

# Governance Mechanisms in Spanish Banks. Does Ownership Matter?

Finance Working Paper N° 19/2003

June 2003

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ECGI Working Paper Series in Finance

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We thank Øyvind Bøhren and Josep Tribó for insightful discussions. We also received helpful comments from participants to seminars at UAB, 2002 Workshop on Corporate Governance at Cambridge University, and the VII LACEA Meetings in Madrid. Our research has been supported by the Spanish Ministry of Science and Technology, CICYT, BEC 2001-2552-C03.

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## Abstract

This paper examines the governance of Spanish banks around two main issues. First, does poor economic performance activate governance interventions that favor the removal of executive directors and the merger of non-performing banks? And second, does the relationship between governance intervention and economic performance vary with the ownership form of the bank? We find a negative relationship between performance and governance intervention for banks, but the results change for each form of ownership and each type of intervention. Internal control mechanisms work for Independent Commercial banks, but Savings banks show weaker internal mechanisms of control and the only significant relationship between performance and governance intervention that appears is for mergers. The Spanish Savings banks, with a peculiar form of ownership that, in fact, implies a lack of ownership, give voice to several stakeholder groups with no clear allocation of property rights. Nevertheless, their economic performance is not generally affected. Product-market competition compensates for those weaker internal governance mechanisms and non-performing banks are not fully protected from disappearing.

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Keywords: Corporate governance, commercial and savings banks, executive turnover, mergers and acquisitions

JEL classification: G21, G34 and G38

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## 1. Introduction

This paper presents empirical evidence on the effective use of governance mechanisms for disciplining non-performing managers and directors of Spanish Commercial banks (shareholder-oriented banks) and Savings banks (non-profit commercial banks). The paper provides evidence on how, in both types of institutions, lower economic performance increases, in an economically significant way, the likelihood of directors' turnover and/or the likelihood that the bank will merge or will be acquired.

The topic of corporate governance is receiving heightened attention<sup>1</sup>. Although much of what is said applies also to banks, it is true that the banking firm has significant differences with respect to corporations in other economic sectors, and this justifies a special interest in its governance problems; Prowse (1997), Adams and Mehran (2002). For example, there is a clear conflict inside the banks between the interests of the shareholders and the interests of the depositors, with the former being disposed to take high-risk projects that increase share value at the expense of the value of the deposits. Small deposits are insured and banks are regulated, to avoid crisis of confidence and bank runs, although it increases the moral hazard problem, as it was shown in the Savings and Loan crisis in the U.S. Whether regulation substitutes or complements traditional governance mechanisms and controls is a subject of debate, but it is generally agreed that the external controls coming from takeovers and product market competition turn out to be weaker in banks than in other firms; Prowse (1997). Good governance relies more on the workings of internal mechanisms, such as the supervision and the control exercised by the board of directors,

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<sup>1</sup> For a recent survey of the literature on corporate governance see Becht et al (2002).

along with the regulatory constraints. Our paper focuses on those governance mechanisms that are implemented by the board such as the replacement of managers and directors when a bank's economic performance does not meet the owners' expectations.

Following previous work in this subject<sup>2</sup>, we assume that internal control works properly if the probability of a significant board turnover, or the dismissal of a top executive, is inversely related to the economic performance of the bank, measured in terms of accounting rates of return<sup>3</sup>. We also consider a friendly merger of banks as an intermediate control mechanism, somewhere in between the internal mechanisms and the external ones. This is so because mergers must be approved by the governance bodies of the bank, and also because the target bank's assets are transferred to the acquiring company. For this scenario, we assume that good governance will predict that the likelihood that a bank merges (and, therefore, its assets be transferred to another bank), increases with a lower economic performance of the target bank.

An important distinctive feature of our approach is that we compare the workings of governance mechanisms for three different forms of bank's ownership, Independent Commercial banks, Subsidiaries (or Dependent banks) and Savings banks, which represent a case of a lack of ownership. This comparison is unique in the existing literature since the previous papers consider only one form of ownership at a time. Independent Commercial banks are privately owned banks whose shares are in the hands of families, individual investors and institutional investors. A bank is identified as Dependent when it has another

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<sup>2</sup> See, for example, Kaplan (1994a) and Franks et al (2001) for non-financial firms, and Barro and Barro (1990), Blackwell et al (1994) and Prowse (1995) for banking firms.

bank (either national or international) as a controlling shareholder. Finally the Savings banks, “Cajas de Ahorros”, can be considered as “commercial non-profit organizations” in the sense of Hansmann (1996).

The Cajas control about half of the Spanish retail banking market. They compete for loans and deposits among themselves and with Commercial banks. Unlike Commercial banks, however, Savings banks must either retain their earnings or invest them in social and cultural programs (around 25% of their net profits go each year to these programs). They have no formal owners and there is no market then for corporate control of Savings banks. Moreover, the general assembly and the board are both composed by representatives from four stakeholder groups: public authorities, depositors, employees, and founding entities. Therefore Spanish Savings banks display several important features. First, they are not-for-profit organizations with a social contribution, coming from their profits as an extra tax. Second, they have no owners and are immune to the market for corporate control, with the exception of friendly takeovers or mergers by other Savings banks. Lastly, and quite importantly, they must respond to potential conflicts of interests among their multiple stakeholders, who have “voice” inside the governance mechanisms. This paper examines how such differences translate into economic performance, and it also provides comparative evidence on the relationship between management turnover and mergers on one side, and economic performance on the other.

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<sup>3</sup> The “quality” of corporate governance has been also evaluated by looking at decisions adopted by the board other than directors’ replacement, such as the level and composition of management compensation, the size of the board and the number of outsiders in it.

The Subsidiaries of other banks are legally independent firms that have a hierarchical relation with the parent bank. Some of them are subsidiaries of foreign banks, such as Barclays bank, and others are subsidiaries of other Spanish banks such as Banesto, which is now owned by Banco de Santander. These firms' managers are closely supervised by the management team of the parent bank and, therefore, they can be considered lower level managers of a holding company. Within Commercial banks, we are able to compare the role of accounting measures of performance in personnel administration decisions, such as the dismissal of lower level managers, those in charge of the subsidiaries, and of top level managers, like the chairman and CEO of the Independent banks.

We find a negative relationship between performance and governance intervention for banks as a whole, but the results change for each form of ownership and each type of intervention: while internal control mechanisms work for Independent Commercial banks, Savings banks show weaker internal mechanisms of control since the only significant relationship between performance and governance intervention appears to be in the case of mergers. The likelihood that a Savings bank merges or that it becomes acquired by another Savings bank is inversely related with economic performance. We interpret this result in terms of a disciplinary effect of product market competition, quite severe among Spanish banks during the period covered by our study.

The paper is organized as follows. In Section 2, we present the general governance issues concerning banking firms and we describe the methodology used in the paper. Since governance mechanisms are expected to work differently depending on the type of bank, we formulate some hypothesis on the ownership – governance interaction in this section. The results of the empirical analysis are reported in section 3, along with some description

of the Spanish banking sector. We estimate two models, one for governance interventions for the whole sample of banks, and a second one only for Independent banks, where some additional control variables such as ownership concentration and anti-takeover measures are reported. Finally, we summarize the main findings of the paper.

## **2. Hypotheses and Methodology**

The underlying general assumption in this paper is that governance is considered to be more effective if the likelihood of a turnover for top managers and executive directors (or the likelihood of a bank being merged), increases in banks with lower economic performance. The effectiveness of internal governance mechanisms has been already evaluated in a similar fashion for samples of non-financial firms in different countries: Warner et al (1988) for the US, Kaplan (1994a) for Germany, Kaplan and Minton (1994) and Kaplan (1994b) for Japan, Franks et al (2001) for the UK, or Gispert (1998) for Spain. All these papers confirm an inverse relation between relative measures of economic performance, such as ROA, ROE or shareholder market returns, and the likelihood of changes in the position of CEO and/or the chairman of the board.

Several authors have also applied this methodology to banks. For example, Barro and Barro (1990) use logit regressions to explain the probability of a CEO departure as a function of stock and accounting returns of the bank for a sample of large US commercial banks over the period 1982-1987. Blackwell et al (1994) find a negative relation between accounting profitability and management turnover in the subsidiaries of Texas' multi-banks holdings. Anderson and Campbell (2000), on the other hand, explain the lack of a relationship



between executive turnover and the performance of Japanese banks as evidence of the banking sector's inefficiencies. Prowse (1995) evaluates the governance of US Bank Holding Companies by examining the relationship between the bank's economic performance and the probability that each one of four control mechanisms (management turnover, hostile takeovers, friendly mergers and regulatory intervention) was activated. Furthermore, Prowse analyzes the frequency of these mechanisms in banking versus non-banking sectors. He finds that control mechanisms are activated less frequently in the banking sector, and that there appears to be some substitution between regulation and other governance mechanisms in banks.

Our main interest in this paper is to compare how governance can work on correcting bad economic performance among banks with different ownership structures and goals, such as the case of Independent banks versus Subsidiaries, or Commercial banks versus Savings banks, all of them under the same economic, legal and regulatory environment.

Subsidiaries of other banks, either national or foreign, are likely to be subject to closer supervision by their principal when compared with independent banks. The parent company has full control over the subsidiary, and it will likely perform internal monitoring that limits the ability of managers of a subsidiary to act against the principal's interest. Under close supervision, managers can be evaluated in terms of the quality of the decisions they take, and actual performance may be less relevant in the firing decisions. For Independent banks, where shareholders are more dispersed and they lack the appropriate incentives to directly supervise the managers' activities, a "performance-based control" will be used to align the

interests of managers and shareholders<sup>4</sup>. If this were the case, we could expect a stronger relation between the activation of the different governance mechanisms and bad economic performance in the case of Independent banks than in the case of Subsidiaries.

*H1. The relationship between governance intervention and bad performance is stronger for Independent banks than for Subsidiaries.*

The multiple-stakeholder orientation of Savings banks, along with the nature of each interest group inside the governance bodies (i.e., general assembly, board of directors and committees), creates a potentially weak internal system of corporate governance. For example, the representatives of depositors are randomly selected from the total population, and they are renewed every four years. The representatives of the public authorities are quite often representatives from political parties. Finally, many of the founding institutions are public. All these features suggest that managers and workers, the so-called insiders, may end up playing a dominant role in the bank, although constrained by the laws, the competition from other banks and the Central Bank's supervision.

Governance bodies, such as the general assembly and the board of directors, may have a hard time to discipline those managers performing badly, specially when the latter enjoy more effective power. If this is the case, bad performance will have to be addressed in a different manner. We believe that in the case of Spanish Savings banks, mergers and acquisitions become that alternative mechanism. Even though stakeholders may have a hard time to discipline managers by themselves, the arrival of external offers to merge or be

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<sup>4</sup> Performance-based control is more likely when supervision costs become high, like when ownership is rather dispersed. Control by direct monitoring can be applied in subsidiaries of other banks because the parent company is the only relevant shareholder and enjoys hierarchical power over the managers of the subsidiary.

acquired that must be necessarily discussed and approved by them, might facilitate their task. Therefore, we expect mergers to be relatively more relevant as a governance mechanism for Savings banks than for Commercial banks.

*H2. a) The relationship between management turnover and performance is weaker for Savings banks than for Commercial banks.*

*b) Among Savings banks, mergers are the main governance mechanism to deal with poor economic performance.*

A multivariate analysis will indicate which kind of governance mechanism is more likely to be activated in the case of low performance and, furthermore, if the likelihood is homogeneous or not among different ownership types. The model to be estimated is a multinomial logit where the dependent variable reflects five different situations: no intervention, board change, replacement of the chairman, CEO removal and merger or acquisition. As explanatory variables we use the bank performance, along with the ownership form (Dependent banks, Independent Commercial banks and Savings banks), and some control variables. To test for the presence of variations among different types of ownership, we use dummy variables for each form of ownership that interact with the explanatory variables. The variable  $D_1$  takes the value one for Subsidiaries and zero otherwise, while  $D_2$  is used for Savings banks and it becomes one only for that type of bank. Thus, we use the following model,

$$\begin{aligned} \text{Governance Intervention} = & \alpha_{i0} + \beta_1 \text{Performance}_i + \beta_2 \text{Control variables}_i \\ & + \alpha_{i1} D_1 + \alpha_{i2} D_2 + \beta_{11} D_1 \text{Performance}_i + \beta_{12} D_2 \text{Performance}_i \\ & + \beta_{21} D_1 \text{Control variables}_i + \beta_{22} D_2 \text{Control variables}_i + \varepsilon_{it} \end{aligned}$$

Using this notation, we can rewrite our initial hypotheses as follows,

$$H1. \beta_1 < 0, \beta_{11} > 0$$

$$H2. a) \beta_1 < 0, \beta_{12} > 0$$

These hypotheses imply that we expect a negative sign for  $\beta_1$  (that is, a better performance means a lower likelihood of intervention). But we also expect the coefficient of the multiplicative variable  $\text{performance} \times \text{form of ownership}_i$  to be positive, which means a weaker relationship between bad performance and governance intervention for Dependent banks and Savings banks, than for the case of Independent Commercial banks (the omitted variable). Therefore, we expect  $\beta_1 + \beta_{11} > \beta_1$ , or a positive coefficient,  $\beta_{11} > 0$ , for the case of Dependent banks. Similarly, we expect  $\beta_1 + \beta_{12} > \beta_1$ , or a positive coefficient,  $\beta_{12} > 0$ , for the Savings banks case. This applies to the different mechanisms with the exception of merger/acquisitions and the Savings banks. According to *H2b*, mergers are expected to be the main governance intervention for Savings banks. No further hypothesis is formulated for the control variable size, nor for the time-period controls.

### **3. Empirical analysis**

#### *The Spanish banking sector*

Banking is a regulated industry in Spain where three main institutions, Commercial banks, Savings banks and Credit cooperatives, compete under equal conditions in the loan, deposit

and financial service markets. Some of the commercial banks are subsidiaries of foreign banks or subsidiaries of other Spanish banks. Regulations are practically the same for the three types, as well as their accounting practices, external reporting, credit risk management standards and so on. Commercial and Savings banks are much more important than cooperatives. Together, they account for more than 95 per cent of the loan and deposit markets. In this paper, we will restrict our attention to those two types.

All banks are free to fix interest rates in their loan operations and deposits, and they can freely decide too about other commercial policies, such as how many branches to open and where to locate them. The last important liberalization decision was taken in 1989 when Savings banks were allowed to expand beyond their traditional geographic markets. During the past twelve years, most of the growth of Savings banks has been originated outside their original region, and today the two largest savings banks, la Caixa and Caja Madrid have branches spread all over the country. The fact is that in 1990 the Savings banks' market share was 39.8 per cent within the deposits market, and 33.9 per cent for the loans market<sup>5</sup>. By December 2002, those figures were 46.9 and 44.1 per cent, respectively, with important gains in both markets but especially in the loan market.

Entry of new competitors in the regional and local markets, along with the persistent decline in the interbank interest rate as a result of the nominal convergence of the Spanish economy towards the European Monetary Union, have generated a continued erosion of the financial intermediation margins. In 1990, the spread between interest paid on deposits and interest earned in loans was 5.5 percentage points. By the year 2000, that spread was only

of 3 percentage points. Increased competition and lower profit margins have facilitated many mergers and acquisitions among banks, both in Commercial and Savings banks. In 1986, the first year of our data sample, the number of Commercial and Savings banks were 101 and 93, respectively. By the year 2000, those figures were 49 and 48. One of the hypotheses to be tested is to know if an increase in competition acts as a disciplinary device among Spanish banks, where those institutions with lower economic performance are being forced to disappear.

Due to the particular purpose of this paper, the different ownership forms of the banks in the sample (i.e., Independent Commercial banks, Subsidiaries of Commercial banks and Savings banks) become a matter of special interest. The first two types are shareholder-oriented banks and, furthermore, the Subsidiaries are typically fully owned by parent banks, either national or international firms.

On the other hand we have Savings banks, which are very important institutions within the Spanish banking system. Many of them were founded during the second half of the nineteenth century as a way of promoting popular savings. At that time, small savers distrusted private banks due to serious moral hazard problems and the lack of deposit insurance and banking regulations. Unlike the situation in France, Portugal or other European countries, the Spanish government lacked the necessary reputation to launch a government-backed bank to enhance popular savings. In fact, the government founded such a bank in the 1850's, but it quickly ended up in a bankruptcy process. The first Spanish Savings banks were created around the "Monte de Piedad", a thrift with a solid reputation

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<sup>5</sup> Source: CECA . There are different ways to measure deposits and loans. Here, we have used the accounts "recursos

among small savers. For several decades both institutions worked together on a complementary basis, until the success of the Savings banks on attracting resources exceeded the capacity of the “Monte de Piedad” to use them.

Today, Savings banks have the ownership form of a private foundation, with a board of trustees with representatives from regional authorities, city halls, workers, depositors and the founding entity. Figure 1 shows the composition of the general assembly and of the board of directors of a typical Spanish Savings bank.

**Insert Figure 1 approximately here**

Savings banks can be considered stakeholder-oriented organizations, while Commercial banks are shareholder-oriented companies. Those represented in the boards of Savings banks act more as trustees than as owners of the assets, while bank shareholders have well-defined property rights over the bank’s assets. Since clearer and well defined property rights should imply more pressure on the managerial team to increase profits, one would expect that the economic performance of Savings banks should be worse than that of Commercial banks. However, as shown by Pastor (1995), Grifell and Lovell (1997), Lozano (1998), the empirical evidence suggests that Savings and Commercial banks have similar levels of productive efficiency. This finding is inconsistent with a property rights approach. Nevertheless, one possible explanation for this evidence is that, after all, ownership and governance are not so decisive for a firm’s economic performance when that

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ajenos” for deposits, and “créditos y valores” for loans as provided by CECA.

firm is subject to sufficient competition. And this seems to be the case in the Spanish retail banking.

As it happens in other continental European countries, the ownership structure of listed Spanish firms is highly concentrated, although somewhat below the average European level. The median largest voting block in the mid 1990's was 34.5% in Spain versus 57% in Germany, 56% in Belgium, 54.5% in Italy or 43.5% in the Netherlands. The average percentage of shareholdings by sector in Spain is shown in Crespi and García-Cestona (2001)<sup>6</sup>. Furthermore, the number of hostile takeovers and the relevance of the stock markets keep on increasing. Large Commercial banks are listed and their shares, although concentrated, are more dispersed among small shareholders than other non-financial firms. Some medium-size banks are listed while others are not. Also, as it was mentioned earlier, ownership of Savings banks cannot be freely traded. One way for Savings banks to enter into new regional markets has been the buyout of a regional bank that operates in the target market. This practice has been challenged by Commercial banks on the basis that Commercial banks are subject to a competitive disadvantage, since Savings banks can buy Commercial banks but not viceversa. Finally, a large number of Commercial banks operating in the Spanish market are Subsidiaries of other banks, either national or foreign ones. Some of them are also listed, like Banesto. However, these Subsidiaries' market share, specially in retail banking, are quite modest when compared with the rest of institutions.

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<sup>6</sup> The average percentage in Spain varies from a 32.13% for the non-financial firms (with 21.02% for the Chemical sector and 33.65% for Metal manufacturing, among others), to the 41.11% for the Banking sector, where the listed firms include both independent banks and subsidiaries.



Table 1 presents some descriptive information about the number of banks under each ownership form and year, the number of Commercial banks that are listed, the proportion of shares of the bank held by the largest shareholder, C1, and the number of listed banks in each year that have introduced takeover protections. This table confirms the important reduction in the number of banks over time. Second, the shareholdings of the listed Spanish Commercial banks are highly concentrated: the largest shareholder holds, on average, more than 25% of the shares, although share concentration has decreased in the last years, when only six Independent Commercial banks remain listed<sup>7</sup>. As expected, the largest shareholder of the Dependent banks, the principal bank, controls on average 80% of the shares of the subsidiary, which confirms the fact that subsidiaries are under absolute control of the parent companies. Among these banks concentration remains rather stable over time.

Takeover protections are quite common among listed commercial banks. They include the presence of voting caps, voting pacts, non-voting shares, board membership restrictions, supermajority amendments, impediments to takeover protections removal and even golden shares<sup>8</sup>. As it can be seen in the table, half of the listed banks enjoy these protection measures and the percentage has increased in the last years because of the mergers<sup>9</sup>. Some institutions have introduced several takeover protections at time. For instance, the former Banco Bilbao Vizcaya amended its statutes to include supermajority requirements for the approval of certain relevant decisions such as mergers, and, simultaneously, the same bank

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<sup>7</sup> Data on shareholders concentration is only available for listed firms since they are required to disclose this information. We also have estimations of the shareholdings held by the top three and the top five shareholders; the average values of these concentration measures are, respectively, 35,3% and 37,5%, and both are highly correlated with the proportion of shares held by the largest shareholder. For the rest of the paper, we only consider the measure shown in table 1.

<sup>8</sup> Once more, those protections are only known for the listed banks.

<sup>9</sup> In March 2003, Banco de Santander has been the first listed bank to announce a removal of the anti-takeover measures and, simultaneously, the disclosure of detailed information concerning the compensation of individual board members. Other banks are expected to follow that practice.

limited the proportion of votes that a single shareholder could exercise. The complete privatization of Argentaria also incorporated a golden share mechanism.

**Insert Table 1 approximately here**

*Data for the multivariate analysis*

We have collected data for all the banking institutions operating in Spain since 1986 through the year 2000. The Spanish Association of Private Banks (AEB) provided the data for Commercial banks, while the data on Savings banks came from the Spanish Federation of Savings banks (CECA). For Commercial banks, Subsidiaries of foreign banks were easily identified by those organizations collecting the data, while additional work was needed to distinguish the groups of Independent banks and Subsidiaries of domestic banks. We have a total of 1894 bank/year observations<sup>10</sup> for the time period running from 1986 through 2000. This means that the number of banks in a representative year becomes 135.

For each bank we collected data on the interventions of governance mechanisms, ownership type, size and economic performance. Four governance interventions were considered: (i) a turnover of at least fifty per cent of executive directors, excluding the chairman and the CEO (or general manager); (ii) the removal of the chairman; (iii) the removal of the CEO; and (iv) a merger or an acquisition by another bank during a particular year. Facing the four scenarios, the variables were recorded as a zero-nonzero value, where a zero value means no intervention has occurred and a positive value otherwise. The final positive value depends on the type of intervention. From the whole data sample, we identify

first the bank-year observations for which a merger or acquisition has occurred and we assign a value of 4 to these cases. With the remaining data, we proceed to search for the bank-year observations with a change in the CEO, and a value of 3 is then assigned to them. Next, we check for the remaining bank-year observations those where the chairman of the board has been replaced and we assign a value of 2 to them. Finally, we search in the remaining observations for those cases where at least a 50% of the board members have changed from the previous year. The “board change” variable takes the value 1. After all this, the remaining bank-year observations correspond to non-intervention cases, and have a zero value in our measure of governance interventions.

The values assigned to every governance intervention only reflect different categories, and the ordinal value has no further meaning. Furthermore, only the cases for which we have evidence that the CEO and Chairman changes are not due to retirement or death are considered. Finally, since mergers are often followed by changes in the management team and board, for those banks that continue operating changes in their boards and management are not considered following a merger, as it has been explained in the construction of the governance interventions variables.

Economic performance is measured through the ratio of accounting profits and the bank’s total assets. We favor return on assets (ROA) over return on equity (ROE) because the latter is affected by the capital asset ratio of the bank, which differs substantially among the banks in the sample. Furthermore, we use two measures of accounting profits: total net profit after taxes, and profits from regular banking operations before taxes. As it is well

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<sup>10</sup> The figure of 1894 observations corresponds to 14 years instead of 15 because some variables are calculated as

known, see Saurina (1997), Spanish banks tend to smooth accounting profits by buying and selling assets, such as shareholdings in other firms. When we use “profits from banking operations”, this measure is less affected by the capital gains (or losses and provisions) coming from financial investments and other investments than the alternative of using total net profits. In this sense, we think that this variable is a better indicator of the economic efficiency of the banks. Both variables refer to the year before the governance intervention takes place. The variable  $ROA_{t-1}$  indicates then the total net profits over total assets in year  $t-1$ , while  $IOA_{t-1}$  refers to the profits from banking operations over total assets at  $t-1$ .

Profits and rates of return are preferred to productivity and other measures of productive efficiency because they are the variables most often used by owners to appraise the performance of their investments. Market-based rates of return and prices cannot be used because only some of the banks in the sample are listed.

Two characteristics are used as control variables in the empirical analysis: the size of the bank, measured by the total assets at the end of the year, and the time period. Size is often correlated with other unobserved variables such as asset diversification and managerial abilities. The calendar variable controls for shocks common to all banks in a given year, enabling us to evaluate relative performance.

Table 2 shows the descriptive statistics concerning size, performance and governance intervention for the whole sample of banks, and for the two main ownership forms considered in the paper, Independent Commercial Banks and Savings Banks. Spanish financial intermediaries manage assets worth, on average, 3.5 billion Euros and achieve a

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differences (e.g., turnovers) and others have been lagged one year (e.g., performance).

1.393 percent return on those assets. Of these, 0.907 percentage points come from regular banking operations, while the rest is financial investments and extraordinary profits. Banks replace, at least, half of their executive directors every five years (that is, board changes occur on 19.6 percent of the cases). The average period in office for a chairman is little more than 6 years (chairman removal of 15.9 per cent), which is longer than the CEO's time in office, 4.4 years (and a 22.9 per cent of removal). Finally, mergers and acquisitions only represent a 4.2 per cent of the total number of observations.

**Insert Table 2 approximately here**

When compared with Independent Commercial banks, we see that Spanish Savings banks are smaller in size but more profitable, especially when we consider only profits from regular banking operations. This evidence is consistent with the results of other studies, already mentioned above, and it shows that the ownership structure of Savings banks does not seem to affect negatively their economic performance. Board changes and chairman removal are more frequent among Savings banks than among Independent Commercial banks, but the opposite is true for CEO removal and merger/acquisitions, less frequent for the case of Savings banks. Therefore interventions are evenly distributed in the sample and the next question is to see how such interventions relate to the economic performance of banks.

Spanish Banks are smaller than banks used in similar studies for Japan, Anderson and Campbell (2000), and for the USA, Prowse (1995). Furthermore, they earn higher return on their investment. As Table 3 indicates, board membership changes are more frequent in Spanish banks than in US banks, and similar to the figures observed for Japan. The average

time in office for a CEO is lower in Spain than in the samples used in other countries (that is, CEO changes are more frequent in Spain), while mergers and acquisitions of banks are less frequent in our sample than in other studies<sup>11</sup>.

**Insert Table 3 approximately here**

*Governance intervention and economic performance*

Some preliminary evidence is shown in Table 4, where the economic performance of banks that experience some form of governance intervention is compared to those banks with no intervention. For both Dependent and Independent Commercial banks, we find that intervention is triggered by low performance. This is more evident when measured by IOA (returns from regular banking operations). Interestingly enough, for Savings banks, no difference is detected between the two samples.

**Insert Table 4 approximately here**

To perform the multivariate analysis we first estimate the model for the whole sample of banks, including Commercial and Savings banks. This first estimation does not take into account the top-share concentration variable, C1, or the takeover protections because that information is only available for listed Commercial banks, and they do not apply for the case of Savings banks. Later on, we will estimate the model once more, but only for the

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<sup>11</sup> Obviously, this is a very rough comparison and it is important to mention that the number of years differ among them and do not match year by year. Moreover, the variables are not always measured in the same way.

case of Independent Commercial banks, and including also in the model the information concerning the concentration measure and the anti-takeover variables.

Table 5 shows the results of the multinomial logit model for the whole sample. Overall, the statistical fit of the model is good, as the log-likelihood statistics indicate. For Savings banks, the positive intercept in the replacement of the chairman and in the Merger variables confirm that, after controlling for size and performance, those two mechanisms are more frequently used among Savings banks than within Independent Commercial banks. However, the negative coefficient for Savings banks in the column of CEO replacement confirms that general managers change less frequently in Savings banks, after controlling for size and performance. Being a Dependent bank only affects the likelihood of chairman removal (it goes up) with respect to what happens for the Independent banks, controlling for size and performance level. Also for the group of Dependent banks, a larger size increases the likelihood of board change and CEO dismissal. The likelihood of governance intervention seems to behave independently of the bank size, except for the case of mergers among Independent banks, where a positive and statistically significant coefficient is obtained.

Among Independent banks, governance intervention is always negatively associated with economic performance, with the exception of changes in the board. This result can be seen from the negative and statistically significant coefficients of the variables  $ROA_{t-1}$  and  $IOA_{t-1}$  in the columns of Table 5.

**Insert Table 5 approximately here**

In general, the coefficient of  $IOA_{t-1}$  has a higher statistical significance than the  $ROA_{t-1}$  coefficient, and for the case of CEO dismissal the former is the only statistically significant coefficient. In that sense, IOA, a profit measure which is harder to “smooth” by the management of the bank, becomes more informative about the economic performance of the bank. We report the coefficients for the two performance variables, but from now on we will only comment on the IOA results. First, we see that for the Independent Commercial banks governance intervention is negatively associated with economic performance, as good governance practices would predict.

Furthermore, the variable  $\text{performance} \times \text{Dependent Banks}_i$  has a positive coefficient. This coefficient is similar, in absolute terms, to the one estimated above for performance. By construction, the relevant coefficient for the sample of Dependent banks is the sum of those two coefficients,  $\beta_1 + \beta_{11}$ , which means that for the Dependent banks in our sample governance intervention is not associated with economic performance. This result is consistent with our first hypothesis *H1* and confirms that subsidiaries are more likely to be subject to “behavioral or parent control” rather than to “performance control”.

For the sample of Savings banks, the coefficient of  $\text{performance} \times \text{Savings Banks}_i$  is also positive and statistically significant, except when the governance intervention is merger/acquisition, where the coefficient is not statistically significant. On one hand, this means that, among Savings banks, the replacement of the chairman (or the CEO) is not linked to the economic performance of the bank. On the other hand, poor economic



performance may activate more likely a merger or acquisition as a disciplinary device. This evidence corroborates that mergers have become the main governance mechanism to fix economic inefficiencies in the case of Savings banks. In that way, this supports our hypothesis *H2b*.

We complement the statistical results from the multivariate estimation with information concerning the economic relevance of the results. In Table 6, we compare the actual and predicted probabilities of governance intervention for the sample of Independent banks and each quartile of economic performance. According to the statistical results, the probability of Board change is not related to economic performance in our study<sup>12</sup>. But for the rest of the governance interventions the inverse relationship between probability of turnover and performance is confirmed and it presents high economic significance. For instance, moving from the lowest performance quartile to the highest one, the probability of CEO turnover increases from 16.4 per cent to 32.8 per cent. In the case of mergers, the probabilities go from 12.12 per cent in the lowest performance quartile to 2.3 per cent in the highest one<sup>13</sup>.

**Insert Table 6 approximately here**

### *Governance in the Independent Commercial banks sample*

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<sup>12</sup> This can also be detected by observing the frequency of board turnovers in each quartile .

<sup>13</sup> The probabilities have been estimated for the other forms of ownership but the results are not shown because they are consistent with those of the multivariate model. For example, the predicted probabilities of turnover are independent of performance for Subsidiaries and for Savings banks, but they follow the same pattern as for the Independent banks in the case of mergers of Savings banks.

Next, the multinomial logit model is estimated separately for the sample of Independent Commercial banks. We do this to provide a robustness test for the previous results, after controlling for ownership and anti-takeover protection variables. These variables are only available for listed banks, and we can only introduce them in this sample of banks. Moreover, Dependent banks are also excluded from the sample since they are under absolute control of their parent banks.

The results are shown on Table 7 and they are consistent with those obtained for the full sample case. They also show that listed Independent Commercial banks only differ from unlisted banks on the size variable and for mergers intervention. The negative sign of the coefficient of the variable “Size x listed” indicates that for the listed banks the effect of size on the likelihood of merger is lower than for the unlisted ones.

**Insert Table 7 approximately here**

We also find that takeover protections only affect the likelihood of board turnover and they do it in a positive way. In other words, no evidence is found in our sample to show that anti-takeover protection reduces the likelihood of governance intervention in any of the cases considered. Ownership concentration, C1, on the other hand, has a positive and significant coefficient in the columns of CEO replacement and merger. This means that for a given level of economic performance, CEOs are more likely to be replaced when there is a dominant shareholder. A large shareholding also seems to increase the likelihood of mergers. These findings should be taken with some caution since the sample of listed firms is relatively small. Nevertheless, and more importantly for our purposes, they provide a robustness test for the results shown in the whole sample, since the significance of the

variable economic performance does not change when the ownership variables and anti-takeover protections are introduced in the model.

#### **4. Conclusion**

This paper examines the effectiveness of governance mechanisms in the Spanish banking sector. One important research question is to compare governance effectiveness between Savings banks and Commercial banks, given the special ownership and governance structure of the former. We check if the lack of ownership, as it is the case in the Savings banks, differs in terms of the use of governance mechanisms and performance from banks with clearer ownership forms, such as the Independent banks and Subsidiaries. Although we acknowledge that market-based mechanisms, such as takeovers and product market competition, can work for banking in the same fashion as they do for other sectors of the economy, in practice the evidence shows that these mechanisms are weaker in banking. The reason is that regulatory intervention limits the effectiveness of the takeover market and the intensity of rivalry. Our empirical research question is to explore if internal governance mechanisms and regulatory intervention are effective enough to correct for corporate control problems and to compensate, at the same time, the limitations of market-based mechanisms.

Our analysis considers three forms of ownership, Independent Commercial banks, Dependent banks and Savings banks. The four control mechanisms we analyze are, changes in the board, removal of the Chairman, CEO dismissal and mergers/acquisitions.

Our results show that governance interventions in the Spanish banking industry occur as frequently as in other countries, such as Japan or the US, where similar data are available. The exception is the merger/acquisition mechanism, which is much less frequent in Spain than in the US. At the same time, we find that each governance mechanism is used with different intensity by the different types of banks. For example, chairman turnover and mergers are more frequently used among Savings banks, while CEO replacement is more frequent in Independent Commercial banks than in Savings banks.

This paper also corroborates the general hypothesis that governance intervention is more likely when firms are poorly managed and their economic returns are low. The evidence becomes stronger for the sample of Independent Commercial banks when performance is measured in terms of profits from normal banking operations. This was an expected result since these banks fit closely with the ownership type of a shareholder-owned firm with a separation between ownership and control. On the other hand, Subsidiaries of other banks behave more as internal divisions of a larger company, and their control is based on more variables than economic performance. These results are robust to introducing ownership concentration and takeover protections as additional explanatory variables.

In Savings banks this negative association between governance activity and economic performance is only observed in banks that merge. The unique governance structure of Spanish Savings banks, where several stakeholder groups are represented in the General Assembly and in the Board of Directors, does not seem very effective at the time of disciplining executive directors and top managers when the economic performance becomes low. This would confirm the presumption that managers and workers of the Savings banks, the so-called insiders, hold power within these organizations. Or, from a

different perspective, that the internal governance system of the Savings banks with stakeholders that are likely to hold different interests and information, is rather weak. Nevertheless, a poor economic performance may be corrected through mergers (and possibly through regulatory interventions, although we lack the necessary data about this) and this correction appears to be quite effective since, at the end, the average economic performance of Savings banks is better than the corresponding figure for Commercial banks. This evidence seems to suggest that, at least in Spain, competition in retail banking remains high. Banks that make wrong decisions and/or manage their resources inefficiently will obtain lower economic returns and, at some point, they will disappear as a result of a merger or acquisition. This will happen independently of the ownership structure of the bank.

So far, mergers among Spanish Savings banks have been only possible when those Savings banks involved belong to the same region (State or “Comunidad Autónoma”). If we want mergers to be an effective disciplinary device, it seems necessary to modify the current regulatory restrictions that make mergers between Savings banks located in different regions, almost impossible. Since mergers are an effective disciplinary mechanism also for Independent Commercial banks, our recommendation to remove the obstacles to interstate mergers applies not only to states or autonomous regions within a country, but also to international mergers across the European Union.

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Figure 1  
General Meeting composition and voting rights distribution across stakeholders in a typical Spanish Savings Bank

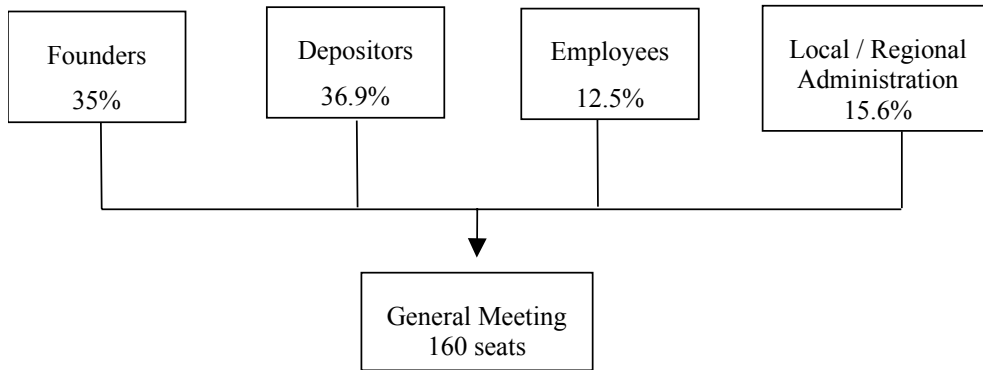




Table 1  
Sample distribution for bank type and year (1989-2000)\*.

| Year | Independent banks |                    |       |   | Dependent Banks |           | Savings banks |                 |
|------|-------------------|--------------------|-------|---|-----------------|-----------|---------------|-----------------|
|      | Number of Banks   | Fraction listed, % | C1, % | % of listed banks with anti-takeover protection | Number of Banks | Listed, % | C1, %         | Number of Firms |
| 1989 | 27                | 59.26              | 26.84 | 25  | 58              | 39.66     | 73.25         | 72              |
| 1990 | 30                | 53.33              | 26.89 | 43.75   | 66              | 36.36     | 71.76         | 55              |
| 1991 | 29                | 44.83              | 23.22 | 46.15   | 64              | 40.63     | 80.17         | 50              |
| 1992 | 29                | 48.28              | 22.69 | 50  | 60              | 40        | 82.48         | 51              |
| 1993 | 28                | 50                 | 24.51 | 42.86   | 66              | 36.36     | 80.44         | 48              |
| 1994 | 26                | 50                 | 25.28 | 46.15   | 57              | 35.09     | 78.78         | 52              |
| 1995 | 26                | 46.15              | 26.90 | 50  | 56              | 37.5      | 78.02         | 49              |
| 1996 | 25                | 48                 | 29.27 | 50  | 56              | 37.5      | 79.19         | 50              |
| 1997 | 24                | 45.83              | 30.38 | 54.55   | 56              | 39.29     | 80.70         | 50              |
| 1998 | 23                | 43.48              | 23.48 | 60  | 53              | 41.51     | 80.61         | 50              |
| 1999 | 20                | 40                 | 21.65 | 62.5  | 44              | 40.91     | 84.98         | 49              |
| 2000 | 18                | 33.33              | 18.34 | 66.67   | 43              | 41.86     | 80.92         | 48              |

\*The available data set covers the years 1986 until 2000 for governance interventions and returns. Data concerning stock market regulation (CNMV) is available starting in 1989.

Table 2  
Descriptive statistics of the relevant variables.

| Variable                   | Whole sample |       |          | Independent Commercial banks |       |          | Savings banks |          |          |
|----------------------------|--------------|-------|----------|------------------------------|-------|----------|---------------|----------|----------|
|                            | Obs          | Mean  | Std.Dev. | Obs                          | Mean  | Std.Dev. | Obs           | Mean     | Std.Dev. |
| Total Assets ( $10^9$ €)   | 2105         | 3.523 | 10.200   | 402                          | 9.299 | 19.700   | 859           | 3.453*** | 7.187    |
| ROA <sub>(t-1)</sub> x 100 | 1792         | 1.393 | 3.040    | 355                          | 1.127 | 2.475    | 727           | 1.283*   | 0.985    |
| IOA <sub>(t-1)</sub> x 100 | 1792         | 0.907 | 2.291    | 355                          | 0.590 | 1.738    | 727           | 0.915*** | 0.612    |
| Board change               | 1792         | 0.196 | 0.228    | 355                          | 0.145 | 0.197    | 727           | 0.208*** | 0.236    |
| Chairman removal           | 1792         | 0.159 | 0.366    | 355                          | 0.092 | 0.289    | 727           | 0.164*** | 0.371    |
| CEO removal                | 1615         | 0.229 | 0.420    | 371                          | 0.264 | 0.441    | 487           | 0.131*** | 0.338    |
| Merger/Acquisition         | 2105         | 0.042 | 0.201    | 402                          | 0.032 | 0.009    | 859           | 0.0547** | 0.008    |

Significance level: \*10%, \*\*5%, \*\*\*1%.

The significance levels reported here refer to the differences between Independent Commercial banks and Savings banks. The number of observations change by variable depending on the calculations of differences between years. For CEO data there are missing values.

Table 3  
Mechanisms of control and governance intervention ratios in related studies

| Related studies   | CEO turnover | Executive turnover | Merger/<br>Acquisition |
|---|--------------|--------------------|------------------------|
| <i>Anderson and Campbell (2000)</i><br>111 Japanese banks<br>1878 bank/years, 1977-1996 | 17.8%        | 20.3%              | -                      |
| <i>Barro and Barro (1990)</i><br>83 US banks, 467 CEO years, 1982-87                    | 12.8%        | -                  | -                      |
| <i>Blackwell et. al (1994)</i><br>2934 subsidiaries of bank/years, 1984-1987            |              | 16.0%              |                        |
| <i>Prowse( 1995)</i><br>234 US bank holdings, 1987-1992                                 | -            | 10.2%              | 12.4%                  |
| <i>Our data</i><br>1894 Spanish bank/years, 1986-2000                                   | 22.9%        | 19.6%              | 4.2%                   |

Table 4  
Average ROA and IOA by bank type and governance intervention.

|                              | ROA(t-1) x 100  |                         | IOA(t-1) x 100  |                         |
|------------------------------|-----------------|-------------------------|-----------------|-------------------------|
|                              | No intervention | Governance intervention | No intervention | Governance intervention |
| Dependent banks              | 1.787           | 1.385                   | 1.204           | 0.869*                  |
| Independent Commercial banks | 1.211           | 0.964                   | 0.808           | 0.169***                |
| Savings banks                | 1.249           | 1.351                   | 0.929           | 0.915                   |

Governance intervention means here that a bank has experienced a CEO or Chairman removal, or board turnover or a Merger/Acquisition.

Significance level: \*10%, \*\*5%, \*\*\*1%.

The reported significance levels refer to the differences between governance intervention and non-intervention.

Table 5

Multinomial Logit. Types of governance intervention for Independent banks,  
Dependent banks and Savings banks.(time dummies included)

|                               | Merger / acquisition |                     | CEO replacement      |                      | Chairman removal     |                      | Board turnover       |                    |
|-------------------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------------|
| Intercept                     | -2.69***<br>(0.586)  | -3.022***<br>(0.59) | -1.305***<br>(0.311) | -1.201***<br>(0.308) | -2.948***<br>(0.538) | -3.265***<br>(0.546) | -2.934***<br>(0.597) | -3.1***<br>(0.603) |
| Dependent banks               | -0.406<br>(0.492)    | 0.063<br>(0.463)    | 0.078<br>(0.204)     | -0.056<br>(0.193)    | 0.427<br>(0.431)     | 0.76<br>(0.429)      | -0.38<br>(0.5)       | -0.158<br>(0.494)  |
| Savings banks                 | 0.702<br>(0.561)     | 1.184**<br>(0.472)  | -1.426***<br>(0.267) | -1.607***<br>(0.338) | 0.908**<br>(0.435)   | 1.576***<br>(0.445)  | -0.005<br>(0.471)    | 0.442<br>(0.518)   |
| Size (total assets)<br>(t-1)  | 0.021<br>(0.014)     | 0.024*<br>(0.014)   | 0.004<br>(0.008)     | 0.005<br>(0.008)     | -0.032<br>(0.043)    | -0.029<br>(0.042)    | -0.012<br>(0.03)     | -0.011<br>(0.029)  |
| Size x Dependent<br>banks     | 0.281<br>(0.166)     | 0.28*<br>(0.165)    | 0.181**<br>(0.083)   | 0.185**<br>(0.083)   | 0.118<br>(0.151)     | 0.128<br>(0.151)     | 0.358**<br>(0.172)   | 0.343**<br>(0.173) |
| Size x Savings<br>banks       | -0.113<br>(0.083)    | -0.128<br>(0.085)   | 0.025<br>(0.016)     | 0.026<br>(0.016)     | -0.052<br>(0.062)    | -0.058<br>(0.063)    | 0.011<br>(0.042)     | 0.016<br>(0.04)    |
| ROA(t-1)                      | -0.737**<br>(0.301)  |                     | -0.017<br>(0.06)     |                      | -0.68**<br>(0.268)   |                      | -0.042<br>(0.156)    |                    |
| ROA(t-1)x<br>Dependent banks  | 0.64**<br>(0.311)    |                     | -0.035<br>(0.067)    |                      | 0.666**<br>(0.27)    |                      | 0.102<br>(0.158)     |                    |
| ROA(t-1) x<br>Savings Banks   | 0.284<br>(0.435)     |                     | 0.119<br>(0.124)     |                      | 0.848***<br>(0.292)  |                      | 0.303<br>(0.196)     |                    |
| IOA(t-1)                      | -0.538***<br>(0.175) |                     | -0.27***<br>(0.093)  |                      | -0.46***<br>(0.155)  |                      | 0.109<br>(0.162)     |                    |
| IOA(t-1) x<br>Dependent banks | 0.461**<br>(0.193)   |                     | 0.204**<br>(0.099)   |                      | 0.478***<br>(0.16)   |                      | -0.049<br>(0.166)    |                    |
| IOA(t-1) x Savings<br>banks   | -0.002<br>(0.328)    |                     | 0.471*<br>(0.268)    |                      | 0.405*<br>(0.244)    |                      | -0.051<br>(0.328)    |                    |
| Log likelihood                | -1768.7              | -1772.6             |                      |                      |                      |                      |                      |                    |
| Pseudo R <sup>2</sup>         | 0.082                | 0.0838              |                      |                      |                      |                      |                      |                    |
| Obs                           | 1785                 | 1785                |                      |                      |                      |                      |                      |                    |
| LR chi2                       | 320.51***            | 324.4***            |                      |                      |                      |                      |                      |                    |

Significance level: \*10%, \*\*5%, \*\*\*1%.

Table 6  
 Governance intervention probabilities (predicted and actual values).  
 Partial changes (marginal effects) on IOA returns for Independent Banks.

|   | IOA(t-1)<br>x 100 | Merger or<br>acquisition | CEO<br>removal          | Chairman<br>removal | Board change |
|---|-------------------|--------------------------|-------------------------|---------------------|--------------|
| Mean actual values  | 0.5813            | 0.0353                   | 0.25                    | 0.0265              | 0.0294       |
| Predicted probabilities on<br>mean values of independent<br>variables         | 0.5813            | 0.0573                   | 0.2444                  | 0.0250              | 0.0271       |
| Quartiles of IOA x100 performance<br>(average values Independent Banks)       |                   |                          | Predicted probabilities |                     |              |
| Average IOA 1st quartile  | -1.110            | 0.1212                   | 0.3286                  | 0.0463              | 0.0192       |
| Average IOA 2nd quartile  | 0.230             | 0.0673                   | 0.2613                  | 0.0286              | 0.0254       |
| Average IOA 3rd quartile  | 0.726             | 0.0536                   | 0.2377                  | 0.0236              | 0.0279       |
| Average IOA 4th quartile  | 2.479             | 0.0232                   | 0.1644                  | 0.0117              | 0.0375       |
| Quartiles of IOA x100<br>performance<br>(average values Independent<br>Banks) |                   |                          | Mean actual values      |                     |              |
| Average IOA 1st quartile  | -1.110            | 0.0824                   | 0.3176                  | 0.0353              | 0.0118       |
| Average IOA 2nd quartile  | 0.230             | 0.0118                   | 0.2588                  | 0.0235              | 0.0235       |
| Average IOA 3rd quartile  | 0.726             | 0.0235                   | 0.2588                  | 0.0353              | 0.0588       |
| Average IOA 4th quartile  | 2.479             | 0.0235                   | 0.1647                  | 0.0118              | 0.0235       |

Table 7  
Multinomial Logit. Types of governance intervention for Independent banks (listed and not listed)  
explained by IOA and size with ownership concentration and takeover protection effects (time dummies included).

|   | Merger / acquisition |                      |                     |                      | CEO Replacement      |                     |                      |                     | Chairman removal     |                      |                     |                      | Board turnover       |                      |                     |                      |
|---|----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| Intercept                                   | -2,756**<br>(1,093)  | -3,372***<br>(1,17)  | -2,758**<br>(1,095) | -3,436***<br>(1,194) | -1,056<br>(0,538)    | -1,235**<br>(0,548) | -1,057*<br>(0,538)   | -1,229**<br>(0,548) | -2,463***<br>(1,086) | -2,595***<br>(1,121) | -2,324***<br>(1,09) | -2,464***<br>(1,136) | -2,343***<br>(1,088) | -2,333***<br>(1,085) | -2,412***<br>(1,1)  | -2,415***<br>(1,096) |
| Size (total assets) (t-1)                   | 0,157**<br>(0,077)   | 0,212**<br>(0,085)   | 0,159**<br>(0,078)  | 0,228**<br>(0,089)   | 0,023<br>(0,045)     | 0,04<br>(0,045)     | 0,023<br>(0,045)     | 0,041<br>(0,045)    | -0,254<br>(0,332)    | -0,237<br>(0,331)    | -0,259<br>(0,338)   | -0,241<br>(0,338)    | -0,138<br>(0,174)    | -0,15<br>(0,185)     | -0,119<br>(0,165)   | -0,119<br>(0,17)     |
| Size (total assets) (t-1) *<br>Listed Banks | -0,135<br>(0,076)    | -0,189**<br>(0,084)  | -0,135*<br>(0,075)  | -0,193**<br>(0,083)  | -0,018<br>(0,045)    | -0,036<br>(0,045)   | -0,019<br>(0,045)    | -0,036<br>(0,045)   | 0,233<br>(0,329)     | 0,217<br>(0,329)     | 0,247<br>(0,337)    | 0,228<br>(0,337)     | 0,136<br>(0,175)     | 0,147<br>(0,186)     | 0,015<br>(0,177)    | -0,003<br>(0,183)    |
| IOA(t-1)                                    | -0,528**<br>(0,213)  | -0,598***<br>(0,229) | -0,525**<br>(0,212) | -0,597***<br>(0,229) | -0,307***<br>(0,118) | -0,293**<br>(0,12)  | -0,305***<br>(0,117) | -0,289**<br>(0,12)  | -0,49**<br>(0,192)   | -0,476**<br>(0,194)  | -0,484**<br>(0,192) | -0,468**<br>(0,193)  | -0,093<br>(0,293)    | -0,121<br>(0,265)    | -0,01<br>(0,343)    | -0,037<br>(0,318)    |
| IOA(t-1) *<br>Listed Banks                  | -0,838<br>(0,773)    | -0,349<br>(0,763)    | -0,838<br>(0,778)   | -0,378<br>(0,773)    | 0,319<br>(0,23)      | 0,382<br>(0,232)    | 0,309<br>(0,241)     | 0,382<br>(0,239)    | 0,485<br>(0,668)     | 0,516<br>(0,683)     | 0,533<br>(0,724)    | 0,567<br>(0,716)     | 0,889<br>(0,552)     | 1,123<br>(0,602)     | -0,089<br>(0,631)   | -0,649<br>(0,909)    |
| C1* Listed<br>Banks                         |                      | 0,036***<br>(0,013)  |                     | 0,037***<br>(0,013)  |                      | 0,016**<br>(0,006)  |                      | 0,016**<br>(0,006)  |                      | 0,009<br>(0,018)     |                     | 0,009<br>(0,018)     |                      | -0,059<br>(0,064)    |                     | -0,072<br>(0,074)    |
| Takeover<br>Protection*<br>Listed Banks     |                      |                      | -0,156<br>(1,138)   | -0,693<br>(1,194)    |                      |                     | 0,03<br>(0,425)      | -0,041<br>(0,428)   |                      |                      | -0,461<br>(1,368)   | -0,472<br>(1,358)    |                      |                      | 3,961***<br>(1,355) | 5,267***<br>(1,944)  |
| Log<br>likelihood                           | -270.99              | -263.88              | -265.99             | -258.306             |                      |                     |                      |                     |                      |                      |                     |                      |                      |                      |                     |                      |
| LR chi2                                     | 96.79**              | 111.01***            | 106.78***           | 122.16***            |                      |                     |                      |                     |                      |                      |                     |                      |                      |                      |                     |                      |
| PseudoR <sup>2</sup>                        | 0.1515               | 0.1738               | 0.1672              | 0.1912               |                      |                     |                      |                     |                      |                      |                     |                      |                      |                      |                     |                      |
| Obs   | 340                  | 340                  | 340                 | 340                  |                      |                     |                      |                     |                      |                      |                     |                      |                      |                      |                     |                      |

Significance level: \*10%, \*\*5%, \*\*\*1%.

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Financial assistance for the services of the editorial assistant of these series is provided by the European Commission through its RTN Programme on Understanding Financial Architecture: Legal and Political Frameworks and Economic Efficiency (Contract no. HPRN-CT-2000-00064).

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