

## BOARD TURNOVER AND FIRM PERFORMANCE IN SPANISH COMPANIES

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*In this paper we investigate the relationship between board turnover and firm performance, analysing a sample of Spanish firms listed on the Spanish Stock Exchanges for the period 1989-1995. The paper shows that: (1) there exists a significantly negative relationship between firm performance and turnover of members of the board of directors; (2) the relative presence of non-executives in the board does not increase the turnover of the executive directors, for a given level of performance, so that we cannot identify in our sample of Spanish firms the disciplinary role often attributed to non-executive directors; and, (3) board turnover is less strongly related to firm performance when ownership concentration is higher. (JEL G3, G32)*

### 1. Introduction

The separation of ownership and control is one of the characteristics of large firms in capitalist economies. The investors delegate the management of their capital with the aim of obtaining positive returns. Corporate governance deals with the ways in which suppliers of finance assure themselves of getting these returns (Shleifer and Vishny, 1997). Indeed, the relationship between shareholders and managers is governed by a collection of rules and institutions, which function as instruments for regulating potential conflicts between both parties. These mechanisms can be external, and be exercised by markets (takeovers, competition in the products market or labour market), or

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internal, such as the ownership structure, the supervisory role given to large shareholders, the presence of incentive contracts for managers, the financial structure and the control exerted by the board of directors.<sup>1</sup>

In this paper, empirical evidence is presented upon the effectiveness of internal control mechanisms among Spanish firms quoted in the Stock Market. In particular, we investigate whether poor performance triggers board turnover and whether non-executive directors initiate disciplinary actions toward executive directors. The paper also analyses whether the concentration of shares in the main shareholder affects the influence of performance on board turnover. Since the ownership structure of Spanish firms is highly concentrated (Galve and Salas, 1993, Crespí, 1998), our results compare mostly with those obtained previously for firms in countries with concentrated ownership: Kaplan (1994) and Franks and Mayer (1997) for Germany, Kaplan and Minton (1994) and Kang and Shivdasani (1995) for Japan and Renneboog (1996) for Belgium.

Our first result indicates that poor firm performance, measured both by accounting profits and by the market rate of return to shareholders, causes higher turnover of board members. This evidence indicates that there exist a mechanism, which allows for the substitution of board members in the event of poor performance: the shareholders receive information about the performance of the firm, lose trust in the directors appointed by them, and thereby replace them.

Secondly, the paper looks at the effect of board composition on the exercise of managerial supervision and discipline. In line with the Cadbury recommendations in the U.K. (Cadbury, 1992) or the *Informe Olivencia* in Spain (Olivencia *et al.*, 1998), non-executive directors should play a monitoring role over the executive directors; this means that when the firm underperforms, executive turnover should increase as the proportion of non-executive directors increases. Several empirical studies have actually found evidence of this -Weisbach (1988) for the U.S case; Renneboog (1996) for Belgium; Franks, Mayer and Ren-

<sup>1</sup>In some countries, such as The United States and Great Britain, outside mechanisms predominate, while in others (Germany, Japan) inside mechanisms are more important. Although, in theory, one model of optimum governance could be thought of, the result is that both models coexist, with similar results for both. See Bengochea (1996) for a more complete discussion of this issue. Also see Moerland (1995), and Shleifer and Vishny (1997).

neboog (1995) for the U.K.; Kaplan (1994) for Germany; and Kaplan and Minton (1994) for Japan. However, our results show that, in Spanish cases, executive turnover does not depend upon the proportion of non-executive directors in the board, for a given level of performance.

Thirdly, our results also show that ownership concentration and the nature of the largest shareholder are relevant in linking board turnover and firm performance. The effect of poor performance on total board turnover decreases as ownership concentration increases. Nevertheless, ownership concentration does not seem to have any direct effect on total board turnover. This result suggests that a high ownership concentration diminishes the disciplinary activity of the shareholders when performance is low. Evidence is provided that the nature of the main shareholder may affect the disciplinary activity of the owners on the board members.

In Section 2 we present the hypotheses to be tested. In Section 3, we explain our data sources as well as our econometric model and the methodology employed in its estimation. Our results are discussed in Section 4. Section 5 concludes.

## 2. Hypotheses

The governance structures of corporations can be understood as a body of institutional agreements for aligning the interests of the managers with those of the shareholders. The board of directors is just one of these elements. Since one of the principal responsibilities of the board of directors is monitoring the company's performance, a firm's poor performance would indicate that their job is not done properly and, consequently, that should undertake changes in board membership (Franks, Mayer and Renneboog, 1995, Renneboog, 1996, Kaplan, 1994, and Kang and Shivdasani, 1995).

*HYPOTHESIS 1: Firm's poor performance, measured by a low (accounting or market) return to equity, will bring about a change in the board members. More precisely, board turnover will be a decreasing function of firm performance.*

The board composition is also an important factor to consider. The majority of the existing studies classify the members of the board into two types: the *insiders* or *executives*, who are those who form part of the firm's management team and, thus, work full-time in the company, and the *outsiders* or *non-executives*, whose members frequently work

in other firms with other responsibilities. Some authors (for example, Hermalin and Weisbach, 1988) have introduced the concept of the "grey" director to refer to those who, although not working in the firm, are nevertheless linked to it in such a way that their independence can be questioned (for example, the independent lawyers of the firm).<sup>2</sup>

The outsiders are not supposed to be aligned with management, and they are expected to be the best delegates of the shareholders because their reputations is at stake. Furthermore, they act as professional referees who resolve the potential conflicts of interest among the senior directors (Fama, 1980). The presence of outsiders in the board appears to be a guarantee for the shareholders that the board will effectively exercise an efficient degree of monitoring.

In fact, empirical studies in the U.S. relate the composition of the board to different management variables. The results appear to indicate a positive relationship between the percentage of outsiders and shareholder wealth, which confirms that outsiders effectively carry out their function of aligning themselves on the side of the shareholder.<sup>3</sup>

In the context of the present paper one could expect that the presence of outsiders on the board will help to remove and change the executive teams when performance of the firm is low.<sup>4</sup> In other words, for a given level of performance, the proportion of executive directors which leave the board in a given moment of time should be positively related to the presence of non-executive directors in the board (Franks, Mayer and Renneboog, 1995, and Renneboog, 1996).

*HYPOTHESIS 2: Controlling for firm performance, turnover of executive directors should increase as the proportion of non-executive directors increases.*

<sup>2</sup>An alternative, but less conventional, classification is that proposed by Daily and Dalton (1994), which distinguishes between independent directors (they are the outsiders who have been appointed before the current CEO) and interdependent directors (they are the outsiders appointed after the CEO and the insiders). Baysinger and Butler (1985) consider that there are three different classes of board members: executives, supervisors and instrumentals.

<sup>3</sup>Some of these studies are: Brickley, Coles and Terry (1994); Byrd and Hickman (1992); Kini, Kracaw and Mian (1995); and Weisbach (1988).

<sup>4</sup>This hypothesis is general in any case, since the possibility that there could be an optimum number of directors at which point supervision is more diffuse has not been taken into account. See Yermack (1996).

Non-executive directors assume the role of controlling executive directors and make sure that the latter behave in the best interests of shareholders. When the firm performs poorly, the shareholders may believe that non-executive board members do not perform the supervisory function well. In such case low performance should also imply high turnover of non-executive directors. Therefore, we should expect that low firm performance will imply turnover of non-executive directors. An empirical question is to see whether the relationship between performance and rotation of non-executives differs or not from the relationship observed in executive directors.

Another important issue is whether large shareholders and boards are complements or substitutes in performing the supervisory and monitoring function. It may be argued that large shareholders perform direct supervision of the board activities and, therefore, they are able to distinguish between bad performance due to bad luck from bad performance due to incompetent management. As Salas (1992) points out, more active supervision lowers the power of other optimal incentives. If this were the case, then the proportion of board turnover should be less sensitive to firm performance in firms where ownership is concentrated than where ownership is dispersed.

*HYPOTHESIS 3: The effect of poor firm performance upon board turnover is lower for the higher concentration of ownership.*

This hypothesis indicates that the ownership structure of the firm has significant effects upon the discipline of the managers and, thus, it is an important element when designing governance structures of firms. Moreover, the identity of the main shareholder may determine his efficiency in performing supervisory activities. If this were the case, it would be expected that the sensitivity of board turnover to firm performance would vary depending upon the nature of the main shareholder.

In summary, we expect that the large shareholders discipline the board and the management in case of poor performance. We also expect that the outsiders take on the role of representatives of the large shareholders, and that their presence contributes to discipline the executive members of the board in case of poor performance of the company.

### 3. Data, variables and methodology

#### 3.1 *Data Sources*

Our data set to test the hypotheses comes mainly from the files of the “Comisión Nacional del Mercado de Valores” (CNMV). By legal obligation, all firms listed in the Spanish Stock Exchange must communicate to the CNMV all significant information which may alter the price of stocks, including financial statements, board membership and its changes, significant shareholders and so forth. Sometimes, however, firms do not promptly satisfy these requirements and some of the necessary information had to be collected from other sources, such as the economic press or listings of companies. Data on board directors are only available since December 1989. Data from the CNMV have been complemented from the companies’ annual reports. The information about executive board membership was obtained from the publication “Fomento 2500” and from the companies’ annual reports.

Taking into account data availability and the restriction that for each firm we require to have complete information for at least 5 of the 8 years period considered in the study, a set of 113 firms distributed along 9 economic sectors are finally selected. These 113 firms represent 29 percent of the total number of firms listed in the Spanish Stock Exchange, and 79 percent of the capitalisation value of the total Stock Market (in 1995). Therefore, firms in the sample are relatively large and account for a significant volume of the total assets.<sup>5</sup>

#### 3.2 *Variables*

Our dependent variable is board turnover, distinguishing between executives and non-executives turnover. The rate of total board turnover (TOT\_TUR) is measured as the dismissals of board members during a calendar year divided by the average number of total board members along the year.<sup>6</sup> Executive directors are all of those who have a permanent job in the company and therefore receive a salary for their services. The turnover of executive directors (INS\_TUR) is measured

<sup>5</sup> We exclude firms that are not listed for two reasons: firstly, the separation between ownership and control is more significant in large firms, and secondly, there are substantial difficulties for obtaining data on the firms which are not listed.

<sup>6</sup> We also calculated the turnover rates using board appointments, but the results do not significantly vary. We have used dismissals since we believe that it is a better indicator of the disciplining effect.

as the ratio between the number of dismissals of executive directors and the average members of executive directors during the year. Finally, those members who do not have permanent positions in the firm are grouped into the category of non-executive directors. Turnover of non-executive directors (OUT\_TUR) is likewise measured as with the rotation of executives.

A limitation of the data is that, in most cases, the cause of dismissal is not easily known. Therefore, it was difficult to eliminate those replacements which are considered "natural" from the sample, that is, those caused by retirement or death. We assume here that these natural replacements are evenly distributed across firms in all of the periods.<sup>7</sup>

The main explanatory variable is firm performance. We consider both accounting and market performance measures, both absolute and relative to the performance of the economic sector to which the firm belongs, and for various time-lag periods. Accounting performance (B) is measured as the rate of return on total assets (earnings before taxes divided by total assets). The market return to shareholders equity (R) is obtained from the formula

$$R_t = \ln \left( \frac{P_t + DIV_t + DPS_t}{P_{t-1}} \right) \quad [1]$$

where  $P_t$  is the price of the shares in  $t$ ,  $DIV_t$  are the dividends per share in year  $t$ , and  $DPS_t$  is the price of subscription rights in period  $t$ . The market rate of return  $R_t$  has been widely used in the literature as a performance measure (see Murphy, 1985 and Conyon, 1996). The accounting rate of return on total assets for each economic sector is obtained as in the case of a single firm, but using total sector-consolidated data. The market rate of return for each economic sector is obtained from the Bolsa de Madrid.

Table 1 provides a summary of the variables used, their description and main descriptive statistics. Table 2 shows the cross correlation among these variables, as they will be used in the test of the hypotheses. Presumably, there will be some time lag between low performance and the change of board members. Moreover, since market prices are based upon expectations of future profits, the stock market return  $R$  will anticipate the low performance of the firm before accounting profits.

<sup>7</sup>Recently, Conyon (1996) calculated similar situations considering natural replacements without finding significant differences.

Therefore  $R_t$  is lagged two periods (years) and  $B_t$  one year. Finally, Table 3 shows the size of the boards (on average), the composition of the boards and the rate of turnover by economic sector.

TABLE 1  
Descriptive statistics

Variable	Description	Mean (90-95)	Standard Dev.	Max	Min.
TOT_TUR	Board turnover: Dimissals of total directors during the year divided by the average number of total directors during the year.	0.1235	0.2183	1.727	0
INS_TUR	Insider turnover: Dimissals of executive directors during the year divided by the average number of executive directors during the year.	0.1252	0.3546	2	0
OUT_TUR	Outsider turnover: Dimissals of the non-executive directors during year divided by the average number of non-executive directors during the year.	0.1399	0.2995	4.4	0
%OUT	Proportion of outsiders: Number of non-executive directors divided by number of total directors.	0.7679	0.2038	1	0
B	Earnings before taxes divided by total assets.	0.0295	0.1187	0.5688	-1.6370
B_CS	Earnings before taxes divided by total assets, corrected for industry: B minus total industry earnings before taxes divided by total industry assets.	0.0023	0.1139	0.5090	-1.7080
R	Shareholder return (equation 1)	0.0004	0.4918	1.4414	-3.446
R_CS	Shareholder return, corrected for industry: R minus industry return.	-0.0674	0.4302	1.7803	-3.736
C1	Percentage of direct and indirect shares owned by the largest shareholder	45.17	29.84	99.96	0.001

Source: CNMV, Bolsa de Madrid, own calculations

The average size of the board among Spanish listed companies is between 10 and 11 members, not very different from the average size observed in firms of other countries,<sup>8</sup> although relatively large if we take into account that the size of Spanish firms is much smaller than

<sup>8</sup>For example, Belgium has an average of 9.91 for the same period (Renneboog, 1996). In the U.S. case, one can see, for example, Rosenstein and Wyatt (1990) and Brickley, Coles and Terry (1994).



the size of firms in countries such as the U.S., Germany, U.K. and Japan. Notice also that the average size of the boards varies substantially from one sector to another.

TABLE 2  
Matrix of cross correlation among the variables

	Tot_tur	Ins_tur	Out_tur	%out	C1	B <sub>t-1</sub>	R <sub>t-2</sub>
Tot_tur	1						
Ins_tur	0.5134 (0.000)	1					
Out_tur	0.8909 (0.000)	0.2447 (0.000)	1				
%out	-0.0692 (0.074)	0.1543 (0.000)	-0.2187 (0.000)	1			
C1	0.0022 (0.958)	0.0406 (0.358)	0.0056 (0.892)	0.1075 (0.010)	1		
B <sub>t-1</sub>	-0.1854 (0.000)	-0.0964 (0.028)	-0.1284 (0.002)	-0.0546 (0.183)	0.0590 (0.177)	1	
R <sub>t-2</sub>	-0.1811 (0.000)	-0.0897 (0.035)	-0.1478 (0.000)	0.0373 (0.348)	-0.0011 (0.979)	0.4364 (0.000)	1

In this table we show the Pearson correlation coefficient between key variables, for the full sample P-value are in parentheses.

The total board turnover rate is 12 percent a year, quite homogeneous across economic sectors. For the total sample, around one-fourth of the board members have a permanent position in the company. The proportion of insiders varies across economic sectors, being larger among Construction and Commerce and Services. Finally, notice that the proportion of turnovers is very similar, on average, for executive and for non-executive directors, but the inside turnover varies substantially across economic sectors.

From Table 1 we also see that during the period 1990-95 firms earned, on average, fairly low rates of return due to the fact that, in this period, the Spanish economy was affected by a severe recession. Notice also the additional evidence provided on ownership concentration among Spanish firms: on average, the main shareholder holds 45.17 percent of the total shares of the firm.

The cross correlation matrix, Table 2, provides initial support for the hypotheses postulated in Section 2. The performance variables are negatively correlated with rotation of total board members, and the magnitude of the correlation coefficient is very similar for the two of them. Ownership concentration is unrelated to performance, and the

proportion of external members in the board is positively correlated with the rotation of internal board members and negatively related with the rotation of external members. These results, however, must be taken with some caution since the rotation variables are truncated at zero, and therefore the correlation coefficients are not properly defined.

TABLE 3  
Board size and board turnover by industry

Industry	n	Number of	Annual board	Number of	Proportion of	Annual insider
		directors (89-95)	turnover (90-95)	insiders (89-95)	insiders	turnover (90-95)
		Mean (Stand. Dev.)	Mean (Stand. Dev.)	Mean (Stand. Dev.)	Mean (Stand. Dev.)	Mean (Stand. Dev.)
Energy, utilities	18	12,62 (5,99)	0,13 (0,17)	3,76 (4,13)	0,27 (0,22)	0,06 (0,16)
Mining, basic metals, cement	22	8,63 (3,49)	0,12 (0,21)	1,76 (2,14)	0,21 (0,22)	0,17 (0,42)
Metal manufacturing	14	8,12 (3,21)	0,15 (0,25)	1,43 (1,22)	0,18 (0,16)	0,21 (0,49)
Other manufacturing	13	8,91 (4,48)	0,09 (0,19)	1,16 (1,26)	0,14 (0,15)	0,16 (0,39)
Construction	4	9,93 (2,48)	0,19 (0,22)	3,11 (1,10)	0,32 (0,11)	0,18 (0,33)
Commerce, services	7	6,02 (2,83)	0,11 (0,21)	1,85 (1,03)	0,38 (0,29)	0,11 (0,36)
Transport, communications	5	13,49 (6,18)	0,13 (0,17)	3,38 (3,64)	0,25 (0,18)	0,05 (0,16)
Real State	5	12,80 (5,94)	0,11 (0,21)	2,68 (2,48)	0,20 (0,11)	0,07 (0,22)
Banks	25	13,03 (6,93)	0,12 (0,26)	3,60 (3,80)	0,31 (0,27)	0,11 (0,35)
Total	113	10,46 (5,60)	0,12 (0,22)	2,54 (3,02)	0,24 (0,22)	0,13 (0,35)

Source: CNMV, annual report, Fomento 2500 and own calculations

### 3.3 Methodology<sup>9</sup>

As is mentioned above, the board turnover variables can only be zero or positive. In fact, as is seen in Table 4, the proportion of cases where there is no turnover in the board is very high in the sample. This raises two questions. First, a distinction should be made between the

<sup>9</sup>This methodology is taken from the work by Arrazola, De Hevia and Mato (1992).

decision to remove some of the members of the board and the number of members who are replaced. Second, it is important to know whether the same model explains the two decisions or not. In the case of a single explanatory model for the two decisions, then the correct estimation procedure for the model is the Tobit method, because if Ordinary Least Squares (OLS) were used to calculate the model, biased and inconsistent estimates would be obtained (Maddala, 1983). In the case of two different models, a Probit model should be used to explain the decision to change the board members and a corrected Tobit model to explain the decision on how many members should be removed.

TABLE 4  
Cases of board turnover

	Turnover=0	Turnover>0	Missing values	Total
TOT_TUR	339	329	10	678
INS_TUR	464	116	98	678
OUT_TUR	369	295	14	678

In more technical terms, the general model to be estimated is

$$\begin{aligned}
 TURN_i^* &= X'_{i1}\beta + u_i && \text{where } i = 1, \dots, 678 && [2] \\
 TURN_i &= TURN_i^* && \text{if } TURN_i^* > 0 && \\
 TURN_i &= 0 && \text{if } TURN_i^* \leq 0 && 
 \end{aligned}$$

where  $TURN_i^*$  is a latent variable which follows a normal distribution. The dependent variable ( $TURN_i$ ) is only observed for positive values of the latent variable, while in other cases we only know that  $TURN_i^* \leq 0$ , and the dependent variable will have the value of 0.  $X_{i1}$  is a vector of explanatory variables and  $\beta$  is a vector of parameters. It is supposed that regression residuals,  $u_i$ , are distributed normally and independently with 0 average and  $\sigma^2$  variance.

On the other hand, to explain the decision to change board members we may write

$$\begin{aligned}
 I_i^* &= X'_{i2}\gamma + \varepsilon_i && [3] \\
 I_i &= 1 \text{ if } I_i^* > 0 \\
 I_i &= 0 \text{ if } I_i^* \leq 0
 \end{aligned}$$

The dichotomous variable  $I_i$  is defined, with a value of 1 if there is turnover and 0 if there is not.

To test whether the same model explains the two decisions, the following conditions have to be satisfied estimating model [2] as Tobit, and model [3] as Probit (Greene, 1993):

$$\begin{aligned} A) X_{i1} &= X_{i2} \\ B) \hat{\gamma} &= \frac{\hat{\beta}}{\hat{\sigma}_u} \end{aligned}$$

The theory establishes that the variables which influence the decision to change board members are the same as the variables which explain how many board members should be changed; therefore  $X_{i1} = X_{i2}$  by assumption. To test assumption B) a previous estimation of models [2] and [3] is made and, in all cases, assumption B) could not be rejected at a 5 per cent significance level.

Thus, in this study, only the Tobit model will be reported since it allows us to obtain consistent estimates when the dependent variable is censored, unlike the OLS, and both the decision to discipline the directors as well as the decision of the relative magnitude of the discipline are explained by the same model, as has been statistically tested.

## 4. Results

### 4.1 Board Turnover and Firm Performance

Hypothesis 1, which establishes a negative relationship between firm performance and board turnover, is now tested. Table 5 presents the results. The dependent variable, turnover, distinguishes between total board turnover, executive turnover and turnover of non-executives. The explanatory variable, performance of the firm, also includes alternative measures (accounting return, market return, absolute and relative to the sector, one or two lagged periods).<sup>10</sup>

The hypothesis that board turnover increases when the performance of the firm worsens is supported by the data, since the coefficient of the performance variable is negative and statistically significant. This is true for total turnover, for insider turnover and for outsider turnover. So Hypothesis 1 cannot be rejected.

<sup>10</sup>We have also corrected for size, introducing the  $\ln(\text{asset})$  variable, without finding significant differences.

TABLE 5  
Board turnover and firm performance in 1990-95 (pooled data)

	obs.	$\alpha$	$\beta$	Log L
<b>TOT_TUR</b>				
Bt-1	594	0.0047 (0.017)	-0.4920*** (0.119)	-300.0
Bt-2	573	-0.0104 (0.019)	-0.1787 (0.142)	-307.3
Rt-1	641	-0.0246 (0.018)	-0.0674** (0.032)	-343.6
Rt-2	634	-0.0265 (0.017)	-0.1191*** (0.031)	-331.2
Bt-1_CS	594	-0.0081 (0.017)	-0.3972*** (0.124)	-302.7
Bt-2_CS	573	-0.0155 (0.018)	-0.2149 (0.148)	-307.1
Rt-1_CS	641	-0.0271 (0.017)	-0.0416 (0.037)	-337.5
Rt-2_CS	631	-0.0246 (0.018)	-0.1080*** (0.039)	-333.9
<b>INS_TUR</b>				
Bt-1	518	-0.9248*** (0.117)	-1.0710** (0.456)	-319.9
Bt-2	499	-0.9189*** (0.119)	-0.5502 (0.533)	-305.5
Rt-1	557	-0.9669*** (0.116)	-0.3471*** (0.139)	-338.5
Rt-2	551	-0.9617*** (0.116)	-0.2824** (0.130)	-330.8
Bt-1_CS	518	-0.9510*** (0.118)	-1.0368** (0.468)	-320.3
Bt-2_CS	499	-0.9346*** (0.119)	-0.5388 (0.557)	-305.5
Rt-1_CS	558	-0.9852*** (0.118)	-0.3164* (0.171)	-334.5
Rt-2_CS	549	-0.9777*** (0.118)	-0.2258 (0.165)	-331.9
<b>OUT_TUR</b>				
Bt-1	592	-0.0507** (0.023)	-0.4539*** (0.156)	-363.5
Bt-2	570	-0.0986*** (0.029)	-0.1787 (0.218)	-397.7
Rt-1	637	-0.1152*** (0.027)	-0.0774* (0.048)	-438.4
Rt-2	630	-0.1186*** (0.027)	-0.1496*** (0.047)	-424.6
Bt-1_CS	591	-0.0614*** (0.023)	-0.3259** (0.162)	-365.1
Bt-2_CS	570	-0.1036*** (0.028)	-0.2327 (0.226)	-397.5
Rt-1_CS	637	-0.1194*** (0.027)	-0.0546 (0.057)	-432.9
Rt-2_CS	627	-0.1288*** (0.027)	-0.1403*** (0.058)	-426.2

We estimate, using Tobit, the follow model:

$$\text{TURNOVER} = \alpha + \beta * \text{PERFORMANCE} + \varepsilon$$

We regress three endogenous variables: total board turnover (tot\_tur), insider turnover (ins\_tur) and outsider turnover (out\_tur) with several performance measures. Standard error is in parentheses

\*\*\*p<0.01

\*\*p<0.05

\*p<0.1

The accounting rate of return of period  $t - 1$  affects the turnover of board members in period  $t$ , while the market rate of return of period  $t - 2$  has higher effects on board turnover of period  $t$  than the market return of period  $t - 1$ . A possible interpretation of these results is the following. The stock market seems to anticipate the low accounting profits of period  $t - 1$  one year in advance, but the shareholders wait until the poor performance is confirmed by accounting data before removing board members. This seems to be particularly true for non-executive board members. According to Table 5, the estimated coefficient of  $R_{t-1}$  is higher than the estimated coefficient of  $R_{t-2}$  for

executive directors (i.e., the dependent variable is *INS\_TUR*), while the reverse is true when the dependent variable is non-executive turnover (i.e., *OUT\_TUR*). Therefore, it appears that the time lag between the firm's low performance and board member changes is longer for non-executive than executive board members. This would be consistent with the supervisory role of outsiders. When a firm underperforms, members of the executive team are dismissed, probably by the non-executive board members, and later on the non-executive members end up being removed too.

A second result from Table 5 is that when the performance measure is expressed as a difference with respect to the average performance of the sector to which the firm belongs, the estimated coefficients are very similar to those obtained when the explanatory value is absolute performance. This would indicate that it is absolute performance, and not the relative one, which determines the changes in the board membership.

Table 5 also shows that the coefficient of the performance variable is higher, in absolute terms, when the dependent variable is insider turnover than when it is outsider turnover, which indicates that the negative relationship between firm performance and non-executive turnover is weaker than in the case of executive turnover.

The final results from Table 5 come from the estimated value of the constant term. When total board turnover is the dependent variable, then the constant is not significantly different from zero. This means that board turnover will start as soon as performance acquires negative values. The conclusions are different when we look at turnover of executive and non-executive members separately. Now the constant is statistically significant and negative in both cases. Moreover, its absolute value is higher in the case of executive members than in the case of non-executive ones. This suggests that board membership changes start at more negative performance values for internal than for external members, but once started it increases at a higher rate with decreases in performance for the internal than for the external members.

#### *4.2 Board Turnover and Board Composition*

Presumably, the management team will try to protect its job and react against the threat of dismissal. The effectiveness of managerial entren-

chment may depend upon the board's composition in the sense that as the proportion of non-executive members of the board increases, executive dismissals will be easier. This assumption has been widely accepted in the corporate governance literature, and it has been empirically tested in firms from other countries (see Section 2).

In the context of the present paper, the effect of board composition on executive turnover has been summarised in Hypothesis 2, i.e., we expect that for a given level of firm performance, the turnover of executive directors should increase as the proportion of non-executive directors increases. According to the results of Table 6, however, this assumption is rejected since the coefficient of the variable proportion of non-executive directors is not statistically different from zero.

TABLE 6  
Impact of board structure on insider turnover in 1990-95 (pooled data)

	Dependent variable: Insider turnover (INS_TUR)			
	(1)	(2)	(3)	(4)
obs.	518	518	557	558
const.	-0.8419*** (0.265)	-0.8689*** (0.264)	-0.8691*** (0.252)	-0.8876*** (0.255)
Bt-1	-1.078** (0.458)			
Bt-1_CS		-1.0437** (0.471)		
Rt-1			-0.3258*** (0.142)	
Rt-1_CS				-0.3152* (0.175)
%OUT	-0.1211 (0.351)	-0.1202 (0.350)	-0.1383 (0.334)	-0.1346 (0.339)
Log L	-319.9	-320.2	-338.3	-329.7

We estimate, using Tobit, the follow model.

$$INS\_TUR = \alpha + \beta_1 * PERFORMANCE + \beta_2 * \%OUT + \epsilon$$

Standard error is in parentheses

\*\*\*p<0.01

\*\*p<0.05

\*p<0.1

This result may be the net effect of two opposite forces. On the one hand, outsider board members weaken the position of insiders and facilitate their removal when the performance of the firm is low, so a positive effect of the proportion of outsiders in insider turnover is

expected. But if a higher proportion of outsiders in the board implies more supervision of the management team, then the relationship between insider turnover and outsider members of the board will be inversely related, since the supervisory activity will allow outsider to separate bad performance due to non controllable factors ("bad luck") from bad performance due to bad management decisions. Presumably, it is more likely that a management team will be dismissed if the low performance is due to the latter reason than to the former.

Notice that the non-significant relationship between insider turnover and the proportion of outsiders on the board differs from the positive and significant correlation between the two variables as shown in Table 2. To explain this difference one has to take into account that in Table 6 a Tobit model is estimated and, therefore, the dependent variable is treated as a truncated one. In fact, if the same equation of Table 6 is estimated by OLS, then the coefficient of the proportion of external board members is positive and statistically significant. To what extent the positive coefficient estimated in studies from other countries is due to the OLS estimation technique used in all of them and which could change under a Tobit model estimation is a relevant question.

In any event, the empirical result obtained in Table 6 raises some doubts as to the effectiveness of some of the recommendations put forward in recent codes of best practices in corporate governance (Cadbury, 1992, and Olivencia et al., 1998). These codes insist on the positive effect on shareholder return of having outsider members, on the board of directors, but our results show that for a given level of firm performance there is no relation between insider turnover and the relative number of outsiders in the board. It is true that, more than having outsiders, what the codes recommend is that some of the board members should be "independent" in the sense of having no ties at all with the firm (including no equity shares). But the question is to what extent there is a justification for those independent directors when ownership concentration is, on average, so high as it is in Spain.

#### *4.3 Board Turnover and Ownership Concentration*

Our interest now is to see if the relationship between board turnover and firm performance is influenced or not by ownership concentration, and in what direction. According to Hypothesis 3, ownership concentration should weaken the relationship between performance and board turnover since large shareholders have more incentives to direc-



tly supervise the behaviour of board members (including the executive team).

TABLE 7  
Impact of largest shareholders on board turnover and insider turnover  
for 1990-95 (pooled data)

Dependent variable	obs. (log L)	$\alpha$	$\beta_1$	$\beta_2$	$\beta_3$
<i>Panel A: All Companies</i>					
TOT_TUR	521 (-245.6)	0.0162 (0.028)	-0.9532*** (0.256)	-0.0071 (0.052)	1.5114*** (0.542)
INS_TUR	465 (-283.7)	-0.7672*** (0.143)	-1.6566 (1.092)	-0.1290 (0.226)	2.9569 (2.235)
<i>Panel B: Largest shareholder financial company</i>					
TOT_TUR	248 (-108.1)	0.0821* (0.045)	-1.5016*** (0.557)	-0.0388 (0.080)	1.5605* (0.943)
INS_TUR	217 (-115.1)	-0.7595*** (0.262)	-6.9621* (3.968)	0.1475 (0.392)	6.5222 (5.973)
<i>Panel C: Largest shareholder non financial company</i>					
TOT_TUR	112 (-35.9)	0.1011** (0.047)	-1.9979*** (0.474)	-0.1196 (0.089)	2.3573* (1.211)
INS_TUR	107 (-64.8)	-0.1917 (0.212)	-0.0688 (2.110)	-1.0854** (0.469)	-1.9629 (5.719)
<i>Panel D: Largest shareholder foreign company</i>					
TOT_TUR	113 (-64.0)	-0.0499 (0.080)	0.0091 (0.569)	0.0125 (0.130)	0.6327 (1.095)
INS_TUR	106 (-75.3)	-0.6509** (0.284)	-0.3459 (1.944)	-0.2425 (0.442)	3.4149 (3.498)
<i>Panel E: Largest shareholder individual</i>					
TOT_TUR	48 (-17.9)	-0.0691 (0.072)	-1.5275** (0.704)	-0.2837 (0.572)	4.3349* (2.664)
INS_TUR	35 (-16.9)	-1.0315 (0.811)	-17.723 (22.095)	-1.7710 (4.650)	35.992 (45.834)

We estimate, using Tobit, the follow model:

$$\text{TURNOVER} = \alpha + \beta_1 * \text{PERFORMANCE} + \beta_2 * C1 + \beta_3 * (\text{PERFORMANCE} * C1) + \varepsilon$$

We use Bt-1 as a measure of performance. Standard error is in parentheses

\*\*\*p<0.01

\*\*p<0.05

\*p<0.1

According to the results of Table 7, ownership concentration does not directly affect board turnover ( $\hat{\beta}_2 = 0$ ), but it significantly lowers the slope of the effect of firm performance on such turnover (this slope is now  $\hat{\beta}_1 + \hat{\beta}_3 C1$ ). Therefore Hypothesis 3 cannot be rejected. The conclusion is basically the same when we consider only rotation of insider directors, although the standard errors of the estimated coefficients are now high and these coefficients are not statistically different from zero.

The estimations for the whole sample of Panel A are repeated for several subsamples of firms depending upon the nature of the largest shareholder (financial company, other firms, national and foreigners, individuals). When we consider total board turnover the estimated values of  $\beta_1$  and  $\beta_3$  are very similar for all groups of firms except for firms controlled by foreign companies, where  $\hat{\beta}_1$  and  $\hat{\beta}_3$  are not statistically significant. This implies that, for most of the cases, low performance of the firm is translated into removal of board directors and ownership concentration weakens this effect. As in Panel A, high standard errors are obtained when only rotation of insiders is looked at, so no precise conclusion is reached on the effect of ownership structure of the firm regarding turnover of executive directors.

Overall, the empirical evidence seems consistent with Hypothesis 3, and higher ownership concentration lowers the power of incentives (lowers the sensitivity of “compensation”, dismissal from the firm, to firm performance). As more concentrated ownership may be associated with more supervision of board members by the shareholders, the empirical evidence supports the assumption of substitutability between supervision and power of optimal incentives. The conclusion is basically true for all the main shareholders and, except for the case of foreign companies, the implicit power of incentives appears quite similar for all of them.

## 5. Conclusions

The threat of dismissal if the return to shareholders is low will stimulate managers and all board members to take decisions in the interest of the shareholders. Several papers have already been published showing that board turnover is sensitive to firm performance in firms from countries where large shareholders are present. Our interest in this paper has been to provide evidence from Spain, where ownership concentration is also very high. Overall, the results confirm that rotation of board members is inversely related to firm performance, and therefore large shareholders discipline board members as happens in other countries with similar dominant ownership structure.

An important difference in our results compared with those of previous papers is that insider turnover is independent of the proportion of outsiders on the board, for a given level of performance. This result would be consistent with the role which Spanish Private Company Law attributes to board members. This law considers the board of directors

as a body in charge of the administration of the assets of the firm and, therefore, non-executive directors are not particularly appointed to control and supervise executive behaviour. To the contrary, in most of the Spanish companies, management control is in the hands of the shareholders themselves.

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## Resumen

*En este trabajo se investiga la relación entre la rotación de los miembros del consejo de administración y los resultados de la empresa, para una muestra de empresas españolas que han cotizado en las bolsas de valores españolas durante el período 1989-1995. En el trabajo se muestra que: (1) existe una relación significativamente negativa entre los resultados de la empresa y la rotación de consejeros; (2) la presencia relativa de consejeros no ejecutivos no incrementa la rotación de los consejeros ejecutivos, para unos resultados dados, lo que cuestiona que su papel en la empresa española sea disciplinario y, (3) la rotación de consejeros está menos relacionada con los resultados cuando la concentración de la propiedad es alta.*