

Managerial Turnover and Performance in Outside Boards:

Ownership makes the difference

Esteban Lafuente* †

Universitat Autònoma de Barcelona

Department of Business Economics

EDIFICI B. 08193 BELLATERRA (BARCELONA). SPAIN

Tel. +34 93 581 1209, Fax: + 34 93 581 2555

Email: Esteban.Lafuente@uab.cat

Miguel García-Cestona†

Universitat Autònoma de Barcelona

Department of Business Economics

EDIFICI B. 08193 BELLATERRA (BARCELONA). SPAIN

Tel. +34 93 581 1209, Fax: + 34 93 581 2555

Email: Miguel.Garcia.Cestona@uab.cat

* Corresponding author

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Abstract

The paper examines the effectiveness of corporate governance mechanisms in a context characterised by fully outside boards. The internal governance mechanisms studied comprise CEO replacement, Board of Director's turnover and Chairman replacement in firms with ownership diversity. We find that corporate governance matters for improving performance. Our empirical findings indicate that, in privately-owned banks, forced Chairman departure followed by an outsider and the appointment of an outside CEO are seen as positive events. In addition, our results indicate that for non-private banks large board replacements are negatively related to future performance. Our study is conducted using a rich data set from the Costa Rican Central Bank for the period 1999 – 2004, and we carry out a regression analysis using the GMM technique in order to address endogeneity and firm-specific effects. The academic implications of these findings lay mostly in the strong support of the positive benefits that disciplinary mechanisms have on firm performance, since these events create the conditions for organisational change. Furthermore, these results suggest that ownership matters, and more detailed information is needed to effectively evaluate the costs and benefits of governance interventions. This paper brings about important implications for policy-makers. Basically, our paper highlights the relevance of distinguishing governance interventions in shareholder and stakeholder-oriented banking firms.

Keywords: Corporate governance mechanisms, banks, ownership structure

JEL Classification: G21, G3

1. INTRODUCTION

What are the determinants of turnover-related changes in performance? Clearly, top managers play a key role in many large companies: they can help to create or destroy large amounts of value. Not surprisingly, a large number of articles deal with the links between performance and managerial turnover. And while it seems to be generally accepted that the likelihood of managerial turnover is negatively related to firm performance (recent empirical research can be found in Huson, et al. (2004) for the US, Crespi, et al. (2004) for Spain, and Gibson (2003) for eight emerging economies), the consequences of those managerial replacements remain far from clear.

One reason behind this lack of agreement is the need of more detailed information concerning the board characteristics and the different types of turnover. It seems reasonable to expect that the consequences of a voluntary turnover (due to retirement, or some promotion) will be different from the effects that a forced turnover may have on the same firm. Moreover, there is a debate concerning the role that the current top executive and the board may have at the time of selecting new directors and top-managers. Finally, many voices claim that outside boards, that is, boards with members that do not directly obey the CEO may help to alleviate and even prevent some of the corporate governance problems. Thus, the decision to promote an insider to the top position may respond to different scenarios that we take into consideration.

For the empirical analysis, we use a rich dataset of Costa Rican banks for the period 1999 – 2004 to evaluate the impact that the activation of certain governance mechanisms has upon changes in firm performance. In particular, we study CEO turnover, changes in the board of directors and chairman removal. Moreover, we have specific information regarding both the type of CEO and chairman (internally promoted or hired from outside) and the contract termination dates for board members and the chairman (so we are able to distinguish between forced and voluntary turnovers). Our contribution to this literature is to offer more detailed data concerning the succession process in a specific industry, banking, and a given country, Costa Rica, where the legal framework establishes that boards must be only formed by outsiders. Even in a context with no insiders, we can observe how the decision on promoting insider or an outsider has important implications. Furthermore, the ownership structure also helps to explain part of the replacement process. In particular, we distinguish two firm types (the

privately-owned firms and the non-privately owned ones, either public banks, cooperatives or mutual mortgage banks).

Moreover, our paper contributes to the literature on the effectiveness of control mechanisms in several ways. Controlling for board independence we address the question of whether unpredicted changes in the board and in the chairman position positively impact firm performance. Corporate governance literature provides some insights about the expected effect on performance of changes in the board. Firms change their boards to improve the quality of decision making processes and consequently, firm performance from the shareholders' perspective (Hermalin and Weisbach, 2003). More independent boards are more likely to be active monitors and respond to performance, a fact that could signal a higher quality of board's ability in its main responsibility: to select, monitor and replace managers. In addition, by examining the relationship between the characteristics of the succession process in the chairman position and changes in performance in shareholder and stakeholder-oriented firms, we also provide new evidence on whether this governance mechanism plays a disciplinary role or it just reflects a transition process. Concerning the relation between changes in the CEO position and changes in firm performance, we are interested on whether boards more aligned with the principal make better decisions concerning CEO replacements, aiming to improve managerial quality and, consequently, firm performance. In particular, Denis and Denis (1995), Borokhovich, et al. (1996) and Huson, et al. (2004) report a positive relationship between firm performance and the appointment of a CEO from outside the firm. In their analysis of shareholder-oriented firms, these authors suggest that incoming managers from outside are perceived as good news by shareholders because this could imply an increase in managerial quality. In this sense, and following the growing call about the need to test governance predictions in organisations other than shareholder-oriented firms (Hermalin and Weisbach, 2003), we extend the analysis to a sample of both shareholder-oriented and stakeholder-oriented firms.

We are also aware of the presence of joint endogeneity problems commonly found in corporate governance literature (Hermalin and Weisbach, 2003). To overcome this, we employ the system generalised method of moments (GMM) regression technique. In addition, we focus on performance changes after the activation of control mechanisms to obtain more direct evidence on the effect of these events on future performance. We

find that within the Costa Rican banks the use of different governance mechanisms help to discipline managers and directors performing poorly. We also report a positive relationship between CEO replacement and changes in firm performance, especially when the CEO is appointed from outside. Moreover, we report that performance improvements are only statistically significant for the privately-owned banks. Concerning board replacements, we find that they are not a relevant governance mechanism for explaining changes in firm performance. After controlling for forced changes in the board, we find a significant negative effect on changes in banking firms' performance. This is especially true for non-private banks. This finding could indicate that for non-private banks, large changes in the board imply the inclusion of members with different and maybe conflicting objectives, a fact that is detrimental to the quality of the governance system in these firms. Finally, our empirical findings also reveal that the type of departure and the succession process of the chairman matter. In particular, the appointment of a chairman from outside the board exerts an impact on changes in firm performance depending on whether the removal was forced or not.

Can we establish a systematic relationship between ownership structure and performance? No, but we do find some relation between ownership structure and the type of corporate governance mechanisms used by the different types of banks and, furthermore, this is related to changes in performance.

The remainder of the paper is organised as follows. Section two presents our theoretical framework. Section three comprises a summary of the Costa Rican financial system, and describes the main organisational features for the firms that participate in the banking system. Section four describes the methodological approach and empirical results are presented in section five. Our final conclusions are displayed in section six.

2. CORPORATE GOVERNANCE: THEORY AND HYPOTHESES

Governance mechanisms are the organisational controls that reduce conflicts amongst the firm's stakeholders pursuing the maximisation of their welfare. There are two main views concerning the corporate governance goals: Shleifer and Vishny (1997) put their emphasis on the maximisation of shareholder value, whereas Tirole (2001) considers stakeholders' welfare, and he remarks that when a governance mechanism takes place, a

reaction in the firm behaviour is expected to improve both controlling and non-controlling stakeholders' welfare.

Although corporate governance has become an important research topic, existing empirical evidence mostly analyses the impact that a single governance mechanism has upon firm performance, and focuses on large and publicly traded enterprises, which only represents a small portion of the population of firms (see Becht et al., 2002 for a recent survey). Concerning the banking industry, and despite its relevance there are still few papers focusing on banks' corporate governance (Prowse, 1997, Adams and Mehran, 2003, Macey and O'Hara, 2003 and Crespí et al., 2004). Although banks show significant operating differences with respect to firms in other industrial sectors, the lack of research about governance in this sector is especially surprising since banks play a strategic role in an economy (Rajan and Zingales, 1998 and Amable and Chatelain, 2001). Banking firms also face problems derived from inefficient control and monitoring since there is a clear conflict of interests between shareholders and depositors.

In this paper we examine the impact that the activation of three governance mechanisms (CEO turnover, changes in the board members and chairman replacement) has upon changes in firm performance in firms with different organisational structures. Moreover, looking at the impact of changes in the governance system on changes in firm performance allows us to control for potential joint – endogeneity problems due to time considerations.

We first evaluate the impact that CEO turnover and the type of the new manager have on changes in firm performance. CEO turnover is a process often linked to the monitoring task of the board. Thus, when there is a poor performing CEO the board may exert its monitoring role and can replace him/her to enhance firm performance (Hermalin and Weisbach, 1998). However, the existent empirical evidence on the relationship between CEO replacement and future performance shows mixed results. This can be explained by the presence of several factors that affect the likelihood of CEO turnover, such as the independence of the board members, the presence of large investors, and the participation in stock markets. On the one hand, there exists evidence suggesting a positive impact of CEO turnover on shareholders' wealth and firm

operations (Denis and Denis, 1995). Using a detailed data base of US firms for the period 1985 – 1988, these authors show that CEO turnover has a positive impact on operating performance, especially for the case of forced departures. Similarly, Borokhovich et al. (1996) and Huson et al. (2004) report a statistically significant positive change in firm performance after CEO departures followed by a new CEO appointed from outside the firm. On the other hand, CEO replacement might be also seen as a negative signal consequence of poor managerial performance, leading to a fall in both firm value and future outcomes. Along with this interpretation, Warner et al. (1988) find that price changes are not influenced by CEO turnover, whereas Khanna and Poulsen (1995) report that in distressed firms stock prices negatively react to turnover announcements.

At this point, it is important to remark that, due to data availability, we focus on the origin of the successor rather than the type of departure. We are aware of the importance in distinguishing between voluntary and forced replacements. Nonetheless, Hermalin and Weisbach (2003) and Huson et al. (2004) remark that a voluntary CEO turnover can be due to retirement or the acceptance of some external offer to manage another firm. Hence, voluntary departure is not a signal of poor management or performance, and consequently, firm's future performance is expected to show smaller variations when compared to forced departures. Thus, the problem in identifying the type of departure only adds noise to our variable, which could lead to a downward biased result.

Concerning the type of successor, firms can appoint an insider or an outsider as CEO. For the former, firms decide to promote an internal candidate to manage the firm and, consequently, we do not expect that this type of succession leads to significant improvements in firm performance, since the new CEO is more likely to continue with the traditional policies and routines within the firm. In the latter case, and as Huson, et al. (2004) point out, we argue that a firm hires an outsider CEO seeking an organisational change derived from this new agent who is not influenced by the current schemes of the firm. Furthermore, the appointment of outside managers could imply a larger increase in firm performance, since they are expected to introduce new practices to employees in order to improve operating performance. Consequently, the first hypothesis emerges:

H1: (a) CEO turnover increases future firm performance.

(b) CEO turnover followed by the appointment of a candidate from outside the firm increases future firm performance.

Agency theory usually links active monitoring over managers to shareholder-oriented firms. Nevertheless, our setting includes banking firms where the governance system is affected due to the presence of different stakeholders (debtholders, employees and politicians). In this sense, should we expect that shareholder-oriented banks show a more active disciplinary behaviour over managers? Tirole (2001) shows that the major governance problem faced by firms with multiple goals is to evaluate the quality of decision making. Managers of stakeholder-oriented firms may not clearly know along which lines they will be evaluated, a fact that reduces their incentives. Hence, managers can justify poor performance results (as compared to those exhibited by competitors) on the basis that other costly objectives more linked to the firm, such as social responsibility or local implication, were better fulfilled. Based on this argument, in this paper we attempt to provide new evidence on whether the effectiveness in the implementation of this disciplinary mechanism differs when comparing shareholder and stakeholder-oriented banks.

Our second governance mechanism deals with changes in the board and its impact on changes in firm performance. Within any organisation, the board of directors is widely recognised to play an important role in corporate governance in monitoring and disciplining managers (Hermalin and Weisbach, 2003). When the board does not fulfil this monitoring task, replacement of its members appears as a solution to enhance firm performance. Empirical evidence on the role of the board mostly focuses on the impact that board size and composition have upon performance. As regard board size, Yermack (1996) and Eisenberg et al. (1998) find that there is negative relation between board size and performance. This indicates that larger boards are less efficient since free-riding problems within the board rise. Concerning board composition, evidence provided by Hermalin and Weisbach (1991) and Mehran (1995) do not support the positive relation between more independent boards and performance. In fact, Hermalin and Weisbach (1998) suggest that poor performing firms increase their outside directors, leading to the insignificant relation between performance and more independent boards reported in the literature.

As we indicate in Section 3, board composition in the Costa Rican banking system is clearly defined in the regulatory framework, since the national financial law states that the bank's boards have to be fully independent, i.e., members of the board cannot be part of the managerial team. In this case, regulation reduces the bank's ability to incorporate executive directors into the board. Moreover, controlling for board composition alleviates the potential endogeneity problems between board composition and performance (Hermalin and Weisbach, 2003), a fact that leads us to focus the analysis on the type of departure. In this paper, we examine the relationship between board and firm performance by examining the impact that changes in the board (natural or forced) have upon changes in firm performance. We expect that firms change their boards in order to improve firm performance (Hermalin and Weisbach, 2003). Furthermore, we expect a positive relation between forced board replacements and firm performance. Unpredicted changes in the board might be consequence of poor performance results, and the new board members can show a more active involvement in their roles, aiming to signal their competence and expertise to both the principal and the director's market (Weisbach, 1988 and Fama and Jensen, 1993). This leads us to formulate the second hypothesis:

H2: (a) Board turnover positively affects future firm performance.

(b) The relationship between board turnover and future firm performance is stronger for forced departures.

Finally, we consider the replacement of the chairman. Since the chairman can monitor and exert his/her power in the corporate decision making process, his/her replacement might be a significant event in the life of the firm altering its performance. We argue that chairman replacement positively impacts firm performance due to an improvement in the monitoring role of the board and the decision making process. Nevertheless, we must also pay attention to the type of departure and succession, since predicted replacement of the chairman position reflects a natural transition process for any firm. If this is the case, no change is expected in firm performance since organisational routines remain unchanged. Furthermore, the complementarities between the type of departure and the type of succession might be critical for future operating and corporate performance. The appointment of a chairman from outside the firm after a natural

departure is unlikely to have a significant impact on the board members, since board members may perceive that there is no need to change the board routines and processes. In fact, the board could create social barriers to neutralise the new chairman efforts. Conversely, a forced departure of the chairman followed by the arrival of an outsider may pursue an organisational change that aims to improve firm performance. From this argument comes the third hypothesis:

H3: (a) Chairman turnover increases future firm performance.

(b) The relationship between the appointment of an outside chairman and changes in firm performance is stronger for the case of forced departures.

Similar to the case of CEO turnover, we are interested in exploring whether changes in the board equally enhance performance in shareholder and stakeholder-oriented banks. Arguably, firms that have to respond to potential conflicts amongst their multiple stakeholders in the boardroom usually increase the cost of decision making processes, which could be observed in unfocussed goals and lower levels of decision quality (Tirole, 2001). Furthermore, the difference in the objective function between shareholder and stakeholder-oriented banks leads us to conjecture that the sensibility of changes in performance to changes in the board reveals the effectiveness of governance systems where performance is the dominant objective.

3. THE COSTA RICAN BANKING SYSTEM

3.1 Background

In Costa Rica, like in most developing countries, deregulation processes within the banking system have taken place seeking an increase in competitiveness. Before 1980, the Costa Rican banking system was tightly regulated in terms of interest rates and activity. In 1984, the Costa Rican Central Bank initiated a reform process aiming to eliminate its influence on bank interest rate pricing policies. Despite the market constraints, the new participants in the Costa Rican banking system consolidated. In 1990, a new reform process was launched, with important consequences for the financial system. First, the breakdown of the demand deposit monopoly took place in 1992, and the privately owned banks were allowed to openly capture resources from the population. Second, all state owned and privately owned banks were allowed to grant loans and operate in foreign currency (US dollar).

In 1995 a further reform was undertaken to improve the supervision tasks, transparency and competitiveness amongst financial firms. Also, due to the increase in the number of participants in the banking system, the Costa Rican Central Bank created a regulatory body. As a consequence, in 1997 the National Board for the Supervision of the Financial System was created as a collegiate body in charge of monitoring the banking system, the stock market, and the pension fund operators.

3.2 Ownership structure

Four types of firms jointly participate in the Costa Rican banking system and they can be grouped by their ownership structure. The first group, the state owned banks, is fully owned by the Costa Rican government. These banks basically aim to promote any kind of productive activity, along with the development of depressed areas. These banks, as well as the Costa Rican Central Bank, are considered independent firms since politicians, in accordance with the financial law, do not influence their managerial decisions. This group controlled over 55% of the deposit and loans market in 2004.

Privately owned banks form the second group. Private shareholders hold these firms and they aim to maximise their shareholder value (profit maximisation behaviour). In 2004, this group controlled nearly 34% of the loans market and 32.77% of all deposits. The third group is the mutual mortgage banks. They are not-for-profit firms. Furthermore, their activity is linked to a specific economic objective established by the government: to grant low adjustable interest rate mortgages, and allocate the governmental resources that facilitate mortgage credits to underprivileged families. The mutual mortgage banks had, in 2004, 4.00% and 4.28% of the asset and deposit market, respectively. Concerning the deposit portfolio, both the state owned banks and the mutual mortgage banks are totally guaranteed by the government.

The last group is made up of cooperative financial firms. These firms are controlled by cooperative members and their primary objective is to attend the financial needs of their customers (cooperative members or not). They also promote the development of the cooperative partners' geographical areas. Similarly to the previous banking groups, their capability for financial activities is now unrestricted. Concerning their market share, in

2004 these firms accounted for 7% and 7.95% of the loans and deposit market, respectively.

It is important to remark that these firms differ widely in their organisational structure and their objectives. On the one hand, private banks are shareholder-oriented firms that have profit maximisation as their primary objective. On the other hand, the rest of banking firms can be deemed as stakeholder-oriented firms aiming multiple goals more related to the access to financial products and services to as many citizens as possible, as well as other social purposes. Agency theory suggests that in the presence of multiple stakeholders, stakeholder-oriented firms will exhibit lower monetary returns as compared to shareholder-oriented firms. Owners of commercial banks have a common objective function and they have strong incentives to exert a more active monitoring over managers (Shleifer and Vishny, 1997 and Macey and O'Hara, 2003).

3.3 Board composition: Between masters and servants

All Costa Rican banking firms operate under the same regulatory regime, however, there are important considerations that should be made regarding the composition of their boards. According to the national financial law, the banking firm's board has to be fully composed by outside members¹. Consequently, the positions of Chairman and CEO cannot be vested in the same person. This regulatory constraint is in accordance with several corporate governance activists who have expressed their concern about the importance of firm's leadership structure. In this sense, Fama and Jensen (1983) and Jensen (1993) claim that concentration of decision control in one individual reduces board's effectiveness and leaves internal control mechanisms in a weaker position for disciplining poor managers.

In addition, the same law remarks that the members of the board should attend meetings previously determined by each bank, and can only receive meeting fees as compensation.

¹ The *Ley del Sistema Bancario Nacional 1644*, coming into force in 1953, regulates the composition of the board for the state owned in the articles 20th to 37th, as well as for privately owned banks in the articles (articles 144th to 149th). For the mutual mortgage banks, this is stated in the articles 76th to 82nd of the *Ley del Sistema Financiero Nacional de la Vivienda 7052* coming into force the 13th of November, 1986; and finally, board composition for the cooperative banks is regulated in the articles 46th, 51st, 52nd, 54th and 55th of the *Ley de Asociaciones Cooperativas 4179* coming into force the 28th of August, 1968.

Furthermore, from the regulatory scheme of the Costa Rican banking system we can also obtain the specific conditions that the different bank types must obey in what concerns their boards. In the case of the state-owned banks, and despite the managerial independence of these banks from the Central Government, the financial law tells us that boards must have seven members designated by the Council of Ministers for periods different from the Government's term of office. Also, board members neither can be part of the board in any other banking board nor shareholders of commercial banks. These characteristics lead us to suspect that state-owned banks are governed by boards that are more likely to behave as political servants rather than active monitors.

Concerning the private-owned banks, an additional legal constraint prevents board members to participate in the board or in managerial team in other banking firms. As regard board size, each bank determines the number of members in the board, being the only legal requirement that the board must have more than 5 members. There is no impediment concerning the possibility that shareholders sit on the board in these banks. As we indicate in section 4, our data does not allow us to identify boards shareholding, which represents an important limitation in this study. Nevertheless, the presence of an objective linked to the maximisation of shareholders' residual income allow us to argue that in these firms the board will be more aligned with the principal.

The regulatory regime also establishes some legal considerations for the mutual mortgage and cooperative banks. In the former, their boards are restricted to have between 5 and 7 non-executive members, and these members must be mutual partners. For the latter, board size is conditioned to be an odd number over 5 members, and board seats are not exclusive for cooperative partners, however, board members cannot hold a position in any other financial firms.

As a summary, the Costa Rican banking system can be catalogued as particular, since four types of financial firms (according to their ownership structure) jointly participate in the market; and the financial law restricts the composition and remuneration scheme of the board of directors. In addition, the fact that mutual mortgage and privately owned banks, as well as cooperative banks keep taking market share away from the state owned banks can be considered, in the absence of interest rate restrictions, as further evidence of increased competition in the banking system.

4. DATA AND METHODOLOGY

4.1 Data

The information to carry out this paper comes from the Costa Rican Central Bank for the period 1999 – 2004. Although the period under analysis witnessed a number of mergers and acquisitions, we decided to use an unbalanced panel data, which includes all the commercial banking firms for each year considered in the analysis. The final sample consists of the state owned banks, mutual mortgage banks, privately owned banks, and the cooperative financial firms. For the period under analysis, we include the 3 commercial state owned banks and the 3 mutual mortgage banks. Concerning the number of privately owned banks, it decreased from 16 in 1999 to 12 in 2004, due to the mergers and acquisitions undergone in the market. Finally, the cooperative financial firms account for 25 firms for the period 1999-2003 and 24 in 2004. The total sample size calculated over the period under analysis is 275.

Descriptive statistics for this study are presented in Table 1, as well as the frequencies for changes in the CEO, board and in the chairman position. Concerning the dependent variable, we measure economic performance through two alternative measures: the ratio of operating profit to total assets (ROA) and the ratio of net profit to equity (ROE).

Since we aim to measure the differential impact of governance mechanisms upon performance, we introduce both variables as changes between the year $t-1$ and t . It is important to remark that market based measures cannot be used since only six privately owned banks are listed in 2004. From Table 1 we observe that the average ROE and ROA was 10.80% and 2.55%, respectively. In addition, it can be noticed that state owned banks are the largest in terms of size and they also show the highest ROE ratio for the period under analysis (15.26%). However, the only significant difference for this ratio is obtained when comparing the state owned banks and the cooperative firms. Concerning ROA, the highest ratio is shown by cooperative banks (3.31%), which are the smallest firms in terms of size. As control variables we include bank size, measured by total assets (lagged), and time dummies to account for the impact of competition over time.

Table 1. Descriptive statistics for the variables considered in the analysis

	State owned banks	Private owned banks	Mutual mortgage banks	Cooperative financial firms	Overall
Returns on Equity (ROE)	0.1526 (0.0743)	0.1332 (0.0768)	0.1460 (0.0565)	0.0824 (0.0893)	0.1080 (0.0869)
Returns on Assets (ROA)	0.0162 (0.0101)	0.0175 (0.0105)	0.0128 (0.0063)	0.0331 (0.0373)	0.0255 (0.0293)
Total assets <i>t-1</i> (millions of 2004 Costa Rican colones)	483,683.52 (273,296.70)	64,572.46 (60,711.91)	35,970.92 (22,700.19)	4,034.16 (5,677.66)	64,315.58 (139,397.02)
Board size	7.0000 (0.0000)	7.4400 (2.0615)	5.6667 (0.4880)	7.6667 (1.0532)	7.4167 (1.4980)
Δ CEO (Total)	1	11	0	8	20
Promoted	0	1	0	3	4
Hired from Outside	1	10	0	5	16
Δ Board (Total)	15	41	6	185	247
Natural Replacements	8	22	5	163	198
Forced Replacements	7	19	1	22	49
Δ Chairman (Total)	3	10	9	37	59
Natural Replacements	0	5	5	31	41
Forced Replacements	3	5	4	6	18
Promoted	3	4	9	30	46
Hired from Outside	0	6	0	7	13
Number of observations	15	75	15	123	228

The sample includes information for the Costa Rican banking firms between 1999 and 2004. Return on equity is measured as the ratio of net profit to equity, whereas return on assets is defined as the ratio of operating profit divided by total assets. Total assets are expressed in millions of 2004 Costa Rican colones. Board size is the average number of members in the board. CEO turnover, changes in the board and chairman removals are the sum of these events and their corresponding categories (type of departure and nature of the successor). Standard deviation is presented in brackets.

Concerning the independent variables related to corporate governance mechanisms, data available allows us to distinguish different types of management changes, i.e., CEO turnovers and replacements in the board and the chairman; as well as the exact departure date. Figure 1 presents the timing to identify governance interventions. Here, we consider that firm performance in period *t-1* provides relevant information to stakeholders and the board that may contribute to decide whether or not implement control mechanisms aiming to improve firm performance. At this stage, stakeholders may decide that the board is doing a poor monitoring task. In this case, governance

intervention takes place to improve future performance, and this event is reflected as changes in the board or the replacement of the chairman (Figure 1). Also, the board may inform to the stakeholders that the general manager is the main responsible for the poor performance showed by the firm. Hence, the board can intervene by replacing the general manager in order to enhance performance in the following period.

Figure 1. Timing of control mechanisms

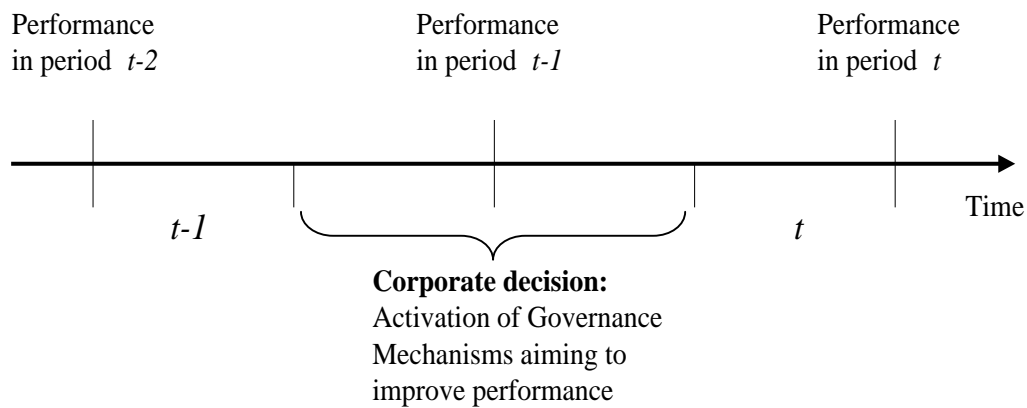


Figure 1 shows the sequence of events that relates control mechanisms and changes in firm performance. The activation of a control mechanism in period $t-1$ is expected to exert a significant impact on firm performance variation between periods $t-1$ and t .

We are interested in clearly identifying and distinguishing those governance interventions that are expected to impact performance in the following period from those that are not because of time considerations. Consequently, we consider that a governance mechanism corresponds to a specific period only if intervention took place between the last semester in year $t-1$ and the first semester in period t^2 .

For CEO turnovers, we create two dummy variables that take the value of one if the successor is from inside or outside the firm, and zero otherwise. We identify an internally promoted replacement if the new CEO was either in the board or in the top managerial team in the year prior his/her appointment. In this case, it is important to remark that from the data set it is not possible to differentiate natural CEO removals from forced ones. From Table 1 we observe that the CEO removal rate is 8.77% for the

² We also tested alternative definitions based on quarterly periods. Results are not shown due to lack of space, but they remain unchanged and they are available on request from the authors.

period under analysis. This CEO turnover rate is similar to that reported by Denis and Denis (1995) and Weisbach (1998) for US firms (9.3% and 7.8%, respectively), by Conyon (1998) for the UK (8%), and lower than that found by Gibson (2003) for eight emerging economies (12.2%).

In addition, the mutual mortgage banks are the only financial firms that did not experience any CEO turnover in the period under analysis; whereas the only CEO replaced in state owned banks was followed by a candidate hired from outside the firm. Privately owned banks show a CEO turnover rate of 14.67% (91% of removals were followed by outsiders). Finally, the CEO turnover rate for the cooperative banks is also low (6.50%) and 63% of these removals were followed by the appointment of individuals from outside the firm.

Concerning changes in the board, we consider the exit rate from the board between year $t-1$ and t . Based on this definition turnover refers to the percentage of directors of a given board that left the position in the reference period. We differentiate normal and forced board turnovers through a feature of our data set that indicates the contract termination date. Furthermore, and considering that only non-executive members can sit on the board, we consider the variation rate in the board for those cases when the turnover was natural and forced separately. At this point, we also remark that data does not allow for identifying those members in the board that are also shareholders.

From Table 1 we observe that, on average, boards in the sample consist of 7.42 members and that mutual mortgage banks are the only banking firms whose boards have less than seven members. This result indicates that boards in the Costa Rican banking firms are smaller when compared to the results reported by Adams and Mehran (2003) for US firms (18 members). In addition, boards replace 15.10% of their members during the period under analysis and these changes are mainly natural (78%). Similar board turnover rates are reported by Crespí et al. (2004) for Spanish banking firms (20%).

Table 2. Sample frequencies for changes in top management positions by year

	2000		2001		2002		2003		2004	
	N	%	N	%	N	%	N	%	N	%
ΔCEO	3	1.00	7	1.00	2	1.00	7	1.00	1	1.00
Promoted	2	0.33	0	0.00	0	0.00	2	0.29	0	0.00
Hired from Outside	1	0.67	7	1.00	2	1.00	5	0.71	1	1.00
$\Delta Board\ of\ Directors$	58	1.00	42	1.00	59	1.00	51	1.00	37	1.00
Natural Replacement	48	0.83	32	0.76	43	0.73	45	0.88	30	0.81
Forced Replacement	10	0.17	10	0.24	16	0.27	6	0.12	7	0.19
$\Delta Chairman$	13	1.00	13	1.00	14	1.00	12	1.00	7	1.00
Natural Replacement	10	0.77	7	0.54	9	0.64	10	0.83	5	0.71
Forced Replacement	3	0.13	6	0.46	5	0.36	2	0.17	2	0.29
Promoted	8	0.62	11	0.85	11	0.79	10	0.83	6	0.86
Hired from Outside	5	0.38	2	0.15	3	0.21	2	0.17	1	0.14

This table shows by year the total number of changes (N) for the different governance mechanisms.

Table 3. Sample frequencies for simultaneous changes in top management positions

	2000	2001	2002	2003	2004
$\Delta Chairman_t \wedge \Delta CEO_t$	1	2	0	1	0
$\Delta Chairman_{t-1} \wedge \Delta CEO_t$		0	0	2	0
$\Delta Board(> 50\%)_t \wedge \Delta CEO_t$	1	1	0	1	0
$\Delta Board(> 50\%)_{t-1} \wedge \Delta CEO_t$		0	0	0	0
$\Delta Board(> 50\%)_t \wedge \Delta Chairman_t$	3	1	0	4	0
$\Delta Board(> 50\%)_{t-1} \wedge \Delta Chairman_t$		0	0	0	0

This table shows by year the total number of simultaneous changes for the different governance mechanisms.

We also notice that for the state owned banks and the private ones the variation rate in the board is more equally distributed. For the former, 53% and 47% of board replacements represent natural and forced changes, respectively; whereas for the latter 53% of board changes were forced and 47% are catalogued as natural. The cooperative banking firms experienced the highest board change rate (20.34%), but for this group 88% corresponds to natural changes. Finally, mutual mortgage banks show the lowest board variation rate (7.33%) and for these banking firms board changes are mainly natural (84.85%). In addition, Table 2 shows that for every year natural replacements exceed forced changes in the board.

As regard the chairman, our data allow us to distinguish four different types of chairman removals: a natural or a forced replacement that can be followed by an internally promoted candidate or by a person from outside the firm. The criteria used to identify an internally promoted (hired from outside) chairman is based on the presence (absence) of the individual in the board during the year prior to his/her appointment. In addition, we can observe if the chairman's departure was natural or forced based on the contract termination date. Therefore, we create a set of four dummy variables corresponding to chairman turnover according to the nature of the replacement (natural or forced) and the origin of the new chairman (promoted or hired from outside). Also, we create a set of four interactions terms between these four dummies to test for the presence or complementarities in the chairman's replacement process. From Table 1 we observe that, on average, banks remove 25.88% of their chairmen and most of these changes are natural (69.49%) followed by internal candidates (78%). The chairman removal rate reported in this paper is higher than that found by Crespi et al. (2004), who report a chairman turnover rate of 16% for Spanish banking firms, whereas Florou (2005) finds for a sample of UK firms a chairman replacement rate of 14.17%.

In the case of the state owned banks and mutual mortgage banks, all chairmen replacements were followed by internally promoted persons. The cooperative banking firms show a high rate of natural chairman removal (83.78% of the cases) and most replacements were internal candidates (81.08%). For private banks, natural and forced replacements are equally distributed in the sample but most of these removals were followed by the appointment of persons from outside the bank (60%).

Interestingly, when comparing these results it is possible to differentiate two different trends followed by the Costa Rican banking firms. On the one hand, active chairmen appointments from the market are not used by state owned and mutual mortgage banks as a governance mechanism to attain performance improvements. These banks benefit from external governance mechanisms such as governmental protection, as well as their position in their corresponding market niches. On the other hand, privately owned and cooperative banks exhibit a more dynamic application of governance mechanisms. From Table 1 we observe that CEOs in these firms are mainly replaced by individuals hired from outsider the firm. Also, chairman replacement is an important control mechanism used by these firms. However, it is important to remark that for the privately

owned banks chairmen removal followed by persons from outside becomes the most common pattern, whereas for the cooperative banks internal promotions follow natural replacements.

Having determined that the intensity in the implementation of governance mechanisms differ among the Costa Rican banking firms, we examine whether shareholder oriented banks (privately owned banks) benefit more from the implementation of governance mechanisms. Further, we propose to evaluate how these governance interventions are related to economic and operating performance.

4.2 Methodology

Concerning the econometric approach, panel data analysis is the most efficient tool when the sample is a mixture of time series and cross-sectional data, since this structure allows for taking into consideration the unobservable and constant heterogeneity, i.e., the specific characteristics of each firm. In addition, we have the problem of endogeneity since the independent variables related to changes in the governance system could be simultaneously determined along with the dependent variable (Hermalin and Weisbach, 2003). Consequently, we need to use an econometric method that deals with endogeneity, as well as with the presence of firm specific unobservable fixed effects that may be correlated with some explanatory variables.

We decided to use as methodological tool the system Generalised Method of Moments (GMM) estimator developed by Arellano and Bover (1995). This econometric method considers the unobserved effect transforming the variables into first differences, and it uses the GMM to control for endogeneity problems. In this case, the GMM procedure allows for building instruments for those variables that are potentially endogenous. This fact stands as a key point, since the dynamic dimension of panel data permits to check response processes across time and to identify how the firms' governance characteristics affect their performance. Also, the system GMM estimators with adjusted standard errors are more efficient than the one-step estimator if the residuals are heteroskedastic. Furthermore, Blundell and Bond (1998) remark that the system estimator is more efficient and it improves the asymptotic efficiency of the first difference estimator when the GMM first-difference estimator shows poor performance, particularly when, as in our case, time is short.

Performance is assumed to be a function of a set of independent variables where governance system plays an important role. To test this we propose the following regression:

$$\begin{aligned} \Delta Performance_{i,t} = & \beta_0 + \beta_1 Size_{i,t-1} + \beta_2 Size_{i,t-1} \times Bank\ Type_{i,t} + \beta_3 \Delta CEO_{i,t-1} \\ & + \beta_4 \Delta Board_{i,t-1} + \beta_5 \Delta Chairman_{i,t-1} + \psi_t + v_{i,t} \end{aligned} \quad [1]$$

where $i = 1, \dots, N$ and $t = 1, \dots, T$ represent the cross-sectional units and the time periods, respectively, while ψ_t is the time-specific effect and $v_{i,t} = \varepsilon_i + \nu_{i,t}$ is the error term containing an unobserved time-invariant, firm-specific effect (ε_i) that controls for unobservable heterogeneity (like geographical location), and a stochastic error term varying cross-time and cross-section ($\nu_{i,t}$).

As mentioned in the theoretical framework, agency theory postulates that changes in the governance system aim to enhance firm performance. To corroborate our hypotheses about the presence of a positive impact of governance mechanisms upon performance we expect $\beta_3 > 0$ (H1a), $\beta_4 > 0$ (H2a) and $\beta_5 > 0$ (H3a).

In a second stage we run a set of regressions where we consider the differential characteristics of board changes, as well as CEO and chairman replacements. The full model to be estimated follows:

$$\begin{aligned} \Delta Performance_{i,t} = & \beta_0 + \beta_1 Size_{i,t-1} + \beta_2 Size_{i,t-1} \times Bank\ Type_{i,t} \\ & + \beta_3 \Delta CEO_{i,t-1}^{Promoted} + \beta_4 \Delta CEO_{i,t-1}^{Outsider} \\ & + \beta_5 \Delta Board_{i,t-1}^{Natural} + \beta_6 \Delta Board_{i,t-1}^{Forced} \\ & + \beta_7 \Delta Chairman_{i,t-1}^{Natural \wedge Promoted} + \beta_8 \Delta Chairman_{i,t-1}^{Natural \wedge Outsider} \\ & + \beta_9 \Delta Chairman_{i,t-1}^{Forced \wedge Promoted} + \beta_{10} \Delta Chairman_{i,t-1}^{Forced \wedge Outsider} \\ & + \psi_t + v_{i,t} \end{aligned} \quad [2]$$

According to our framework, we expect that the appointment of a CEO from outside the firm leads to the achievement of organisational changes that improve firm

performance (H1b: $\beta_4 > 0$). We also want to confirm that forced board departures imply an increase in the monitoring task for the firm (H2b: $\beta_6 > 0$). And finally, we expect $\beta_8 < 0$ and $\beta_{10} > 0$, i.e., the appointment of a chairman from outside the banking firm affects firm performance depending on the nature of the replacement (natural or forced) (H3b).

Finally, and given the differences in the ownership structure, we extend the analysis by evaluating the effectiveness of control mechanisms in shareholder and stakeholder-oriented firms. Theoretical arguments by Shleifer and Vishny (1997) emphasize that the presence of multiple stakeholders with different objective functions may negatively affect the quality of governance because decision making processes become unfocused. This implies that shareholder-oriented firms, with profit maximisation as objective, will monitor managers more effectively, and consequently, the activation of control mechanisms will be clearly linked to improvements in performance. Hence, we explore the effectiveness of governance systems in shareholder and stakeholder-oriented companies by estimating the following regression:

$$\begin{aligned}
\Delta Performance_{i,t} = & \beta_0 + \beta_1 Size_{i,t-1} + \beta_2 Size_{i,t-1} \times Private Bank_{i,t} \\
& + \beta_3 \Delta CEO_{i,t-1} + \beta_4 \Delta CEO_{i,t-1} \times Private Bank_{i,t} \\
& + \beta_5 \Delta Board_{i,t-1} + \beta_6 \Delta Board_{i,t-1} \times Private Bank_{i,t} \\
& + \beta_7 \Delta Chairman_{i,t-1} + \beta_8 \Delta Chairman_{i,t-1} \times Private Bank_{i,t} \\
& + \psi_t + v_{i,t}
\end{aligned} \tag{3}$$

As a measure of goodness of fit, we first present the result of the Wald test of joint significance for all the independent variables. We also test model specification validity through the Hansen – Sargan test of overidentification. In particular, this procedure proposed by Arellano and Bond (1991) examines whether the instrumental variables are uncorrelated to the residuals³. Finally, we test for the presence of first and second degree serial correlation amongst the error terms. Failure to reject the null hypothesis of

³ The null hypothesis of the Sargan test states that the instruments are correlated with the error terms. Failure to reject the null hypothesis provides evidence that valid instruments are being used.

no second-order serial correlation could indicate that valid orthogonality conditions are used and the instruments are valid.

5. EMPIRICAL FINDINGS

5.1 Governance mechanisms and performance

This section presents the empirical findings of the paper. In Table 4 we present the results of the first application, which only considers the CEO turnover and the changes experienced in the board and in the chairman position as independent variables, irrespectively of the characteristics of those changes⁴.

Our empirical findings indicate that CEO turnover exerts a statistically significant effect upon changes in firm performance. This result confirms **H1a** and is similar to the findings of Denis and Denis (1995), Gibson (2003) and Huson et al. (2004). From Table 4 one can also observe that neither changes in the board nor chairman replacements help in explaining changes in performance. Furthermore, we also estimate an alternative specification to test whether significant changes in the board have an impact on changes in performance (specification 2 in Table 4). Here, we include in the analysis a dummy variable that takes the value of one if a significant change in the board took place (more than 50%), and zero otherwise. Results for this variable, as well as for the variable reflecting a change in the chairman position are not statistically significant. This leads us to reject **H2a** and **H3a** since the activation of these governance mechanisms does not seem to be linked to performance in a significant way.

Concerning the possible interaction among control mechanisms, we have also controlled for simultaneous effects, both with and without delay⁵. As the figures contained in Table 4 show, their impact seems to be rather small.

The result of the Sargan test reported in Table 4 indicates that there is no correlation between instruments and error terms, providing evidence that valid instruments are

⁴ Estimation of equations [1] and [2] using the first difference GMM are not presented due to lack of space but they are available on request. The results of the Sargan test provide evidence that the lagged levels dated $t - 2$ as instruments are not valid in the first difference GMM model. Our estimates of the AR (1) coefficients show that the lagged levels of variables provide weak instruments in the first difference GMM model.

⁵ Specification (3) in Table 4 was also estimated considering the variables that reflect significant changes in the board and replacement in the chairman position as lagged terms. Results are not shown due to lack of space but they remain unchanged and they are available on request.

used. Also, the estimates of the AR (1) and AR (2) lead us to maintain that the error terms are not serially correlated.

Table 4. The relationship between governance mechanisms and changes in firm performance

	Δ Return on Equity			Δ Return on Assets		
	(1)	(2)	(3)	(1)	(2)	(3)
Size (ln assets) $t-1$	0.0104 (0.0402)	0.0110 (0.0425)	0.0094 (0.0438)	0.0029 (0.0106)	0.0026 (0.0108)	0.0018 (0.0101)
Size \times private owned banks	-0.0357 (0.0339)	-0.0355 (0.0331)	-0.0343 (0.0339)	-0.0050 (0.0080)	-0.0046 (0.0079)	-0.0039 (0.0081)
Size \times mutual mortgage banks	-0.0443 (0.0336)	-0.0393 (0.0332)	-0.0383 (0.0341)	-0.0005 (0.0073)	-0.0012 (0.0070)	-0.0007 (0.0074)
Size \times cooperative banks	-0.0401 (0.0341)	-0.0397 (0.0327)	-0.0388 (0.0332)	-0.0041 (0.0081)	-0.0039 (0.0080)	-0.0035 (0.0083)
Δ CEO	0.0177 ^{***} (0.0070)	0.0176 ^{***} (0.0070)	0.0182 ^{***} (0.0071)	0.0033 [*] (0.0019)	0.0033 [*] (0.0019)	0.0039 [*] (0.0021)
Δ Board of Directors (%)	0.0078 (0.0093)			-0.0023 (0.0034)		
Δ Board of Directors (>50%)		0.0027 (0.0071)	0.0021 (0.0072)		-0.0018 (0.0020)	-0.0013 (0.0035)
Δ Chairman	-0.0028 (0.0061)	-0.0028 (0.0062)	-0.0027 (0.0064)	0.0010 (0.0017)	0.0010 (0.0017)	0.0010 (0.0018)
Δ Chairman _t \wedge Δ CEO _t			-0.0056 (0.0223)			-0.0047 (0.0069)
Δ Board (>50%) _t \wedge Δ Chairman _t			0.0021 (0.0114)			0.0001 (0.0037)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	0.0055 (0.0051)	0.0052 (0.0058)	0.0053 (0.0060)	0.0003 (0.0017)	0.0002 (0.0018)	0.0003 (0.0015)
Wald test (chi2)	44.78 ^{***}	42.17 ^{***}	52.13 ^{***}	37.95 ^{***}	58.58 ^{***}	65.08 ^{***}
Sargan test	4.94	5.01	5.02	7.35	7.57	7.40
Test for AR1	-1.49	-1.54	-1.52	-0.38	-0.31	-0.31
Test for AR2	0.50	0.48	0.47	-1.13	-1.04	-1.09

This table reports regression results of changes in firm performance as presented in Equation [1]. We also estimated an alternative specification to evaluate the impact of significant changes in the board (>50%) on changes in performance (Model 2). Time dummies are included in all the specifications. Dependent variable: Variation in Return on Equity (ROE) and variation in Return on Assets (ROA). Standard errors are presented in brackets. *, **, *** indicates significance at the 0.10, 0.05 and 0.01, respectively.

As it has been already mentioned, one of the contributions of the paper is that we have more detailed information concerning the type of replacements, so we proceed now to examine their impact. Despite the relevance of the finding concerning managerial changes, we analyse next the impact that the dismissal and the succession characteristics of these changes have upon firm performance. The results of this second application can be found in Tables 5a and 5b. As we did earlier, we present first the results of all

organisational changes when the variation in the return on equity (ROE) is considered as the dependent variable (Table 5a), whereas Table 5b considers changes in the returns on assets (ROA) as the dependent variable. In particular, the first column in Tables 5a and 5b examines the impact of CEO replacements followed by an internally promoted candidate and by a person hired from outside the firm. The second specification considers the impact that natural and forced removals of board members have upon changes in firm performance. Similarly, columns three and four introduce into the analysis changes in the chairman position followed by a member of the board (internal candidate) or an individual hired from outside, as well as the natural and the forced changes in this position. In these specifications, chairman's removal and succession processes are considered as independent events. Finally, in column five we consider the different types of CEO and board removals, as well as the possible complementarities between the departure type (natural or forced) and the succession type (promoted or hired from outside) for the chairman.

As regard the measures of goodness of fit, results in Tables 5a and 5b for the Sargan test provide evidence of the validity of the instruments used in our analysis. In addition, Tables 5a and 5b present the results for the AR (1) and AR (2) tests. Again, we fail to reject the null hypothesis of these tests, indicating that the error terms are not serially correlated.

Table 5a. Impact of governance mechanisms upon changes in firm performance

	Δ Return on Equity				
	(1)	(2)	(3)	(4)	(5)
Size (ln assets) $t-1$	0.0061 (0.0411)	0.0227 (0.0440)	0.0179 (0.0427)	0.0237 (0.0415)	0.0153 (0.0448)
Size \times private owned banks	-0.0290 (0.0325)	-0.0575 (0.0370)	-0.0543 (0.0336)	-0.0596 (0.0347)	-0.0386 (0.0392)
Size \times mutual mortgage banks	-0.0323 (0.0311)	-0.0562 (0.0378)	-0.0546 (0.0343)	-0.0590 (0.0352)	-0.0511 (0.0412)
Size \times cooperative banks	-0.0334 (0.0311)	-0.0557 (0.0375)	-0.0526 (0.0344)	-0.0578 (0.0348)	-0.0450 (0.0394)
Δ CEO (Promoted)	-0.0018 (0.0063)				0.0032 (0.0078)
Δ CEO (Hired from outside)	0.0213 ^{***} (0.0076)				0.0184 ^{**} (0.0078)
Δ Board of Directors (Natural)		0.0030 (0.0107)			0.0082 (0.0097)
Δ Board of Directors (Forced)		0.0049 (0.0205)			-0.0016 (0.0143)
Δ Chairman (Natural)			-0.0057 (0.0066)		
Δ Chairman (Forced)			0.0013 (0.0091)		
Δ Chairman (Promoted)				-0.0036 (0.0070)	
Δ Chairman (Hired from outside)				-0.0004 (0.0071)	
Δ Chairman (Natural \wedge Promoted)					-0.0057 (0.0071)
Δ Chairman (Natural \wedge Hired from outside)					-0.0116 (0.0072)
Δ Chairman (Forced \wedge Promoted)					-0.0005 (0.0091)
Δ Chairman (Forced \wedge Hired from outside)					0.0218 [*] (0.0127)
Time dummies	Yes	Yes	Yes	Yes	Yes
Intercept	0.0053 (0.0052)	0.0063 (0.0052)	0.0067 (0.0053)	0.0065 (0.0053)	0.0059 (0.0049)
Wald test (chi2)	45.79 ^{***}	44.90 ^{***}	45.35 ^{***}	49.41 ^{***}	111.64 ^{***}
Sargan test	4.71	4.59	4.66	4.78	4.75
Test for AR1	-1.57	-1.58	-1.62	-1.55	-1.57
Test for AR2	0.66	0.52	0.66	0.39	0.95

This table reports regression results of changes in firm performance as presented in Equation [2]. Time dummies are included in all the specifications. Dependent variable: Variation in Return on Equity (ROE). Standard errors are presented in brackets. *, **, *** indicates significance at the 0.10, 0.05 and 0.01, respectively.

Table 5b. Impact of governance mechanisms upon changes in firm performance

	Δ Return on Assets				
	(1)	(2)	(3)	(4)	(5)
Size (ln assets) $t-1$	0.0058 (0.0109)	0.0050 (0.0104)	0.0029 (0.0115)	0.0038 (0.0108)	0.0040 (0.0109)
Size \times private owned banks	-0.0056 (0.0078)	-0.0083 (0.0077)	-0.0066 (0.0092)	-0.0073 (0.0082)	-0.0044 (0.0084)
Size \times mutual mortgage banks	-0.0022 (0.0065)	-0.0027 (0.0071)	-0.0025 (0.0087)	-0.0027 (0.0076)	0.0003 (0.0080)
Size \times cooperative banks	-0.0046 (0.0079)	-0.0056 (0.0079)	-0.0046 (0.0095)	-0.0051 (0.0085)	-0.0028 (0.0086)
Δ CEO (Promoted)	-0.0023 (0.0039)				-0.0039 (0.0037)
Δ CEO (Hired from outside)	0.0043 ** (0.0019)				0.0038 ** (0.0019)
Δ Board of Directors (Natural)		-0.0010 (0.0039)			-0.0004 (0.0033)
Δ Board of Directors (Forced)		-0.0058 (0.0057)			-0.0097 ** (0.0049)
Δ Chairman (Natural)			0.0001 (0.0023)		
Δ Chairman (Forced)			0.0014 (0.0014)		
Δ Chairman (Promoted)				0.0010 (0.0019)	
Δ Chairman (Hired from outside)				-0.0005 (0.0018)	
Δ Chairman (Natural \wedge Promoted)					0.0006 (0.0024)
Δ Chairman (Natural \wedge Hired from outside)					-0.0025 (0.0021)
Δ Chairman (Forced \wedge Promoted)					0.0009 (0.0014)
Δ Chairman (Forced \wedge Hired from outside)					0.0060 ** (0.0027)
Time dummies	Yes	Yes	Yes	Yes	Yes
Intercept	-0.0003 (0.0018)	0.0001 (0.0017)	0.0003 (0.0017)	0.0003 (0.0017)	-0.0001 (0.0017)
Wald test (chi2)	35.25 ***	30.64 ***	36.52 ***	37.39 ***	130.80 ***
Sargan test	6.51	6.28	6.65	6.52	5.86
Test for AR1	-0.27	-0.20	-0.30	-0.29	-0.09
Test for AR2	-0.89	-1.17	-1.06	-1.09	-0.73

This table reports regression results of changes in firm performance as presented in Equation [2]. Time dummies are included in all the specifications. Dependent variable: Variation in Return on Assets (ROA). Standard errors are presented in brackets. *, **, *** indicates significance at the 0.10, 0.05 and 0.01, respectively.

Concerning CEO turnover, our empirical findings are in accordance with those reported in Table 4, revealing that the implementation of this control mechanism has a statistically significant positive effect upon changes in firm performance (ROE and ROA). However, this is only true when the new CEO is hired from outside the firm.

That is, the positive effect comes only from the fact of hiring a CEO external to the firm. Unfortunately, our data do not allow us to identify whether the CEO replacement is natural or forced. Unlike the information on changes in the board or the chairman appointments, we do not know the contract termination date for CEOs. Nevertheless, as we previously mentioned, we believe that voluntary turnovers are unlikely to explain changes in performance and these events only add noise to our estimates (Hermalin and Weisbach, 2003). Our empirical findings are in accordance with the results reported by Huson et al. (2004) who find that a CEO removal followed by an outsider creates the conditions for organisational change. That is, they introduce new internal policies (organisation dynamics) that become critical to improve team effectiveness and, consequently, firm performance. This result is also consistent with our hypothesis **H1b**, confirming the significant disciplinary role that this governance mechanism plays in the Costa Rican banking firms. As expected, these results hold when we use both ROA and ROE as performance measures.

Finally, an important qualification is also in order. The intensity in the implementation of this control mechanism varies significantly amongst types of financial firms. As it can be seen in the descriptive statistics (Table 1), this governance mechanism is mainly activated by privately owned banks, where in 84.65% of their removals a candidate hired from outside replaces the outgoing CEO. Thus, ownership diversity plays a role when making a decision about the implementation of governance mechanisms.

Concerning changes in the board, we have already argued above that this mechanism could have an impact on performance depending on the type of replacement carried out within the firm. Using the detailed information we have on those changes, we proceed now to check these intuitions. Forced changes in boards may lead to the incorporation of new members who may provide fresh ideas to this body that could improve board effectiveness, concerning its monitoring activities. Our empirical findings lead to reject hypothesis **H2b** but only for the case of ROA: forced replacement of board members have a statistically significant negative effect on changes in ROA. This result suggests that this governance intervention could also create costs since it entails the hiring of new members who may lack expertise in board tasks related to a specific firm, leading to a learning process that can negatively affect firm performance. Hence, forced replacement of board members may imply an abrupt learning and adaptation process for

them. Thus, a negative relationship between board turnover and changes in performance (ROA) would reflect the presence of costs associated to changes in the board that may outweigh its benefits, especially for the case of forced replacements. We think that the lack of significance when changes in ROE is the dependent variable may indicate that this variable (ROE), which includes some extraordinary results and financial figures, is more exposed to the influence of other corporate actions that are not related to the bank's core activity. Therefore, we consider ROA as a more informative variable about the ordinary economic performance of the firm.

Once again, the descriptive statistics tells us that board replacement is more frequently used by certain banks than others. We know (Table 1) that this governance mechanism is mainly implemented by state owned and cooperative banks. Moreover, we observe that most of board replacements carried out by mutual mortgage and cooperative banks were natural (with 84.84% and 86.85% of total board changes, respectively). Conversely, for privately owned banks board departures are more equally balanced (49% of total board replacements were forced, respectively). This could indicate that only for these banking firms the implementation of this control mechanism is more related to performance.

Finally, we present our empirical findings regarding chairman replacement (specifications three, four and five in Tables 5a and 5b), including the type of departure and succession in this governance mechanism. From columns 3 and 4 we can observe that neither the natural replacements, nor the origin of the substitute do exert any statistically significant effect upon differences in performance when they are individually considered. Such finding corroborates the idea that this change reflects more a transition process within the firm than a corporate decision aiming to improve performance. Nevertheless, our empirical findings strongly support the fact that a forced departure followed by a candidate hired from outside becomes an important disciplinary mechanism to improve firm performance. Moreover, this result follows independently of the dependent variable (changes in ROE or ROA). Clearly, the advantage of having more detailed information concerning the type of change helps us to be more precise with the effect of this governance mechanism. Interestingly enough, it is also important to notice that once we check the descriptive statistics (Table 1), we observe once more

that this control mechanism was mainly activated by privately owned banks (50% of the total departure rate)⁶.

Furthermore, a forced replacement of the chairman followed by a person from outside the firm may reflect a governance mechanism that creates organisational change. In this case, results are consistent with our hypothesis **H3b**, since a chairman from outside the firm is more likely to implement strategic changes such as restructuring poorly performing activities to improve performance. Moreover, stakeholders may be willing to increase board effectiveness through this organisational change. Hence, board members will perceive the need for an organisational change, leading to positive reactions towards the new (outsider) chairman actions.

Finally, from the descriptive statistics we observe that the promotion of internal candidates for the chairman position is the dominant path in stakeholder-oriented banks (all chairman replacements in state-owned and mutual mortgage banks were followed by the appointment of internal candidates, whereas this rate stands at 81% for cooperative banks). This could indicate that incoming chairmen, more aligned with the different stakeholders, are preferred by these banking firms, as compared to outsiders.

Further, privately-owned banks seek chairmen in the labour market more actively (60% of the chairmen were replaced by persons hired from outside). Again, this could be interpreted as a discipline signal derived from this type of intervention, aiming to attain the shareholders' interests.

5.2 Who benefits from the activation of governance mechanisms?

In this section, we extend the analysis by questioning whether corporate governance mechanisms are more effective in banks where owners have strong incentives to monitor managers. Thus, we conducted our analysis separating our sample in two groups: privately-owned banks (shareholder-oriented) and stakeholder-oriented banks (state-owned, mutual mortgage and cooperative banking firms). Results are presented in Tables 6 and 7, where Table 6 shows the regression results based on Equation [3]. In

⁶ All chairman replacements in the state-owned banks were forced. However, we consider that the impact of this control mechanism in these banks was lessened due to the fact that all replacements were followed by individuals who were members of the board (that is, internal candidates in our terminology).

addition, we evaluate the robustness of our results by an univariate test of mean changes in our performance measures (ROE and ROA) as a response to the implementation of each governance mechanism under analysis (Table 7).

Consistent with our previous findings, we observe that CEO replacement is the most important disciplinary mechanism to improve performance (ROE and ROA) (Table 6). Furthermore, from specifications 3 and 4 in Table 6, it can be seen that the positive impact that CEO turnover has on changes in performance only applies for the privately owned banks. This is corroborated by the univariate test, where we observe that 73% of private banks that underwent a change in the CEO position significantly improved their performance (4.50% in ROE and nearly 1% in ROA) (Table 7).

Concerning board replacements, our findings confirm that significant changes in the board (50% or higher) create adaptation costs for the new board members leading to a negative effect on firm performance. Nevertheless, the negative impact of this governance mechanism is statistically significant only for the non-private owned banks. Further, 75% of non-private banks showed a negative change in performance after a large change in the board (5.76% in ROE and 2.26% in ROA).

Table 6. Response to the implementation of governance mechanisms between private and non-private owned banks

	Δ Return on Equity				Δ Return on Assets			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Size (ln assets) $t-1$	-0.0288 (0.0240)	-0.0281 (0.0261)	-0.0229 (0.0246)	-0.0223 (0.0272)	-0.0016 (0.0073)	-0.0016 (0.0075)	0.0003 (0.0069)	0.0001 (0.0070)
Size \times private owned banks	0.0019 (0.0132)	0.0015 (0.0135)	0.0107 (0.0119)	0.0106 (0.0120)	-0.0013 (0.0048)	-0.0011 (0.0047)	0.0005 (0.0045)	0.0011 (0.0044)
Δ CEO	0.0190 ^{***} (0.0070)	0.0187 ^{***} (0.0070)	-0.0006 (0.0054)	-0.0006 (0.0053)	0.0033 [*] (0.0019)	0.0034 [*] (0.0019)	-0.0017 (0.0027)	-0.0016 (0.0027)
Δ CEO \times private owned banks			0.0365 ^{***} (0.0092)	0.0368 ^{***} (0.0090)			0.0083 ^{**} (0.0034)	0.0083 ^{**} (0.0034)
Δ Board of Directors (%)	0.0088 (0.0091)		-0.0024 (0.0091)		-0.0023 (0.0033)		-0.0045 (0.0039)	
Δ Board of Directors (%) \times private owned banks			0.0191 (0.0253)				0.0031 (0.0062)	
Δ Board of Directors (>50%)		0.0024 (0.0071)		-0.0034 (0.0052)		-0.0017 (0.0020)		-0.0048 ^{**} (0.0025)
Δ Board of Directors (>50%) \times private owned banks				0.0088 (0.0115)				0.0045 (0.0037)
Δ Chairman	-0.0027 (0.0061)	-0.0026 (0.0063)	-0.0011 (0.0074)	-0.0014 (0.0074)	0.0010 (0.0017)	0.0009 (0.0017)	0.0015 (0.0021)	0.0013 (0.0021)
Δ Chairman \times private owned banks			-0.0038 (0.0089)	-0.0027 (0.0088)			-0.0023 (0.0024)	-0.0019 (0.0022)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	0.0060 (0.0052)	0.0058 (0.0059)	0.0041 (0.0055)	0.0039 (0.0063)	0.0005 (0.0017)	0.0006 (0.0017)	-0.0001 (0.0016)	-0.0003 (0.0016)
Wald test (chi2)	28.11 ^{***}	29.21 ^{***}	81.20 ^{***}	84.45 ^{***}	23.24 ^{***}	40.50 ^{***}	61.14 ^{***}	95.34 ^{***}
Sargan test	5.63	5.72	6.49	6.38	7.57	7.79	6.88	6.58
Test for AR1	-1.49	-1.54	-1.40	-1.50	-0.44	-0.37	-0.15	0.04
Test for AR2	0.42	0.41	0.33	0.31	-1.19	-1.10	-1.16	-0.93

This table reports regression results of changes in firm performance as presented in Equation [1]. We also estimated alternative specifications to evaluate the impact of significant changes in the board (>50%) on changes in performance (models 2 and 4). Time dummies are included in all the specifications. Dependent variable: Variation in Return on Equity (ROE) and variation in Return on Assets (ROA). Standard errors are presented in brackets. *, **, *** indicates significance at the 0.10, 0.05 and 0.01, respectively.

Table 7. Test of difference in the response to the implementation of governance mechanisms between private and non-private owned banks

Governance mechanism	Δ Return on Equity		Δ Return on Assets	
	No intervention	Governance intervention	No intervention	Governance intervention
Δ CEO				
Private owned banks	0.0059 (50:50)	0.0449 ** (73:27)	-0.0010 (50:50)	0.0072 ** (73:27)
Non-private owned banks	0.0168 (53:47)	-0.0076 (44:56)	-0.0002 (53:47)	-0.0069 (44:56)
Δ Board of Directors (>50%)				
Private owned banks	0.0137 (54:46)	-0.0181 (40:60)	0.0004 (54:46)	-0.0025 (40:60)
Non-private owned banks	0.0194 (54:46)	-0.0576 ** (25:75)	0.0006 (54:46)	-0.0226 ** (25:75)
Δ Chairman				
Private owned banks	0.0155 (57:43)	-0.0136 (30:70)	0.0011 (57:43)	-0.0056 (30:70)
Non-private owned banks	0.0177 (53:47)	0.0104 (51:49)	0.0005 (53:47)	-0.0031 (51:49)

Percentage of firms with positive and negative changes in performance are reported in brackets. *, **, *** indicates significance at the 0.10, 0.05 and 0.01, respectively (two-tailed).

This could indicate that, for non-private owned banks, large changes in the board also imply the inclusion of members who may lack expertise in board tasks, as well as the incorporation of individuals with diverse objectives, a fact that may lead to unfocused and longer decision making processes.

Finally, the average change in performance of those banking firms that replaced the chairman is not statistically different from those banks that did not. This finding complements that obtained from the previous sub-section, confirming that the presence of detailed information concerning the type of departure and the nature of the successor in the chairman position becomes critical for understanding the effect of this governance mechanism.

6. CONCLUDING REMARKS

Albeit the upward trend in corporate governance research, little is known about both the impact that different governance mechanisms have on performance, and the role played by ownership diversity. Using a robust data set for the period 1999 – 2004, this paper

examines the effectiveness of the governance system in the Costa Rican banking sector, an industry characterised by fully outside boards and where four different types of firms compete in the market. This particular model of board of directors moves this paper further away from traditional studies on corporate governance. The distinctive features in the regulatory framework of the Costa Rican banking system lead us to question whether the implementation of governance mechanisms is equally effective in scenarios where board composition (percentage of outsiders) and leadership structure are exogenous to the firm. Using our detailed information about control mechanisms, our results reveal that the direction and intensity of the effects on performance changes are also conditioned by the type of organisation and the underlying characteristics of the governance mechanisms under analysis.

In particular, empirical findings confirm that CEO and chairman replacements are relevant governance mechanisms that help in explaining improvements in firm performance. For the CEO turnover, results indicate that the appointment of a CEO from outside the firm creates the conditions for organisational change and it facilitates the introduction of new policies within the firm, leading to higher positive changes in firm performance.

Concerning the board of directors, our results support that, for stakeholder-oriented banks, unpredicted changes in the board imply an adaptation process by the new board members, leading to create costs related to this learning process that might outweigh the benefits derived from this type of governance intervention. When considering the replacement of the chairman, the results show that the impact that the appointment of a chairman from outside the banking firm has on future firm performance relies on the type of departure. Thus, a natural departure followed by the appointment of a new chairman from outside the board may create a conflict within the board, since the board members can generate barriers to prevent any change in the board routines and processes. To the contrary, the appointment of a chairman from outside the banking firm, after a forced departure, creates value, since the change in the executive leadership may lead to improve the monitoring tasks of the board and the corporate decision making process.

The results of this paper give support to the argument that ownership diversity entails the use of different governance mechanisms. On the one hand, privately owned banks prefer to hire individual from outside the bank after a departure (both in CEO and Chairman positions) to improve performance. On the other hand, the nature of the stakeholders in the rest of types of banks seems to increase the role of external control mechanisms. This finding opens up a line for future research, where new studies should attempt not only to further explore the observed differences in the implementation of governance mechanisms by firms that either operate in emerging markets or that have different ownership structure, but also to enrich the analysis by examining whether the entrance of foreign banks improve banks' governance practices in developing economies (Arun and Turner, 2004).

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