to have suffered less from the great trade collapse that started in 2008, than such sectors as

<sup>5</sup> These analyses are available upon request to the authors.

**Table 1** Sample features by sector

Features	Agro-industry (n=30)	Chemicals and paints (n=31)	Communi- cation and graphic art (n=12)	Machines and electronics (n=70)	Manufactures and whole- sale (n=16)	Metal products (n=38)	Paper, wood and furniture (n=22)	Plastics and rubber (n=16)	Textile and apparel (n=36)	Total (n=271)
Basic information										
Sales vol- ume (€)	31,642.16	35,412.07	7531.95	12,074.51	7706.37	16,117.73	11,557.62	8576.15	10,044.22	16,499.97***
Sales growth (€)	15.816.11	1541.17	472.11	-968.59	709.26	-4149.64	608.40	256.38	-685.62	1131.37
Net income (€)	899.49	2088.03	331.55	1120.56	1647.17	687.76	440.76	134.25	471.08	945.52
Net income growth (€)	-470.07	-1946.15	-78.42	-1721.69	120.47	-649.76	-1377.07	-121.73	-18,228.0	-3347.26
Number of employees	162.00	159.32	77.42	115.56	1084.50	242.84	90.09	62.31	111.28	193.29
Years in operation	52.93	32.13	37.17	37.89	43.50	42.92	31.41	34.38	46.42	40.30**
Years exporting	17.30	17.77	12.92	18.74	18.00	19.95	15.82	18.56	20.59	18.32
Members of export depart- ment	5.87	4.61	3.25	4.49	6.13	3.03	3.00	2.81	5.06	4.35
Export performance										
Export sales (€)	9296.66	9406.76	1195.58	4588.42	2192.81	4046.38	3328.46	1882.21	3310.85	4861.35
Export intensity (%)	22.96	17.22	21.91	31.09	24.62	28.25	28.82	24.14	32.84	27.06

**Table 1** (continued)

Features	Agro-industry (n=30)	Chemicals and paints (n=31)	Communi- cation and graphic art (n=12)	Machines and electronics (n=70)	Manufactures and whole- sale (n=16)	Metal products (n=38)	Paper, wood and furniture (n=22)	Plastics and rubber (n=16)	Textile and apparel (n=36)	Total (n=271)
Export growth (€)	5569.03	1818.55	- 527.18	- 273.25	904.52	- 507.96	- 570.36	- 301.24	- 475.52	585.52*
Export Profit- ability	5.57	5.29	6.08	5.31	5.31	5.61	5.73	5.50	5.08	5.43
International- ization Planning	5.93	6.42	6.42	5.73	6.06	5.39	5.27	5.38	5.89	5.80
Export diversification										
Number of export areas	3.60	3.87	2.33	4.43	3.69	3.05	2.82	3.44	3.22	3.59***
Percentage of exports outside EU										
0-20%	63.3%	32.3%	50.0%	55.7%	81.3%	65.8%	72.7%	81.3%	69.4%	61.3%
21-40%	20.0%	29.0%	25.0%	27.1%	12.5%	23.7%	27.3%	12.5%	16.7%	22.9%
41-70%	6.7%	35.5%	0.0%	10.0%	6.3%	10.5%	0.0%	6.3%	13.9%	11.4%
+ 70%	10.0%	3.2%	25.0%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	4.4%***
Number of subsidiaries										
Sales	0.70	2.87	0.75	1.27	0.44	1.13	0.14	0.75	0.50	1.07*
Produc- tion	0.33	0.84	0.17	0.31	0.44	0.16	0.00	0.25	0.33	0.33

Table 1 (continued)

Features	Agro-industry (n = 30)	Chemicals and paints (n = 31)	Communi- cation and graphic art (n = 12)	Machines and electronics (n = 70)	Manufactures and whole- sale (n = 16)	Metal products (n = 38)	Paper, wood and furniture (n = 22)	Plastics and rubber (n = 16)	Textile and apparels (n = 36)	Total (n = 271)
International entrepreneurship										
International- alization speed (years)	35.83	17.03	24.25	19.30	25.50	22.97	15.59	15.81	26.82	22.43**
Internation- al new ventures	13.3%	16.1%	16.7%	27.1%	31.3%	21.2%	31.8%	25.0%	14.7%	21.9%
Managers' global orientation (total)	11.07	10.26	10.40	10.49	10.60	9.52	8.95	9.31	10.16	10.17

ANOVA and Chi square test of significant differences between groups of firms: \* significant differences between groups,  $p < 0.10$ ; \*\* significant differences between groups,  $p < 0.05$ ; \*\*\* significant differences between groups,  $p < 0.01$ . ANOVA tests and Chi square test of significant differences between groups of firms



Communication and graphic art as well as Paper, wood and furniture, which experienced remarkable decreases ( $-527.2$  and  $-570.4$  respectively). Interestingly, those sectors that suffered a higher reduction in exports had a lower export diversification, measured by the number of export areas, which highlights the benefits of reducing risk through market diversification.

Regarding internationalization speed, firms were not particularly fast in starting to export, waiting 22.4 years, on average. However, there are noteworthy differences across firms, with 58 companies (21.9%) that may be considered INVs. Finally, the average total value for MGO (10.17, with '0' being the minimum possible value and '20' the maximum) is similar across industries, and it may be considered acceptable although relatively low for those firms with the smallest scores.

## 4.2 Analysis of the Effects on Export Performance and Speed

### 4.2.1 Final Outcomes

From the regression models in Tables 2 and 3, we can see that, as expected, MGO has a positive significant relationship with export performance as measured by export intensity and export diversification. The inherent cognitive and attitudinal differences reflected in the level of MGO thus may play a role in further orienting the firm towards foreign markets, making it more internationalized, and entering a greater variety of countries. The effects on export intensity are positive for the current year (H2a), as well as for long-term growth (H2b). The model was also tested for each of the available years, and the results were found to be consistent.<sup>6</sup>

Firms in the Metal products sector have also experienced a high increase in their export intensity, which may be explained by the collapse of the Spanish market for this industry during the studied period (firms in this sector reduced their turnover by €4.1 million), which resulted in many of these companies turning more to foreign markets.

The level of internationalization planning reported by firms was also included in the model, because it is one of the intermediate results related to MGO, as we will see below. Interestingly, the results show that export planning is positively related to three internationalization outcomes: export intensity, scale, and scope. Amidst the debate regarding the balance between export planning and improvisation (discussed further in Sect. 5), organizing and scheduling the different export activities appears to yield better results in terms of entering more markets, and achieving a higher export volume in them than by improvising.

Furthermore, the positive relationship of a firm's years of exporting with internationalization diversification and intensity (both short and long term) is noteworthy, but not with export scale. Over time, firms enter into new markets and increase their commitment to internationalization. However, regarding

<sup>6</sup> The year-by-year results were not reported because of length limitations, but are available on demand.

**Table 2** Results: determinants of final export performance outcomes (objective)

	Export intensity growth	Export intensity (n)	Total exports growth	Total exports (n)
(Intercept)	-17.7929 (6.8555)**	-0.1089 (0.0980)	39,328.60 (35,771.49)	26,151.73 (6337.29)***
MGO	0.0206 (0.0080)*	0.0109 (0.0052)*	-103.76 (167.75)	-273.80 (334.41)
Firm size (large firms)				
Medium-sized firms	0.0458 (0.0848)	-0.0343 (0.0557)	-10,343.68 (1939.75)***	-18,525.56 (3705.34)***
Small firms	0.1114 (0.0859)	-0.0181 (0.0564)	-13,958.17 (1998.65)***	-23,696.58 (3810.52)***
Micro-enterprises	0.1467 (0.1364)	-0.0326 (0.0895)	-14,117.30 (2946.65)***	-24,239.79 (5893.27)***
Years in operation	0.0007 (0.0009)	-0.0003 (0.0006)	-22.10 (19.42)	-39.27 (38.94)
Years exporting	0.0041 (0.0022)*	0.0047 (0.0014)**	32.36 (47.20)	40.28 (93.88)
Members export department	-	-	132.94 (67.67)	33.14 (138.24)
YEAR	0.0087 (0.0034)*	-	-12.45 (17.73)	-
Export profitability	-0.0022 (0.0111)	0.0062 (0.0073)	18.80 (242.89)	32.66 (471.29)
Internationalization planning	0.0110 (0.0118)	0.0218 (0.0077)**	438.68 (246.32)*	987.28 (498.32)*
Sector (agro-industry)				
Chemicals and paints	-0.0168 (0.0898)	-0.0686 (0.0589)	-1639.18 (2009.22)	-166.62 (3786.04)
Communication and graphic art	0.0810 (0.1208)	0.0866 (0.0793)	-3639.41 (2750.10)	-8298.41 (5094.02)
Machines and electronics	0.0891 (0.0740)	0.0982 (0.0484)*	-283.34 (1621.28)	-3980.30 (3112.95)
Manufactures and wholesale	0.0549 (0.1049)	0.0296 (0.0684)	-1749.35 (2246.62)	-5798.89 (4390.37)
Metal products	0.2437 (0.0855)**	0.0833 (0.0558)	-592.49 (1837.78)	-4542.13 (3604.17)
Paper, wood and furniture	0.1259 (0.1009)	0.0846 (0.0652)	-2004.69 (2169.44)	-5241.22 (4185.35)
Plastics and rubber	0.0704 (0.1040)	0.0474 (0.0682)	-1554.12 (2228.14)	-4905.64 (4378.45)
Textile and apparels	0.1426 (0.0869)	0.1356 (0.0565)*	-1020.99 (1854.68)	-3871.53 (3625.27)
AIC	3640.334	-41.6919	39,339.14	5383.139
BIC	3755.492	21.4041	36,457.66	5449.663

Mean (sd). Signif. codes: \*\*\* 0.001, \*\* 0.01, \* 0.05, . 0.1

**Table 3** Results: determinants of export diversification (objective)

	Export diversification
(Intercept)	-10.5033 (9.8262)
MGO	1.0945 (0.5185)*
Firm size (large firms)	
Medium-sized firms	0.1481 (5.7452)
Small firms	0.9214 (5.9083)
Micro-enterprises	1.7959 (9.1377)
Years in operation	-0.0100 (0.0604)
Years exporting	0.4198 (0.1456)**
Members export department	0.3728 (0.2144)
Export profitability	0.1443 (0.7308)
Internationalization planning	1.8641 (0.7727)*
Sector (agro-industry)	
Chemicals and paints	-6.5588 (5.8704)
Communication and graphic art	-0.6112 (7.8984)
Machines and electronics	9.0822 (4.8267)
Manufactures and wholesale	1.5390 (6.8074)
Metal products	9.1406 (5.5884)
Paper, wood and furniture	8.6032 (6.4895)
Plastics and rubber	4.4522 (6.7889)
Textile and apparels	12.8034 (5.6211)*
AIC	2213.252
BIC	2279.776

Mean (sd). Signif. codes: \*\*\* 0.001, \*\* 0.01, \* 0.05, .01

the increase in total exports, the main factor playing a part, as conceptualized, is company size. Large companies produce larger exports in the same year and a higher export growth throughout the years. A larger size brings about more human, production, and financial resources, which appear to be more important for achieving a higher amount of international sales than both the decision maker's mindset and the firm's exporting experience. The number of employees in the export department is predictably also related to higher exports and to higher market diversification.

Regarding internationalization speed, as expected, a higher MGO is significantly related to more rapid internationalization, thus confirming hypothesis 4 (see Table 4, which shows the relationship with the number of years it took the company to start exporting; so greater speed will involve a lower value of this variable). The alleged higher capacity and willingness of managers with a higher MGO, together with their lower psychic distance to foreign markets, appear to result in an increase in internationalization speed.

It is also interesting to note that older companies take longer to internationalize than their younger counterparts do. This provides support for the acceleration of the start of the internationalization process over time, as mentioned in the Theory

**Table 4** Results: determinants of internationalization speed (objective)

	Internationalization speed
(Intercept)	28.4191 (5.6882)***
MGO	-1.9223 (0.4215)***
Firm size (large firms)	
Medium-sized firms	-27.9871 (5.8376)***
Small firms	-28.2745 (5.7085)***
Micro-enterprises	-29.5403 (8.2728)***
Years in operation	0.9875 (0.0144)***
Years exporting	-0.9809 (0.0346)***
Members export department	-0.0217 (0.0513)
Export profitability	-0.0510 (0.1754)
Internationalization planning	0.1982 (0.1850)
Sector (agro-industry)	
Chemicals and paints	1.8413 (1.4032)
Communication and graphic art	-0.7097 (1.8939)
Machines and electronics	-0.5409 (1.1532)
Manufactures and wholesale	-0.3116 (1.6186)
Metal products	-0.6915 (1.3275)
Paper, wood and furniture	-0.3041 (1.5529)
Plastics and rubber	-0.2304 (1.6122)
Textile and apparels	0.0782 (1.3404)
MGO × medium-sized firms	1.8443 (0.4565)***
MGO × small firms	1.8522 (0.4554)***
MGO × micro-enterprises	2.0006 (0.8018)*
AIC	1511.428
BIC	1588.456

Mean (sd). Signif. codes: \*\*\*0.001, \*\*0.01, \*0.05, .0.1

section. The findings also show that this process affects more small and medium enterprises than larger ones. Smaller firms are probably more adaptable and flexible, and more ready to start internationalizing than the bigger, more established firms are. They are also probably better positioned in their domestic market.

As to perceived export profitability, the results in Table 5 show a positive relationship of MGO, depending on firm size. That is, SMEs, particularly micro-enterprises, appear to benefit more from MGO to increase the profitability of their exports than larger firms do. Decision makers with a higher MGO from such small firms are thus more likely to help them exploit more profitable international business opportunities.

#### 4.2.2 Intermediate Outcomes

The findings presented in Tables 6 and 7 show a positive relationship of MGO with two intermediate export results, namely the creation of a *Network of Agents/Distributors* and *Internationalization Planning*. A higher level of MGO in the Manufacturing

**Table 5** Determinants export profitability (subjective)

	Export profitability
(Intercept)	5.5947 (2.067)**
MGO	-0.1187 (0.159)
Firm size (large firms)	
Medium-sized firms	-1.6243 (2.205)
Small firms	-1.4758 (2.153)
Micro-enterprises	-4.6471 (3.076)
Years in operation	-0.0023 (0.005)
Years exporting	0.0216 (0.013)
Members export department	0.0451 (0.0190)*
MGO × medium-sized firms	0.2148 (0.172)
MGO × small firms	0.2084 (0.171)
MGO × micro-enterprises	0.6804 (0.296)*
AIC	1031.203
BIC	1073.218

Mean (sd). Signif. codes: \*\*\*0.001, \*\*0.01, \*0.05, -0.1

**Table 6** Determinants export planning (subjective)

	Export planning
(Intercept)	2.9029 (0.580)***
MGO	0.2197 (0.040)***
Years in operation	-0.0036 (0.005)
Years exporting	0.0333 (0.012)**
Members export department	0.0359 (0.017)*
Sector (agro-industry)	
Chemicals and paints	0.5361 (0.499)
Communication and graphic art	1.3195 (0.672)
Machines and electronics	-0.0755 (0.413)
Manufactures and wholesale	0.0334 (0.581)
Metal products	-0.2026 (0.476)
Paper, wood and furniture	-0.5349 (0.554)
Plastics and rubber	-0.1712 (0.581)
Textile and apparels	-0.0431 (0.480)
AIC	1005.844
BIC	1054.862

Mean (sd). Signif. codes: \*\*\*0.001, \*\*0.01, \*0.05, -0.1

and wholesale sector is also related to a higher degree of market information and after-sales service. Our results thus provide partial support for hypothesis 1. Qualities such as greater dynamism and capacity of interaction, which are characteristic of a higher MGO, are likely to enable managers to be more successful in building agreements with foreign sales partners. Other international entrepreneurial attributes usually associated with a higher level of MGO, such as a higher proactiveness, risk

**Table 7** Results: determinants of intermediate export performance outcomes

	Obtaining market information	After-sales services	Product adaptation	Packaging improvement	Promotion activities	Export know-how	Network of agents/distributors
(Intercept)	4.614 (3.008)	1.715 (3.954)	4.143 (3.162)	1.746 (3.437)	2.195 (3.103)	4.626 (2.676)*	1.322 (3.320)
MGO	0.101 (0.234)	0.391 (0.314)	0.213 (0.249)	0.318 (0.269)	0.316 (0.241)	0.152 (0.211)	0.466 (0.257)*
Firm size (large firms)	3.244 (2.679)	5.824 (3.422)*	2.552 (2.916)	3.197 (3.205)	1.091 (2.751)	0.396 (2.493)	3.778 (2.907)
Medium-sized firms	3.964 (2.572)	6.367 (3.324)*	1.329 (2.801)	3.568 (3.039)	0.582 (2.663)	-0.675 (2.428)	1.347 (2.779)
Small firms	-0.063 (3.727)	-4.425 (5.983)	-2.472 (4.620)	5.615 (5.283)	4.006 (3.849)	-1.935 (3.423)	-1.528 (5.626)
Micro-enterprise	-0.007 (0.007)	-0.018 (0.009)*	-0.006 (0.008)	0.004 (0.009)	0.001 (0.007)	-0.002 (0.006)	-0.011 (0.007)
Years in operation	0.029 (0.017)*	0.017 (0.0211)	0.059 (0.020)**	0.009 (0.024)	0.011 (0.018)	0.028 (0.016)*	0.022 (0.019)
Years exporting	0.046 (0.023)*	0.046 (0.027)*	-0.038 (0.026)	0.025 (0.028)	0.030 (0.024)	0.026 (0.021)	0.022 (0.025)
Members export department							
Sector (agro-industry)							
Chemicals and paints	-0.350 (2.685)	2.443 (3.587)	3.902 (3.100)	5.982 (3.059)	2.393 (2.889)	3.727 (2.319)	6.266 (2.932)*
Communication and graphic art	-2.839 (5.628)	2.200 (6.863)	3.120 (6.326)	5.704 (8.429)*	2.877 (5.812)	-3.823 (5.061)	4.062 (6.629)
Machines and electronics	-2.108 (2.049)	-0.635 (2.722)	0.651 (2.104)	0.052 (2.312)	3.629 (2.119)*	2.485 (1.691)	2.598 (2.326)
Manufactures and wholesale	-9.269 (3.169)**	-9.760 (4.273)*	-4.471 (3.336)	-3.206 (3.637)	1.186 (3.275)	-4.889 (2.784)*	-0.649 (3.506)
Metal products	-2.733 (2.216)	-0.874 (2.981)	2.310 (2.474)	-0.248 (2.794)	1.369 (2.289)	-0.468 (1.879)	0.260 (2.508)
Paper, wood and furniture	-4.321 (2.521)*	-2.937 (3.280)	0.946 (2.773)	2.824 (3.013)	1.752 (2.605)	1.877 (2.144)	5.080 (2.805)*
Plastics and rubber	-2.324 (2.451)	-4.824 (3.059)	-3.965 (2.493)	-4.151 (2.700)	1.476 (2.532)	0.311 (2.058)	-0.938 (2.732)
Textile and apparels	-3.146 (2.126)	-3.067 (2.960)	-1.690 (2.246)	-4.050 (2.501)	1.476 (2.202)	-0.886 (1.796)	2.983 (2.456)

**Table 7** (continued)

	Obtaining market information	After-sales services	Product adaptation	Packaging improvement	Promotion activities	Export know-how	Network of agents/distributors
MGO × medium-sized firms	-0.217 (0.209)	-0.416 (0.270)	-0.210 (0.229)	-0.182 (0.255)	-0.082 (0.215)	-0.056 (0.197)	-0.332 (0.227)
MGO × small firms	-0.327 (0.204)	-0.555 (0.267)*	-0.186 (0.224)	-0.311 (0.244)	-0.109 (0.212)	0.058 (0.196)	-0.201 (0.221)
MGO × micro-enterprises	0.232 (0.360)	0.568 (0.633)	0.280 (0.496)	-0.475 (0.593)	-0.360 (0.372)	0.157 (0.331)	0.312 (0.659)
MGO × Chemicals and paints	0.123 (0.232)	-0.212 (0.321)	-0.359 (0.283)	-0.454 (0.271)*	-0.051 (0.256)	-0.238 (0.206)	-0.496 (0.252)*
MGO × Communication and graphic art products	0.375 (0.516)	-0.134 (0.641)	-0.162 (0.590)	-0.381 (0.824)	-0.183 (0.533)	0.484 (0.466)	-0.254 (0.620)
MGO × Machines and electronic products	0.159 (0.179)	0.010 (0.240)	-0.103 (0.186)	-0.012 (0.204)	-0.189 (0.185)	-0.194 (0.151)	-0.252 (0.199)
MGO × Manufacturing and wholesale	0.634 (0.278)*	0.807 (0.385)*	0.339 (0.294)	0.179 (0.324)	-0.044 (0.287)	0.375 (0.246)	0.060 (0.305)
MGO × Metal products	0.213 (0.203)	0.012 (0.276)	-0.268 (0.235)	-0.064 (0.281)	-0.115 (0.210)	0.090 (0.175)	-0.025 (0.226)
MGO × Paper, wood and furniture	0.351 (0.235)	0.101 (0.301)	-0.273 (0.259)	-0.426 (0.280)	-0.152 (0.242)	-0.174 (0.204)	-0.513 (0.258)*
MGO × Plastics and rubber	0.184 (0.223)	0.193 (0.277)	0.300 (0.232)	0.350 (0.250)	-0.084 (0.231)	-0.035 (0.191)	0.046 (0.246)
MGO × Textile and apparels	0.225 (0.183)	0.222 (0.251)	0.058 (0.195)	0.233 (0.216)	-0.010 (0.190)	0.083 (0.158)	-0.218 (0.209)
AIC	983.8636	838.9616	892.4661	834.946	975.3529	929.1432	962.808
BIC	1078.501	927.5756	983.3828	923.0758	1069.337	1023.391	1055.852

Mean (sd). Signif. codes: \*\*\*0.001, \*\*0.01, \*0.05, -0.1

taking, and a trans-national view of market opportunities (Acedo and Jones 2007), may result in more careful planning of the internationalization activities.

The findings nonetheless show a lack of significant relationships of MGO with the rest of the intermediate outcomes, which indicates there may be some other effects that were not included in our model. The most plausible explanation regards the way in which these measurements were constructed. The intermediate indicators were based on managers' subjective appraisal of the extent to which they had been achieved by the firm. It is possible MGO is positively related to expectations of a higher performance standard; that is, managers with a higher MGO may be more ambitious and demanding regarding the achievement of export marketing results than those with a lower MGO. The fact that the findings show a positive relationship with those intermediate results that could be considered as being more objectifiable (a network of agents/distributors or internationalization planning is not so much subject to opinion, but it is something firms have or do not have, do or do not do) supports this reasoning.

The positive relationship between years exporting with four intermediate outcomes, namely Obtaining Market Information, Product Adaptation, Developing Exporting Know-How, and Export Planning, is also noteworthy. As firms gain experience regarding the internationalization process, they gather information on the markets and increase their export know-how, and thereafter are able to better adapt their products to the requirements of foreign customers. They also learn to develop a prospection methodology, which includes planning and allocating the necessary resources.

### 4.3 Analysis of the Effects on Economic Performance

The results in Table 8 provide evidence regarding the potential beneficial effects of MGO in final economic performance, measured by the increases in net income, thus confirming hypothesis 3b. As mentioned earlier in the paper, MGO, by enhancing the firm's degree of internationalization, may increase profitability, which has been widely considered the ultimate performance indicator. The analysis of the interactions, shows that the increase in income is inversely proportional to firm size, suggesting that the economic crisis affected the profits of large firms more than it affected the profits of smaller firms during the studied period. The analysis by sector suggests the positive effects of MGO on profitability were evident among firms in the Manufacturing and wholesale industry. This sector requires more contact with the market than other sectors with more standardized products, such as the Metals or Chemicals industries, so managers with a higher MGO can make a difference by identifying the best opportunities, establishing the right contacts, and accordingly, being able to appropriate higher margins and profits for the firm.

Regarding turnover, the findings convey an opposite scenario to that of net income. Overall total sales increased during the studied period, and larger firms achieved higher increases. Interestingly, a higher MGO, by further orienting a firm towards foreign markets, results in a reduction of turnover. It appears that MGO brings about a replacement of less profitable domestic sales with more profitable



**Table 8** Results: determinants of final economic performance outcomes (objective)

	Turnover—growth	Turnover (n)	Net income—growth	Net income (n)
(Intercept)	943,317.3 (217,676.3)***	158,654.11 (47,198.86)***	120,029.1 (75,062.1)	4947.475 (4400.894)
MGO	-31,713.5 (6063.9)***	-5022.91 (3692.56)	1117.0 (299.1)***	137.723 (344.305)
Firm size (large firms)				
Medium-sized firms	-516,378.6 (76,908.7)***	-138,228.25 (43,427.21)**	13,797.7 (3504.3)***	3422.599 (4049.881)
Small firms	-547,642.9 (72,516.6)***	-158,725.42 (41,921.94)***	13,460.7 (3363.2)***	-3976.173 (3909.438)
Micro- enterprise	-589,990.0 (94,058.9)***	-180,151.16 (61,647.07)**	12,780.1 (4831.2)***	-6841.688 (5749.189)
Years in operation	-58.5 (164.9)	-160.60 (106.62)	-0.86 (8.32)	-11.139 (9.941)
Years exporting	20.5 (385.2)	46.12 (258.64)	3.86 (20.1)	2.101 (24.173)
Members export department	-884.4 (692.5)	-187.23 (382.53)	35.99 (31.37)	9.396 (35.669)
Year	-197.2 (101.0)	-	-66.31 (37.31)	-
export profitability	1360.1 (2015.1)	36.81 (1285.58)	21.05 (102.2)	-65.514 (121.397)
Internationalization planning	1965.0 (2013.1)	1991.60 (1355.67)	-38.39 (107.7)	209.259 (127.008)
Sector (agro-industry)				
Chemicals and paints	59,853.1 (57,835.3)	32,872.58 (36,094.68)	-1887.8 (2855.9)	2305.818 (3365.521)
Communication and graphic art	119,882.1 (98,691.6)	61,607.97 (72,227.63)	2136.3 (5543.8)	7425.466 (6735.822)
Machines and electronics	-21,188.0 (43,422.8)	1449.96 (29,676.14)	-415.9 (2370.9)	-3108.856 (2767.217)
Manufactures and wholesale	-13,329.1 (70,987.8)	-3901.85 (45,649.37)	-4698.1 (3571.0)	-3617.919 (4256.458)
Metal products	-15,448.7 (44,491.2)	5266.09 (32,147.94)	1197.6 (2541.2)	271.602 (2997.645)
Paper, wood and furniture	11,347.8 (54,400.8)	30,937.71 (34,477.12)	-428.7 (2808.0)	762.416 (3215.803)
Plastics and rubber	-11,415.9 (49,402.4)	6007.51 (34,516.02)	-220.0 (2764.5)	-758.895 (3298.913)
Textile and apparels	-8505.3 (47,613.2)	-3983.46 (31,688.05)	773.7 (2513.5)	-382.228 (2954.890)
MGO × medium-sized firms	30,126.8 (5904.9)***	5899.22 (3419.21)	-1186.6 (278.5)***	-287.726 (318.845)
MGO × small firms	31,081.7 (5527.3)***	6078.67 (3348.86)	-1165.1 (270.7)***	-315.006 (312.344)
MGO × micro-enterprises	36,840.9 (8541.3)***	8612.91 (6032.97)	-1077.1 (469.8)*	78.171 (562.871)
MGO × Chemicals and paints	-3106.3 (5523.4)	-3094.50 (3290.30)	150.2 (260.5)	-89.036 (306.792)
MGO × Communication and graphic art	-14,854.7 (9456.2)	-8333.41 (6837.20)	-181.4 (524.6)	-785.095 (637.637)

Table 8 (continued)

	Turnover—growth	Turnover (n)	Net income—growth	Net income (n)
MGO × Machines and electronics	1033.6 (3987.9)	-1818.98 (2663.89)	91.9 (212.7)	342.916 (248.411)
MGO × Manufactures and wholesale	-418.6 (6535.8)	-1436.57 (4121.34)	617.4 (320.9)	466.498 (384.289)
MGO × Metal products	1160.4 (4205.4)	-835.32 (3036.39)	-115.9 (239.3)	30.762 (283.129)
MGO × Paper, wood and furniture	-2220.7 (5895.6)	-4939.98 (3364.76)	49.43 (276.9)	-102.452 (313.788)
MGO × Plastics and rubber	299.4 (4617.7)	-2161.89 (3285.70)	34.40 (259.3)	73.494 (310.936)
MGO × Textile and apparels	153.7 (4515.2)	-934.64 (2800.95)	-59.07 (223.5)	59.265 (261.176)
AIC	30,794.55	5873.551	43,149.73	4691.876
BIC	30,962.28	5978.589	43,331.24	4796.791

Mean (sd). Signif. codes: \*\*\*0.001, \*\*0.01, \*0.05, -0.1

international sales, and this change results in overall increases in profitability, particularly for smaller firms.

## 5 Discussion and Conclusions

The purpose of this study was to examine the relationship between selected managers' attitudinal and cognitive elements, and SME export and economic performance. We investigated, for the first time in this field, the MGO effects by using panel data over ten years, and a sample of manufacturers from different industries, of different sizes, internationalization stages, and speeds to internationalization. This rich dataset, together with the use of multi-dimensional impact outcomes, enabled a more nuanced and complete view of the relationship between the different elements.

The overall analysis of the impact of MGO showed, as expected, a positive relationship with export intensity, with consistent results for both the short and long term. These findings are in line with the upper echelons perspective (Hambrick and Mason 1984) and internationalization process theory (Johanson and Vahlne 1977), by showing the influence of managers' background and cognitive base in firms' decisions and results. They also reinforce and extend prior assumptions regarding the critical role of managerial global orientation in export performance made by Dichtl et al. (1990), Harveston et al. (2000), Nummela et al. (2004), and Li (2017).

The analysis of the relationships with export marketing outcomes allowed further insights into the mechanisms of this MGO-performance link. First, the results confirm those of Reuber and Fischer (1997) and Spence et al. (2011) concerning the positive relationship between MGO and the creation of a network of agents/distributors. It is likely the higher dynamism, global awareness, and sensitivity associated with a higher MGO result in managers being more able to detect, evaluate, and reach close agreements with foreign sales partners. Second, the findings reveal a positive effect on internationalization planning, which, in turn, is related to better performance abroad. These results qualify those of Nemkova et al. (2012), who found a widespread use of improvisation in export functions, and that its co-existence with export planning resulted in enhanced decision making and export performance. Instead, our findings showed an acceptable average level of export planning, which was positively related to export intensity, scale, and diversification. Hence, the average firm prefers to plan rather than improvise, and the more it does this, the higher the export performance. Considering the link between MGO and proactivity, tested by Acedo and Jones (2007), it is plausible this entrepreneurial attribute, together with the greater orientation towards transnational opportunities, results in a more thorough scheduling and organization of export activities.

Another MGO entrepreneurial feature, risk taking, together with a lower psychic distance of more globally oriented managers, is likely to explain the positive link between MGO and internationalization speed. Our results support those of Harveston et al. (2000) and Acedo and Jones (2007), who also found international orientation to be associated with more rapid internationalization from inception.

The results further show a positive effect of MGO on export profitability for smaller firms. As Andersen and Rynning (1994) posit, the skills characteristic

of a higher MGO are believed to reduce the cost of collecting, transmitting, and interpreting information from the environment in which foreign entry decisions are taken, therefore enhancing the profitability of international sales. These results are also in line with Kyvik et al. (2013), who suggest these effects are higher for smaller firms.

The findings also confirmed an overall acceleration in the speed of internationalization. This former assumption has become a stylized fact, supported by the more rapid internationalization shown by younger firms compared to their older counterparts.

Additionally, MGO was also positively related to export diversification, in terms of presence in different countries, thus supporting the results of Tihanyi et al. (2001) and Beleska-Spasova and Glaister (2010), who found that managers' international experience played a deterministic role in the firms' geographic diversification. In turn, it is interesting to note that those sectors with a greater geographic spread were less affected by the great trade collapse than those sectors that are less market diversified, thus suggesting a beneficial effect of diversification on risk reduction.

We finally assumed that a higher MGO would also translate into increased economic performance and profitability. Our findings pointed in this direction, with a positive relationship between MGO and an increase in net income, in line with the results from Daily et al. (2000), and from Schmid and Dauth (2014), who found that managers' international experience was related to firms' better financial performance, and stock price respectively. On the other hand, the negative relationship with the growth in turnover suggests that less profitable and larger domestic sales were replaced by more profitable exports. This effect is greater for the Manufacturing and wholesale sector, in line with Boter and Holmquist (1996), who found the internationalization process to differ depending on the industry.

It seems appropriate to complete this section by stressing that the discussed results refer to the impact of the MGO level of an entrepreneur/manager or key decision maker in charge of the export activities of an SME. We posit that for large multinationals or fortune 500-sized companies, it would be necessary to consider the levels of global orientation of the entire top management team in order to study the influence of managers' attributes on firm performance (Schmid and Dauth 2014). Furthermore, in such large companies, top managers must rely on the information provided by middle managers positioned between them and the first-line managers, and are likely to play a prevalent role in the strategic decisions taken by top managers, which are contingent upon the information available to them (Huy 2002). The information processing performed by middle managers is essential for the successful implementation of strategic changes such as internationalization (Teulier and Rouleau 2013), and their personal characteristics and perceptions are thus relevant to strategic choices within multinational companies (Judge and Stahl 1995). In sum, for large corporations, a complete view of the impact of the level of MGO should take into consideration the top management team as a whole, and the potentially moderating role of middle managers (Li 2017).

## 5.1 Implications for Management and Public Policy

SMEs need to be aware that managers' level of cognition and their attitudes towards export activities may have a positive impact on the firm's degree, speed, and diversification of exports, and ultimately on their overall performance. In particular, they may automatically enhance their international orientation and performance by hiring managers with satisfactory international experience, foreign language skills, and a high level of education.

From a public-policy perspective, export promotion organizations (EPOs) should consider the actual needs of exporters to be more effective. Besides using firms' internationalization stage as a segmentation criterion, as they usually do (Freixanet 2012), they also ought to consider managers' competencies, especially their level of global orientation. Most EPOs evaluate the attributes of firms' candidates before they join the most important export promotion programs. Such attributes include their strengths, weaknesses, and export potential. This should be complemented by at least a quick evaluation of the decision-maker's levels of MGO before making appropriate recommendations. EPOs could use this information to assign scarce funds to those firms with a greater chance of succeeding, or to strengthen the MGO elements in which they have detected weaknesses. In order to increase international experience and therefore reduce perceived psychic distance, EPOs have available to them programs such as trade missions, which are implicitly intended for this purpose. To increase the level of experiential export knowledge, another available tool is the assignment of an international marketing consultant, who works with the company for some months and who is selected and partially subsidized by the EPO.

Another important component of MGO, language skills, takes longer to be solved, but EPOs may recommend some measures in case they detect problems in this respect. Besides language training, other faster, already available assistance would include simultaneous telephone interpretation services. This could alleviate immediate weaknesses and should be complemented by long-term nationwide measures such as quality language teaching after primary school, bilingual programs, and fostering international exchange programs.<sup>7</sup>

Such measures would indeed help enhance managers' levels of MGO, and therefore their ability to recognize and exploit opportunities across borders more successfully to the benefit of their firms and the national economy.

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<sup>7</sup> The EU implemented different initiatives, specifically relating to language skills, with the implicit goal of enhancing MGO, but without continuity. An example is the ProMES program (Promoting Multilingualism in Exporting SMEs by Communication Auditing), which subsidized an expert who audited the SMEs' language needs and established subsequent recommendations. Another example was an EU program that allowed a European manager to stay in Japan for one year, to improve his/her knowledge of the Japanese language and culture.

## 6 Limitations and Directions for Further Research

The findings contribute to previous calls for analyses that include longitudinal information and firms from different industries, but this study has some limitations that point to areas for further research.

First, our impact analysis is concentrated on exporting, the most common foreign market entry method. However, it does not explore the effects of MGO in relation to other foreign entry strategies, such as foreign direct investment, licensing, and joint ventures. Future studies could explore the impact of managers' global orientation in the decision to enter into foreign markets through high investment/risk strategies such as production subsidiaries, and the management and profitability of those foreign establishments. Second, further research could assess the extent of the impact of MGO in listed large multinationals' strategies and performance, by measuring the levels of global orientation of the entire top management team and the potentially moderating role of middle managers (Li 2017). For such companies, the combination of features from top and middle managers may play a major role in their international and overall economic performance.

Third, it would be enlightening to include service companies in the sample and analyze the differences in the effects obtained. Services have specific characteristics such as intangibility, heterogeneity, and inseparability of the production and consumption of the service (e.g., Lovelock and Gummesson 2004), which are assumed to enhance the role of the manager, and particularly his/her communication and interaction skills, so MGO should be even more important for this type of company.

Fourth, in our study we found a number of INVs. Further research could explore the specificities of this type of firm, regarding their short- and long-term results, and the differences regarding the level and impact of MGO. Fifth, including other attitudinal and cognitive elements, particularly those related to international entrepreneurial orientation (Covin and Miller 2014), such as the propensity to act autonomously or the willingness to innovate, could increase the level of explained variance.

Sixth, another potential limitation is related to the use of a longitudinal dataset which, despite its many advantages, may also entail problems as to the design, sample selection, data management, and attrition (Wooldridge 2010). Finally, it is paradoxical that the concept of global orientation continues to be developed basically from a Western perspective. Using samples from other countries, especially from emerging and developing nations with very different cultural backgrounds, would increase the generalizability of these findings.

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