



# Generalists *versus* Specialists: Iberian public firm performance in a gender perspective

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## **Abstract**

We propose that general managerial skills gathered during lifetime work experience are negatively related to firm performance even though generalist CEOs often demand a considerable pay premium. This negative performance should be alleviated with longer CEO tenure and vary with gender and macroeconomic conditions. We use CEO data of 88 public Iberian firms from 2010 through 2020 to build an index that represents general managerial skills over five categories that are transferable across industries and companies. Based on this sample, we find support for the negative association between the degree of general expertise and performance which is lessened in periods of crisis (in this case of the sovereign debt crises that affected both Portugal and Spain) and in case the CEO is a woman. Male CEOs with generalist skills, during crisis times, outperform their specialist counterparts, while the winners are generalist women who outperform specialist men in the top corporate position. These findings have repercussions for the more and more widespread practice of seeking to hire more generalist CEOs in an attempt to enhance firm performance, and the historical bias towards men leading the corporate world.

**Keywords:** generalists, corporate finance, performance, gender

**Title:** Generalists versus Specialists: Iberian public firm performance in a gender perspective

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## Resumo

Propomos que as competências gerais de gestão recolhidas durante a experiência de trabalho ao longo da vida profissional estejam negativamente relacionadas com o desempenho da empresa, embora os CEO mais generalistas exijam um *premium* salarial considerável. Este desempenho negativo deve ser atenuado com o tempo cumulativo do CEO na empresa, género e estado de crise macroeconómico. Utilizamos dados de CEO de 88 empresas públicas ibéricas de 2010 a 2020 para construir um índice que representa competências gerais de gestão ao longo de cinco categorias que são transferíveis entre indústrias e empresas. Com base nesta amostra, encontramos apoio à associação negativa entre o grau de especialização geral e o desempenho que é diminuído em períodos de crise (neste caso particular das crises da dívida soberana que afetaram tanto Portugal como Espanha) e no caso de o CEO ser uma mulher. Os CEO masculinos com habilidades generalistas, durante os tempos de crise, superam o seu homólogo especialista, enquanto os vencedores são mulheres generalistas que superam os homens especialistas no cargo de topo corporativo. Estas conclusões preliminares têm repercussões para a prática cada vez mais generalizada de procurar contratar CEOs mais generalistas numa tentativa de melhorar o desempenho da empresa, e a tendência histórica para a liderança dos homens no mundo corporativo.

**Palavras-chave:** generalistas, finanças corporativas, rendimento, género

**Título:** Generalistas *versus* Especialistas: Rendimento de empresas ibéricas numa perspetiva de género

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## 1. Introduction

“Leadership and learning are indispensable to each other” (J. F. Kennedy). As such, leaders have been, for centuries, seeking to learn how to be successful in this matter from the Ancient Rome Imperium with *Julius Caesar*, then *Jesus Christ* in religious terms to Angela Merkel as the Chancellor of Germany during the past sixteen years. All these eximious examples were not contemporaneous, yet they have built and adapted this skill to society developments and “business” needs. Many have studied this phenomenon and many conclusions and divisions on different types of leaders or leadership skills have arisen. To complement the existing literature on leadership impact, (Custódio et al., 2013) suggested splitting CEOs according to their general managerial skills into two classifications: Generalists *versus* Specialists. This wise classification is coherent with the initial quote on leadership and learning since professional careers of today’s CEOs have numerous contacts with moments of different types of knowledge from experience to experience that can be both transmitted as explicit knowledge or as tacit knowledge according to (Nonaka, 1991).

Our study, performed with 720 CEO-firm-years, has the aim to complement the existing literature by seeking to understand if Iberia is different in terms of the relationship between CEO general managerial skills and firm performance, associated with other metrics regarding how long CEOs stay in their position, scenarios of scarce economic development and shortages of liquidity or even the effect of divergent skillsets between Male *versus* Female CEOs. Based on these analyses, we find a significant negative relationship between the degree of general managerial skills and firm performance. We also find a significant positive relationship between Female generalist CEOs in firm performance against their counterpart in line with the existing Literature.

In this ever-changing world, it seems that generalist skills prevail at least in the compensation received by top managers since (Custódio et al., 2013) find evidence that generalist CEOs are hired to solve more challenging situations in firms, thus, their compensation is, on average, 19% higher than their specialist’s counterpart. However, (Li & Patel, 2019) find support on their hypothesis that generalist CEOs, at least in the first years after hired, have, on average, lower performance while we cannot reach conclusions that are significant.

The remainder parts of this dissertation proceeds as follows. Section two incorporates a review of existing literature in the field of CEO characteristics, firm performance, inequality in top

management positions and knowledge creation/ sharing, i.e., the base components and motivation to arrive to the findings of our study. In Section three it can be found details on the sample used, summary statistics and analysis and a description of the methodology used for the purpose of this dissertation. After, Section four proceeds with the analysis of the results of the models used which further incorporates an analysis on robustness checks. Our work is concluded with the main limitations in Section five, while Section six discloses the discussion of the findings of this study on the topic of concern. Section seven presents the final conclusions of the dissertation.

## 2. Review of Literature and Hypotheses

There is a vast literature in the field of CEO characteristics and their backgrounds. (Custódio et al., 2013) suggests a binary classification of CEOs, based on their field of expertise in the area. CEOs can be classified as generalists or specialists. The authors find evidence of a pay premium for CEOs with generalist characteristics over the homologue specialists of 19%. Our suggestion for analysis of the impact of the type of CEO on firm's performance will go in line with this binary classification using the same parameters (mobility across industries and firms instead of the used by (Frydman, 2019) relying on internal mobility within a firm). This methodology will fit with the changing environment on hiring CEOs that values more and more external hiring instead of internal hiring. Adding to these findings, (Andreou et al., 2017) understands which skillset CEO is of utmost importance when the industry the company belongs, faces hard times such as shortfalls of liquidity or underinvestment since they find positive significance between general managerial skill and performance of the firm as well as investments conducted in crisis times.

Indeed, leaders are consistently faced with a variety of different issues on a daily basis, and therefore, there is a tendency for leaders to be more generalists than specialists based on their background work experience (Lazear, 2012) and (Custódio et al., 2013). CEOs with a career in finance background tend to have more sophisticated financial policies than the average by holding less amount of cash reserves, incurring in more debt and share repurchases (Custódio & Metzger, 2014) which reinforces that CEOs tend to incorporate their previous acquired knowledge in the new function. With this line of rationale, it is relevant to analyze if this tendency holds in different scenarios in more recent data than that analyzed in the previous studies as there may be some industries or economic conditions where a specialist CEO may be a competitive advantage for the firm over the choice for a generalist CEO.

CEO tenure is a topic of concern when considering a distinction between hiring a generalist to a specialist CEO as the former will lack of firm-specific knowledge and culture, yet tenure will tend to decrease this gap (Hambrick & Fukutomi, 1991). To attenuate this issue, if the knowledge management systems of the hiring firm prevail tacit knowledge transformed into explicit knowledge frequently (Nonaka & Takeuchi, 1996) for the management team, the aforementioned knowledge gap may be reduced. (Li & Patel, 2019) conclude that "it will take >8 years for a firm to break even from the performance decline from hiring a generalist CEO ( $0 = -0.016 + 0.002 \times 8$ ),

and with the average CEO tenure at around 8 years (and the median CEO tenure at around 6 years), many generalist CEOs are likely to leave the firm before the gains from their general experience have time to materialize”.

Further, not all CEOs have the same compensation even though they perform the same task for the firm. (Murphy & Zabochnik, 2007b) got evidence that CEOs hired from outside yield higher compensations than the CEOs that reach that position through promotions within the firm which goes in line with the discovery of (Custódio et al., 2013) that generalist CEOs tend to receive on average higher pay due to their vast knowledge in different fields. Additionally, the same authors conclude that CEOs hired from outside of the industry reach higher pay, which goes in line with the generalist profile of CEO's characteristics that are increasingly needed in this dynamic and ever-changing business world beyond a scarcity of generalist CEO talent. Therefore, the characteristics that firms are demanding on their target CEOs tend not to be in accordance with firm-specific characteristics but with general management skills, critical in leading a complex modern corporation. Also, CEOs that are hired to perform more complex tasks, such as M&A activities in firms, yield higher pay (Custódio et al., 2013). In fact, our study complements these conclusions by understanding if there is any specific scenario in which firm-specific characteristics may prevail (mostly crisis times vs. recovery times).

CEOs have impact in firms (mainly on revenue, investment outcomes and profitability) once Bennedsen et al., 2012 found that an absence of the CEO in office means the firm will underperform, on average, in those metrics. Yet, the amount of power available to CEOs in firms is a topic of concern, i.e., the power overhang can lead to higher degree of variability in the firm performance (Adams et al., 2005). This can be translated in instability of the firm and leader-risk as in case of absence or CEO leaving the firm, its performance may rely too much on the characteristics of one person.

The payment to CEOs, regardless of their personal characteristics, their background or firm-specific knowledge and experience, has been a target of the existing literature in what concerns to its relationship with the performance of the firm. In fact, “companies that are willing to pay more will, in general, attract more highly talented individuals” (Jensen & Murphy, 1990). In addition, even though it is a specific industry where compensation is, compared with other industries, mainly

dependent on variable pay aligned with the success of the firm, there is evidence in the banking industry that the performance of the banks on average increases as the pay for executives increases.

Yet, not all compensations to executives drive performance of the firm, as the structure of the incentives has a lot to do with the effort the CEO will put into the success of the firm. (Jensen & Murphy, 1990) found that “paying top executives ‘better’ would eventually mean paying them more”, where “better” means more in line with the performance of the firm. Therefore, a scheme of payments that places heavier weight on profitability of the firm would yield better results in the sustainable development of the firm. Our study could have had considered variable pay to understand what the best type of CEO is considering variable pay static, yet there was no complete information on that regards for the majority of CEOs.

In what regards a similar approach to our study, (Li & Patel, 2019) analyzed the impact of CEOs with a generalist profile on firm performance, finding a negative association between the variables, which is attenuated by CEO tenure. This has repercussions in the increasingly aforementioned tendency on hiring CEOs with a generalist profile to increase firm performance.

Moreover, to converge with a widely discussed topic in academia, the diversity of gender in corporate boards of companies offers relevant advantages even though faced with setbacks, which is relevant to take into consideration for analysis in the CEO role to understand the impact. In what comes to relationship of heterogeneous boards with firm performance, (Reguera-Alvarado et al., 2015) find benefits with the presence of women in Tobin’s Q (a widely accepted measure for firm performance), while other studies identify a negative relation on accounting returns such as ROE or ROA (He & Huang, 2011) or market value (Ahern & Dittmar, 2012). This inconsistency of results incentivizes continuous focus of research on this topic.

There is still scarce literature on the effect of the type of CEO (e.g., Generalist vs. Specialist) in firm performance. The topic of CEO compensation and the market of CEOs is relevant as *per* this study as companies may have thorough decisions to make when hiring a new CEO and understand how much she/he/they is worth. Indeed, based on the aforementioned literature, we aim to understand the impact of generalist CEOs in firms, understanding if they are “worthy” of higher compensation in markets other than the US. Therefore, we analyse, for Iberian firms, the relationship between the type of CEO and the performance of the firm using several metrics.

This study is relevant to understand mainly (1) if for recent years (since the existing literature focuses mainly in 1993-2007 period) there are any different results; (2) if there is any type of CEO that is better to have in case of an economic downturn (in this case the sovereign debt crisis that Portugal and Spain faced from 2011-2013 or even a scarce version of the COVID-19's economic crash), or (3) if there is any type that is optimal when the economy is growing (e.g. 2014-2019). Our proposed hypotheses go in line with the ones of (Li & Patel, 2019), as we want to test if those hypotheses are valid in a different time span and market. We add an additional hypothesis to test (Andreou et al., 2017)'s findings and discover if there is any sign that during crisis times generalist characteristics outperform specialist characteristics.

#### *Hypothesis 1*

CEO general managerial ability and firm performance will be negatively associated contrary to the performance of a specialist in the role.

#### *Hypothesis 2*

The initial disadvantage in performance stated in *Hypothesis 1* will tend to reduce as the years go by, as the CEO will get acquainted with the business.

#### *Hypothesis 3*

During crisis times, the generalist CEOs tend to have a better performance, as they have higher ability to adapt and develop the company with a vision more “out of the box”, when compared to specialist CEOs.

#### *Hypothesis 4*

Female CEOs will have positive impact in the performance of the firm when considering the general managerial skills.

### **3. Data & Method**

#### *3.1 Sample*

A considerable portion of the literature on the topic uses Compustat data on S&P 500 firms and CEO data in the time span of 1993-2007. To consider a different reality, we collected data on Iberian firms. This data was retrieved from the Sabi database, selecting listed Iberian firms with at least one million of revenues in at least one of the available years (2010-2020), and a market capitalization “Current Market Capitalization (in EUR)” above 250M€. The choice of the time span includes a period where a shock in the economy happened and the recovery itself, i.e., considering a period of the sovereign debt crisis in Portugal and Spain (2011-2014) and the respective recovery until the Covid-19 pandemic. This decision was done to go in line with the COMPUSTAT time span of 1993-2007 that caught the dotcom boom and the subsequent recession and recovery until pre-Financial Crisis times. The decision of the data for the study relied on the fact that (1) there is plenty of research on CEOs for US data, (2) the majority of the foreseen papers used the same dataset, so a different dataset means we can test the conclusions previously obtained and perhaps draw new relations to foment further valuable discussions towards progressiveness in the science of corporate finance.

The matched sample includes 88 firms (117 CEOs), representing a total of 720 firm-year-CEO throughout the period considered. We only considered for computations the firm-year-CEO observations where there was information on all metrics for the firm. Additionally, among the first retrieved companies, there were 8 firms (78 firm-year-CEO) that were excluded due to lack of data on the CEO for the whole dataset (either market or book data), which means we could not perform the analysis for this companies. This had to be done once there were firms that were not listed in the first years of the time span and therefore, this data would not be relevant for analysis as we would not have Tobin’s Q data. The companies in our dataset operate in over 19 distinct industries (based on the 2-digit NAICS code). To ease visualization, we only considered the seven biggest industries separated, while the remaining ones are considered as “Other”.

### 3.2 Dependent variable

In line with the findings of (Alessandri et al., 2012), (Li & Patel, 2019) and (Chung & Pruitt, 1996), the measure of performance that will be used will be the Tobin's Q (firm Q). The Tobin's Q metric corresponds to the sum of total assets plus the market value of equity minus the book value of equity divided by total assets which measures whether a firm or an aggregate market is relatively over- or undervalued. To account for the performance itself, we decided to do an adjustment to this metric, considering, instead of the absolute Tobin's Q, the excess Tobin's Q of the firm in that year compared to the median Tobin's Q specific of that year and industry of the company. In robustness checks, we replace this metric by the Return on Assets (ROA) to understand if the conclusions hold for genuine stock market performance in line with the approach of (Li & Patel, 2019).

### 3.3 Independent and Control Variables

#### Adjusted General Ability Index

In the study of (Custódio et al., 2013) the authors suggest as independent variable a binary classification of CEOs according to the *General Ability Index (GAI)*, i.e., a CEOs' human capital metric of his/her generality based on the previous experience in other listed firms prior to the role of CEO in that company. Our study will go in line with this definition of a variable that relies on the transferable skill set of CEOs across industries/firms instead of firm-specific skills. This method represents the generality of CEO work experience according to the findings of the authors and the fact that Adjusted General Ability Index (*AGAI*) is the result of the combination of five-dimension variables into a one-dimension index which "increases the power of the regression tests by avoiding the problems arising from multicollinearity and minimize measurement error", (Custódio et al., 2013). Among the five variables of the paper, we use the following: (*X1*) *Cumulative Number of Positions* during the career – the more positions, the higher the likelihood of being exposed to different areas of the organization, (*X2*) *Number of Different Firms* – the higher the number of firms, the higher the chance to have acquired more generalist skills by reaching knowledge of different ways to operate and act, (*X3*) *Number of Different Industries* – computed based on the 3-digit NAICS code, where a CEO exposed to different industries has acquired knowledge on different work environments, different situations and ability to adapt to new type of businesses, (*X4*) *CEO Experience Dummy* which equals 1 when the CEO has had experience as CEO in other firms at least once before this position. To complement the literature, we also add

another variable (*X5*) *Number of Countries* the CEO has worked previously abroad, i.e., all countries apart from the first one which is excluded to consider only extra countries the CEO has worked. This last complement goes in line with the findings of (Le & Kroll, 2017), i.e., the International Experience of CEOs expand the generalist knowledge and practices into the firm, while having a positive relationship with firm performance. All these variables, as further analyzed, had good correlations among themselves which implies that none is irrelevant to consider, even the (*X5*) *Number of Countries* variables which was one of the main reasons to consider using it in the index. Looking into the impact of this variable in the new metric *AGAI*, it is clear the importance of its introduction, as seen in Table 1. The other difference from (Custódio et al., 2013) is the component on *Conglomerate Experience Dummy*, which we cannot consider due to lack of data.

For the computation of this variable, 720 firm-year-CEO were utilized (all firm-year-CEO data contained full data for every variable considered). Since there was no such index with scores on Adjusted General Ability Index, the method of Principal Component Analysis (PCA) was used to combine all these variables into a one-variable index by extracting the common components from the five variables that proxy for general human capital. Once we use a one-factor variable rather than all stand-alone five variables, the power of the regression tests is increased by avoiding the problems arising from multicollinearity and thus, we minimize the error of measurement. The results are coherent with the *General Ability Index* defined by (Custódio et al., 2013) once we obtain a single-factor component with an *eigenvalue* higher than one (metric equals 2.91) which this single-factor means it may represent a good proportion of the variance of data. Since the eigenvalue exceeds one, the component that was extracted through this process has more explanatory power than any of the initial proxies by itself. In addition, the loadings were computed (i.e., the correlations between each variable and the principal components extracted) which represent the extent to which the original variables were relevant to the formation of the principal component, i.e., when the absolute values of loadings are high (mainly positive), means that the variables are of utmost importance in the principal components' formation. That said, all loadings are positive, meaning higher levels of general human capital are reflected in a higher value of the index. Regarding the scores, we observe the index gives high weight to CEO experience and Number of Countries, while giving lower importance to industry, firm and past positions (these last ones close to 0 weight). The *Adjusted General Ability Index (AGAI)* for the CEOs *i* in year *t* is

computed by imputing the scores obtained in the regression in Table 1 to the standardized elements since the index is standardized to have mean equal zero and standard deviation equal one. Using *AGAI*, we define CEOs that present a score index above the yearly median as generalists and CEOs with an index below the yearly median as specialists. This output variable which equals 1 when CEO is generalist in that year and equals 0 otherwise is denominated as *Generalist Dummy*. In what concerns robustness checks, we use the variable *Generalist Dummy* instead of *AGAI* to understand the exact impact between Generalists vs. Specialists in the performance of the firm.

	<i>Number of Positions</i>	<i>Number of Firms</i>	<i>Number of Industries</i>	<i>CEO Experience Dummy</i>	<i>Number of Countries</i>
<b>Loadings Scores</b>	0.524 0.021	0.533 0.037	0.436 0.068	0.244 0.548	0.437 0.163
<b>Proportion explained</b>			0.584		
<b>Eigenvalue</b>			2.921		

[Table 1] Adjusted General Ability Index through Principal Component Analysis (PCA). This table is the result of the application of Principal Component Analysis to the five above mentioned components of general managerial ability defined by this study that depends on the level of past experience of the Chief Executive Officer (CEO). The first four variables are similar to (Custódio et al., 2013) General Ability Index ones which are: (1) Number of Positions, (2) Number of Firms, (3) Number of Industries, (4) CEO Dummy Experience, while this study adds one extra measure which is (5) Number of Countries. In this table we present the Factor Loadings, Scoring Coefficients using the regression method, and eigenvalue par to the proportion of variation explained by the first factor. To achieve a value in the index, it is needed to apply the scores to the standardized Adjusted General Ability Index, since the index is standardized to have mean of zero and a standard deviation of 1. The definition of the variables can be seen in Table A1 in the Appendix.

The following equation reflects the results of the *AGAI*, where we can take conclusions that all variables affect positively the index, and all variables present a lower than 0.01 p-value that allows us to conclude that are significant for the analysis.

$$AGAI_{i,t} = 0,02X1_{i,t} + 0,04X2_{i,t} + 0,07X3_{i,t} + 0,55X4_{i,t} + 0,16X5_{i,t}$$

### CEO tenure

This is another metric to consider as independent variable proposed by (Li & Patel, 2019). The CEO tenure hypothesis, confirmed in this paper, is that generalist CEOs will tend to improve firm performance with tenure. Based on the data provided by Sabi, the tenure may be computed based on the year of Assignment Date variable until the next CEO is appointed. When the Assignment Date is not available, the initial year of functions will be get manually based on public information, or if there is no public data, it will be assumed the CEO has initiated activity in the prior year to 2010 (therefore, we consider for these CEOs they have 2 years of tenure in 2010).

### Crisis Dummy

In addition, a *Crisis Dummy* will be put in place (equal to one when it is a year of crisis, i.e., 2010/2011/2012/2013 and 0 otherwise depending on the country of the company) to understand exactly, controlling for crisis years, what was the performance when the economy was down and what was the performance in the recovery until the peak of 2019. Still, we need to consider that the crisis years were not the same for Portugal and Spain, so the crisis dummy specifies the years according to the country of the company. This comes from (Andreou et al., 2017) that infer a “positive relation between pre-crisis managerial ability and crisis investments is statistically significant” and, in fact, “generalist CEOs may be the best match in distressed times, as general knowledge and skills are an important dimension of CEO ability during such times”. With this in mind, we find relevant to test if this holds for our dataset and, if so, add further evidence to (Custódio et al., 2013) findings by understanding which CEO skillset is more relevant when the industry faces hard times such as shortfalls of liquidity or underinvestment.

### Gender Dummy

There have been mixed findings in what concerns the impact of women in decision-making roles in performance, not only with a disparity in terms of extreme results but the type of impact in different metrics as previously mentioned. Indeed, (Reguera-Alvarado et al., 2015) find benefits with the presence of women on Tobin’s Q (an widely accepted measure for firm performance), while other studies identify a negative relation on accounting returns such as ROE or ROA (He & Huang, 2011) or market value (Ahern & Dittmar, 2012). Therefore, we want to test if this CEO characteristic is significant for any of the dependent variables metrics and what is the real impact.

### Control Variables

For this section, we control our model in three dimensions (1) individual-level, (2) firm-level, (3) industry-level. Regarding individual-level, according to past literature, (Zhang & Rajagopalan, 2010) consider that CEOs that are in their first year of functions in the firm as *Dummy First Year CEO*. They may not have an immediate effect in the performance of the firm, which is relevant to control for. A dummy control variable will be put in place which equals 1 if CEO is in her/his first year of functions.

Additionally, (Musteen et al., 2006) demonstrate that the younger the CEO, the higher the risk-seeking degree and the higher the initiatives to implement strategies to improve firm-performance. Therefore, we suggest controlling for *Age* of the CEO.

Then, related to the firm-level control variables, we used *Cash (% TA)*, i.e., the amount of cash reserves as a percentage of the total assets, as these amounts of cash may have considerations in terms of the type of firm the CEO is working on and may have implications in terms of performance and decision-making of firms in a strategic and competitive context (Deb et al., 2016).

To complement this, since financial strength of firms have impact on the firm performance and we want to control for that, we control for *Interest Coverage Ratio* as this is a widely used metric to define Credit Ratings by well-known credit agencies.

Additionally, another control to use will be *Industry Fixed Effects* once the dataset is diversified in terms of industries and a cross-industry analysis is relevant, as it was seen differences among specialists and generalists over some of the industries. For this, the dependent variable in the core model was adjusted for industry specifics. Yet, it is worth mentioning that the dataset is small, so this control may not be optimal.

### 3.4 Data Analysis on AGAI, CEO and Firm Characteristics

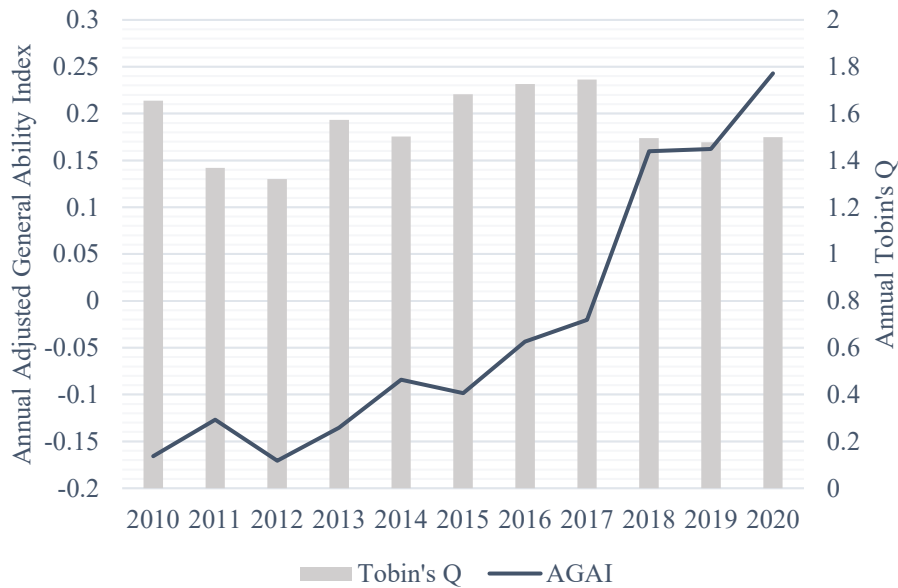
<i>Panel A: By year</i>							
Year	Adjusted General Ability Index	Tobin's Q	Generalist Tobin's Q	Specialist Tobin's Q	Generalist Excess Tobin's Q		Number of Observations
2010	-0.166	1.638	1.785	1.491	0.294		44
2011	-0.127	1.368	1.533	1.204	0.329	*	50
2012	-0.171	1.605	1.802	1.409	0.393	**	56
2013	-0.135	1.819	2.117	1.532	0.585	***	57
2014	-0.084	1.592	1.653	1.531	0.122		60
2015	-0.099	1.759	1.794	1.726	0.069		65
2016	-0.043	1.677	1.606	1.746	-0.140		69
2017	-0.020	1.691	1.689	1.693	-0.004		72
2018	0.160	1.495	1.447	1.543	-0.096		78
2019	0.162	1.575	1.597	1.553	0.044		83
2020	0.243	1.562	1.592	1.532	0.060		86

<i>Panel B: By industry</i>							
Industry	Adjusted General Ability Index	Tobin's Q	Generalist Tobin's Q	Specialist Tobin's Q	Generalist Excess Tobin's Q		Number of Observations
Accommodation	-0.045	0.737	0.690	0.809	-0.119		55
Warehousing	0.102	3.296	3.715	0.952	2.763	***	33
Wholesale	0.097	1.751	1.648	1.819	-0.171	*	205
Consultancy	0.273	1.288	1.475	0.728	0.747	***	48
Programming	-0.389	0.529	0.608	0.463	0.145		33
Paper Manufacturing	-0.727	0.647	0.445	0.738	-0.293		29
Consultancy	-0.085	1.259	1.194	1.313	-0.119		95
Other	0.036	1.969	1.958	1.988	-0.031		222

[Table 2] Firm's Tobin Q and Adjusted General Ability Index by year (Panel A) and industry (Panel B). In this table we can see the mean Adjusted General Ability Index of CEOs and Firm's Tobin Q per year and industry (according to the 2-digit NAICS Code) in the time span from 2010 to 2020. Only the 7 biggest industries are shown, while the others are categorized as "Other". The Adjusted General Ability Index is the result of the application of Principal Component Analysis to the five above mentioned components of general managerial ability defined by this study that depends on the level of past experience of the Chief Executive Officer (CEO). The first four variables are similar to (Custódio et al., 2013) General Ability Index ones which are: (1) Number of Positions, (2) Number of Firms, (3) Number of Industries, (4) CEO Dummy Experience, while this study adds one extra measure which is (5) Number of Countries. To achieve a value in the

index, it is needed to apply the scores to the standardized Adjusted General Ability Index, since the index is standardized to have mean of zero and a standard deviation of 1. All variables are winsorized at the 1st and 99th percentile values. The definition of the variables can be seen in Table A1 in the Appendix. A test was performed in order to understand if the differences in the means were significant, to figure out if it is reasonable to pursue the dissertation in this direction of classifying CEOs among Generalists and Specialists. \*, \*\*, \*\*\* indicates significance at the 10%, 5% and 1% level, respectively.



**[Fig. 1]** Average Annual Tobin’s Q and Average Annual Adjusted General Ability Index for 763 firm-year-CEO in the time span from 2010 to 2020. Regarding the sample, it consists of Sabi platform companies from which there exists data for the metrics presented for each year. The definition of the variables can be seen in Table A1 in the Appendix.

We can deduce from Fig.1 and Table 2 (Panel A) that there is a clear change in paradigm in what concerns the relevance in the CEO world of general vs. firm-specific characteristics, as the Adjusted General Ability Index tends to increase over the time span chosen. As expected, and according to the findings of (Custódio et al., 2013), this “is consistent with the idea that CEOs have more general skills that are transferable across firms and industries”, therefore the paradigm in the USA from 1993-2007 continues the trend over 2010-2020 in Iberia. Still, it is needed to

reinforce that these changes in the AGAI index scores depend only on the CEOs that exist in each year, i.e., since all CEOs have the same data on all metrics (except for age) for every year, it is not possible to take exact conclusions on the change of background of the CEOs, but on the cohort of CEOs we have in each year using 2020 CEO data. In (Custódio et al., 2013) study, data from BoardEx was used and this data has the exact data for each CEO in each year. Still, at least in terms of the cohort, we see the same trend that the one of (Custódio et al., 2013).

In Fig.1 we can also understand the behavior of Tobin's Q over time. It happens that it goes in line with the predicted scenario, where in 2011-2013 we find periods of lower equity performance Iberian wise, but from 2014-2017 it is possible to observe a recovery which is followed by a period of stagnation from 2018-2020. Interestingly, Tobin's Q presents similar values in the period of 2018-2020 to the ones of 2011 which reflects the poor performance of the economies in the past 3 years.

Additional conclusions that can be taken from both Fig.1 and Table 2 is the fact that it is possible to conclude that there are differences across industries in terms of the general managerial skills offered by CEOs and curiously, there has been a non-positive relation between the behavior of Tobin's Q and AGAI over time.

Still, the majority of the years in Table 2 Panel A do not present significant differences between the Generalist's Tobin Q *versus* the Specialist Tobin's Q, which may mean that our study's preliminary hypothesis may not be true as for the majority of years, no significant differences are found in terms of performance of the types of CEO. Curiously, the years where we find significant differences in performance are the ones that equal 1 in our Crisis Dummy, which means that on average, Generalist CEOs in our Iberia sample tend to outperform Specialists in terms of performance in 2011, 2012 and 2013 by 0.329, 0.393 and 0.585 units respectively. Still, in terms of the years of recovery, both CEOs present similar performance.

In what comes to differences in industries, beforehand we would not expect severe differences from industry to industry, yet we observe significant positive differences in Tobin's Q from Generalists to Specialists in Warehousing, Consultancy and significant negative differences in Wholesale. As a matter of example, that means that, on average, Generalists present more 0.747 units of Tobin's Q metric than Specialists in the Consultancy industry in our sample.

Table 3 gives an idea of the statistics for AGAI, CEO Characteristics and Firm Characteristics. Beyond the AGAI measures that are described in Panel A of Table 3, we also considered for analysis CEO characteristics such as Age, CEO Tenure or even a Dummy to describe if it is the first year as CEO.

<b>Variable</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Number of Observations</b>
<i>Panel A: AGAI Characteristics</i>						
CEO Dummy Experience	0.73	1.00	0.45	0.00	1.00	720
Number of Industries	8.65	8.00	6.14	0.00	24.00	720
Number of Countries	2.73	2.00	2.37	0.00	12.00	720
Number of Firms	11.29	9.00	8.63	1.00	45.00	720
Number of Positions	23.70	21.00	17.27	1.00	70.00	720
<i>Panel B: CEO Characteristics</i>						
Age	57.76	57.00	8.22	39.00	85.00	720
CEO Tenure	11.38	10.00	7.21	1.00	33.00	720
Dummy First Year CEO	0.03	0.00	0.18	0.00	1.00	720
<i>Panel C: Firm Characteristics</i>						
Net Income (in M€)	0.27	0.06	0.72	-0.87	4.00	720
Total Assets (in M€)	6.30	1.87	14.85	0.04	84.98	720
Indebtedness (%)	50.57	51.66	26.30	0.39	116.91	720
Number of employees	1522.90	180.00	3833.32	0.00	23726.09	720
Liquidity Ratio	3.30	0.99	9.49	0.08	59.34	720
Return Shareholders' Funds (%)	0.15	0.10	0.35	-1.66	1.58	720
Return on Capital Employed (%)	0.11	0.07	0.18	-0.53	0.78	720
Return on Total Assets (%)	0.07	0.05	0.12	-0.34	0.45	720
Profit Margin (%)	0.36	0.30	1.89	-11.84	8.06	720
Sales (in M€)	0.85	0.17	1.71	0.00	8.67	720
Interest Coverage Ratio	190.96	3.94	835.04	-27.52	5066.95	720
Cash (%TA)	0.05	0.02	0.08	0.00	0.37	720
Long-term debt (in M€)	1.80	0.31	5.82	0.00	44.66	720
Working Capital (in M€)	0.16	0.05	0.26	-0.09	1.16	720
Stock Return (yoy)	0.09	0.02	0.42	-0.60	1.89	720
MV Equity (in M€)	6.05	1.72	12.94	0.01	73.29	720
Firm Age	44.25	33.00	41.91	2.00	226.81	720
Sales (log)	5.18	5.22	0.95	2.67	6.94	720
Tobin Q	1.62	0.98	1.74	0.07	8.01	720
Gender Dummy	0.88	1	0.32	0	1	720

**[Table 3]** Summary statistics for Adjusted General Ability Index Metrics (Panel A), CEO Characteristics (Panel B) and Firm Characteristics (Panel C). In this table it is observable the mean, median, standard deviation, minimum, maximum, and number of observations for each variable. All variables are winsorized at the 1st and 99th percentile values. The definition of the variables can be seen in Table A1 in the Appendix.

Our average CEO, based on the data from Table 3 Panels A and B, has had previous CEO experience before the current role, has worked in several industries, firms, positions internationally, is 57 years old and stands in the CEO role for 11 years. The firms the CEO works have profits, are moderately leveraged (~50%), have good liquidity, have good returns compared to the asset base (7%), are highly solvent with Interest Coverage Ratio close to 190x, have 9% annual stock returns and are solid companies in terms of history with an average age of 44 years in field.

Variable	Generalist Mean	Specialist Mean	Generalist Excess Mean		Number of Observations (Combined)
<i>Panel A: AGAI Characteristics</i>					
CEO Dummy Experience	0.95	0.53	0.42	***	720
Number of Industries	12.49	5.54	6.95	***	720
Number of Countries	3.95	1.66	2.29	***	720
Number of Firms	16.15	7.34	8.81	***	720
Number of Positions	32.48	16.42	16.06	***	720
<i>Panel B: CEO Characteristics</i>					
Age	56.55	58.79	-2.24	***	720
CEO Tenure	11.18	11.48	-0.29		720
Dummy First Year CEO	0.04	0.04	0.01		720
<i>Panel C: Firm Characteristics</i>					
Net Income (in M€)	0.34	0.21	0.12	***	720
Total Assets (in M€)	7.07	5.65	1.42	***	720
Indebtedness (%)	51.35	49.75	1.60	*	720
Number of employees	1119.11	1857.13	-738.01	***	720
Liquidity Ratio	3.36	3.06	0.30		720
Return on Shareholders' Funds (%)	0.17	0.14	0.03	***	720
Return on Capital Employed (%)	0.12	0.10	0.02	***	720
Return on Total Assets (%)	0.07	0.07	0.01	*	720
Profit Margin (%)	0.22	0.49	-0.26	***	720
Sales (in M€)	1.03	0.65	0.38	***	720
Interest Coverage Ratio	135.50	219.58	-84.08	***	720
Cash (%TA)	0.05	0.06	-0.01	**	720
Long-term debt (in M€)	2.42	1.19	1.23	***	720
Working Capital (in M€)	0.14	0.17	-0.03	***	720
Stock Return (yoy)	0.08	0.09	-0.01		720
MV Equity (in M€)	7.43	4.80	2.63	***	720
Firm Age	39.39	47.90	-8.52	***	720
Sales (log)	5.20	5.15	0.05	*	720
Tobin Q	1.68	1.61	0.07		720
Gender Dummy	0.87	0.89	-0.02	**	720

[Table 4] Summary statistics divided into groups between generalists and specialists for Adjusted General Ability Index Metrics (Panel A), CEO Characteristics (Panel B) and Firm Characteristics (Panel C). In this table it is observable the mean for each group of CEOs, the difference between the Generalist and the Specialist, and total number of observations for each variable. All variables are winsorized at the 1st and 99th percentile values. The definition of the variables can be seen in

Table A1 in the Appendix. \*, \*\*, \*\*\* indicates significance at the 10%, 5% and 1% level, respectively.

Now looking into Table 4, for the average Generalist CEO, it is possible to infer that, compared to the average Specialist CEO, there are significant differences (based on the test of differences in means to find significance) in all Panels A, B and C. A Generalist CEO has higher chance to have been a CEO previously by 42pp, while they have more experience in different positions, firms, industries and countries, which would be expectable based on the classification of AGAI.

Regarding other CEO Characteristics, Generalists tend to be younger by 2 years than Specialists. In what comes to the Firm Characteristics, Generalists deal with higher size companies and still, present higher returns in terms of ROA (1pp higher), ROCE (2pp higher) or TSR (3pp higher) which is reflected in higher net profits in absolute terms. Yet, Generalists play with higher amounts of indebtedness both in absolute values and relative values which may be one of the reasons to present higher returns based on (Modigliani, Miller 1958) study that with higher leverage, cost of equity tends to increase until a certain healthy point once cost of capital remains flat (considering all the assumptions of the model). Still, Generalists' companies tend to be solvent in an absolute point of view and on average are younger firms.

From the variables that are not significantly different from zero, we can conclude that, against to *Hypothesis 1*, there is no difference in terms of Tobin's Q performance between the two types of CEOs based on their general managerial skills, which means that possibly European style CEOs may not have such differences in terms of Tobin's Q performance contrary to what has been documented for the US. Another fact that can explain this may be the difference in terms of the size of the sample and sample selection bias that do not match with the ones of the existing literature. Still, in the regressions, instead of using the absolute Tobin's Q as a dependent variable, we use the excess Tobin's Q of the firm towards the median of the industry in the year since it was not visible an exact relation between AGAI and absolute Tobin's Q. Additionally, CEO tenure is not significant, which means that there is not such a difference between both CEOs. Yet, this has few implications to our *Hypothesis 2*, as the aim of this hypothesis is to understand how the performance of Generalists varies as the time goes by.

The motivation behind Table 4 execution and the corresponding tests of differences in means with  $H_0$ : *The difference in means is different from zero*, was to understand if it would be wise to continue studying in this direction. Since we found significant differences between the majority of the variables, it allows us to pursue this study in this direction since Generalists indeed have different CEO characteristics, Firm Characteristics and Backgrounds.

### 3.5 Regression Method

As mentioned above, this dissertation stands in four hypotheses that will be tested. *Hypothesis 1* says CEO general managerial ability and firm performance will be negatively associated contrary to the performance of a specialist in the role”, *Hypotesis 2* means the initial disadvantage in performance stated in *Hypothesis 1* will tend to reduce as the years go by, as the CEO will get acquainted with the business, *Hypothesis 3* says that during crisis times, the generalist CEOs tend to have a better performance, as they have higher ability to adapt and develop the company with a vision more “out of the box”, when compared to specialist CEOs, while *Hypothesis 4* corresponds to Female CEOs having a positive impact in the performance of the firm when considering the general managerial skills. We will run six regressions as the base models. Firstly, we run a regression (0) of the control variables and the excess specific to industry and year’s Tobin’s Q as the dependent variable to understand what is the basis of the analysis and then take conclusions on the extra effects on adding the independent variables. The second one (1) will consider just the *AGAI* as the independent variable and excess specific to industry and year’s Tobin’s Q as the dependent variable to get insights about our *Hypothesis 1*. Further, we have opted to use a second model (2) where we incorporate the CEO tenure x *AGAI* to analyze the *Hypothesis 2*. Then, model (3) utilizes all the aforementioned independent variables in addition to the Dummy Crisis Year X Generalist Dummy, where we can conclude if the *Hypothesis 3* holds. Afterwards we run model (4) which adds the variable Female Dummy X *AGAI* to get insights on *Hypothesis 4*. Lastly, to see the incremental impact of *Hypothesis 3* alone, we run regression (5). For robustness checks, we compute all models again with ROA as dependent variable instead of the excess specific to industry and year’s Tobin’s Q. There will be a slight difference between the robustness checks and the core regressions since we use in the robustness checks the Generalist Dummy instead of the *AGAI*. The remaining variables will be the same for each model on the robustness checks.

## 4. Results

*Dependent Variable: Excess Tobin Q*

	(1)	(2)	(3)	(4)	(5)	(6)
AGAI	-0.039 <i>0.468</i>	-0.203* <i>0.076</i>	-0.224* <i>0.051</i>	-0.226** <i>0.047</i>	-0.068 <i>0.225</i>	
Cash (%TA)	1.114 <i>0.104</i>	1.153* <i>0.092</i>	1.105 <i>0.106</i>	1.108 <i>0.103</i>	1.067 <i>0.119</i>	1.059 <i>0.121</i>
Gender Dummy	-0.482*** <i>0.004</i>	-0.503*** <i>0.003</i>	-0.481*** <i>0.004</i>	-0.659*** <i>0.000</i>	0.461*** <i>0.006</i>	-0.490*** <i>0.003</i>
Age	-0.011 <i>0.138</i>	-0.011 <i>0.140</i>	-0.010 <i>0.174</i>	-0.012* <i>0.097</i>	-0.010 <i>0.173</i>	-0.012* <i>0.098</i>
Interest Coverage Ratio	0.000*** <i>0.001</i>	0.000*** <i>0.001</i>	0.000*** <i>0.001</i>	0.000*** <i>0.001</i>	0.000*** <i>0.001</i>	0.000*** <i>0.001</i>
CEO Tenure	0.012 <i>0.143</i>	0.011 <i>0.173</i>	0.010 <i>0.195</i>	0.014* <i>0.077</i>	0.011 <i>0.164</i>	0.013 <i>0.118</i>
Dummy Crisis Year	-0.006 <i>0.959</i>	-0.015 <i>0.898</i>	-0.212 <i>0.186</i>	-0.135 <i>0.400</i>	-0.210 <i>0.191</i>	0.002 <i>0.990</i>
CEO Tenure x AGAI		0.016 <i>0.104</i>	0.015 <i>0.120</i>	0.013 <i>0.183</i>		
Dummy Crisis x Generalist Dummy			0.386* <i>0.063</i>	0.262 <i>0.210</i>	0.399* <i>0.055</i>	
Female Dummy x AGAI				1.006*** <i>0.001</i>		
Generalist Dummy						
Constant	0.847* <i>0.061</i>	0.879* <i>0.052</i>	0.817* <i>0.071</i>	1.073** <i>0.018</i>	0.785* <i>0.083</i>	0.871** <i>0.040</i>

[Table 5] In this table we can find the regressions with estimates concerning the ordinary least squares (OLS) and the abovementioned firm and CEO fixed effects panel of the excess yearly industry specific Tobin's Q of the firm on the Adjusted General Ability Index, CEO Tenure, Dummy Crisis, Gender Dummy, and other CEO- and firm-level control variables. The variable Generalist Dummy presents the value of one whenever the CEO's Adjusted General Ability Index stays above the yearly median and zero otherwise. The variable Female Dummy corresponds to a dummy variable that takes the value of one when the CEO is Female and zero otherwise, i.e, the opposite of the Gender Dummy variable. Year and industry (two-digit NAICS Code) fixed effects are incorporated in the regressions. In italic are presented the corresponding p-values. All variables

are winsorized at the 1st and 99th percentile values. The definition of the variables can be seen in Table A1 in the Appendix. \*, \*\*, \*\*\* indicates significance at the 10%, 5% and 1% level, respectively.

*Hypothesis 1* predicts that there will be a negative association between the general managerial skills and firm performance over the years. Based on model (1) of Table 5, which just considers the AGAI, we cannot conclude that there is any difference in performance based on the general managerial skills. Yet, as we add new variables into play, we see a significant negative association between performance and generalist ability in models (2), (3) and (4) of Table 5. As a matter of example, based on model (2), for each unit that is added in terms of AGAI (i.e., CEOs who are 1 standard deviation higher in the General Ability Index distribution), performance will, on average, decrease by 0.203 units, which goes in line with the pre-defined *Hypothesis 1* that was suggested by (Li & Patel, 2019).

Interestingly, the findings of (Li & Patel, 2019) on the effect of tenure to attenuate the negative difference in performance of Generalists over Specialists, citing “it will take >8 years for a firm to break even from the performance decline from hiring a generalist CEO ( $0 = -0.016 + 0.002 \times 8$ ), and with the average CEO tenure at around 8 years (and the median CEO tenure at around 6 years), many generalist CEOs are likely to leave the firm before the gains from their general experience have time to materialize”. In our study, we do not find significant results that can go in line with this contrary to our expectations related to *Hypothesis 2*. At a certain point, in Model (4) of Table 5, we find weak support that CEO Tenure indeed affects positively firm performance by, on average, 0.014. That said, if the CEO stays in the company for 1 additional year in the current firm, we observe an increase in firm performance (i.e., excess Tobin Q) of 0.014 units, everything else equal. When considering effect of CEO Tenure and general managerial skills combined (which is represented by the variable CEO Tenure X AGAI) it is observable a positive coefficient (in line with the findings of the authors). Indeed, there is one weak significance in Model 4 of Table 5 which means that, when the firm performance metric takes the value of 1, (excess Tobin’s Q = 1) and the Adjusted General Ability Index increases by 1, an increase in CEO Tenure in the firm by one year will lead, on average, to a positive increase in firm performance from -0.068 to 0.331 units ( $= -0.068 + 0.399 \times 1$ ). The divergences can be justified due to differences in culture from USA

to Iberia, differences in the size of data (we see *p-values* close to 10% so probably a bigger sized sample could lead to significance) or simply sample selection bias.

We predicted in *Hypothesis 3* that Generalists, due to their extended and cross-sectional knowledge, would be better in terms of performance than Specialists “when the industry the company belongs, faces hard times such as shortfalls of liquidity or underinvestment” to complement what was stated by (Andreou et al., 2017), now adapted to the general managerial skills reality. Indeed, we find positive significance (even if it is weak) in agreement with this hypothesis in the variable of Dummy Crisis x Generalist Dummy in Model (3) of Table 5. That said, considering crisis years for Portugal’s and Spain’s respective years among 2010, 2011, 2012 or 2013, if we take a firm performance of 1, (i.e., excess Tobin Q score of 1), on average and keeping everything else constant, by changing the type of CEO from Specialist to Generalist in the current firm (either by hiring a new CEO or the CEO shifts its score for above median in that year compared to the previous year), performance will increase by  $(=-0.224 + 1*0.386)$  which means a positive increase of 0.607 compared to a Specialist CEO.

Lastly, *Hypothesis 4* forecasts that gender will have impact in performance, specifically if adjusted to the general managerial skills. Indeed, looking in a first stage to the Gender Dummy, we find consistent negative significant association between Gender Dummy and firm performance. That said, considering model (1) of Table 5, when the performance metric takes the value of 1, (excess Tobin’s Q = 1), a change in CEO from Male to Female will lead, on average, to a negative decrease in firm performance from 1 to 0.518  $(= 1 - 0.482)$  units), which means that on average, Female CEOs tend to have better firm performance than their Male counterparts. This goes in line with the findings of (Reguera-Alvarado et al., 2015) who found benefits with the presence of women in decision-making positions on Tobin’s Q, and in line with (Catalyst's 2004) and (Khan & Vieito, 2013) who find significant positive association between Female CEO and performance. This may happen since “firms headed by Female CEOs are less risky than firms with Male CEOs” (Khan & Vieito, 2013). Adding to that, (Barber & Odean, 1998) argue that women have the tendency to care further about the allocation of money in the corporation’s operations and usually extract fewer personal benefits than men from the firm. These abovementioned reasons may be sufficient to justify this difference in performance. Now, looking deeper into *Hypothesis 4*, Model (4) of Table 5 shows strong positive significance of Female general managerial skills in firm performance ( $\beta =$

1.006,  $p < 0.01$ ). That said, when the firm performance metric takes the value of 1, (excess Tobin's  $Q = 1$ ) and the Adjusted General Ability Index increases by 1, a change in CEO from Male to Female will lead, on average, to a positive increase in firm performance from -0.224 to 0.782 units ( $= -0.224 + 1.006 * 1$ ). In other words, a change in CEO with consequently change in gender, lead, on average, to an increase in performance of 0.782. Still, with an average Female CEOs of 12% over the time span of 2010-2020, it seems that these advantages of having women in the top management position are not being exploited.

#### 4.1 Alternate firm performance variables

**Dependent Variable: ROA**

	(6)	(7)	(8)	(9)	(10)	(00)
AGAI	-0.002 <i>0.570</i>	-0.001 <i>0.913</i>	-0.002 <i>0.863</i>	-0.007 <i>0.430</i>	-0.003 <i>0.472</i>	
Cash (%TA)	0.199*** <i>0.000</i>	0.199*** <i>0.000</i>	0.197*** <i>0.000</i>	0.031** <i>0.012</i>	0.198*** <i>0.000</i>	0.194*** <i>0.000</i>
Gender Dummy	- 0.057*** <i>0.000</i>	- 0.056*** <i>0.000</i>	- 0.056*** <i>0.000</i>	0.214*** <i>0.000</i>	0.056*** <i>0.000</i>	-0.057*** <i>0.000</i>
Age	0.001 <i>0.171</i>	0.001 <i>0.171</i>	0.001 <i>0.160</i>	-0.049 <i>0.000</i>	0.001 <i>0.159</i>	0.001* <i>0.093</i>
Interest Coverage Ratio	0.000*** <i>0.000</i>	0.000*** <i>0.000</i>	0.000*** <i>0.000</i>	0.001* <i>0.084</i>	0.000*** <i>0.000</i>	0.000*** <i>0.000</i>
CEO Tenure	-0.001** <i>0.027</i>	-0.001** <i>0.028</i>	-0.001** <i>0.026</i>	0.000*** <i>0.000</i>	-0.001** <i>0.025</i>	-0.001** <i>0.020</i>
Dummy Crisis Year	-0.008 <i>0.389</i>	-0.008 <i>0.395</i>	-0.014 <i>0.286</i>	-0.002** <i>0.013</i>	-0.014 <i>0.285</i>	-0.017* <i>0.099</i>
CEO Tenure x AGAI		0.000 <i>0.855</i>	0.000 <i>0.836</i>	-0.005 <i>0.717</i>		
Dummy Crisis x Generalist Dummy			0.011 <i>0.517</i>	0.000 <i>0.736</i>	0.011 <i>0.521</i>	
Female Dummy x AGAI				-0.009 <i>0.631</i>		
Generalist Dummy				-0.024 <i>0.315</i>		
Constant	0.073** <i>0.040</i>	0.073** <i>0.042</i>	0.071** <i>0.047</i>	0.039** <i>0.301</i>	0.071** <i>0.046</i>	0.069** <i>0.038</i>

**[Table 6]** In this table we can find the regressions with estimates concerning the ordinary least squares (OLS) and the abovementioned firm- and CEO-fixed effects panel of the Return on Assets (ROA) of the firm on the Generalist Dummy, CEO Tenure, Dummy Crisis, Gender Dummy, and other CEO- and firm-level control variables. The variable Generalist Dummy presents the value of one whenever the CEO's Adjusted General Ability Index stays above the yearly median and zero otherwise. The variable Female Dummy corresponds to a dummy variable that takes the value of one when the CEO is Female and zero otherwise, i.e., the opposite of the Gender Dummy variable. Year and industry (two-digit NAICS Code) fixed effects are incorporated in the regressions. In italic are presented the corresponding p-values. All variables are winsorized at the 1st and 99th percentile values. The definition of the variables can be seen in Table A1 in the Appendix. \*, \*\*, \*\*\* indicates significance at the 10%, 5% and 1% level, respectively.

In Table 6 we can find regressions similar to those previously done that include the Generalist Dummy as a proxy for more general managerial skills to predict the alternate firm performance measure – return on assets (ROA). The metric of ROA is computed through the division of Profit/Loss before taxes to Total Assets. Table 6 presents the main models with ROA as a dependent variable. In line with the sign of the previous findings, we find negative association between general managerial skills and firm performance, yet this is not significant for any of the models ( $p > 0.1$ ) in the presence of Generalist type CEO in ROA. Concerning CEO Tenure, it is possible to see a consistent significant negative impact of this variable in performance as opposed to the core models of this study. In line with the previous findings, we find that Male CEOs have significant worst performance than women when concerning the dependent variable of ROA in all models (e.g., model (8) has  $\beta = -0.056$ ,  $p < 0.01$ ). With a mean of 7% ROA and a median of 5% ROA in our sample, we conclude that having women in the top decision-making role can be the differentiating factor between having positive performance or negative performance once we find that, on average, if the firm changes CEO from Female to Male, performance will decrease by 5.6 percentage points all else equal. Lastly, focusing on the Dummy Crisis variable, as expected, when changing from a normal year to a crisis year, firm performance decreases in every model, with significant results in models (9) and (00). However, no significant results are found when looking to the combined effect of this variable and general managerial skills. Model (00) presents the basic regression of the control variables in the dependent variable and, interestingly, all variables are

significant with Male CEOs having, on average, less performance in firms than Female, Age has a positive impact in firm performance which may be explained with the increase of knowledge and cumulative experience that helps drive better results, CEO Tenure impacts negatively performance and Interest Coverage Ratio helps to increase ROA.

A note to the analysis of robustness, it was understood based on some regressions done, that even though it could be pertinent to implement a dummy control variable which equals 1 if CEO is in her/his first year of functions after testing the regressions with this metric, we understood by *p-value* that it has never impact, it only decreases the significance of other metrics, so we decided to exclude it both in the core models and the robustness checks.

#### 4.2 Additional Analysis

<i>Dependent Variable: Excess Tobin Q</i>	Male			Female		
	(1)	(2)	(3)	(1)	(2)	(3)
AGAI	-0.047 <i>0.386</i>	-0.188 <i>0.101</i>	-0.212* <i>0.066</i>	-0.011 <i>0.857</i>	-0.028 <i>0.832</i>	-0.039 <i>0.767</i>
Cash (%TA)	1.096 <i>0.111</i>	1.129 <i>0.101</i>	1.077 <i>0.117</i>	-0.036 <i>0.966</i>	-0.029 <i>0.973</i>	-0.065 <i>0.939</i>
Age	-0.011 <i>0.159</i>	-0.011 <i>0.162</i>	-0.010 <i>0.203</i>	-0.003 <i>0.729</i>	-0.003 <i>0.726</i>	-0.003 <i>0.765</i>
Interest Coverage Ratio	0.000*** <i>0.001</i>	0.000*** <i>0.000</i>	0.000*** <i>0.000</i>	0.000*** <i>0.003</i>	0.000** <i>0.003</i>	0.000*** <i>0.003</i>
CEO Tenure	0.012 <i>0.149</i>	0.011 <i>0.175</i>	0.010 <i>0.199</i>	0.018* <i>0.062</i>	0.018* <i>0.063</i>	0.017* <i>0.077</i>
Dummy Crisis Year	0.017 <i>0.886</i>	0.010 <i>0.932</i>	-0.208 <i>0.196</i>	0.045 <i>0.747</i>	0.044 <i>0.756</i>	-0.073 <i>0.691</i>
CEO Tenure x AGAI		0.014 <i>0.163</i>	0.013 <i>0.183</i>		0.002 <i>0.883</i>	0.001 <i>0.907</i>
Dummy Crisis x AGAI			0.427* <i>0.040</i>			0.245 <i>0.316</i>
Constant	0.383 <i>0.366</i>	0.393 <i>0.353</i>	0.347 <i>0.412</i>	-0.006 <i>0.990</i>	-0.003 <i>0.996</i>	-0.019 <i>0.970</i>

[Table 7] In this table we can find the regressions with estimates concerning the ordinary least squares (OLS) and the abovementioned firm- and CEO-fixed effects panel of the Excess yearly median Tobin's Q of the firm on the Generalist Dummy, CEO Tenure, Dummy Crisis, and other CEO- and firm-level control variables. The models are controlled for gender, i.e., the first three

models rely only on Male CEO data, while the right ones focus on Female data only. The variable Generalist Dummy presents the value of one whenever the CEO's Adjusted General Ability Index stays above the yearly median and zero otherwise. Industry (two-digit NAICS Code) fixed effects are incorporated in the regressions. In italic are presented the corresponding p-values. All variables are winsorized at the 1st and 99th percentile values. The definition of the variables can be seen in Table A1 in the Appendix. \*, \*\*, \*\*\* indicates significance at the 10%, 5% and 1% level, respectively.

After finding reasonable and significant conclusions on the effect of Female CEOs in performance compared to Male CEOs, even analyzing with general managerial skills point of view, we understood it would be necessary to deepen this topic and understand exactly what the real effect of each gender on performance is. Interestingly, we find significant negative effects of AGAI on Excess Tobin Q when analyzing only the Male CEOs, i.e., based on Model (3) of Table 7. For each unit that is added in terms of AGAI (i.e., CEOs who are 1 standard deviation higher in the General Ability Index distribution), performance will, on average, decrease by 0.203 units, which goes in line with the pre-defined *Hypothesis 1* that was suggested by (Li & Patel, 2019) and our findings in the abovementioned core models. However, in this case the results are valid only for the Male class of CEOs. The remaining coefficients of AGAI in Male regressions are negative. When analyzing the Female CEOs on AGAI's effect in Excess Tobin Q, there is no such significance, but still, the coefficients are negative. Even though all the coefficients, both in Male and Female regressions, are negative, Female general managerial skills have less negative impact than Male general managerial skills.

Further, analyzing the Female regressions, we see in Models (1), (2), and (3) of Table 7 a weak positive significant effect of Tenure in performance. That said, as the time goes by, Female CEOs get a better knowledge on the firm and industry (both generalist or specialist) and have incremental actions on the firm that drive performance. In line with the previous findings (using Female Model (2) of Table 7), we find that for every year a Female CEO works in the company with that role, on average and keeping everything else constant, it will lead to an increase in performance over the industry median in that year of 0.018 units. With an average CEO Tenure of 11.48 years, it means that it is possible to get over time good results by learning on the job.

Lastly, with this additional analysis, it is possible to take an interesting conclusion based on Male Model (3) of Table 7. *Hypothesis 3* states that during crisis times, the generalist CEOs tend to have a better performance, as they have higher ability to adapt and develop the company with a vision more “out of the box”, when compared to specialist CEOs. Well, if we isolate Male in the equation, we find that during the years of sovereign debt crisis that affected Portugal and Spain, generalist Male CEOs had much better performance than their specialist counterparts. In a nutshell, when the firm performance metric takes the value of 0, (excess Tobin’s  $Q = 0$ ) and we are focusing on the years of crisis (i.e., 2010/2011/2012/2013 depending on the country of the company), for each unit that is added in terms of AGAI (i.e., CEOs who are 1 standard deviation higher in the General Ability Index distribution), performance will, on average, increase from -0.212 to 0.215 ( $= -0.212 + 0.427*1$ ). This means that a firm that was underperforming its industry in the year prior to the crisis, during the crisis years they were outperforming the industry.

## 5. Limitations

The study is not without limitations. Indeed, as of limitations on this study, it is of relevance to mention (1) small dataset, (2) lack of desired data, (3) difficulties to get data (4) generalist classification, (5) publicly traded firms.

Firstly, the small dataset has some drawbacks such as in the robustness of the tests, since it does not allow for lots of control variables (mainly for industry since there are industries that are not that diversified in terms of characteristics which leads to misinterpretation of the results). In contrast, the existing literature uses a dataset that is 20x bigger. Still, it is of relevance to mention that the Iberian corporate market is not the size of the US market. Therefore, by adjusting at least population wise, considering the US is 5.8x the Iberian one, our dataset would need to be at least 3,5x bigger to have a similar comparison. For further research in this topic, we would suggest developing a bigger and more complete dataset on Iberian public traded firms or develop this study in an European scope or other European region scope to understand if these results prevail in the European environment which in certain aspects is different from the American one.

In what regards the desired data, the existing literature considers some variables that could not be used in this study due to lack of data. This includes (1) data on previous experience of CEOs in consolidated companies, (2) data on the Appointment Date of CEOs, (3) no R&D data for the companies under analysis, (4) *AGAI* components' data, (5) CEO Compensation data. Regarding (4), the data available only disclosed information on the current values for each metric, therefore, it was assumed that throughout the timespan the CEOs had the same cumulative number of positions every year which is not accurate and diminishes the power of the variable *AGAI* by reducing variability over the years. The last source of data is widely used mainly because (Custódio et al., 2013) find evidence of a pay premium for CEOs with generalist characteristics over the homologue specialists of 19%, which could be interesting to analyze in this dataset in further studies to understand how applicable that study, when data is available, in other countries besides USA. Additionally, the initial dataset was truncated due to lack of data on critical variables, whereby if the dataset was larger, the conclusions could differ in some aspects. Besides, significance of variables can be boosted by a larger N so, even though our sample is way beyond the minimum  $N = 30$  to consider a large sample, it is still not optimal.

Further, there were difficulties reaching out data since Sabi platform lacked in terms of some variables. The only way to get information on (1) CEO for each year and (2) CEO tenure was through LinkedIn or Google research which, in certain cases may not be 100% accurate, therefore our results may not represent the clear reality and there is the possibility of operational risk (since data was built manually for those variables).

In addition, the classification of generalist vs. specialist varies across the literature. For this classification, of CEO human capital, (Li & Patel, 2019) used the number of industries and the number of firms – “to facilitate clearer interpretation of the effects”, while (Bragaw & Misangyi, 2015) suggest CEO experience and CEO general ability, all the suggestions derive from the five indicators index of (Custódio et al., 2013). Our proposal goes in line with (Custódio et al., 2013), yet other combinations could have drawn better conclusions for the Iberian CEO market.

Lastly, similarly to (Li & Patel, 2019) limitation on their study, the selection of data relies on “large publicly traded firms where the market for executive talent is thicker”. When it comes to CEO privately held company market, it may require greater firm-specific knowledge and skills as there are limitations in this market to develop generalist characteristics. In addition, due to the size of privately held companies, they tend to focus on niche markets or at least the skillset needed for the strategic insights of the firm implies greater specific knowledge of the industry, therefore generalist characteristics may not be that welcomed.

## 6. General Discussion

The 21<sup>st</sup> Century has seen so far huge developments which indeed increases uncertainty, organizational complexity, and constant need for adaptable talent. Well, here comes the possible importance of general managerial skills, as a generalist is someone that has, compared to the pool of CEOs, more open-minded knowledge and higher adaptability to new normal since she/ he has had several previous experiences facing different bosses, different teams, different industries, countries or even positions over the firms. In line with the findings of (Custódio et al., 2013), a one standard deviation increase in their general ability leads to a 12% increase in CEO pay, and for CEOs with lower levels of ability, more generalist CEOs earn a 19% premium – or, close to one million US dollars in additional annual pay on average in the US study using BoardEx (1993-2007).

Well, our study put into analysis if, for Spain and Portugal, it is worth it to pay a premium to more generalist CEOs based on performance (assuming the conclusions of the abovementioned study apply to the countries this dissertation is studying). In fact, we find in all models, including robustness checks and gender specific regressions, that there is a negative association between more generalist CEO experience (proxied by the Adjusted General Ability Index) and firm performance, which goes against the reasons to hire talent based on general managerial skills in line with (Li & Patel, 2019). Nevertheless, this negative association is alleviated by Gender (Female specifically), CEO Tenure and Crisis times.

The recent call for women in decision-making level in the corporate world has reverberated with growing strength, as the stark reality of gender inequality was successfully brought into the fold by activists across the world with some recent examples such as Malala Yousafzai, who understand this disparity between Male opportunities since birth and Female opportunities and do their best to guarantee that women at least have a chance to compete with men. Indeed, this fact that women have had in the past less opportunities may lead to higher focus of women to not fail in any circumstance, higher resilience due to intense critics to her success over time, and less greed (since women have to show the world they deserve the decision-making roles) compared to men. Contrary, men historically have ruled the corporate world, so there is nothing to fear. This has huge implications namely on big ethical and financial scandals that occurred throughout history due to greed, over confidence and excess risk-taking of decision-makers, all characteristics that

are more related to men. In line with our study, (Reguera-Alvarado et al., 2017) share the opinion that Female decision-makers lead to higher performance when compared to men, therefore, based on the findings of (Custódio et al., 2013), there should be a pay premium for this significant half of the world.

The sovereign debt crisis hit hard, both Portugal and Spain's economies, mainly in the corporate field with several firms restricted to credit, government action to restrict consumptions and increase savings and a decrease in population over the period of crisis (in Portugal). In line with this, (Andreou et al., 2017) understands which skillset CEO is of utmost importance when the industry the company belongs faces hard times such as shortfalls of liquidity or underinvestment, since they find positive significance between general managerial skill and performance of the firm as well as investments conducted in crisis times. Our findings see a positive effect of general managerial skills during crisis times in performance compared to the remaining firms of the industry. This might happen due to the immense knowledge and experience of the CEO since its CV includes experiences with different types of firms in terms of liquidity, solvency, profitability, geographic coverage, industry, government support, country, or macroeconomic environments. Therefore, a crisis shock may be just another day in the office for these CEOs that, even though they need time to adapt, preferably eight years to overcome the specialist counterpart performance according to (Li & Patel, 2019), they can get ideas "out of the box" and implement already tested strategies that worked in the past and have higher chance of positive outcomes compared to CEOs with a more company guided mind such as the specialists. Mainly, generalist Male CEOs, compared to specialist Male CEOs, tend to have better performance in crisis years compared to non-crisis years, while Female generalist CEOs have, on average, better performance than Male specialists in crisis years compared to non-crisis years which goes in line with all the above discussion of the importance of women and generalist knowledge.

Lastly, we see mixed findings on CEO Tenure. If we touch the metric of Excess Tobin Q, we see a consistent positive impact both in all the sample and the Female cohort, while when looking into ROA, the impact is the reverse. Yet, when analyzing the combines effect of CEO Tenure and general managerial skills, it is not possible to take significant conclusions which may be related to the sample itself.

## 7. Conclusion

Generalist CEOs are increasingly trendy as we enter a more than ever globalized business world and, in a talent-constrained market, the higher demand led to a significant pay premium to Generalist CEOs (Custódio et. al 2013). Still, few literature is actually available on the most desired reason for this pay premium to Generalists, i.e., the performance of the firm. In an investor perspective, there should be a balance in considerations of firm performance when hiring a new CEO and that needs to depend on the short- and long-term performance. Our findings reflect a significant negative association between the level of general managerial skills and firm performance. Therefore, this increasingly interest (that is reflected in the level of generalist profile of CEOs over the years) in hiring someone with cross-industry knowledge may not be optimal, especially when considering these investments are heavier in terms of pay.

At different levels of characteristics, but with some similar characteristics in terms of historical awareness and focus, we see that Gender has an impact in performance. Female CEOs have significant higher performance than their Male counterpart which shows that all the efforts done since the end of both dictatorships that occurred in Portugal and Spain during the XX century have not been in vain. Women, therefore, should have an opportunity in what regards decision-making level roles. Additionally, when looking to the impact of each gender alone, we find significant positive impact of Male CEOs with generalist characteristics during crisis times over less generalist ones. Actually, these Male CEOs, even though for every 1 standard deviation increase in AGAI it leads to a performance decrease of -0.212, in crisis years, these CEOs have, on average, more 0.437 units of excess performance, which means that these companies switch positions in the industry ranking from being underperforming in the non-crisis years with these CEOs to outperform the remaining ones in crisis years.

To complement these findings, Generalist profile implies higher chance of having knowledge on different areas which, in times of crisis such as the one that affected both Portugal and Spain, the Sovereign Debt Crisis, may be the optimal type of person to oversee the vision and strategic actions of the firm. Indeed, our findings suggest that Generalist CEOs have better performance in times of crisis than Specialists. This finding goes in line with previous studies (Andreou et al. 2017).

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## 9. Appendix

### *A1. Variable Definition*

<b>Variable</b>	<b>Definition</b>
<i>Panel A: AGAI Components</i>	
AGAI	First factor of applying Principal Components Analysis to five proxies of general managerial ability: past Number of Positions, Number of Firms, Number of Industries, CEO Experience Dummy, and Number of Countries (Sabi or manually computed based on Sabi)
CEO Dummy Experience	Dummy variable that takes a value of one if CEO held a CEO position at another company based on past work experience, and zero otherwise
Number of Industries	Number of industries [two-digit NAICS] in which CEO has worked based on past work experience
Number of Countries	Number of countries where CEO has worked based on past work experience
Number of Firms	Number of firms where CEO has worked based on past work experience
Number of Positions	Number of positions CEO has had based on past work experience
Generalist Dummy	Dummy variable that takes a value of one if the CEO's general ability index is above the yearly median, and zero otherwise
<i>Panel B: CEO Characteristics</i>	
Age	Age of CEO in years
CEO Tenure	Number of years as CEO in the current position
Gender Dummy	Dummy variable that takes a value of one if the CEO is Male, and zero otherwise
Female Dummy	Dummy variable that takes a value of one if the CEO is Female, and zero otherwise
Dummy First Year CEO	Dummy variable that takes a value of one if it is the first year of functions of the CEO in the current CEO position, and zero otherwise
<i>Panel C: Firm Characteristics</i>	
Excess Tobin Q	Excess Tobin Q of the firm towards the yearly median of the industry's Tobin Q
Net Income (in M€)	Net Income of the firm in each year of analysis in Millions of Euros
Total Assets (in M€)	Total Assets of the firm in each year of analysis in Millions of Euros
Indebtedness (%)	Total Debt of the firm divided by Total Assets in each year of analysis as a percentage
Number of employees	Current number of employees of the firm

Liquidity Ratio	Total Cash divided by Current Liabilities
Return Shareholders' Funds (%)	Percentage change of the stock price over the year of analysis
Return on Capital Employed (%)	Profit/Loss before taxes divided by Total Debt and Total Equity (book value)
Return on Total Assets (%)	Profit/Loss before taxes to Total Assets
Profit Margin (%)	Earnings before interests, taxes, depreciations and amortizations divided by Sales as a percentage
Sales (in M€)	Total sales in Millions of Euros
Interest Coverage Ratio	Earnings before Interest and Taxes divided by Interests (both Income Statement accounts)
Cash (%TA)	Total Cash of the firm in each year of analysis as a percentage of the Total Assets of the period
Long-term debt (in M€)	Total Long-term debt of the firm in the year of analysis
Working Capital (in M€)	Current Assets minus Current Liabilities in Millions of Euros
Stock Return (yoy)	Annual stock return
MV Equity (in M€)	Number of outstanding shares of the firm Equity in public markets as of the end of each year, multiplied by the stock price at the end of the year
Firm Age	Number of years of the firm since creation
Sales (log)	Log of sales in thousands of Euros
Tobin Q	Sum of total assets plus market value of equity minus book value of equity divided by total assets

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## A2. Correlation Matrix

<i>Variables</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)					
(1) Age	1																																				
(2) Net Income (in M€)	0.03	1																																			
(3) Total Assets (in M€)	-0.13	0.44	1																																		
(4) Economic Profitability (%)	0.04	0.14	0.01	1																																	
(5) Indebteness (%)	-0.05	-0.07	0.09	-0.25	1																																
(6) Number of employees	0.09	0.02	-0.01	-0.09	0.32	1																															
(7) Liquidity Ratio	-0.10	0.01	0.03	0.06	0.05	-0.10	1																														
Return on Shareholders								1																													
(8) Funds (%)	0.04	0.11	0.01	0.51	0.14	0.05	-0.05	1																													
Return on Capital									1																												
(9) Employed (%)	0.04	0.11	-0.01	0.61	0.01	-0.04	-0.03	0.69	1																												
(10) Return on Total Assets (%)	0.04	0.14	0.01	1.00	-0.25	-0.09	0.06	0.51	0.61	1																											
(11) Profit Margin (%)	0.02	0.18	0.07	0.25	-0.15	-0.06	0.09	0.22	0.24	0.25	1																										
(12) Sales (in M€)	-0.02	0.53	0.43	0.06	0.24	0.23	0.11	0.11	0.11	0.06	-0.04	1																									
(13) Interest Coverage Ratio	0.03	0.14	-0.04	0.21	-0.18	-0.04	0.15	0.03	0.06	0.21	0.14	0.07	1																								
(14) Cash (%TA)	-0.02	0.04	0.08	0.14	0.07	0.08	0.08	0.12	0.13	0.14	0.07	0.13	0.06	1																							
(15) Long-term debt (in M€)	-0.07	0.44	0.75	-0.10	0.16	0.02	-0.07	-0.06	-0.09	-0.10	-0.01	0.49	-0.07	-0.03	1																						
(16) Working Capital (in M€)	0.06	0.26	0.24	-0.11	0.17	0.50	-0.10	0.00	-0.02	-0.11	-0.09	0.48	-0.03	0.09	0.23	1																					
(17) Dummy First Year CEO	-0.13	0.05	-0.01	0.01	-0.02	0.01	0.02	0.00	0.00	0.01	-0.08	0.05	-0.04	0.00	0.00	1																					
(18) Dummy Crisis	-0.10	-0.03	-0.04	-0.05	0.03	0.08	-0.08	-0.01	0.02	-0.05	-0.03	-0.01	-0.04	-0.16	0.01	0.05	-0.01	1																			
(19) CEO Tenure	0.39	0.00	0.04	-0.05	0.13	0.15	-0.09	-0.02	-0.01	-0.05	-0.10	0.04	0.01	0.04	0.12	0.14	-0.27	-0.02	1																		
(20) Stock Return (yoy)	-0.08	-0.06	0.00	0.01	-0.02	-0.01	0.03	0.01	0.01	-0.03	-0.01	-0.01	0.05	-0.07	-0.05	0.09	-0.02	-0.05	1																		
(21) MV Equity (in M€)	0.00	0.57	0.48	0.10	-0.09	-0.02	-0.06	0.04	0.09	0.10	0.04	0.56	0.09	0.13	0.47	0.30	0.01	-0.03	-0.07	-0.01	1																
(22) Firm Age	0.06	0.05	0.04	0.12	-0.03	0.14	-0.02	0.06	0.08	0.12	0.06	0.05	0.17	0.17	0.12	0.00	-0.04	0.01	0.11	-0.02	0.09	1															
(23) Sales (log)	0.27	0.36	0.21	0.04	0.22	0.39	-0.10	0.11	0.10	0.04	-0.05	0.66	-0.01	0.12	0.33	0.53	0.03	0.00	0.24	-0.02	0.37	0.11	1														
(24) Tobin Q	0.03	0.06	-0.04	0.52	-0.27	-0.10	0.05	0.30	0.44	0.52	0.09	0.02	0.17	0.08	-0.15	-0.10	0.01	-0.01	-0.02	0.20	0.30	0.13	-0.01	1													
(25) CEO Dummy Experience	0.00	0.06	0.07	0.07	-0.03	-0.09	-0.05	0.06	0.04	0.07	-0.08	0.08	-0.09	0.05	0.03	-0.02	0.06	-0.10	0.01	0.02	0.06	-0.05	0.08	0.03	1												
(26) Number of Industries	-0.02	0.03	-0.01	-0.01	0.08	-0.04	0.08	0.04	0.01	-0.01	-0.12	0.03	-0.06	0.05	-0.03	-0.05	0.04	-0.06	-0.06	0.00	0.01	-0.10	0.05	0.00	0.37	1											
(27) Number of Countries	-0.09	0.13	0.10	-0.01	-0.03	-0.02	0.01	-0.04	-0.01	0.04	0.15	0.01	0.03	0.13	0.17	0.01	-0.03	-0.02	-0.02	0.15	-0.06	0.14	0.00	0.18	0.31	1											
(28) Number of Firms	-0.19	-0.09	-0.07	-0.05	0.11	-0.16	0.05	0.00	-0.03	-0.05	-0.06	-0.09	-0.03	-0.03	-0.04	-0.17	0.04	-0.09	-0.15	0.01	-0.08	-0.11	-0.16	-0.01	0.29	0.56	0.43	1									
(29) Number of Positions	-0.25	-0.09	-0.11	-0.04	0.16	-0.13	0.21	0.00	-0.04	-0.04	-0.06	-0.05	-0.02	0.02	-0.08	-0.14	0.07	-0.11	-0.14	-0.02	-0.09	0.01	-0.18	-0.05	0.27	0.47	0.30	0.67	1								
(30) AGAI	-0.12	0.00	-0.01	-0.03	0.11	-0.09	0.05	0.00	-0.02	-0.03	-0.06	0.01	-0.04	0.06	0.01	-0.05	0.03	-0.09	-0.07	-0.02	0.00	-0.08	0.00	-0.02	0.42	0.66	0.62	0.75	0.63	1							
(31) Gen_Spe	-0.15	0.09	0.05	0.03	0.03	-0.10	0.01	0.05	0.05	0.03	-0.07	0.11	-0.07	-0.04	0.11	-0.06	0.05	0.00	-0.03	0.00	0.11	-0.12	0.02	0.03	0.50	0.62	0.51	0.56	0.51	0.59	1						
(32) Industry Median Tobin's Q	0.10	0.06	-0.09	0.32	-0.25	-0.09	-0.01	0.16	0.24	0.32	0.12	0.03	0.10	0.05	-0.13	-0.08	0.04	-0.02	-0.10	0.09	0.20	0.13	0.00	0.56	0.05	0.07	-0.08	-0.01	0.00	0.01	0.01	1					