CEO Turnover, Forced Chairmen Replacements and Firm Performance: The case of the Costa Rican Banking System

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Abstract

The paper examines the effectiveness of corporate governance mechanisms in the Costa Rican banking sector, an industry characterised by fully outside boards. Using a rich data set from the Costa Rican Central Bank for the period 1999 – 2004, we carry out a regression analysis using the GMM technique in order to address endogeneity and firm-specific effects. The main contribution of the paper indicates that corporate governance matters for improving performance. Empirical findings indicate that investors view forced Chairman departure followed by an outsider and the appointment of an outside CEO as positive events, since these events create the conditions for organisational change leading to significant improvements in firm performance. In addition, results suggest that forced replacement of board members is an abrupt process that creates costs that outweigh its benefits.

JEL classification: G21, G3
Keywords: Corporate governance, Executive turnover, firm performance

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1. Introduction

Corporate governance has emerged as an important academic issue. Nevertheless, most empirical evidence in this field focuses on big corporations or listed firms operating in developed markets (Becht et al., 2002). Moreover, literature that examines the effectiveness of corporate governance systems in emerging markets is scarce. Empirical studies dealing with control mechanisms and developing economies have mainly evaluated the relationship between performance and ownership concentration that is common in emerging markets (La Porta, et al., 1999, Claessens, et al., 2000, Lins, 2003). The general conclusion found in these articles is that expropriation of minority shareholders is the main governance problem faced by firms operating in developing countries. The recent paper by Gibson (2003) is a welcome exception, since the author examines the link between firm performance and CEO turnover in eight emerging economies for the period 1993 – 1997. His results indicate that poor performance increases the probability of CEO turnover, but this effect becomes weaker in the presence of large domestic shareholders.

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 Crespi 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.
The motivation to focus on the Costa Rican financial system is twofold. First, deregulation processes have taken place in this industry seeking an increase in competitiveness as in other developing countries. Second, there is a relevant feature in the corporate governance system of the Costa Rican banking industry: the national financial law states that banking firms cannot bestow monitoring and managerial tasks on the same person. More specifically, neither the CEO can be in the board nor any board member can be part of the managerial team simultaneously. This is true for the four different types of banks that jointly operate in the market. At this point, it appears especially relevant to evaluate the effectiveness of the governance system in a country where regulation can complement internal governance mechanisms. 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 can distinguish between forced and natural changes).

In this paper, we examine 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. We are also aware of the presence of joint endogeneity problems commonly found in corporate governance literature. To overcome this, we employ the system generalised method of moments (GMM) regression technique. 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. Concerning board replacements, we find 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. Finally, our empirical findings also reveal that the type of departure and the succession process of the chairman matter. In particular, the appointment of an external chairman exerts an impact on changes in firm performance depending on whether the removal was forced or not.

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: Control mechanisms and their impact upon firm performance

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.

Although corporate governance has become an important research topic, it is necessary to remark that existing empirical evidence mostly analyses the impact that a single
governance mechanism has upon firm performance, and focuses on listed and multinational firms, which only represents a small portion of the total firms’ population (see Becht, et al. 2002 for a recent survey). 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. 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.

Concerning governance mechanisms, we first evaluate the impact that CEO turnover and the type of the new manager has 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. 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, evidence suggesting a positive impact of CEO turnover on shareholders’ wealth and firm operations can be found in 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. As it is remarked in Huson et al. (2004), 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. 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, 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.**
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 top managers, since it acts as an intermediary between the principal (the owners) and the agent (CEO) (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 outside directors on the board and performance. In fact, Hermalin and Weisback (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 allows to control for board composition, and this fact 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). In contrast, we expect a negative relation between forced board replacements and firm performance. Unpredicted changes in the board imply a learning process for the new board members due to the lack of expertise in board tasks, or at least, in the firm specificities, leading to a costly process for the firm. 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 weaker 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 and it can alter the course of the firm and 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 replacement 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.*

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. During that period a legal monopoly in the public deposit market was created, where only the state owned banks were allowed to finance through saving accounts, limiting the entry possibilities for local and foreign competitors.

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 became able 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 controlling the banking system, the stock market, and the pension fund operators.

3.2 Ownership structure & board composition

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. 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’ primary objective is to attend the financial needs of their cooperative members. 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 also important to remark that there is a common characteristic shared by every type of bank concerning the composition of the board of directors. According to the national financial law, the banking firms’ board has to be fully composed by outside members\(^1\). In addition, the same law remarks that the members of the board should attend meetings previously determined by each bank, and they can only receive meeting fees as compensation.

As a result, 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

\(^1\) The Ley del Sistema Bancario Nacional 1644, coming into force in 1953, regulates the composition of the board for the state owned and privately owned banks in the articles 23\(^{rd}\) and 144\(^{th}\), respectively. For the mutual mortgage banks, this is stated in the 82\(^{nd}\) article of the Ley del Sistema Financiero Nacional de la Vivienda 7052 coming into force the 13\(^{th}\) of November, 1986; and finally, board composition for the cooperative banks is regulated in the 55\(^{th}\) article of the Ley de Asociaciones Cooperativas 4179 coming into force the 28\(^{th}\) of August, 1968.
banks, as well as cooperative banks keep taking market share away from the state owned banks, and the absence of interest rate restrictions can be considered as 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. We excluded non-banking firms from our sample, since they do not operate in the market under the same conditions (these firms cannot finance themselves through deposits), and they do not obey the same regulatory framework as compared to the rest of banking firms. Consequently, 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. This is 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).
Table 1. Descriptive statistics for the variables considered in the analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>State owned banks</th>
<th>Privately owned banks</th>
<th>Mutual mortgage banks</th>
<th>Cooperative financial firms</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Returns on Equity (ROE)</td>
<td>0.15261 (0.07427)</td>
<td>0.13317 (0.07679)</td>
<td>0.14599 (0.05653)</td>
<td>0.08241 (0.08931)</td>
<td>0.10802 (0.08687)</td>
</tr>
<tr>
<td>Returns on Assets (ROA)</td>
<td>0.01620 (0.01005)</td>
<td>0.01745 (0.01047)</td>
<td>0.01283 (0.00633)</td>
<td>0.03309 (0.03728)</td>
<td>0.02550 (0.02933)</td>
</tr>
<tr>
<td>Total assets (millions of 2004 Costa Rican colons)</td>
<td>585,090.10 (375,014.41)</td>
<td>70,945.65 (77,671.27)</td>
<td>43,270.95 (28,652.29)</td>
<td>5,432.64 (7,990.91)</td>
<td>67,607.69 (174,808.12)</td>
</tr>
<tr>
<td>Board size</td>
<td>7.0000 (0.0000)</td>
<td>7.4400 (2.0615)</td>
<td>5.6667 (0.4880)</td>
<td>7.6667 (1.0532)</td>
<td>7.4167 (1.4980)</td>
</tr>
<tr>
<td>Δ CEO (Total)</td>
<td>1</td>
<td>11</td>
<td>0</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>Promoted</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Hired from Outside</td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Δ Board (Total)</td>
<td>15</td>
<td>41</td>
<td>6</td>
<td>185</td>
<td>247</td>
</tr>
<tr>
<td>Natural Replacements</td>
<td>8</td>
<td>22</td>
<td>5</td>
<td>163</td>
<td>198</td>
</tr>
<tr>
<td>Forced Replacements</td>
<td>7</td>
<td>19</td>
<td>1</td>
<td>22</td>
<td>49</td>
</tr>
<tr>
<td>Δ Chairman (Total)</td>
<td>3</td>
<td>10</td>
<td>9</td>
<td>37</td>
<td>59</td>
</tr>
<tr>
<td>Natural Replacements</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>31</td>
<td>41</td>
</tr>
<tr>
<td>Forced Replacements</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>Promoted</td>
<td>3</td>
<td>4</td>
<td>9</td>
<td>30</td>
<td>46</td>
</tr>
<tr>
<td>Hired from Outside</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Number of observations</td>
<td>15</td>
<td>75</td>
<td>15</td>
<td>123</td>
<td>228</td>
</tr>
</tbody>
</table>

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 changes in the bank size, measured by total assets. Interaction terms between change in size and a set of dummy variables for the different ownership structures (mutual mortgage banks, privately owned banks and cooperative financial firms) are also included to consider the differential impact of size on the different types of banks. Time dummies are also introduced to account for the impact of competition over time.

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 framework 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.
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 \( t \).

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 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 the 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-executives 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 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 relatively small when compared to those reported by Adams and Mehran (2003) for US firms (9 and 18 members, respectively). 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 management changes by year

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>(\Delta CEO)</td>
<td>3</td>
<td>1.00</td>
<td>7</td>
<td>1.00</td>
<td>2</td>
</tr>
<tr>
<td>Promoted</td>
<td>2</td>
<td>0.33</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
</tr>
<tr>
<td>Hired from Outside</td>
<td>1</td>
<td>0.67</td>
<td>7</td>
<td>1.00</td>
<td>2</td>
</tr>
<tr>
<td>(\Delta Board of Directors)</td>
<td>58</td>
<td>1.00</td>
<td>42</td>
<td>1.00</td>
<td>59</td>
</tr>
<tr>
<td>Natural Replacement</td>
<td>48</td>
<td>0.83</td>
<td>32</td>
<td>0.76</td>
<td>43</td>
</tr>
<tr>
<td>Forced Replacement</td>
<td>10</td>
<td>0.17</td>
<td>10</td>
<td>0.24</td>
<td>16</td>
</tr>
<tr>
<td>(\Delta Chairman)</td>
<td>13</td>
<td>1.00</td>
<td>13</td>
<td>1.00</td>
<td>14</td>
</tr>
<tr>
<td>Natural Replacement</td>
<td>10</td>
<td>0.77</td>
<td>7</td>
<td>0.54</td>
<td>9</td>
</tr>
<tr>
<td>Forced Replacement</td>
<td>3</td>
<td>0.13</td>
<td>6</td>
<td>0.46</td>
<td>5</td>
</tr>
<tr>
<td>Promoted</td>
<td>8</td>
<td>0.62</td>
<td>11</td>
<td>0.85</td>
<td>11</td>
</tr>
<tr>
<td>Hired from Outside</td>
<td>5</td>
<td>0.38</td>
<td>2</td>
<td>0.15</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: N indicates the total number of changes reported for the different governance mechanisms.

Table 3. Sample frequencies for simultaneous changes in the top management team

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\Delta Chairman, \Delta CEO)</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>(\Delta Chairman_{t-1}, \Delta CEO_{t})</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>(\Delta Board (&gt;50%), \Delta CEO_{t})</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>(\Delta Board (&gt;50%), \Delta CEO_{t-1})</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>(\Delta Board (&gt;50%), \Delta Chairman_{t})</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>(\Delta Board (&gt;50%), \Delta Chairman_{t-1})</td>
<td>0</td>
<td>0</td>
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</table>

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, we can distinguish four different types of chairman removals: a natural or forced replacement that can be followed by an internally promoted candidate or by a person from outside the firm. As in the case of the CEO, 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 Crespí et al. (2004), who report a chairman turnover rate of 16% for Spanish banking firms, whereas Florou (2005) who 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 chairman 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 enough, when comparing these results it is possible to differentiate two different trends followed by the Costa Rican banking firms. On the one hand, active appointments of chairmen from the market are not used as a governance mechanism to obtain improvements in performance for the state owned and mutual mortgage banks. 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 these different governance mechanisms are used by the Costa Rican banking firms with different intensities, we now propose to evaluate how these governance interventions are related to economic and operating performance.

4.2 Methodology

Concerning the econometric approach, panel data analysis seems 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 simultaneity 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 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 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 a regression analysis. And the first model to be estimated becomes:
\[ \Delta \text{Performance}_{i,t} = \beta_0 + \beta_1 \Delta \text{Size}_{i,t} + \beta_2 \Delta \text{Size}_{i,t} \times \text{Ownership}_{i,t} \\
\quad + \beta_3 \Delta \text{CEO}_{i,t} + \beta_4 \Delta \text{Board}_{i,t} + \beta_5 \Delta \text{Chairman}_{i,t} \\
\quad + \beta_6 \Delta \text{Time}_{i,t} + \psi_t + \nu_{i,t} \]  

where \( i = 1, \ldots, N \) and \( t = 1, \ldots, T \) represent the cross-sectional units and the time periods, respectively, while \( \psi_t \) is the time-specific effect and \( \nu_{i,t} = \varepsilon_i + \nu_{i,t} \) is the error term containing an unobserved time-invariant, firm-specific effect \( (\varepsilon_i) \) that controls for unobservable heterogeneity (like managerial ability and 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 indicate 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 now becomes:

\[ \Delta \text{Performance}_{i,t} = \beta_0 + \beta_1 \Delta \text{Size}_{i,t} + \beta_2 \Delta \text{Size}_{i,t} \times \text{Ownership}_{i,t} \\
\quad + \beta_3 \Delta \text{CEO}_{i,t}^{\text{Promoted}} + \beta_4 \Delta \text{CEO}_{i,t}^{\text{Outsider}} \\
\quad + \beta_5 \Delta \text{Board}_{i,t}^{\text{Natural}} + \beta_6 \Delta \text{Board}_{i,t}^{\text{Forced}} \\
\quad + \beta_7 \Delta \text{Chairman}_{i,t}^{\text{Natural/Promoted}} + \beta_8 \Delta \text{Chairman}_{i,t}^{\text{Natural/Outsider}} \\
\quad + \beta_9 \Delta \text{Chairman}_{i,t}^{\text{Forced/Promoted}} + \beta_\text{10} \Delta \text{Chairman}_{i,t}^{\text{Forced/Outsider}} \\
\quad + \beta_\text{11} \Delta \text{Time}_{i,t} + \psi_t + \nu_{i,t} \]  

[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 a costly process 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) ($H3b$).

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 residuals. Finally, we test for the presence of first and second degree serial correlation amongst the error terms. Failure to reject the null hypothesis of no second-order serial correlation could indicate that valid orthogonality conditions are used and the instruments are valid.

5. Empirical Findings

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 the independent variables, irrespectively of the characteristics of those changes. Our empirical findings indicate

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2 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.

3 The results for the first differenced GMM estimates of Equation [1] are presented in appendix (1). Similarly, appendixes (2) and (3) present the estimated parameters of Equation [2] using the first differenced GMM estimation. The results of the Sargan test provide evidence that the lagged levels dated
that CEO turnover becomes the only control mechanism with 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 3 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 a variable reflecting those changes 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 delay\(^4\). 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 used. Also, the estimates of the AR (1) and AR (2) lead us to maintain that the error terms are not serially correlated.

\[^{4}\text{Specification (6) in Table 4 was also estimated considering the variables that reflect significant changes in the board and replacement in the chairman position as lagged terms. Results are not shown due to lack of space but they remain unchanged and they are available under request.}\]

\[^{t}t – 2\text{ as instruments are not valid in the first difference GMM model. Our estimates of the AR (1) coefficients show that the lagged levels of variables provide weak instruments in the first difference GMM model. Consequently, we conclude that in this case the system GMM estimator is a more appropriate technique than the first difference GMM technique.}\]
Table 4. Impact of governance mechanisms upon changes in firm performance

<table>
<thead>
<tr>
<th>Δ Return on Equity</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>Δ Return on Assets</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Δ Size (ln assets)</td>
<td>0.05887</td>
<td>0.04264</td>
<td>0.04614</td>
<td>0.04567</td>
<td>0.05460</td>
<td>0.06012</td>
<td>0.00359</td>
<td>0.00068</td>
<td>0.00049</td>
<td>0.00059</td>
<td>0.00325</td>
<td>0.00400</td>
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<td></td>
<td>(0.06644)</td>
<td>(0.05598)</td>
<td>(0.06229)</td>
<td>(0.05857)</td>
<td>(0.06034)</td>
<td>(0.06633)</td>
<td></td>
<td>(0.00872)</td>
<td>(0.00587)</td>
<td>(0.00634)</td>
<td>(0.00607)</td>
<td>(0.00799)</td>
<td>(0.00908)</td>
</tr>
<tr>
<td>Δ Size × mutual mortgage banks</td>
<td>-0.16247</td>
<td>-0.14333</td>
<td>-0.15382</td>
<td>-0.15527</td>
<td>-0.14684</td>
<td>-0.16429</td>
<td>-0.01282</td>
<td>-0.01298</td>
<td>-0.01000</td>
<td>-0.00987</td>
<td>-0.01456</td>
<td>-0.01263</td>
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<td>(0.10092)</td>
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<td>(0.09529)</td>
<td>(0.09442)</td>
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<td>(0.00971)</td>
<td>(0.00934)</td>
<td>(0.01117)</td>
<td>(0.01170)</td>
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</tr>
<tr>
<td>Δ Size × private owned banks</td>
<td>-0.03863</td>
<td>-0.01235</td>
<td>-0.01648</td>
<td>-0.01152</td>
<td>-0.03358</td>
<td>-0.03645</td>
<td>-0.00728</td>
<td>-0.00073</td>
<td>-0.00071</td>
<td>-0.00123</td>
<td>-0.00667</td>
<td>-0.00683</td>
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<td></td>
<td>(0.06957)</td>
<td>(0.06096)</td>
<td>(0.06712)</td>
<td>(0.06423)</td>
<td>(0.06269)</td>
<td>(0.06905)</td>
<td></td>
<td>(0.01023)</td>
<td>(0.00848)</td>
<td>(0.00875)</td>
<td>(0.00975)</td>
<td>(0.01051)</td>
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</tr>
<tr>
<td>Δ Size × cooperative banks</td>
<td>-0.02234</td>
<td>-0.00798</td>
<td>-0.01525</td>
<td>-0.01259</td>
<td>-0.01559</td>
<td>-0.02906</td>
<td>0.00382</td>
<td>0.00324</td>
<td>0.00049</td>
<td>0.00381</td>
<td>0.000459</td>
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<tr>
<td></td>
<td>(0.06952)</td>
<td>(0.06015)</td>
<td>(0.06435)</td>
<td>(0.06148)</td>
<td>(0.06558)</td>
<td>(0.06928)</td>
<td></td>
<td>(0.01173)</td>
<td>(0.00964)</td>
<td>(0.01002)</td>
<td>(0.01120)</td>
<td>(0.01242)</td>
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<tr>
<td>Δ CEO</td>
<td>0.01980</td>
<td>(0.00675)</td>
<td></td>
<td>0.01979**</td>
<td>(0.00676)</td>
<td>0.02041**</td>
<td>(0.00676)</td>
<td></td>
<td>0.00444**</td>
<td>(0.00184)</td>
<td></td>
<td>0.00417**</td>
<td>(0.00196)</td>
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<tr>
<td>Δ Board of Directors (%)</td>
<td>0.00484</td>
<td>(0.00940)</td>
<td>0.00904</td>
<td>(0.00955)</td>
<td>-0.00273</td>
<td>(0.00328)</td>
<td></td>
<td></td>
<td></td>
<td>-0.00242</td>
<td>(0.00353)</td>
<td></td>
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</tr>
<tr>
<td>Δ Board of Directors (&gt;50%)</td>
<td>0.00281</td>
<td>(0.00555)</td>
<td></td>
<td>0.00341</td>
<td>(0.00832)</td>
<td>-0.00129</td>
<td>(0.00240)</td>
<td></td>
<td></td>
<td></td>
<td>0.00021</td>
<td>(0.00190)</td>
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</tr>
<tr>
<td>Δ Chairman</td>
<td>-0.00378</td>
<td>(0.00662)</td>
<td>-0.00324</td>
<td>(0.00611)</td>
<td>-0.00294</td>
<td>(0.00660)</td>
<td></td>
<td></td>
<td></td>
<td>0.00021</td>
<td>(0.00190)</td>
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<tr>
<td>Δ Chairman, ∧</td>
<td>-0.00812</td>
<td>(0.01748)</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Δ CEO,</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Board (&gt;50%), ∧</td>
<td>0.00301</td>
<td>(0.01142)</td>
<td></td>
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<td></td>
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<tr>
<td>Δ Chairman,</td>
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</table>

Note: This table reports regressions results of changes in firm performance as presented in Equation [1]. We also present two alternative specifications. Model (3) evaluates the impact of significant changes in the board (>50%) on changes in performance. Specification (6) tests for the presence of complementarities between the activation of the different governance mechanisms and changes in performance. 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 also have information concerning the type of replacements and we proceed now to examine their impact. Despite the relevance of the finding concerning managerial changes, we analyze 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 5 and 6. 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 5), whereas Table 6 considers changes in the returns on assets (ROA) as the dependent variable. In particular, the first column in Tables 5 and 6 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 5 and 6 for the Sargan test provide evidence of the validity of the instruments used in our analysis. In addition, Tables 5 and 6 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.

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. It is also important to notice that 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. However, as previously remarked, we believe that voluntary turnovers are unlikely to explain changes in performance. 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: 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. Once more, these results are confirmed in both approaches, ROA and ROE.

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 outcome CEO.

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

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>△ Size (Total assets)</td>
<td>0.05825</td>
<td>0.04507</td>
<td>0.04501</td>
<td>0.04450</td>
<td>0.06460</td>
</tr>
<tr>
<td></td>
<td>(0.06742)</td>
<td>(0.05885)</td>
<td>(0.05709)</td>
<td>(0.05848)</td>
<td>(0.06433)</td>
</tr>
<tr>
<td>△ Size × mutual mortgage banks</td>
<td>-0.16691</td>
<td>-0.14387</td>
<td>-0.15407</td>
<td>-0.15369</td>
<td>-0.16082</td>
</tr>
<tr>
<td></td>
<td>(0.10288)</td>
<td>(0.09271)</td>
<td>(0.09523)</td>
<td>(0.09478)</td>
<td>(0.10673)</td>
</tr>
<tr>
<td>△ Size × private owned banks</td>
<td>-0.04124</td>
<td>-0.01413</td>
<td>-0.01385</td>
<td>-0.01011</td>
<td>-0.04780</td>
</tr>
<tr>
<td></td>
<td>(0.07056)</td>
<td>(0.06326)</td>
<td>(0.06255)</td>
<td>(0.06406)</td>
<td>(0.06537)</td>
</tr>
<tr>
<td>△ Size × cooperative banks</td>
<td>-0.03256</td>
<td>-0.01085</td>
<td>-0.01115</td>
<td>-0.01314</td>
<td>-0.03821</td>
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<td>(0.07112)</td>
<td>(0.06287)</td>
<td>(0.05982)</td>
<td>(0.06128)</td>
<td>(0.07041)</td>
</tr>
<tr>
<td>△ CEO (Promoted)</td>
<td>-0.00094</td>
<td>-0.00143</td>
<td>-0.00138</td>
<td>-0.00101</td>
<td>-0.00478</td>
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<td>(0.00459)</td>
<td>(0.00632)</td>
<td>(0.00625)</td>
<td>(0.00640)</td>
<td>(0.00653)</td>
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<tr>
<td>△ CEO (Hired from outside)</td>
<td>0.02374</td>
<td>0.00777</td>
<td>0.00988</td>
<td>0.01070</td>
<td>0.01352</td>
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<td></td>
<td>(0.00766)</td>
<td>(0.00777)</td>
<td>(0.00790)</td>
<td>(0.00790)</td>
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</tr>
<tr>
<td>△ Board of Directors (Natural)</td>
<td>0.00577</td>
<td>0.00152</td>
<td>0.00152</td>
<td>0.00152</td>
<td>0.00152</td>
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<tr>
<td></td>
<td>(0.01094)</td>
<td>(0.01984)</td>
<td>(0.01984)</td>
<td>(0.01984)</td>
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<tr>
<td>△ Board of Directors (Forced)</td>
<td>0.00577</td>
<td>0.00152</td>
<td>0.00152</td>
<td>0.00152</td>
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<td>(0.01094)</td>
<td>(0.01984)</td>
<td>(0.01984)</td>
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<tr>
<td>△ Chairman (Promoted)</td>
<td>-0.00394</td>
<td>-0.00159</td>
<td>-0.00394</td>
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<td>(0.00731)</td>
<td>(0.00631)</td>
<td>(0.00777)</td>
<td>(0.00871)</td>
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Note: This table reports regressions 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 6. Impact of governance mechanisms upon changes in firm performance

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Note: This table reports regressions 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 changes in the board, we also argued in the motivation that this mechanism could have an impact on performance depending on the type of replacement carried out within the firm. With the detailed information we have on those changes, we proceed
now to check these intuitions. On the one hand, we pointed out that 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. On the other hand, 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. Our empirical findings lead to confirm hypothesis \( H2b \) but only for the case of ROA: forced replacement of board members have a statistically significant negative effect on changes in ROA. Thus, the 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 state owned and privately owned banks board departures are more
equally balanced (where 47% and 49% of total board replacements were forced, respectively). This could indicate that for these banking firms the implementation of this control mechanism is more related to performance.

Finally, our empirical findings regarding chairman replacement (specifications three, four and five in Tables 6 and 7) also indicate the relevance of considering 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 here to be more precise with the effect of this governance mechanism. Interestingly enough, it is also important to note 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)\(^5\).

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

\(^5\) 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).
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 privately-owned banks are more actively seeking chairmen in the labour market (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 stakeholders’ interests.

6. Concluding remarks

Albeit the upward trend researching corporate governance, little is known about the impact that governance mechanisms have on firms operating in emerging economies. 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 paper increases the literature dealing with corporate governance in banks. The main contribution indicates that corporate governance also matters in emerging economies as is the case of the Costa Rican banking firms. Using the existence of more detailed information on the mechanisms, our results reveal that the direction and intensity of the effects on performance are also conditioned by 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 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, captured by financial activities different from the traditional intermediation role of banking firms.

The results of this paper give support to the argument that different banks in Costa Rica make 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 could attempt to further explore the observed differences in the implementation of governance mechanisms.

**References**


### Appendix 1. First differences regression results: Impact of governance mechanisms upon changes in firm performance

| Δ 
| | Return on Equity | Return on Assets |
|---|---|---|---|
| Δ Size (ln assets) | 0.07357 (0.07435) | 0.05733 (0.07510) | 0.05689 (0.07562) | 0.07625 (0.07430) | 0.07854 (0.07526) | 0.00674 (0.02426) |
| Δ Size × mutual mortgage banks | -0.23002 (0.19283) | -0.20888 (0.19556) | -0.21850 (0.19631) | -0.21779 (0.19308) | -0.23854 (0.19492) | -0.01733 (0.06277) |
| Δ Size × private owned banks | -0.05243 (0.08237) | -0.02500 (0.08222) | -0.05815 (0.08285) | -0.05683 (0.08375) | -0.01032 (0.02681) | -0.00545 (0.02662) |
| Δ Size × cooperative banks | 0.02116 (0.08232) | 0.03633 (0.08354) | 0.01997 (0.08388) | 0.01818 (0.08383) | 0.01024 (0.02672) | 0.01272 (0.02689) |
| Δ CEO | 0.01967** (0.00976) | 0.02036** (0.01089) | 0.02065* (0.01089) | 0.00342 (0.00316) | 0.00328 (0.00316) | 0.00421 (0.00355) |
| Δ Board of Directors (%) | 0.00989 (0.01694) | 0.01130 (0.01712) | 0.00188 (0.00543) | 0.00084 (0.00407) | 0.00001 (0.00054) | 0.00016 (0.00058) |
| Δ Board of Directors (>50%) | -0.00151 (0.01283) | -0.00689 (0.01783) | 0.00084 (0.00407) | 0.00001 (0.00054) | 0.00001 (0.00054) | 0.00001 (0.00054) |
| Δ Chairman | 0.00249 (0.00657) | 0.00210 (0.00660) | 0.00238 (0.00699) | 0.00032 (0.00211) | 0.00022 (0.00212) | 0.00054 (0.00227) |
| Δ Chairman, ∧ Δ CEO | -0.00881 (0.02799) | -0.00954 (0.02864) | -0.00981 (0.02799) | -0.00954 (0.02864) | -0.00954 (0.02864) | -0.00954 (0.02864) |
| Δ Board (>50%), ∧ Δ Chairman | 0.01010 (0.02472) | 0.00188 (0.00543) | 0.00084 (0.00407) | 0.00001 (0.00054) | 0.00001 (0.00054) | 0.00001 (0.00054) |
| Intercept | -0.00036 (0.00195) | -0.00090 (0.00197) | -0.00077 (0.00198) | -0.00072 (0.00197) | -0.00042 (0.00197) | -0.00025 (0.00202) |
| Wald test (chi2) | 35.56 *** | 31.46 *** | 30.68 *** | 31.11 *** | 35.85 *** | 34.33 *** |
| Sargan test | 27.18 *** | 27.58 *** | 27.97 *** | 26.80 *** | 27.85 *** | 28.31 *** |
| Test for AR1 | -4.23 *** | -4.10 *** | -4.09 *** | -4.08 *** | -4.15 *** | -4.15 *** |
| Test for AR2 | -0.09 | -0.11 | -0.13 | -0.09 | -0.05 | -0.10 |

Note: This table reports regressions results of changes in firm performance as presented in Equation [1]. We also present two alternative specifications. Model (3) evaluates the impact of significant changes in the board (>50%) on changes in performance. Specification (4) tests for the presence of complementarities between the activation of the different governance mechanisms and changes in performance. 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.
Appendix 2. First differences regression results: Impact of governance mechanisms upon changes in firm performance

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Note: This table reports regressions 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). Estimation method: First differences Generalized Method of Moments (GMM). Standard errors are presented in brackets. *, **, *** indicates significance at the 0.10, 0.05 and 0.01, respectively.
Appendix 3. First differences regression results: Impact of governance mechanisms upon changes in firm performance

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</tr>
<tr>
<td>( \Delta ) Chairman (Hired from outside)</td>
<td>-0.00001</td>
<td>(0.00443)</td>
<td></td>
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<tr>
<td>( \Delta ) Chairman (Natural)</td>
<td>-0.00018</td>
<td>(0.00246)</td>
<td></td>
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<tr>
<td>( \Delta ) Chairman (Forced)</td>
<td>0.00118</td>
<td>(0.00325)</td>
<td></td>
<td></td>
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<tr>
<td>( \Delta ) Chairman (Natural ∧ Promoted)</td>
<td>0.00014</td>
<td>(0.00261)</td>
<td></td>
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</tr>
<tr>
<td>( \Delta ) Chairman (Natural ∧ Hired from outside)</td>
<td>-0.00257</td>
<td>(0.00530)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>( \Delta ) Chairman (Forced ∧ Promoted)</td>
<td>0.00054</td>
<td>(0.00353)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \Delta ) Chairman (Forced ∧ Hired from outside)</td>
<td>0.00550</td>
<td>(0.00844)</td>
<td></td>
<td></td>
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<tr>
<td>Time dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.00015</td>
<td>(0.00065)</td>
<td>0.00001</td>
<td>(0.00064)</td>
<td>0.00001</td>
<td>(0.00065)</td>
</tr>
<tr>
<td>Wald test (chi2)</td>
<td>39.06 ***</td>
<td>38.51 ***</td>
<td>37.85 ***</td>
<td>37.99 ***</td>
<td>39.74 ***</td>
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<tr>
<td>Sargan test</td>
<td>16.69 **</td>
<td>16.23 **</td>
<td>15.31 **</td>
<td>15.47 **</td>
<td>17.32 **</td>
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<tr>
<td>Test for AR1</td>
<td>-1.31</td>
<td>-1.10</td>
<td>-1.25</td>
<td>-1.28</td>
<td>-1.04</td>
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<td>Test for AR2</td>
<td>-1.46</td>
<td>-1.59</td>
<td>-1.47</td>
<td>-1.45</td>
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Note: This table reports regressions 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). Estimation method: First differences Generalized Method of Moments (GMM). Standard errors are presented in brackets. *, **, *** indicates significance at the 0.10, 0.05 and 0.01, respectively.