THE EFFECT OF INTERLOCKS AND RECOMMENDATIONS OF CORPORATE GOVERNANCE ON THE PERFORMANCE OF COMPANIES IN THE IBEX 35

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ABSTRACT

The aim of this paper is to analyse whether a greater number of interlocks on the board and compliance with the majority of corporate governance recommendations have any effect on the results of IBEX 35 companies. In order to do this, we will focus on the theory of resource dependence and propose two hypotheses which will collate the effect of interlocks and the compliance of recommendations on the performance of these companies. This effect will be measured using ROA and ROE on a sample of the 35 companies that comprised the IBEX during 2014. Using this, the results show that interlocks have no significant effect on the performance of businesses and the compliance of recommendations has a negative effect.

Keywords: Interlocks, Recommendations, Performance, IBEX 35, Resource dependence

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INTRODUCTION

In recent years greater importance has been given to the existence of Interlocks- These are known as those directors who are on the board of two or more companies simultaneously. These connections between different companies emerged in America in the early twentieth century (Mondéjar and Irurzun, 2013) allowing communication between different companies. This was done by the creation of social networks that connected different companies through their directors (Poveda, Sicilia, Simo and Sallan, 2014).

The existence of interlocks could explain a possible reduction of competition, since the existence of interlocks between companies in the same sector makes it easier when taking measures to reduce such competition. However, this is not the only focus, it also makes it possible among companies that are connected to exchange resources in order to carry out better practices. Another important aspect of these interlocks is the prestige that can be provided to companies as directors of a large company also form part of the board of another, thus providing a good image to the company and to the stakeholders (Sicilia and Sallan, 2008).

As with any other aspect, the existence of Interlocks has not been without criticism, such as that of Mizruchi and Marquis regarding the lack of clarity that exists in explaining what interlocks really represent. There have been few researchers with access to the board of directors therefore it has not been possible to show with certainty the explanation of ties between companies. On the other hand, possible absences have also been found, such as the minor supervision that managers should do over the work of the board, as well as less independence on the work of the directors which may result in an abuse of management (Andres, Blanco-Alcántara and Lopez-De-Foronda, 2014).

Despite this, we cannot ignore the role that this union, through the interlocks, makes between different companies, both in the behaviour and the results of the interlocking companies. This is what makes the ties between companies formed through interlocks the subject of several studies, and remains a topical issue. We can point to the different theories that currently show some of the reasons why companies are willing to have interlocks with other companies. These could be due to different reasons such as coordination between the different companies to obtain lower competition, resourcing through such enterprises and the acquisition of control of these (Poveda et al., 2014). Of the various theories available we can emphasize the Resource Dependence

Theory. This shows how the performance of the company is affected by interlocks providing greater resources to the different companies, while on the other hand the Agency Theory suggests that greater resources increases the likelihood of opportunism by management and agency costs and therefore can affect the performance of the company (Zona, Gomez-Mejia and Withers, 2015).

In order to establish hypotheses that will later be contrasted empirically, the project is focussed on the Resource Dependence Theory, to analyse the effect a greater number of interlocks have on company performance. Thus, the board and interlocks can be considered as a mechanism of corporate governance to increase the resources that connect businesses within their environment and thus reduce possible manipulative practices. In addition, there are different codes in the government which propose certain recommendations to the board of directors in order to ensure a smooth operation, and can control the functions of the different members of the board (Orta and Sierra).

Using this, we focus the objective of our study on the effect a higher percentage of interlocks has on the results of a company, both economic and financial, as well as the effect different governance recommendations can have on better results for businesses through increased monitoring of these recommendations. For this a sample of 35 companies which all form part of the IBEX 35 was used, and in which we collected data such as the number of interlocks that make up their boards, the percentage of recommendations that each of them comply with, the results obtained during 2014, as well as the size and the sector they belong to. To check the different effects of a range of variables on the profitability, we used the statistical program R

As a result of this analysis we learned that interlocks have no significant effect on the profitability of the company, while complying with recommendations has a surprising negative effect on this, that is, the more compliance with recommendations, the lower the profitability of the company. The results also show that analysing the financial profitability of the previous year is very important when testing the effects of different variables. Likewise, we have also seen that the diversity of interlocks in different aspects also has no effect on the profitability of the company.

The work is divided into 7 parts. The first part includes the introduction, and the presentation of the topic that will be dealt with throughout the study. In the second we look at earlier literature, which will refer to previous studies that have dealt with similar issues, mentioning the hypotheses which will be contrasted. Part three will show the methodology such as that used in the sample, the variables used and the model

followed. In the fourth, the results according to our sample can be found along with the conclusions reached. It will also mention the limitations encountered when carrying out the research, some possible future research, and finally, a series of annexes will be shown relating to the topics discussed previously and the references for our work.

PREVIOUS LITERATURE

To begin this work, we will look at previous studies that refer to the interlocks between companies. In different studies various definitions of 'interlocks' can be found, among those the following can be highlighted: an interlock is formed "when a person is on the board of directors of two or more corporations providing a link or interlock between them" (Fitch & White 2005: 175 mentioned by Zona et al, 2015), as well as that given by Burt (1980) and Mizruchi (1996), which indicates that a board with interlocks is created when an executive or director of a company joins the board of directors of another company (see Shropshire, 2010). We can complete these definitions by incorporating the fact that the alliance the interlocks make in uniting different companies. As a result of this link between companies we obtain a form through which companies exchange information with each other (Mizruchi, 1992). This makes a significant impact on the company, both in reference to the government of the company and the performance of it.

Having outlined these definitions, we find others that show different types of interlocks, such as that of Barzuza and Curtis (2014) in which we find simple and reciprocal interlocks. The difference between the two is that reciprocal interlocks have a director of their company on the board of another, while in turn, a director of the other company forms part of its board. On the other hand, simple interlocks are when a member of the board is on the board of more than one company without finding a member of those companies on its board in return.

Most studies on this topic agree that the importance interlocks give to a company is becoming greater (Barzuza and Curtis, 2014), since they provide different networks through which the company obtains information which they might not otherwise get (Connelly and Van Slyke, 2012). In this study we emphasize the theory of resource dependency, because, as shown in some research from this theory, interlocks improve company performance through lower resource constraints (Mizruchi, 1996 and Pfeffer, 1987 mentioned by Zona et al., 2015). Zona et al. (2015) make an analysis of this theory, in which they show that: “Resource dependence theory outlines how

organizations are subject to resource constraints and explicates actions for reducing these constraints". In other words, make reference to the focus of resource dependence theory on the external relations of the company. With this we can see the results that relate interlocks with the results of the companies, because as mentioned by Zona et al. (2015): " interlocks serve as means to cope with external dependencies".

To this can be added, that interlocks represent a mechanism for transmitting practices between companies, meaning that they have access to different resources available to companies (Shropshire, 2010). In turn, making reference to Resource Dependence theory, we find studies that consider organizations as "open systems" in which their performance depends on the supply of resources from other companies through mutual exchanges, while recent analysis of this theory supports a positive relationship between interlocks and the results of the company (Zona et al., 2015).Meanwhile, another reason why interlocks are so important is that they provide a reliable way with low cost information through which companies communicate (Haunschild, 1993)

Regarding the above, the importance of good partnerships between different companies is emphasised, since as indicated by Haunschild and Beckman (1998) "well-connected directors do, indeed, increase the value of firms they govern". Thus indicated Zona et al.(2015): "a board interlock may serve as a signal of the quality of the firm". In this way, being linked to a company with a good connection on the board increases the possibility of obtaining information as quickly as possible, which may increase the prestige and influence of companies (Barzuza and Curtis, 2014). Similarly, we can say that when a company has interlocks with other companies, this may increase the feeling of prestige its investors have of it because of the prestige the companies have with those they are linked (Sicilia Espin, Lordan González and Gonzalez-Prieto, 2011). This increase in both the prestige and the influence of business can be important for future investors as they want to know the functioning of a company before investing, and this can provide additional information when most times investments are made with limited information (Connelly and Van Slyke, 2012).

Generally studies on interlocks mainly focus on the benefits they bring to the different companies and put less emphasis on the damage they sometimes make to different companies. For this reason some of these articles should be included as a consequence of links between companies. First we can highlight that of Podonly (2001 cited in Sullivan and Tang, 2013) which states, "The existing literature on board interlocks has not paid sufficient attention to the role of board interlocks as "prisms" that

provide informative cues about the focal firm and subsequently affect the decision-making processes of other firms", this may be because the interlocks can influence the governance of companies, disseminating information related to corporate practices in different interlocks (Barzuza and Curtis, 2014) . In turn Sullivan and Tang (2013) analyse the possible shortcomings that may arise, such as the possibility that an interlock in two different companies can affect the results of one company by wanting greater benefits for the other, as well as the possibility of seeking to pursue the results of one company depending on the needs or objectives of the other.

Another aspect to consider is the quality of the different interlocks and the innovativeness of the company as this may affect both the interest in the company and companies with which it shares interlocks (Sullivan and Tang, 2013). Following this, we emphasize the reference made by Hallock (1997 cited in Sullivan and Tang, 2013) regarding the effect interlocks can have in monitoring and advising the board. In turn, Hwang and Kim, and Larker et al. (2009, 2005 cited Sullivan and Tang, 2013) state that good communication of the board of directors could be favourable for advice, although it could impair the function of supervision. It is likely that many of these problems arise due to the abandonment of monitoring which should be made to the directors (Andrés et al., 2014). Therefore the control mechanisms of the managers might be considered as a relevant and necessary action to ensure the proper functioning of the company.

All this has meant that in recent years major investigations into corporate governance has been done, particularly into the relationship between this and the performance of the company. Following these investigations a series of recommendations have been published on several occasions by the *Comisión Nacional del Mercado de Valores* (CNMV) in which a guide to how companies should act is shown marking a model in the structure of the board. These recommendations are intended for listed companies regardless of their size and level of capitalization, as stated in the Code of Good Governance (2015). So, based on the theory of resource dependency we can say that the board is an important link between the company and the resources necessary to maximize performance. A board that is well connected with their environment and puts the principles of good governance into practice will have greater access to resources and will make the company perform better (Fernández, Alonso and Rodríguez, 2013).

The study of interlocks has been of interest to various authors such as Zona et al. (2015). They have focused on several theories including the theory of resource dependency is in the case of Barzuza and Curtis (2014) and Connelly and Van Slyke (2012) among others. Most of these have focused on the benefits that interlocks

contribute to the different companies in which they find themselves. With the support of these studies and the theory of resource dependency, we propose the following hypotheses:

H1: *Those companies with a higher percentage of interlocks will obtain better results.*

H2: Those companies which follow a greater level of corporate governance recommendations will perform better

METHODOLOGY

Sample and data

For our study we collected data on the composition of boards during 2014, as well as the financial data for 2014 of the 35 companies that comprise the IBEX 35. IBEX 35 companies are those listed on the Spanish stock market and have a certain amount of market capitalization and with a certain quality of their transactions (Poveda et al., 2014).

To obtain data on the directors each company contains and the type of directors they are was used the Corporate Governance Report for each of them, which was accessed through the website of the Comisión Nacional del Mercado de Valores (CNMV). Moreover, the SABI database was used for financial data in order to analyse the 35 companies. This is financial data such as total assets, total equity, ROA, ROE. To gather the data from the following companies: Banco Bilbao Vizcaya Argentaria, S.A., Banco de Sabadell, S.A., Banco Popular Español, S.A., Banco Santander, S.A., Bankia, S.A., Bankinter, S.A., Bolsas y Mercados Españoles, Sdad Holding de Mdos Y Stmas Fin., S.A., Gamesa Corporación Tecnológica, S.A., Iberdrola, S.A., Indra Sistemas, S.A., Jazztel, PLC., Repsol, S.A. y Técnicas Reunidas, S.A. the Annual Financial Report of each was used, which can be found on the website of the CNMV, as data from these companies was not available on the SABI database.

Moreover, to perform the necessary calculations to test our hypotheses we used the statistical program R. Using this program the results can be seen later obtained through our model of how different variables affect the profitability of companies .

Dependent variables

As dependent variable we took ROA, as we wanted to measure the performance of companies based on their annual assets and this is the most widely used research tool to measure approximate performance (Zona, et al., 2015). While on the other hand, to check the effect on alternative performance, we have also taken as a dependent variable ROE. The ROA, or economic profitability, measures the profitability of total assets of the company. This has been measured as ordinary income before taxes divided by the total assets. As for the ROE or financial return, this measures the benefits earned by partners in relation to monetary units they have invested. This is measured as the ratio between profit before tax and equity.

Independent variables

In this study we have considered two independent variables: the percentage of interlocks that are in a company and the quality of corporate governance. For the percentage of interlocks, we first obtained the number of interlocks that exist in different companies using the Annual Corporate Governance Report 2014 for each of them. In section C.1.12 we found the number of directors of companies who in turn are part of the board of directors of other entities of the group. We then measured this variable as the number of interlocks divided between the total of directors of the company. In our sample we noted that in the case of the company Abengoa, S.A. it is assumed that there are no interlocks since the Corporate Governance Report 2014 of the company does not mention any interlocks with companies outside the group and there is still no data registered for 2015. Moreover, to obtain data on interlocks in the company Mapfre, SA, the number of interlocks in 2015 instead of 2014, have been taken into account, since in 2014 the Corporate Governance Report did not give any information regarding this. In this case the interlock cited in 2015 existed in the company in 2014, so we considered this as the number of companies in the sample is small making it necessary to obtain this value. The data collected on this variable and their percentage with respect to total directors can be found in Annex 1. Furthermore, in Annex 2, the percentage of interlocks differentiated between men and women, and between internal and external representing total interlocks is shown.

As for the quality of corporate governance, we have relied on compliance with the Good Governance Recommendations of the Unified Code, which was found on the website of the CNMV. As Domínguez, Rodríguez, Vives and Tapias mentioned, the recommendations are understood as "a document prepared by a third party that collects a series of statements or objectives addressed to a number of companies,

formulated in general terms, all related to corporate governance of these. These statements or objectives, known as recommendations, are intended to describe the best practices in corporate governance". Societies must indicate whether or not to comply with these recommendations and if not, to explain why. In our sample, to assess the percentage of compliance within each of the companies, compliance has been weighted as follows: if it complies with the recommendation = 1, partial compliance = 0.5 and non-compliance = 0, and if none of the recommendations have been applied, this has not been included in the calculations for total applicable recommendations. So once the compliance weighting is done, the number of recommendations complied, partial compliance, and non-compliance is recounted. To then find the total number of compliances, the sum of the number of recommendations complied with is multiplied by 1 plus the number of partial compliances multiplied by 0.5. On the other hand, the addition of the total recommendations applicable is made, which includes those fully compliant, those partially compliant and those which failed to comply. Once these two additions have been made, in order to know the total percentage of recommendations complied in relation to those applicable, we divided the total number of recommendations complied divided by the total applicable recommendations. In the case of this variable, the results of these calculations and the percentage they represent out of the total, can be found in Annex 1.

Control variables

As control variables the size of both the company and the board in 2014 was considered, along with ROE and ROA in 2013 and the sector the companies belong to, as it is believed that these types of variables have a strong influence on corporate performance. The data obtained from these variables may be found in Annex 3.

As for the size of the company, this expresses the volume of each one of the magnitudes that make up the company and is measured as the natural logarithm of total assets. Companies with a smaller size may be faced with major difficulties, since it is likely that the resources available are limited (Cruz, Jimeno and Sonda, 2014).

Regarding the size of the board, the total number of directors, including interlocks, internal, external and both men and women were taken into account. This variable was measured as the natural logarithm of total directors.

Other control variables that have been taken into account to see the effect on profitability have been ROA (return on assets) and ROE (return on equity) in 2013, as it is believed that the results achieved in the previous year may have an effect on those

of 2014. For this reason, for the analysis of both returns the corresponding result of the previous year was used.

The Sector has also been included as an additional variable. Due to the limitations of the sample size, the decision was made to make a separation between financial companies and other companies. To do this, a dummy variable was used, assigning a value of 1 for companies that are part of the financial sector, including insurance companies, which in this case was Mapfre, SA, as well as a value equal to 0 for all other companies outside this sector.

Models

In this case a linear regression model was used. This model has been estimated using the Ordinary Least Squares (OLS) method and the above variables. With this the following models have been obtained:

(I)

$$\text{ROA\_2014}=\beta_0+\beta_1\%\_CC+\beta_2\%\_RC+\beta_3 tm\tilde{n}\_emp+\beta_4 tm\tilde{n}\_consj+\beta_5 sct\_emp+\beta_6\text{ROA\_2013}+\mu$$

(II)

$$\text{ROE\_2014}=\beta_0+\beta_1\%\_CC+\beta_2\%\_RC+\beta_3 tm\tilde{n}\_emp+\beta_4 tm\tilde{n}\_consj+\beta_5 sct\_emp+\beta_6\text{ROE\_2013}+\mu$$

Where:

• *tmñ_emp*: corresponds to the size of the company

• *tmñ_consj*: corresponds to the size of the board

•*% _CC*: corresponds to the percentage of interlocks the company has

•*% _RC*: corresponds to the percentage of recommendations complied with by the company

• *sct_emp*: corresponds to the sector to which the company belongs

• *ROA_2013*: corresponds to the economic profitability of the company in 2013

• *ROE_2013*: corresponds to the financial profitability of the company in 2013

Finally, to analyse whether there is multicollinearity between the different variables used for this research, an analysis has been made based on the use of variance inflation factors (VIF). Through this, it was found that there is no multicollinearity between the variables used in our models.

RESULTS

1. Descriptive Statistics

Table 1: Descriptive Statistics

VARIABLE (PROXY)	Min.	P25	Mean	Median	P75	Max.	SD
CC	0	2	4,2	4	6	11	4,2
%CC	0	0,1597	0,3077	0,3157	0,4495	0,6667	0,3156
RC	42,5	46,25	47,74	48	49	52	47,7428
%RC	0,8333	0,9238	0,9557	0,97	0,99	1	0,9556
tmñ_emp (millions)	0,01551	2,246	151,9	6,458	36,14	2.080	151,8
tmñ_emp (ln)	9,649	14,623	15,961	15,681	17,322	21,456	15,9607
tmñ_consj	8	11,5	13,31	13	15	19	13,3142
tmñ_consj (ln)	2,079	2,441	2,566	2,565	2,708	2,944	2,566
ROA_2013	-21,275	0,1072	6,1472	3,6686	6,0525	62,180	6,1472
ROE_2013	-269,315	1,175	5,657	7,159	17,364	79,207	5,6572
sct_emp (dummy)	0	0	0,2571	0	0,5	1	0,2571

Source: Own elaboration

Table 1 shows the descriptive statistics of the variables mentioned above. In this case two rows have been produced for each of the following, for the size of the company (*tmñ_emp*), the size of the board (*tmñ_consj*), the interlocks (*CC*) and

recommendations complied with (*RC*). The absolute values are shown in the first row of each variable and in the second, in the case of the size of the company and the board, the results of the natural logarithm is based on the total of each size respectively, and for the interlocks and recommendations complied with, we show the percentages that each of these represents as a total of all directors and applicable recommendations respectively.

As we can see, the table shows the minimum, maximum, 25 and 75 percentiles and the mean, median and variance of each of the variables. Firstly, we see that the average size of companies is approximately 151,900,000 assets, with a minimum of 15,510 assets belonging to Endesa, S.A. and the maximum of 2.080.000.000 assets corresponding to Grifols, SA. Moreover, we find the variable that refers to the natural logarithm of total assets, in which it can be seen that the average is 15,961, with a minimum 9,649 and a maximum of 21.456. This is followed by the size of the board, in which the results that refer to all directors who are in business are shown. In this case the company with the greatest number of directors on its board is CaixaBank, S.A. with a total of 19 directors and Jazztel PLC. With a total of 8 directors as the company with fewest directors, the average of these directors being 13,31. As for the variable that refers to the natural logarithm of the board size we obtain an average of 2,566, a minimum of 2,079 and a maximum of 2,944. With regard to the interlocks in companies, the average is 4.2 people, with a minimum of interlocks in companies of 0 and a maximum of 11 directors. The company in which no interlock was found is Abengoa, S.A., in contrast with a total of 11 interlocks at Telefónica, S.A. as the IBEX 35 company with most interlocks to its name. As for the recommendations complied, we see that the average is 47.74, which would represent 91.8% of recommendations complied by companies. In this sample, there are a total of 53 recommendations in the Corporate Governance Report and when checked against our analysis, the minimum number of recommendations that IBEX 35 companies complied with is 42.5, which is 83,33% recommendations complied with on the total and maximum of 52 recommendations, 100%. With this it can be added that according to our observations the companies that have complied with the fewest recommendations are Amadeus It Holding, S.A. and Sacyr, S.A. and the company complying with most recommendations is Gamesa Corporacion Tecnologica, SA. On analysis of this data, the economic and financial profitability in 2013 was found. In terms of return on assets (ROA) we see that the average return on the companies is 6.1472%, a minimum of -21.275% and a maximum of 62.18%. The company with the highest profitability in 2013 was Gamesa Corporacion Tecnologica, S.A. and the company with lowest profitability is Acciona,

S.A. even managing to make losses. With regard to the financial profitability we get an average of 5,657% and with a minimum of -269.315%, for Fomento de Construcciones y Contratas, S.A. with large financial losses, and a maximum of 79.207% for Gamesa Corporacion Tecnologica, S.A.. To sum up, it can be said that the best performing company both for economic and financial returns obtained for 2013 is Gamesa Corporacion Tecnologica, S.A. Finally are the results of the dummy variable in our sample chosen sector. Companies in the financial sector and insurance companies are considered as 1, while the other sectors are 0. As a result it can be seen approximately 25.71% of the companies in the IBEX 35 belong to the financial or insurance sector, while the rest belong to companies in other sectors.

Next we move on to the interlocks and recommendations complied with to obtain more detailed information.

• Interlocks

In the case of interlocks the median obtained of 4 is highlighted. Companies with this number of interlocks were Amadeus IT Holding, SA, Banco de Sabadell, SA, Endesa, SA, Iberdrola, SA Mediaset Spain Communication SA and Sacyr, S.A. This indicates that of the other companies half have less than 4 interlocks and the other half more than 4. Meanwhile, we turn to look deeper into companies with the minimum and maximum interlocks to their name. With the minimum of interlocks, as mentioned earlier, is Abengoa, SA. Going further into the Corporate Governance Report 2014, obtained from the website of the Comisión Nacional del Mercado de Valores (CNMV), we find that this requires directors to devote all the time and effort necessary to working in the company, as do the directors of Abengoa, SA, who perform their functions only in this company or its group companies. In the case of the maximum of directors we have Telefónica, SA. From the Corporate Governance Report 2014 we find that, although directors are obliged to devote the time and effort necessary to carry out its functions, there is no rule on the number of boards to which a director may belong, although they must inform the Nominating, Compensation and Corporate Governance Committee, of other obligations if they could interfere with the performance of duties as a director.

• Compliance with Recommendations

Focussing on compliance with recommendations, we analyse those companies with the least and most compliance with recommendations complied with. For this the recommendations found in the CNMV, Statistics on Corporate Governance of listed companies in 2014 have been analysed. First, as mentioned above, one of the

companies with least compliance with recommendations is Amadeus it Holding SA. It can be observed that of a total of 53 recommendations, 41 have been complied with, partial compliance 3, non-compliance 4, and not applied 5. Secondly, we have Sacyr, SA as one of the companies that complied with the lowest number of recommendations. In this case, we found that of the 53 recommendations, 40 were complied with, partial compliance 5, non-compliance 6 and not applied 2. Analysing both companies, we discover that of the recommendations not applied in each case, they only coincide in number 35 , which reads: "that the remuneration linked to company earnings takes into account any qualifications stated in the external auditor's report that reduce such results", and in the case of non-compliance of recommendations, again they only coincide in one, in No. 3 which states: "that, although not expressly required under company law, operations involving a structural modification of the company are subject to the approval of the general meeting of shareholders ", in which 3 cases in particular are exposed.

Finally, in the case of the company with most complied recommendations we have Gamesa Corporacion Tecnologica, SA, which of the 53 recommendations, 52 were complied with and only 1 not applied. In this case the one not applied is No. 2, which states the following: "That when the parent company and a subsidiary are both listed, both should publicly and precisely define: a) the respective areas of activity and possible business relations between them as well as those of the listed subsidiary with other group companies, and b) the mechanisms in place to resolve possible conflicts of interest that may arise ". In this case, the recommendation not applied only coincides with one not applied by Amadeus It Holding, S.A ..

2. Linear Regression

In Table 2 we collate estimates of various model parameters and standard error of each of these parameters. In turn, the coefficient of determination of the variables (R2) and its set value, the F-test, which evaluates the joint significance of the variables in the model, the P-value, through which we can see if these variables provide important information when evaluating profitability, and the number of observations. As for the number of observations, this has been determined by the R statistical program at the time the estimates were made, being in all 35 cases.

Table 2: Effect of interlocks and recommendations complied on the profitability of the company.

INDEPENDENT VARIABLES	DEPENDENT VARIABLE: PROFITABILITY	
	(a)	(b)
constant	195,8665*	593,721†
	(91,4091)	(302,043)
tmñ_emp	-1,8149	-1,069
	(1,1205)	(3,595)
tmñ_consj	-25,5489†	-36,407
	(13,95)	(44,826)
%CC	2,1837	-16,223
	(14,8087)	(48,921)
%RC	-104,3972	-514,767†
	(76,6851)	(254,484)
ROA_2013	0,2101	
	(0,1984)	
ROE_2013		1,213***
		(0,157)
sct_emp	8,624	29,112
	(6,4433)	(21,328)
R2	0,3144	0,7012
R2 adjusted	0,1675	0,6372
F-test	2,14†	10,95***
P-value	0,07995	2,824e-06
N.obs	35	35

The table reports regression results of corporate performance using OLS estimator. † p<0.10; *p<0.05; **p<0.01; ***p<0.001.

Resource: Own elaboration

In model (a) we have taken as a dependent variable return on assets (ROA), while in the model (b) the dependent variable is the return on equity (ROE). With regard to the

first model, we can say that the control variable that shows the size of the board is a statistically significant variable at 10%, although in a negative way, ie, the greater the number of directors the more negatively this affects the economic profitability, while the rest of the variables can be said not to be statistically significant. With this we could say that hypotheses 1 and 2 raised above would not be supported, since as we have seen the percentage of recommendations complied and number of interlocks have no significant effect on the economic result. Yet we can say that these variables together explain 31.44% variance of ROA, and that the joint contribution of independent variables provides meaningful information when estimating the returns on assets. This affirmation can be maintained at a P-value of 10%.

As for the model (b), there are two significant variables, one of which is a control variable. These two variables are the percentage of complied recommendations by different companies, which is statistically significant at 10%, and the control variable that shows return on equity in 2013 statistically significant at 0.1%. With this we see that the other variables, including interlocks, have no significant effect on the ROE. With the analysis so far, we see that the percentage of complied recommendations is significant in the profitability of the company, although this does not positively affect, on the contrary, that is, the more recommendations the company complies with, the smaller the financial profitability. Therefore in this case we cannot support the hypothesis 1 and 2 laid out at the beginning of our investigation, because although the percentage of recommendations complied affects the ROE it does not do so positively, and on the other hand, interlocks have no significant effect on this. The negative effect of recommendations complied may be because the implementation of the recommendations made by the companies is not yet reflected and the realization of these could have their effect on performance in later years to that of the analysis. On the other hand, this negative effect could also be because companies refer to the inclusion of such recommendations in their practices to reflect a good external image, although they have not been applied in depth, therefore they do not have the expected effect on performance. We can see that the combination of these variables explain a 70.12% variance of financial profitability and in this case the contribution of all independent variables provides meaningful information with a P-value of 0.0002824% when estimating financial profitability.

Having made these observations, and seen that interlocks have no effect on profitability, the possibility could be that this is because within this variable several aspects are included. Therefore a separate analysis has been carried out to prove whether interlocks divided into several aspects are significant or not on returns of either

assets or equity. For this we have separated the interlocks into two aspects: women interlocks and external interlocks, thus individually analysing the possible effect these may have on profitability.

In order to check these other aspects in the same way as previously, Table 3 has been drawn up collating the same information as in Table 2 adapting to the new data.

The new variables added to these tables are:

•*% CC_M*: corresponds to the percentage of interlocks that are women

•*% CC_ext*: corresponds to the percentage of interlocks that are directors external to the company

This new data has been chosen for several reasons. Firstly, we wanted to differentiate women from men, as we found studies such as Todaro, Abramo and Godoy (2002) studying the possibility of increased efficiency of women compared with men in the workplace. Also we highlight the small number of women in relation to men still found on the boards of companies. On the other hand, we distinguished external interlocks from internal. This distinction has been made mainly due to the fact that external directors are those who do not have any relationship with the company different from that of director, whereas internal directors might also be shareholders, which may cause them to focus more on the benefits and not the company.

In the first two columns of the table (a and b) is the effect that the interlocks are women, and in the other two columns (c and d) the effect of external interlocks. The effect these variables have on the economic profitability can be seen in (a) and (c), while to see the effect they have on the equity performance there are columns (b) and (c). That is, in the case of columns (a) and (b) we have replaced the variable "percentage of interlocks" for the new variable "percentage of women interlocks" and in (c) and (d) "percentage of external interlocks". With regard to the other variables, they remain the same in all four cases and the same as those used in the model definition.

Table 3: The effect of women interlocks and external interlocks on the profitability of the company.

INDEPENDENT VARIABLES	DEPENDENT VARIABLE: PROFITABILITY			
	(a)	(b)	(c)	(d)
constant	197,3592*	620,0933*	191,1730*	602,5334†
	(90,6534)	(299,7693)	(89,4712)	(299,276)
tmñ_emp	-1,938†	-1,0307	-1,9891†	-0,9234
	(1,0794)	(3,4983)	(1,0645)	(3,4815)
Tmñ_consj	-24,947†	-38,1197	-24,9967†	-38,5028
	(13,8104)	(44,2031)	(13,6511)	(44,2477)
%CC_M	3,2794	11,6595		
	(7,5554)	(24,9794)		
%CC_ext			-11,6767	-16,8436
			(13,2457)	(44,8553)
%RC	-105,7461	-547,2147*	-86,3401	-510,4492†
	(74,8037)	(248,7590)	(75,4835)	(255,4636)
ROA_2013	0,2150		0,2051	
	(0,1979)		(0,1953)	
ROE_2013		1,2099***		1,2040***
		(0,1568)		(0,1584)
sct_emp	8,4626	29,3387	9,0285	30,3372
	(6,4140)	(21,2404)	(0,1953)	(21,3464)
R2	0,3185	0,7023	0,3324	0,7015
R2 adjusted	0,1725	0,6386	0,1894	0,6376
F-test	2,181†	11,01***	2,324†	10,97***
P-value	0,0751	2,684e-06	0,06024	2,783e-06
N.obs	35	35	35	35

The table reports regression results of corporate performance using OLS estimator. † p<0.10; *p<0.05; **p<0.01; ***p<0.001.

Resource: Own elaboration

With the results of Table 3, it is proved that whatever the type of interlock, regardless of classification, they have no significant effect on either economic or financial performance of the companies. Yet we can see that in columns referring to economic profitability (a and c) the size of the board and company size are significant variables for profitability, being statistically significant at 10%. This contrasts with the result of the first column of Table 2, as discussed earlier, where the only significant variable is the size of the board.

In contrast, the columns which refer to financial profitability such as column (b) and (c), we see that the variables that have a significant effect on these returns are the percentage of complied recommendations and the financial profitability of 2013. Although it is noteworthy that for the model that takes as its variable women interlocks, the percentage of complied recommendations are statistically significant at 5%, however, for the model that uses external interlocks, the percentage of recommendations complied is statistically significant at 10%, while in both cases the financial profitability of 2013 is statistically significant at 0.1%. Notably, as is the case in Table 2, Table 3 shows the effect of the percentage of complied recommendations on financial return as negative, so the higher percentage of recommendations complied the lower the profitability.

Yet we can say that in all columns the joint contribution of the different variables to the model is significant. In the case of economic profitability, it is in column (c) in which the variables explain at a greater percentage the variance of ROA with 33.24%, and in the case of financial profitability column (d) where ROE variance is explained in greater percentage, with 70.15%. In all columns, we note that the contribution of all independent variables and control provide important information. An example of this is the result of P-value for each column, which is below 10%. These results affirm the rejection of the hypotheses, because in none of the cases do the percentage of interlocks have a significant effect on the profitability of the company, while the percentage of complied recommendations has a negative effect on it.

CONCLUSION

From this we can say that many studies have analysed, from various viewpoints, the board of directors of the company, although very few have focused on the interlocks despite the topic being very present in large companies in recent years. Therefore, the objective of our work has focused on proving: the effect that interlocks can have on business performance and, the effect of other variables such as the recommendations proposed by the Code of Good Governance, for companies to carry out good practice.

The estimate of our sample was carried out through the data collected from the 35 companies that comprise the IBEX 35 using their Corporate Governance Reports, reports of annual accounts, as well as data found in the SABI database. Then, as a dependent variable economic and financial profitability, as independent variables the percentage of interlocks and the percentage of recommendations complied by companies, as control variables, the size of the company, the size of the board, economic and financial profitability of the previous year and the sector as a dummy variable were added

Firstly, an analysis of the different models was made using the Ordinary Least Squares (OLS) and statistical program R. In this first analysis method, we found that interlocks as a whole have no significant effect on economic and financial returns, while, although the recommendations complied do not have a significant effect on the economic returns they do on the financial, to a negative effect. Secondly, we wanted to check the possibility that interlocks had no effect on profitability due to encompassing all types of interlocks, therefore we divided interlocks into two types: interlocks by gender and interlocks by type of director. Having made the division, the same analysis used previously was carried out twice, once replacing the interlocks variable for women interlocks and the other by external interlocks, keeping all other variables equal. With these new analyses, it was found that even when disaggregating the interlocks, they have no effect on the profitability of the company. The result of all this shows, that neither of the two hypotheses at the start of the project would be accepted.

For this research we relied mainly on the Theory of Resource Dependence. This was found in previous research, such as that of Zona et al. (2015). It should be emphasised that Resource Dependency Theory argues that boards of interlocks are considered as a way to increase resources and improve the performance of the company (Mizruchi; Pfeffer & Salancik, 1978, see in Zona et al., 2015). Other authors like Connelly and Van Slyke (2012) also make a similar statement, ie, he argues that the participation of

interlocks on the boards of several companies makes companies closer, which means the interlocks have some effect on company performance. Alongside these statements, our study found that although interlocks serve as intermediaries between the companies with which they share interlocks, thus giving them access to the different resources that each has, they have no significant effect on the performance of the companies.

As mentioned above, this project has been conducted with a sample made up of companies that comprise the IBEX 35, this meant a limitation had to be assumed due to the small number of companies that could be counted on. It is therefore believed that for future research a similar work could be done with a larger sample, such as all companies listed on the Spanish stock market, in order to test the hypotheses on a greater number of companies. Another suggestion to expand the sample is the inclusion of several years of the different variables to see the changes in greater depth, as in this case the focus was on 2014, using only 2013 of the variables ROE and ROA to see their effect on different models. Another limitation found in our research was the use of a linear regression model, since this is quite simple, one of its characteristics is that it assumes that the error term is equal to 0, this being a random variable that picks up the possible effect that the explanatory variables are not included in the model and assumes they have not been tested in this work. It is therefore proposed that future studies should check better the adequacy of the model to estimate, as well as the applied technique.

Finally, another set of suggestions on possible future investigations that could be carried out are, for example, conducting an analysis of the ideal number of interlocks there should be on the board to get higher returns, since it is likely that an excessive amount of interlocks may affect the result negatively. Moreover, future studies would be interesting in order to analyse the effect of liquidity and debt on profitability. Liquidity would be interesting, because not all assets can as easily be converted into cash quickly without losing their value. As for debt, it would be interesting to analyse the relationship between the amount of equity of a company and the debts that it maintains both over the long and the short term. Finally, we also propose a possible analysis of supervision, ie, analyse the effect of increased supervision of boards by shareholders / owners on profitability as it is likely that increased monitoring would detect the weaknesses / gaps faster resulting in more effective practices.

BIBLIOGRAPHY

Andrés, P., Blanco-Alcántara, D., and López-De-Foronda, O. (2014). Los interlocking directorates en España. Evolución, poder y consejeros independientes. *Revista Internacional de Sociología* (RIS), 72(1), 83-114. Recovered from http://revintsociologia.revistas.csic.es/index.php/revintsociologia/article/viewFile/552/574

Barzuza, M. and Curtis, Q. (2014). Board Interlocks and Corporate Governance. *Del. J. Corp. L., 39, 669-702*. Recovered from http://www.djcl.org/wp-content/uploads/2015/05/Barzuza.pdf

Comisión Nacional del Mercado de Valores (CNMV) http://www.cnmv.es/portal/home.aspx

Connelly, B.L. and Van Slyke, E.J. (2012). The power and peril of board interlocks. *Business Horizons*, 55(5), 403-408. Recovered from http://s3.amazonaws.com/academia.edu.documents/30565986/Connelly_Van_Slyke_BH_2012.pdf?AWSAccessKeyId=AKIAJ56TQJRTWSMTNPEA&Expires=1461434506&Signature=RwU1w3SAql6JA8pU4d6qXQ2DdxU%3D&response-content-disposition=inline%3B%20filename%3DConnelly_B._L._and_Van_Slyke_E._J._2012..pdf

Cruz, O., Jimeno, R. and Sonda, R. (2014). Relación del rendimiento de una empresa, con su tamaño, uso de la tecnología y la capacitación: análisis de las pymes de servicios en un destino turístico. *Teoria y Praxis*, 15, 36-58. Recovered from http://www.teoriaypraxis.uqroo.mx/doctos/numero15/Cruz,Jimeno,Sonda.pdf

Domínguez, A.P., Rodríguez, S., Vives, F. and Tapias, A. (n.d). Recomendaciones de Buen Gobierno versus Regulación en Iberoamérica. Recovered from http://www.iimv.org/iimv-wp-1-0/resources/uploads/2015/03/Capitulo-6-.pdf

Fernández, M.R., Alonso, S.F. and Rodríguez, J.R. (2013). Estructura del consejo de administración y rendimiento de la empresa. *Revista Europea de Dirección y Economía de la Empresa*, 22(3), 155-168. Recovered from http://ac.els-cdn.com/S1019683813000218/1-s2.0-S1019683813000218-main.pdf?_tid=9216ba1a-0982-11e6-8069-00000aacb35f&acdnat=1461436888_74d9a1178c3d279877ccaf4d528ffe09

Haunschild, P.R. (1993). Interorganizational imitation: The Impact of Interlocks on Corporate Acquisition Activity. *Administrative Science Quarterly*, 38, 564-592. Recovered from http://www.jstor.org/stable/2393337?seq=1#page_scan_tab_contents

Haunschild, P.R. and Beckman, C.M. (1998). When Do Interlocks Matter?: Alternate Sources Of Information and Interlock Influence. *Administrative Science Quarterly*, 43, 815-844. Recovered from http://www.jstor.org/stable/2393617?seq=1#page_scan_tab_contents

Móndejar, J.A.R., and Irurzun, J.G. (2013). *Estructura corporative e interlocking directorates en las mayors empresas españolas, 1917-1970*. Faculty of Economics and Business (University of Granada). Recovered from http://www.econ.unavarra.es/~4e_aehe/4encuentroaehe/Programa_files/RUBIO%20%26%20GARRUES-2.pdf

Mizruchi, M.S. (1992). *The Structure of Corporate Political Action: Interfirm Relations and Their Consequences*. Harvard University Press. Recovered from https://books.google.es/books?hl=es&lr=&id=c_TywlQPDREC&oi=fnd&pg=PR9&dq=The+Structure+of+Corporate+Political+Action.+&ots=CpkEJuGaVN&sig=QFnftdVTjYrudKXc923hiLDmhgA#v=onepage&q&f=false

Orta, M. and Sierra, L. (n.d.). Efectividad De Los Mecanismos De Gobierno Corporativo: Un Estudio Empírico. Recovered from http://www.asepuc.org/banco/efectividad_de_los_mecanismos_de_gobierno_corporativo_un_estudio_empIrico.pdf?PHPSESSID=939a353f7eab0a3e06149645baddba14

Poveda, G., Sicilia, C., Simo, P. and Sallan, J.M. (2014). Análisis longitudinal de las consejerías cruzadas y su papel en la organización económica española. *Harvars Deusto Business Research*, 3(2), 64-73. Recovered from http://www.hdbresearch.com/index.php/hdbr/article/view/7/44

Shropshire, C. (2010). The Role of the Interlocking Director and Board Receptivity in the Diffusion of Practices. Academy of Management Review, 35(2), 246-264. Recovered from https://media.terry.uga.edu/socrates/publications/2013/06/Shropshire_AMR.pdf

Sicilia Espín, C., Lordan González, O. and González-Prieto, D. (2011). El prestigi empresarial: análisis a través de les conselleries creuades. Intangible Capital, 7(2), 585-610. Recovered from http://www.intangiblecapital.org/index.php/ic/article/viewFile/267/209

Sicilia, C and Sallan, J.M. (2008). Las relaciones entre las empresas cotizadas españolas: Un análisis a través de las consejerías cruzadas. *Dirección y Organización*, (35), 30-36. Recovered from http://www.revistadyo.es/index.php/dyo/article/view/53/53

Sullivan, B.N. and Tang, Y. (2013). Which signal to rely on? The impact of the quality of board interlocks and inventive capabilities on research on development alliance formation under uncertainty. *Strategic Organization*, 11(4), 364-388. Recovered from http://www.bm.ust.hk/mgmt/staff/papers/Bilian/Strategic%20Organization_2013_v11p364.pdf

Todaro, R., Abramo, L. and Godoy, L. (2001). Desempeño laboral de hombre y mujeres: opinan los empresarios. *Sociología del trabajo Nº42*. Recovered from http://www.scielo.br/pdf/cpa/n17-18/n17a08

Zona, F., Gomez-Mejia, L.R. and Whiters, M.C. (2015). Board Interlocks and Firm Performance Toward a Combined Agency-Resource Dependence Perspective. *Journal of Managemente*, 0149206315579512.

ANNEX 1

IBEX 35	CC	%CC	RC	%RC
Abengoa, S.A	0	0%	46,5	91,18%
Abertis Infraestructuras, S.A	3	17,65%	47	92,16%
Acciona, S.A.	3	23,08%	46	93,88%
Acerinox, S.A.	6	40%	48	96%
ACS, Actividades de Construcción y Servicios, S.A.	6	35,29%	48	92,31%
Amadeus It Holding, S.A.	4	40%	42,5	88,54%
Banco Bilbao Vizcaya Argentaria, S. A.	2	14,29%	51,5	99,04%
Banco De Sabadell, S.A.	4	28,57%	48,5	98,98%
Banco Popular Español, S.A.	2	13,33%	49,5	99%
Banco Santander, S.A.	7	50%	49	100%
Bankia, S.A.	5	45,45%	48	100%
Bankinter, S.A.	1	10%	51	100%
Bolsas y Mercados Españoles, Sdad Holding de Mdos y Stmas Fin., S.A.	5	41,67%	48,5	97%
Caixabank, S.A.	9	47,37%	47,5	91,35%
Distribuidora Internacional De Alimentación, S.A.	5	50%	44,5	98,89%
Enagas, S.A.	2	13,33%	48,5	97%
Endesa, S.A.	4	44,44%	45	93,75%
Ferrovial, S.A.	5	41,67%	48,5	93,27%
Fomento De Construcciones y Contratas, S.A.	3	21,43%	48	92,31%
Gamesa Corporación Tecnológica, S.A.	3	30%	52	100%
Gas Natural SDG, S.A.	6	35,29%	44,5	90,82%
Grifols, S.A.	1	7,69%	44,5	92,71%
Iberdrola, S.A.	4	28,57%	50,5	97,12%
Indra Sistemas, S.A.	6	46,15%	51	98,08%
Industria De Diseño Textil, S.A.	3	33,33%	49	98%
International Consolidated Airlines Group, S.A.	6	46,15%	47	97,92%
Jazztel, PLC.	1	12,5%	49	100%
Mapfre, S.A.	1	5,6%	49	92,45%

Mediaset España Comunicación, S. A.	4	30,77%	46	93,88%
Obrascon Huarte Lain, S.A.	8	66,67%	48	100%
Red Eléctrica Coporación, S.A.	2	20%	50	100%
Repsol, S.A.	10	66,67%	49,5	99%
Sacyr, S.A.	4	28,57%	42,5	83,33%
Técnicas Reunidas, S.A.	1	8,33%	47	95,92%
Telefónica, S.A.	11	61,11%	45,5	91%

Resource: Own elaboration

The variables expressed in the table refer to:

• CC: Number of interlocks that exist in the company

•% CC: Percentage of interlocks to total directors that are in the company

• RC: Number of complied recommendations by the company

•% RC: Percentage of recommendations complied with by the company in relation to recommendations applicable.

ANNEX 2

IBEX 35	%CC_M	%CC_H	%CC_ext	%CC_int
Abengoa, S.A	0%	0%	0%	0%
Abertis Infraestructuras, S.A	0%	100%	100%	0%
Acciona, S.A.	33,33%	66,67%	100%	0%
Acerinox, S.A.	16,67%	83,33%	100%	0%
ACS, Actividades de Construcción y Servicios, S.A.	0%	100%	100%	0%
Amadeus It Holding, S.A.	25%	75%	100%	0%
Banco Bilbao Vizcaya Argentaria, S. A.	50%	50%	100%	0%
Banco De Sabadell, S.A.	0%	100%	100%	0%
Banco Popular Español, S.A.	100%	0%	100%	0%
Banco Santander, S.A.	28,57%	71,43%	71,43%	28,57%
Bankia, S.A.	20%	80%	100%	0%
Bankinter, S.A.	0%	100%	100%	0%
Bolsas y Mercados Españoles, Sdad Holding de Mdos y Stmas Fin., S.A.	20%	80%	100%	0%
Caixabank, S.A.	11,11%	88,89%	77,78%	22,22%
Distribuidora Internacional De Alimentación, S.A.	40%	60%	100%	0%
Enagas, S.A.	100%	0%	100%	0%
Endesa, S.A.	25%	75%	75%	25%
Ferrovial, S.A.	0%	100%	80%	20%
Fomento De Construcciones y Contratas, S.A.	0%	100%	100%	0%
Gamesa Corporación Tecnológica, S.A.	0%	100%	100%	0%
Gas Natural SDG, S.A.	0%	100%	100%	0%
Grifols, S.A.	100%	0%	100%	0%
Iberdrola, S.A.	50%	50%	100%	0%
Indra Sistemas, S.A.	16,67%	83,33%	83,33%	16,67%
Industria De Diseño Textil, S.A.	0%	100%	66,67%	33,33%
International Consolidated Airlines Group, S.A.	33,33%	66,67%	100%	0%
Jazztel, PLC.	100%	0%	100%	0%
Mapfre, S.A.	100%	0%	100%	0%

Mediaset España Comunicación, S. A.	25%	75%	75%	0%
Obrascon Huarte Lain, S.A.	25%	75%	87,50%	12,50%
Red Eléctrica Coporación, S.A.	50%	50%	100%	0%
Repsol, S.A.	0%	100%	90%	10%
Sacyr, S.A.	0%	100%	75%	25%
Técnicas Reunidas, S.A.	0%	100%	100%	0%
Telefónica, S.A.	9,09%	90,91%	90,91%	9,09%

Resource: Own elaboration

The variables expressed in the table refer to:

•% CC_M: Percentage of women interlocks in the company to total interlocks

•% CC_H: Percentage of men interlocks in the company to total interlocks

•% CC_ext: Percentage of external interlocks in the company to total interlocks

•% CC_int: Percentage of corporate interlocks in the company to total interlocks

ANNEX 3

IBEX 35	T. Activos	tmñ_emp	T. Consj	tmñ_consj	ROA_2013	ROE_2013	sct_emp
Abengoa, S.A	11.731.983	16,28	16	2,77	2,28	17,61	0
Abertis Infraestructuras, S.A	13.367.262	16,41	17	2,83	4,37	10,21	0
Acciona, S.A.	5.481.531	15,52	13	2,56	-21,28	-36,75	0
Acerinox, S.A.	2.907.955	14,88	15	2,71	-0,29	-0,92	0
ACS, Actividades de Construcción y Servicios, S.A.	6.981.181	15,76	17	2,83	17,91	55,27	0
Amadeus It Holding, S.A.	1.571.977	14,27	10	2,30	18,19	46,04	0
Banco Bilbao Vizcaya Argentaria, S. A.	403.841.000	19,82	14	2,64	-0,24	-2,80	1
Banco De Sabadell, S.A.	159.943.441	18,89	14	2,64	0,15	2,27	1
Banco Popular Español, S.A.	151.032.546	18,83	15	2,71	0,28	3,37	1
Banco Santander, S.A.	496.802.000	20,02	14	2,64	0,09	0,83	1
Bankia, S.A.	230.687.599	19,26	11	2,40	0,13	3,08	1
Bankinter, S.A.	60.011.850	17,91	10	2,30	0,43	8,69	1
Bolsas y Mercados Españoles, Sdad Holding de Mdos y Stmas Fin., S.A.	490.160	13,10	12	2,48	32,69	40,97	1
Caixabank, S.A.	22.208.076	16,92	19	2,94	4,47	6,94	1
Distribuidora Internacional de Alimentación, S.A.	2.076.166	14,55	10	2,30	5,52	18,32	0
Enagas, S.A.	6.099.886	15,62	15	2,71	5,68	16,62	0
Endesa, S.A.	15.514	9,65	9	2,20	8,70	17,12	0
Ferrovial, S.A.	10.565.614	16,17	12	2,48	6,41	14,52	0

Fomento De Construcciones y Contratas, S.A.	6.168.524	15,63	14	2,64	-8,17	-269,32	0
Gamesa Corporación Tecnológica, S.A.	916.763	13,73	10	2,30	62,18	79,21	0
Gas Natural SDG, S.A.	33.179	10,41	17	2,83	0,59	1,52	0
Grifols, S.A.	2.080.429.926	21,46	13	2,56	7,25	11,58	0
Iberdrola, S.A.	50.072.051	17,73	14	2,64	4,62	7,16	0
Indra Sistemas, S.A.	3.131.593	14,96	13	2,56	3,67	10,43	0
Industria De Diseño Textil, S.A.	6.457.971	15,68	9	2,20	27	53,94	0
International Consolidated Airlines Group, S.A.	7.307.592	15,80	13	2,56	5,70	6	0
Jazztel, PLC.	1.612.414	14,29	8	2,08	5,04	5,07	0
Mapfre, S.A.	9.360.890	16,05	18	2,89	3,22	4,25	1
Mediaset España Comunicación, S. A.	1.531.794.984	21,15	13	2,56	-1,83	-2,28	0
Obrascon Huarte Lain, S.A.	4.653.798	15,35	12	2,48	2,53	16,99	0
Red Eléctrica Coporación, S.A.	2.304.444	14,65	10	2,30	23	24,46	0
Repsol, S.A.	19.833.000	16,80	15	2,71	-6,94	-9,40	0
Sacyr, S.A.	3.670.200	15,12	14	2,64	-3,04	-27,96	0
Técnicas Reunidas, S.A.	2.181.664	14,60	12	2,48	4,80	64,83	0
Telefónica, S.A.	85.847	11,36	18	2,89	0,04	0,14	0

Resource: Own elaboration

The variables expressed in the table refer to:

• *T. Assets*: Total assets of the company for 2014

• *tmñ_emp*: Company size expressed as a natural logarithm of total assets

• *T. Consj*: Total number of directors there are in the company

• *tmñ_consj*: board size expressed as the natural logarithm of total directors

• *ROA_2013*: economic performance of the relevant business year 2013

• *ROE_2013*: Financial performance of the relevant business year 2013

• *sct_emp*: companies belonging to the financial and insurance sector -1, other sectors 0.