

## CEO TURNOVER AND CORPORATE PERFORMANCE RELATIONSHIP IN PRE- AND POST- IFRS PERIOD: EVIDENCE FROM TURKEY

Banu Durukan<sup>1</sup>, Serdar Ozkan<sup>2</sup>, Fatih Dalkilic<sup>3</sup>

<sup>1,3</sup>*Faculty of Business, Dokuz Eylul University, Kaynaklar Campus,  
35390 Buca, Izmir, Turkey*

<sup>1</sup>*Faculty of Economics, Ljubljana University, Kardeljeva Ploščad 17, 1000 Ljubljana, Slovenia*

<sup>2</sup>*Faculty of Economics and Administrative Sciences, Izmir University of Economics,  
Sakarya Caddesi, 35330 Balçova, Izmir, Turkey*

*E-mails: <sup>1</sup>banu.durukan@deu.edu.tr; <sup>2</sup>serdar.ozkan@jeu.edu.tr (corresponding author);  
<sup>3</sup>fatih.dalkilic@deu.edu.tr*

*Received 31 January 2011; accepted 20 May 2011*

**Abstract.** This study investigates CEO turnover and corporate performance relationship as a measure of the effectiveness of a corporate governance system. The impact of different financial accounting regimes on the turnover/performance relationship is also analyzed. If systems replace poorly performing managers, they are considered as not ineffective. The results provide evidence that corporate governance systems with poor governance characteristics may not be ineffective, due to the existence of alternative governance mechanisms. The disciplinary CEO turnover is found to be more strongly associated with corporate performance compared to voluntary CEO turnover, whereas in the IFRS subsample the relationship is stronger with contemporaneous performance measures.

**Keywords:** CEO turnover, corporate governance, corporate performance, IFRS, Turkey, effectiveness.

**Reference** to this paper should be made as follows: Durukan, B.; Ozkan, S.; Dalkilic, F. 2012. CEO turnover and corporate performance relationship in pre- and post- IFRS period: evidence from Turkey, *Journal of Business Economics and Management* 13(3): 421–442.

**JEL Classification:** M41, M44, M47.

### 1. Introduction

Corporate governance comprises the set of institutional and market-based mechanisms that induce self interested managers to maximize the value of the firm on behalf of its shareholders (Denis 2001; Denis, McConnell 2003). Thus, corporate governance broadly refers to the mechanisms by which companies are controlled, directed, made accountable, and governed (Macey 1997; Peck, Ruigrok 2000).

Studies of corporate governance systems point out both the strengths and the weaknesses of different corporate governance systems that utilize mechanisms in different ways. However, Shleifer and Vishny (1997) state that, there is no theory or body of

evidence which points to one particular system as being more effective than all others. In compliance with this point, it is also well-documented that these systems are in convergence (Carati, Tourani-Rad 2000; Miller 2003; Perotti, von Thadden 2003).

There is neither consensus on the factors that determine the optimal corporate governance structure, nor any “one-size-fits all” structure (Rubach, Sebora 1998; Denis 2001; Denis, McConnell 2003; Yoshikawa, Phan 2003). It can therefore be concluded that every system should be evaluated and improved on an individual basis. Therefore, the focus of attention should be diverted to the measurement of the effectiveness of the corporate governance systems, thus, the emphasis should be on the only visible corrective action to be taken when there is a corporate governance problem, i.e., the dismissal of the CEO (Suchard *et al.* 2001).

In light of the above explanations, the present study mainly aims to investigate the effectiveness of the Turkish corporate governance system by analyzing the relationship between CEO turnover and corporate performance. The second goal of the paper is to analyze the effects of different accounting regimes on this relationship, and hence, on the effectiveness of the corporate governance system. It should be kept in mind that a significant negative relationship only points to corporate governance system not being ineffective, and that such a relationship on its own cannot prove the contrary, that it is effective (Gibson 2003; Macey 1997, 1998). However, a strengthened relationship due to the change in the accounting regime points to possible steps for further improvement.

The role of accounting information in the corporate governance process is crucial according to Bushman and Smith (2001), who define this role as use of accounting data in control mechanisms to promote the efficient governance of corporations. Similarly, Sloan (2001) highlights the role of accounting in providing the necessary information for most of the governance mechanisms.

The present paper extends the literature by comparing the sensitivity of CEO turnover to performance measures derived from different accounting regimes. Since our accounting data set provides accounting-based performance measures based on historical cost and International Financial Reporting Standards (IFRS), we are enabled to perform a comparative analysis. It is expected that our analysis will contribute to the discussion of adoption of different accounting regimes. To the best of our knowledge, this type of comparison has been very scarce in the literature.

The remainder of the paper is structured as follows. The first section is devoted to a brief discussion of the Turkish corporate governance system. In the second section, the research background is provided and the hypotheses are formulated. Following this, the sample, the data, variables and the statistical methods are introduced. The discussion of the empirical findings succeeds their presentation. The last section concludes.

## **2. Turkish corporate governance system**

As La Porta *et al.* (1998) and Graff (2008) state, Turkey is a civil law country and the emphasis is on the controlling shareholders rather than capital markets. Ararat and Uğur (2003) list the characteristics of the Turkish capital market as having low liquidity, high

volatility, high cost of capital and limited new capital formation. The capital market is not perceived as a source of funds and one of the key corporate governance issues is developing an equity culture (Institute of International Finance 2005).

Ararat and Uğur (2003) also conclude that the shortcomings in the legal and regulatory framework increase the risks of investing in the Turkish capital market. Their argument supports La Porta *et al.* (1998), who rate Turkey two on a scale of six in a 40 country assessment with respect to shareholder rights. Moreover, as the OECD (2003) points out, changes in corporate organizations have led to reforms in Turkish corporate law. Turkey is still in the process of reforming its institutional and legal structures.

A committee including experts from Istanbul Stock Exchange (ISE) and Turkish Corporate Governance Forum was assembled by Capital Markets Board (CMB) and issued “Corporate Governance Principles of Turkey” in June 2003. CMB also issued a decree (series IV and number 41) in March 2008 regarding requirements on forming the necessary organizational structures for improving corporate governance and information disclosure. There are also currently 31 listed companies with corporate governance ratings. The ISE also publishes an ISE Corporate Governance Index. The Corporate Governance Association of Turkey, established in 2003 to promote corporate governance, has been actively organizing conferences, seminars and workshops, as well as publishing books, reports, and a journal.

Shleifer and Vishny (1997) argue that when there is poor investor protection in a market, in order to avoid the negative outcomes of such circumstance, countries develop substitute corporate governance mechanisms, such as concentrated ownership, mandatory dividends and legal reserve requirements, all of which exist in Turkey. Yurtoğlu (2000), Demirağ and Serter (2003) investigating the ownership structure as an alternative corporate governance mechanism in Turkey, describe the ownership structure as pyramidal and concentrated.

Demirağ and Serter (2003) further provide a thorough analysis of the ownership structure of 100 Turkish firms and conclude that family ownership is common and these firms tend to acquire a bank in the later stages of their development. In contrast to La Porta *et al.* (1998)’s argument that concentrated ownership structures act as substitutes for markets for corporate control, Yurtoğlu (2000) and Gönenç (2004) provide evidence that this structure negatively affects the corporate performance, and its expected role as an alternative disciplinary corporate governance mechanism does not translate into increased firm value in Turkey.

Kula (2005), on the other hand, taking a different approach, investigates smaller, unlisted companies. He concludes that the separation of chairman and general manager positions in these firms is reflected positively in corporate performance.

Similarly, Balic and Ararat (2007) administered a survey as the third phase of the Turkish transparency and disclosure study. Their study has shown that companies have not been able to maintain initial efforts to improve disclosure levels following the issuance of the corporate governance principles in Turkey. They argue that the “disclosure that

goes beyond regulatory and legal requirements has not continued to develop” and “the scores seem to converge around the disclosure required and captured by IFRS”.

In sum, the characteristics of the Turkish corporate governance system can be listed as concentrated ownership, pyramidal structures, family-owned companies, and low investor protection.

### **3. Research background and hypotheses development**

Shareholders in both emerging markets and developed markets are willing to pay a premium for good governance standards (Campos *et al.* 2002). Thus, the establishment of an effective corporate governance system is essential. In order to assess the performance or effectiveness of a corporate governance system, instead of investigating the corporate governance mechanisms themselves, it would be more instructive to focus on corporate governance outcomes (Macey 1997, 1998; Gibson 2003). It is well-documented that even though the corporate governance mechanisms vary across countries, the outcomes are similar (Kaplan 1994; Gibson 2003). Hence, all corporate governance systems, no matter how they are structured, aim to reduce the agency conflicts inherent in the modern corporation.

Zingales (1994), Macey (1997, 1998) and Chung and Kim (1999) all suggest the following three methods to empirically measure the effectiveness of corporate governance systems: i) determining the level of the private benefits of control measured by the voting premium paid by investors; ii) determining the willingness of entrepreneurs to make initial public offerings of stock; and iii) analyzing the functioning of internal and external markets for corporate control. That is, the premium paid by investors for voting stock can be used as a signal of poor governance since it proves that the investors receive private benefits of control; the investors will be more willing to purchase the stock of companies that go public when the governance system is perceived as effective; if the market for corporate control functions efficiently, poorly performing managers will be replaced.

Even though all three measures should be considered together to determine the effectiveness of a corporate governance system, the focus of many previous studies, as well as the present one has been the functioning of internal and external markets for corporate control. Macey (1997) and Manne (1965) argue that it is more advantageous to replace inefficient management in the case of poor corporate performance through a takeover scheme or through appointments of new management rather than through costly bankruptcy proceedings. Within this context, the performance of a corporate governance system can be evaluated by investigating the link between corporate performance and CEO turnover (Kaplan 1994; Abe 1997; Gibson 2003). Thus, an effective governance system requires poorly performing managers to be replaced.

The studies examining the relationship between corporate performance and CEO turnover test this relationship by utilizing different measures of performance. Some focus only on market-based measures, whereas many others choose both market-based and accounting-based measures. The findings of these studies suggest that successful or

efficient corporate governance systems penalize underperforming CEOs. That is, as Kaplan (1994) suggests, the reward – performance relations are generally similar, but with some minor differences.

Abe (1997) emphasizes that different measures of firm performance affect CEO turnover in different ways, for example, contemporaneous sales growth, employment growth, and negative income significantly influence CEO turnover probability in the short term, while stock returns and income growth are significant in the long term. Campbell and Keys (2002), Gibson (2003) and Aviazian, Ge and Qiu (2004) all provide evidence supporting the argument that poor performance is associated with a higher likelihood of CEO turnover in emerging as well as developed markets. The findings of these studies also imply that the corporate governance systems in emerging markets are not ineffective. However, accounting-based measures of corporate performance point to a stronger relationship between CEO turnover and financial performance, and only extreme levels of change in stock price affect the probability of CEO turnover in both developed and emerging markets (Warner *et al.* 1988; Gibson 2003). These discussions lead to the following hypothesis:

**H1:** The probability of CEO turnover is negatively related to corporate performance.

In the literature, there is also a clear distinction between disciplinary and voluntary CEO turnovers. The probability of voluntary turnover is likely to increase in the case of long-serving CEOs because of the desire for retirement. Moreover, especially successful, long-serving CEOs in larger companies may seek better prospects based on the skills required in their current positions. Thus, voluntary turnover is less likely to be related to bad performance, whereas a negative relationship between turnover and performance should hold in case of disciplinary turnover (Fan *et al.* 2007). Additionally, founder-CEOs may leave the CEO position voluntarily in times of good company performance (Adams *et al.* 2009). These arguments require us to make a distinction between disciplinary and voluntary turnovers and lead to the following hypothesis:

**H2:** The CEO turnover / corporate performance sensitivity is higher in the case of disciplinary dismissals.

As Filatotchev and Boyd (2009: 259) most incisively state, accounting regimes are important since they provide the basis for the independently verified financial information, which is the “key ingredient” (Sloan 2001: 345) of the corporate governance mechanisms. The financial accounting information is also used explicitly, especially in management compensation contracts, and implicitly in the assessment of the management’s performance. In short, accounting information provides an essential input into executive dismissal decisions (Weisbach 1988). This argument raises the issue of how to incorporate the quality of the accounting information into the analysis.

In Turkey, after years of high inflation, inflation accounting has been put into effect to eliminate the negative impacts of high inflation on financial reports. However, this implementation lasted only for the years 2003 and 2004, after which, in line with European Union accession requirements, all Turkish listed companies were obligated to prepare their financial statements based on IFRS from 2005 onwards. Early voluntary

application of IFRSs was also encouraged in years 2003 and 2004. Daske, Hail, Leuz and Verdi (2008) identify the EU's switch to IFRS as one of the most significant regulatory changes in the accounting history.

The move to IFRS based reporting motivated a large body of accounting research to examine the impacts of IFRS adoption on the various constructs of accounting quality around the world (Soderstrom, Sun 2007; Barth *et al.* 2008; Daske *et al.* 2008; Armstrong *et al.* 2010). For example, Barth *et al.* (2008) found that IFRS adoption significantly improved the accounting quality by decreasing the managed earnings and by increasing both the value relevance of accounting numbers and the timeliness of loss recognition. In other words, IFRS adoption increased the informativeness of accounting numbers for investors (value relevance) and for other parties contracting with the company (timely loss recognition). The latter is more important in regard to corporate governance, it tends to denote to a higher level of accounting conservatism. The literature provides evidence for the contribution of accounting conservatism, especially on the compensation contracting and corporate governance (Ball *et al.* 2000; Watts 2003; Leone *et al.* 2006).

Considering the more timely loss recognition notion of IFRS, and in a contracting-related perspective, Wu and Zhang (2009) have broadened the scope of the current literature by investigating the results of IFRS adoption in firms' internal performance evaluations, finding that CEO turnover and employee layoffs are more sensitive to accounting earnings after voluntary IFRS adoption. In other words, their findings support the view that accounting earnings play a greater role in firms' internal performance evaluations after the adoption of IFRS.

In their recent study, Balsari, Ozkan and Durak (2010) have shown that IFRS adoption also increased timely loss recognition in Turkey. However, to the best of our knowledge, there is no study investigating the IFRS adoption in a contracting perspective for the Turkish market. Thus, following Wu and Zhang (2009, 2010) we aim to test the effects of different accounting regimes on the CEO turnover corporate performance relationship.

The financial performance variables in our data set were obtained from three different reporting systems (historical cost, inflation-adjusted and IFRS). Such variety would provide the opportunity to assess the sensitivity of CEO turnover to financial performance, based on different types of accounting data. However, we have decided to disregard the inflation adjusted data since it led to inconclusive results, attributable to the limited size of this sample. Thus, we developed hypothesis 3 to test the effects of historical cost and IFRS regimes on the relationship.

**H3:** The financial accounting information based on IFRS increases the CEO turnover / corporate performance sensitivity.

#### **4. Sample and data**

The study used data from all non-financial companies listed on the Istanbul Stock Exchange (ISE) in the period 1996–2007, excluding firms with missing data. The final sample comprised of 2,069 firm year observations for contemporaneous performance

measures, and of 1,863 for lagged performance measures. The *Yearbook of Companies*, *Company News Files* and archives of national newspapers and journal articles were used to determine the CEO turnover data.

In order to investigate the link between CEO turnover and corporate performance, the information on CEO turnover was matched with the lagged and contemporaneous financial performance variables. The financial performance variables were calculated based on the firms' financial reports given on the ISE website. The information on the control variables were collected both from financial reports and annual reports.

## **5. Variables**

### **5.1. CEO turnover**

First, we identified the name of the CEO of each company for each year by cross-checking the yearbook of companies and company news files available on the ISE website. In addition to the term "CEO", other titles used to identify CEOs were "General Manager", and in some cases "Head of Executive Teams"<sup>1</sup>. Considering the duration of their CEO position we decided to include seven deputy CEOs in the sample, as their length of service suggested that they were in fact acting as full CEOs<sup>2</sup>.

After identifying each CEO, we determined their turnover and tenure through information found in company news<sup>3</sup>. Following Warner, Watts and Wruck (1988), where there was a team of executives sharing the same titles for CEO (in most of the cases there were only two names), we coded a firm-year as a turnover year in the case of any change in the members of the team.

We observed 412 CEO turnovers between 1996 and 2007, 22 of which were excluded from the sample due to removal of firm year observations with inflation-adjusted financial statements data. We excluded 70 CEOs on the ground that they had not served a whole year, because the data only allows for annual performance measures for those in position for at least one year. A further 26 CEO changes caused by mergers, spin-offs were also excluded following Weisbach (1988), Parrino (1997), and Kato and Long (2006). Following Weisbach (1988) and Jostarndt and Sautner (2008), 2 cases of deceased CEOs were also excluded. As a result, our sample included 292 CEO changes in total.

In the ISE company news files, the reasons for the majority of the CEO changes were stated variously as resignation, retirement, termination of employment, completion of employment period, etc., with no clear statement of the reasons. Such limited wording

---

<sup>1</sup> These teams do not refer to the board of directors.

<sup>2</sup> These deputy managers held the CEO position for minimum 560, maximum 2,633, and on average 1,489 days.

<sup>3</sup> Company news files have been publicly available following the listing of the companies on the ISE. Thus, the starting date of the CEOs whose companies were listed during their post was not disclosed. For these cases we assumed CEO's start date is the beginning of the listing year of the company. In order to calculate the CEO's tenure, we measure the time in whole years from the starting date until their dismissal.

in the ISE company news, the lack of age data, and the complex nature of retirement regulations in Turkey made it impossible to distinguish between disciplinary and voluntary, or early departures. Thus, we followed a quasi- Parrino (1997) three-step method to identify disciplinary and voluntary turnovers.

First, changes were classified as voluntary where the ISE company news gave as a reason one of the following; poor health, appointment to an equal or a more senior position within the company, or in another company within the same group, including advisory positions, or appointment as chairman or other member of board, or as retirement because of age (i.e. 60 years is a policy in some groups). Following Kato and Long (2006), observations in which CEOs who depart their CEO positions but remain on the board of directors were assumed to be usual retirement decisions.

The changes classified as disciplinary included reasons such as leaving the position due to undefined personal reasons, redundancy, resignation (for reasons other than age), retirement (not by reason of age), termination of CEO's employment, and expiration of term of office. Changes were also classified as disciplinary by implication where the ISE company news gave no information about the change other than the name of the incoming CEO.

Since we discovered that there may be additional news about the former CEOs in the later issues of ISE company news files, we followed a second step, in which, all departures for CEOs classified as disciplinary in the first step were reviewed further and classified as voluntary if either the later news stated that CEO was the chair of the board (or appointed to the chairmanship in the future days), was appointed to another position within the company or in another company within the same group, or took an equal or higher position in another ISE company, was re-appointed to CEO position at a later date within the company, or continued to hold other positions (i.e. directorship in the group divisions), or continued to hold his membership of the board (re-elected as a board member after leaving the CEO position). All remaining departures were to be classified as disciplinary.

In the third step, we searched the archives of national business and industrial journals, and newspapers and analyzed the news, comments, and interviews with the CEOs in those published sources. Changes were classified as voluntary if either the financial press stated that the CEO had transferred to other companies (within the same or to another group), had established his/her own company, had ended his/her professional life voluntarily, had retired because of explicit mandatory retirement age policies of the companies, had been promoted within the group, or for reasons involving unforeseen catastrophes (i.e. going concern issues due to serious fires). Changes were considered disciplinary where the financial press either directly mentioned unsatisfactory performance, or indicated suspicions of inappropriate behavior, questionable restructurings, forced resignation, or retirement was due to various other reasons, especially in the case of state owned companies, political affiliation.

Nevertheless, for some departures, even after the third step we were unable to find a clearly stated reason in the ISE company news files or in the financial press. 60 such cases were classified as "no news" cases and excluded from the analysis in the investi-



gation of CEO turnover / performance sensitivity based on different types of turnover, in order not to bias the data. Our final sample had 2,069 and 2,009 firm year observations for the binary and the categorical CEO change variable, respectively.

The binary CEO change variable used in the analysis is a dummy variable which takes the value of 1 where there is a change in the CEO in a year and 0 otherwise. In the cases where the CEO turnover is classified as voluntary and disciplinary, the categorical variable takes the value of 0 if there was no CEO change, 1 if the change was voluntary and 2 if disciplinary.

## **5.2. Corporate performance**

Studies in the literature use both accounting-based and market-based performance measures with no consensus on which is more effective. The present study uses both lagged and contemporaneous accounting-based measures, namely return on assets, return on equity, profit margin, Tobin's Q and negative pretax income. Since our findings for return on equity, profit margin and Tobin's Q were inconclusive, only the findings for return on assets and negative pretax income are reported. The negative pretax income dummy which takes the value of 1 if the company has negative pretax income and 0 otherwise, also serves as a proxy for financial distress (Kaplan 1994).

The stock return is not included in the analysis since the mean percentage of shares of the sample firms traded on the stock exchange is 31%, reflecting that these firms do not perceive the stock exchange to be a major source of funds, confirmed by the Institute of International Finance (2005). Moreover, the stock returns reflect investor anticipation (Bhagat, Bolton 2008: 264) and would be a more reliable performance measure in more efficient markets compared to ISE.

## **5.3. Control variables**

The literature reviewed in the previous section identifies industry, year and size as control variables, as well as corporate governance variables and CEO characteristics such as age, tenure and gender. These variables are included as control variables to mitigate the potential endogeneity in investigating the influence of various factors on the CEO turnover corporate performance relationship.

We use the natural logarithm of total assets as a size measure<sup>4</sup>. Year dummies are included to control for economy-wide shocks that can vary over time. The performance variable therefore can be interpreted as performance relative to the market in a particular year. Industry dummies are included to identify the differences between the industries, which are determined based on the Istanbul Stock Exchange classification.

The corporate governance variables included as control variables are the percentage of CEO shares, the percentage of the largest shareholder's holding and state ownership. The percentage of shares a CEO owns is also included as an ordinal variable. It takes

---

<sup>4</sup> Natural logarithm of sales and natural logarithm of market value of equity are also included simultaneously in the analysis in place of natural logarithm of total assets as a proxy for size. However, they are found to provide similar results and natural logarithm of total assets had the highest significance level. Thus, results for only natural logarithm of total assets are reported.

the value of 0 if no shares are owned, the value of 1 for less than 10% of shares, 2 between 10% and 50%, and 3 for more than 50%<sup>5</sup>. Commonly used corporate governance variables in the literature such as the CEO board membership, duality and board size, as well as interaction variables of performance and corporate governance were originally included as control variables. However, they were not found to be statistically significant, hence omitted from the analysis. The CEO shares variable is assumed to proxy for the omitted corporate governance variables due to its very high correlation with them.

The ownership structure of the companies was first measured by two variables. The largest shareholder's holding and the percentages of total shares that are publicly traded were included in the tests as control variables. However, the variable for the percentage of the largest shareholder's holding was found to be significant, whereas percentage of publicly traded shares was not, and hence eliminated from the analysis. Along the same lines, the type of block ownership as institution or individual was also not found to be significant in the analysis. The state ownership variable, however, is included as a dummy where it takes the value of 0 if there is state ownership and 1 if none.

Data on CEO characteristics such as age, outside succession, tenure in the company as well as board independence were unavailable. However, data on gender and tenure as CEO were available. The gender was also excluded since 99% of CEOs were male, therefore tenure as CEO is the only control variable included for CEO characteristics in the analysis. We believe that tenure also proxies for age, years to retirement and tenure of the CEO in the company.

## **6. Statistical analyses**

Since the dependent variable is either binary or categorical, to test whether a relationship between probability of CEO turnover and corporate performance exists, the logistic or the multinomial logistic regression models are estimated.

To test the relationship between CEO turnover and performance when the CEO turnover is a binary variable taking a value of either 0 or 1, the following logistic regression model is used.

$$\text{Prob \{CEO turnover\}} = f \{ \beta \text{ corporate performance} + \gamma \text{ control variables} \}, \quad (1)$$

where  $\beta$  denotes the relationship tested.

The multinomial logistic regression model is used to test the relationship between probability of turnover and corporate performance, where the dependent variable also distinguishes between voluntary and disciplinary turnover. Thus, the CEO turnover variable is a categorical variable and a multinomial logistic regression model, where the base case is no CEO turnover, is estimated.

To test for hypothesis 3, the regression models are estimated for the two sub-samples, historical cost sample and IFRS sample.

---

<sup>5</sup> The companies are obligated to disclose the names of shareholders with greater than 10% stake. The CEO shareholding information is also public once CEO owns any portion of shares. If one owns more than 50%, then becomes the controlling shareholder as well as the CEO.

### 6.1. Empirical findings

Table 1 presents the number of firms which had a change in CEO for each year of the study period and the type of financial reports used to calculate accounting-based performance measures. The total number of observations is 2,069 firm years for contemporaneous and 1,863 firm years for lagged performance measures. 66% of the performance measures were calculated based on historical cost financial reports, the remaining 34% is based on IFRS financial reports. There are 41 disciplinary turnovers out of the total 232 turnovers in the classified sample, making up 17.67% of all turnovers. The percentage of CEO turnover for the whole sample is 14%, 13% for the sub-sample of historical cost financial reports, and 15% for the IFRS sub-sample. Of these turnovers, the share of the disciplinary turnovers is 14%, 15% and 13%, respectively.

**Table 1.** Distribution of CEO turnover

| Accounting Regime                  | Years | Firm Years | No-CEO Turnover Years | CEO Turnover Years |                        |                           |                   |
|------------------------------------|-------|------------|-----------------------|--------------------|------------------------|---------------------------|-------------------|
|                                    |       |            |                       | Total CEO Turnover | Voluntary CEO Turnover | Disciplinary CEO Turnover | No-News Turnovers |
| Historical Cost                    | 1996  | 144        | 141                   | 3                  | 1                      | –                         | 2                 |
|                                    | 1997  | 166        | 156                   | 10                 | 4                      | 2                         | 4                 |
|                                    | 1998  | 179        | 151                   | 28                 | 20                     | –                         | 8                 |
|                                    | 1999  | 183        | 147                   | 36                 | 25                     | 6                         | 5                 |
|                                    | 2000  | 191        | 159                   | 32                 | 19                     | 8                         | 5                 |
|                                    | 2001  | 188        | 153                   | 35                 | 22                     | 5                         | 8                 |
|                                    | 2002  | 180        | 150                   | 30                 | 18                     | 4                         | 8                 |
|                                    | 2003  | 129        | 120                   | 9                  | 7                      | 2                         | –                 |
| Total Historical Cost Observations |       | 1,360      | 1,177                 | 183                | 116                    | 27                        | 40                |
| IFRS                               | 2003  | 57         | 47                    | 10                 | 7                      | 1                         | 2                 |
|                                    | 2004  | 62         | 52                    | 10                 | 8                      | –                         | 2                 |
|                                    | 2005  | 199        | 162                   | 37                 | 21                     | 4                         | 12                |
|                                    | 2006  | 198        | 172                   | 26                 | 20                     | 3                         | 3                 |
|                                    | 2007  | 193        | 167                   | 26                 | 19                     | 6                         | 1                 |
| Total IFRS Observations            |       | 709        | 600                   | 109                | 75                     | 14                        | 20                |
| Grand Total                        |       | 2,069      | 1,777                 | 292                | 191                    | 41                        | 60                |

**Notes:** In years 2003–2004, some publicly traded companies in Turkey had prepared IFRS based financial reports as early voluntary IFRS adopters by considering such option provided them by the capital markets regulation. In 2004, companies other than early IFRS adopters, prepared inflation – adjusted historical cost financial reports. Due to the aim of present study, these companies excluded from the sample, hence, we have limited number of observations in year 2004. In the beginning of 2005, IFRS became national GAAP for all publicly traded companies in Turkey

## 6.2. Descriptives

Table 2 presents the descriptive statistics of the independent variables included in the analysis. The mean return on assets for the sample is 3%, and 27% having negative pretax income based on contemporaneous measures. Based on lagged values, mean return on assets is higher (4%) and fewer firms (23%) have negative pretax income. In all cases, the mean return on assets declines moving from no turnover to disciplinary turnover. It is worth noting that the lowest percentage of negative pretax income is seen on voluntary turnover cases.

**Table 2.** Descriptive statistics

|                                  | All Sample |       |           | No CEO Turnover |       |           | Voluntary CEO Turnover |       |           | Disciplinary CEO Turnover |       |           |
|----------------------------------|------------|-------|-----------|-----------------|-------|-----------|------------------------|-------|-----------|---------------------------|-------|-----------|
|                                  | N          | Mean  | Std. Dev. | N               | Mean  | Std. Dev. | N                      | Mean  | Std. Dev. | N                         | Mean  | Std. Dev. |
| Corporate Performance Variables  |            |       |           |                 |       |           |                        |       |           |                           |       |           |
| Contemporaneous Return on Assets | 2,069      | 0.03  | 0.25      | 1,777           | 0.03  | 0.25      | 191                    | -0.01 | 0.20      | 41                        | -0.08 | 0.31      |
| Lagged Return on Assets          | 1,863      | 0.04  | 0.25      | 1,602           | 0.05  | 0.25      | 172                    | 0.02  | 0.19      | 38                        | -0.06 | 0.43      |
| Contemporaneous Negative Income  | 2,069      | 0.27  | 0.44      | 1,777           | 0.25  | 0.43      | 191                    | 0.36  | 0.48      | 41                        | 0.44  | 0.50      |
| Lagged Negative Income           | 1,863      | 0.23  | 0.42      | 1,602           | 0.22  | 0.41      | 172                    | 0.30  | 0.46      | 38                        | 0.47  | 0.51      |
| Control Variables                |            |       |           |                 |       |           |                        |       |           |                           |       |           |
| CEO Shares                       | 2,069      | 0.38  | 0.75      | 1,777           | 0.41  | 0.77      | 191                    | 0.29  | 0.69      | 41                        | 0.09  | 0.37      |
| Tenure                           | 2,069      | 2.97  | 2.70      | 1,777           | 2.90  | 2.72      | 191                    | 3.51  | 2.31      | 41                        | 3.80  | 3.67      |
| Largest Shareholding             | 2,069      | 0.46  | 0.21      | 1,777           | 0.45  | 0.21      | 191                    | 0.49  | 0.21      | 41                        | 0.53  | 0.25      |
| State Ownership                  | 2,069      | 0.92  | 0.26      | 1,777           | 0.93  | 0.25      | 191                    | 0.93  | 0.26      | 41                        | 0.68  | 0.47      |
| Size                             | 2,069      | 17.69 | 1.77      | 1,777           | 17.60 | 1.75      | 191                    | 18.41 | 1.65      | 41                        | 18.48 | 2.19      |

The mean of CEO shares shows that the majority of the CEOs have no controlling stake and the mean value is lowest for disciplinary turnover cases as expected. The average tenure as CEO is 2.97 years. The mean tenure of CEOs in cases of disciplinary turnover is highest, and both disciplinary and voluntary cases have above average mean tenure. The mean largest shareholder's holding is 46%, and it is highest (53%) for disciplinary turnover cases. Although 92% of companies are privately-owned, the greatest number of disciplinary cases is in the state-owned companies. The mean size of the companies in cases of turnover is higher than the cases of no turnover.

Table 3 exhibits the correlation matrix between the regressors. Even though the correlation between the variables is statistically significant in some cases, these are relatively low and create no serious multicollinearity problem in the statistical analysis.

**Table 3.** Correlations between variables used in the models

|                           | CEO Turnover | Contemp. Return on Assets | Lagged Return on Assets | Contemp. Negative Income | Lagged Negative Income | CEO Shares | Tenure  | Largest Shareholding | State Ownership | Size |
|---------------------------|--------------|---------------------------|-------------------------|--------------------------|------------------------|------------|---------|----------------------|-----------------|------|
| CEO Turnover              | 1.00         |                           |                         |                          |                        |            |         |                      |                 |      |
| Contemp. Return on Assets | -0.07***     | 1.00                      |                         |                          |                        |            |         |                      |                 |      |
| Lagged Return on Assets   | -0.05*       | 0.46***                   | 1.00                    |                          |                        |            |         |                      |                 |      |
| Contemp. Negative Income  | 0.11***      | -0.49***                  | -0.03                   | 1.00                     |                        |            |         |                      |                 |      |
| Lagged Negative Income    | 0.08***      | -0.05*                    | 0.02                    | -0.02                    | 1.00                   |            |         |                      |                 |      |
| CEO Shares                | -0.09***     | -0.03                     | -0.03                   | 0.05**                   | 0.06**                 | 1.00       |         |                      |                 |      |
| Tenure                    | 0.06**       | -0.03                     | -0.07***                | 0.04†                    | 0.08***                | 0.13***    | 1.00    |                      |                 |      |
| Largest Shareholding      | 0.06**       | 0.01                      | -0.01                   | -0.04                    | -0.02                  | -0.19***   | -0.01   | 1.00                 |                 |      |
| State Ownership           | -0.06**      | -0.06**                   | -0.054*                 | 0.05*                    | 0.03                   | 0.14***    | 0.06**  | -0.23***             | 1.00            |      |
| Size                      | 0.11***      | 0.01                      | -0.04†                  | -0.04                    | 0.02                   | -0.11***   | 0.21*** | 0.17***              | -0.11***        | 1.00 |

**Notes:** Significance levels are †p < 0.10, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

### 6.3. CEO turnover / corporate performance sensitivity

Table 4 presents the logistic and multinomial logistic regression results for testing the sensitivity of CEO turnover to performance, hypotheses 1 and 2. Each contemporaneous and lagged measure of corporate performance and CEO shares, tenure as CEO, largest shareholder's holding, state ownership, size, industry dummies and year dummies as control variables are used to estimate the logistic regression equations on a single performance variable. In these equations, the turnover variable is a binary variable which takes the value of 1 if there is turnover and 0 otherwise. To test if the negative relationship found by the logistic regression is applicable to all types of turnover, the multinomial logistic regression is estimated by recoding the binary turnover variable as a categorical variable which takes the value of 1 if the turnover is voluntary, 2 if it is disciplinary and 0 otherwise. The base case in the multinomial logistic regressions is when the turnover variable is 0. All equations at Table 4 have goodness of fit statistics with 0.1% statistical significance.

The results of the estimated logistic regressions reveal that the probability of CEO dismissal increases as the corporate performance declines. The performance measures have statistically significant coefficients with the expected sign in their respective regressions. The negative sign of the return on assets suggests that the decline in return on assets increases the probability of CEO turnover whereas the positive sign of the negative income dummy suggests that a negative pretax income leads to a higher probability of turnover. These results confirm hypothesis 1, that there exists a negative relationship between turnover and performance.

The multinomial logistic regression results indicate that, even though their significance level decreases, the contemporaneous performance measures have a greater impact on probability of disciplinary turnover compared to voluntary one supporting hypothesis 2. The coefficient of the negative pretax income is greater in value and significance level compared to the return on asset variable. Along the same lines, the coefficients of the lagged return on assets have lower significance levels and moreover the coefficient of the lagged return on assets loses its significance in the voluntary case. This lends some support to hypothesis 2.

It is also worth noting the results for the control variables. The amount of CEO shares is significant in the logistic regressions; however it loses its significance in the case of voluntary turnovers. Hence, as expected, as the level of share ownership of the CEO increases the probability of disciplinary turnover decreases. State ownership has the opposite effect compared to CEO shares, that is, it increases the probability of disciplinary turnover and it is not significant for voluntary turnover cases. The largest shareholder's holding is significant in voluntary turnover equations for contemporaneous performance measures in the multinomial logistic regressions, and only in the contemporaneous negative income logistic regression equation. It was not significant in the lagged performance measure equations. This result calls for further analysis if the CEOs in voluntary turnovers are owner CEOs (Adams *et al.* 2009).

The tenure is also statistically significant with greater coefficients for disciplinary turnover cases. The size variable loses its significance in disciplinary cases except the con-

Table 4. CEO turnover and corporate performance

| Variables               | Logistic Regression             |                                 |                                 |                                 | Multinomial Logistic Regression |                                     |                                |                                     |                                |                                     |                                |                                     |
|-------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------------|--------------------------------|-------------------------------------|--------------------------------|-------------------------------------|--------------------------------|-------------------------------------|
|                         | Contemporaneous                 |                                 | Lagged                          |                                 | Contemporaneous                 |                                     | Lagged                         |                                     |                                |                                     |                                |                                     |
|                         | ROA Equation                    | Negative Income Equation        | ROA Equation                    | Negative Income Equation        | ROA Equation                    | Negative Income Equation            | ROA Equation                   | Negative Income Equation            |                                |                                     |                                |                                     |
| Performance             | Turnover<br>-0.56*<br>(-2.52)   | Turnover<br>0.72***<br>(4.82)   | Turnover<br>-0.49*<br>(-2.02)   | Turnover<br>0.66***<br>(3.96)   | Voluntary<br>-0.51*<br>(-1.99)  | Disciplinary<br>-0.72†<br>(-1.75)   | Voluntary<br>0.63***<br>(3.47) | Disciplinary<br>-0.90*<br>(-2.33)   | Voluntary<br>-0.39<br>(-1.29)  | Disciplinary<br>-0.90*<br>(-2.33)   | Voluntary<br>0.64**<br>(3.17)  | Disciplinary<br>1.21***<br>(3.23)   |
| CEO Shares              | Turnover<br>-0.45***<br>(-3.65) | Turnover<br>-0.47***<br>(-3.82) | Turnover<br>-0.43***<br>(-3.31) | Turnover<br>-0.45***<br>(-3.46) | Voluntary<br>-0.13<br>(-1.02)   | Disciplinary<br>-1.21*<br>(-2.42)   | Voluntary<br>-0.16<br>(-1.26)  | Disciplinary<br>-1.13*<br>(-2.27)   | Voluntary<br>-0.13<br>(-0.98)  | Disciplinary<br>-1.04*<br>(-2.21)   | Voluntary<br>-0.15<br>(-1.14)  | Disciplinary<br>-0.95*<br>(-2.16)   |
| Tenure                  | Turnover<br>0.08***<br>(3.19)   | Turnover<br>0.09***<br>(3.58)   | Turnover<br>0.09**<br>(3.15)    | Turnover<br>0.09***<br>(3.41)   | Voluntary<br>0.09***<br>(3.16)  | Disciplinary<br>0.15**<br>(2.60)    | Voluntary<br>0.11***<br>(3.48) | Disciplinary<br>0.16**<br>(2.92)    | Voluntary<br>0.11***<br>(3.41) | Disciplinary<br>0.13**<br>(2.34)    | Voluntary<br>0.12***<br>(3.68) | Disciplinary<br>0.14*<br>(2.56)     |
| Largest Shareholding    | Turnover<br>0.54<br>(1.63)      | Turnover<br>0.57†<br>(1.68)     | Turnover<br>0.29<br>(0.83)      | Turnover<br>0.32<br>(0.9)       | Voluntary<br>0.78*<br>(1.96)    | Disciplinary<br>0.30<br>(0.74)      | Voluntary<br>0.81*<br>(1.99)   | Disciplinary<br>0.66<br>(0.72)      | Voluntary<br>0.58<br>(1.36)    | Disciplinary<br>-0.02<br>(-0.02)    | Voluntary<br>0.61<br>(1.42)    | Disciplinary<br>-0.05<br>(-0.05)    |
| State                   | Turnover<br>-0.51*<br>(-2.03)   | Turnover<br>-0.47†<br>(-1.86)   | Turnover<br>-0.64*<br>(-2.48)   | Turnover<br>-0.60*<br>(-2.3)    | Voluntary<br>0.16<br>(0.45)     | Disciplinary<br>-1.92***<br>(-3.95) | Voluntary<br>0.19<br>(0.52)    | Disciplinary<br>-2.08***<br>(-4.06) | Voluntary<br>0.08<br>(0.22)    | Disciplinary<br>-2.14***<br>(-4.16) | Voluntary<br>0.14<br>(0.38)    | Disciplinary<br>-2.09***<br>(-3.99) |
| Size                    | Turnover<br>0.22***<br>(3.99)   | Turnover<br>0.27***<br>(4.66)   | Turnover<br>0.19***<br>(3.27)   | Turnover<br>0.23***<br>(3.77)   | Voluntary<br>0.35***<br>(5.10)  | Disciplinary<br>0.17<br>(1.26)      | Voluntary<br>0.39***<br>(5.56) | Disciplinary<br>0.24†<br>(1.69)     | Voluntary<br>0.35***<br>(4.83) | Disciplinary<br>0.07<br>(0.48)      | Voluntary<br>0.39***<br>(5.27) | Disciplinary<br>0.13<br>(0.87)      |
| Year                    | YES                             | YES                             | YES                             | YES                             | YES                             | YES                                 | YES                            | YES                                 | YES                            | YES                                 | YES                            | YES                                 |
| Industry                | YES                             | YES                             | YES                             | YES                             | YES                             | YES                                 | YES                            | YES                                 | YES                            | YES                                 | YES                            | YES                                 |
| N                       | 2,069                           | 2,069                           | 1,863                           | 1,863                           | 2,009                           | 2,009                               | 2,009                          | 2,009                               | 1,812                          | 1,812                               | 1,812                          | 1,812                               |
| Chi-square ( $\chi^2$ ) | 127.63***                       | 144.46***                       | 122.85***                       | 133.76***                       | 271***                          | 271***                              | 207.95***                      | 207.95***                           | 257.30***                      | 257.30***                           | 270.92***                      | 270.92***                           |
| Pseudo R <sup>2</sup>   | 0.08                            | 0.09                            | 0.08                            | 0.09                            | 0.12                            | 0.12                                | 0.13                           | 0.13                                | 0.13                           | 0.13                                | 0.14                           | 0.14                                |
| Log Likelihood          | -777.99                         | -769.57                         | -693.34                         | -687.59                         | -958.73                         | -958.73                             | -723.09                        | -723.09                             | -854.34                        | -854.34                             | -847.53                        | -847.53                             |

Notes: Table presents the results from both logistic and multinomial logistic regressions estimating the probability of CEO Turnover – using full sample, regardless of accounting regime – with the following model.

Prob {CEO turnover} = f (β corporate performance + γ control variables), where β denotes the relationship tested.

In **logistics regressions** the dependent variable, **CEO turnover**, takes 1 if there is a change in CEO, 0 otherwise. In **multinomial logistic regressions**, the base case is no CEO turnover, hence, the dependent variable, **CEO turnover**, takes the value of 0 if there is no change in CEO, 1 if the CEO change is voluntary and 2 if disciplinary. The performance measures is either **ROA** (net income/total assets) or **Negative Net Income** (= 1 if net income is negative, 0 otherwise); **CEO Shares** takes the value of 0 if CEO holds no shares, the value of 1 for less than 10% of shares, 2 between 10% and 50%, and 3 for more than 50%; **Tenure** is the CEO's tenure in the company as CEO – time in whole years from the starting date until their dismissal; **Largest Shareholding** variable denotes the percentage of the largest shareholder's holding, **State Ownership** variable takes the value of 0 if there is state ownership and 1 if none. **Size** is natural logarithm of Total Assets; **Industry** and **Year** dummy variables are included in the models but are not shown. The t-values are presented in the brackets. Significance levels are \*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01, \*\*\*\*p < 0.001

temporaneous negative pretax income equation with a coefficient significant only at the 10% level. This suggests that firm size is unimportant in cases of disciplinary turnovers. In other equations it has significant positive coefficients, which may be explained by the better corporate governance mechanisms in place in larger firms.

#### **6.4. Financial accounting regime**

The negative turnover performance relationship is confirmed by the previous analysis. The accounting-based performance measures are associated with turnover, in particular with disciplinary turnover. The quality of the accounting measures then is important, and as this rises the relationship should strengthen. To test this argument, the sample was split into sub-samples of historical cost and IFRS. The same regression models are estimated for each sub-sample respectively. The results are presented in Table 5 for the historical cost sub-sample and in Table 6 for the IFRS sub-sample.

All regression equations for the sub-samples have statistically significant goodness of fit statistics. The largest shareholder's holding variable is only significant in the IFRS sub-sample logistic regressions and disciplinary turnover cases. CEO shares variable shows similar behavior as the whole sample in the historical cost sub-sample but loses its significance in the multinomial logistic regressions in the IFRS sub-sample. State ownership also follows a similar pattern as the whole sample in the sub-samples except for the negative pretax income equations in the historical cost sub-sample, where it loses its significance.

Tenure is also significant in all historical cost sub-sample equations, whereas it loses its significance in the disciplinary turnover equations in the IFRS sub-sample, pointing to tenure as a proxy for age of CEO and time for retirement. The size variable is significant in all IFRS sub-sample contemporaneous performance measure equations and mimics a similar pattern to the whole sample in all equations.

The performance measures require more careful analysis in the sub-samples. The performance measures in the historical cost sub-sample have very small coefficients, even if they are significant in all logistic regressions, but not in all multinomial regressions. The return on assets variable was not found to be significant in voluntary turnover cases, supporting hypothesis 2. The contemporaneous return on assets has a large significant coefficient in the disciplinary turnover case in the IFRS sub-sample, confirming this result. The negative pretax income variable, on the other hand, provides mixed results. It has significant coefficients in all equations except the contemporaneous performance disciplinary turnover equation in the historical cost sub-sample and the lagged performance disciplinary turnover equation even though the coefficient is larger in these cases. In sum, the contemporaneous negative income as a performance measure supports hypotheses 2 in the IFRS sub-sample where its significance and value is larger in the disciplinary turnover equation.

The coefficients of the performance variables in the IFRS sub-sample were greater compared to the corresponding coefficients in the historical cost sub-sample supporting hypothesis 3. Especially when the contemporaneous performance measures are taken into account, the IFRS sub-sample coefficients are larger with higher significance levels.



**Table 5.** CEO turnover, corporate performance, and accounting regimes: historical cost sub-sample

| Variables               | Logistic Regression |                          |                    |                    |                          |                     | Multinomial Logistic Regression |                          |                   |                     |                          |                     |
|-------------------------|---------------------|--------------------------|--------------------|--------------------|--------------------------|---------------------|---------------------------------|--------------------------|-------------------|---------------------|--------------------------|---------------------|
|                         | Contemporaneous     |                          |                    | Lagged             |                          |                     | Contemporaneous                 |                          |                   | Lagged              |                          |                     |
|                         | ROA Equation        | Negative Income Equation | Turnover           | ROA Equation       | Negative Income Equation | Turnover            | ROA Equation                    | Negative Income Equation | Turnover          | ROA Equation        | Negative Income Equation | Turnover            |
| Performance             | -0.49*<br>(-2)      | 0.66***<br>(3.56)        | -0.44†<br>(-1.79)  | 0.65***<br>(3.24)  | -0.41<br>(-1.38)         | -0.88*<br>(-2.01)   | 0.48*<br>(2.08)                 | 0.52<br>(1.12)           | -0.33<br>(-1.01)  | -0.87*<br>(-2.1)    | 0.53*<br>(2.09)          | 1.26**<br>(2.67)    |
| CEO Shares              | -0.39*<br>(-2.6)    | -0.41**<br>(-2.71)       | -0.41**<br>(-2.65) | -0.42**<br>(-2.76) | -0.06<br>(-0.36)         | -1.45*<br>(-1.97)   | -0.08<br>(-0.5)                 | -1.41†<br>(-1.93)        | -0.06<br>(-0.39)  | -1.57*<br>(-2.07)   | -0.08<br>(-0.51)         | -1.28†<br>(-1.84)   |
| Tenure                  | 0.11*<br>(2.93)     | 0.12**<br>(3.09)         | 0.10**<br>(2.62)   | 0.10**<br>(2.72)   | 0.13**<br>(2.78)         | 0.19**<br>(2.96)    | 0.14**<br>(2.91)                | 0.19**<br>(2.89)         | 0.13**<br>(2.7)   | 0.20**<br>(2.96)    | 0.13**<br>(2.83)         | 0.19**<br>(2.89)    |
| Largest Shareholding    | 0.28<br>(0.64)      | 0.28<br>(0.63)           | 0.23<br>(0.52)     | 0.25<br>(0.55)     | 0.84<br>(1.54)           | -0.68<br>(-1.53)    | 0.84<br>(1.53)                  | -0.62<br>(-0.5)          | 0.84<br>(1.54)    | -0.71<br>(-1.54)    | 0.84<br>(1.54)           | -0.59<br>(-0.47)    |
| State                   | -0.53†<br>(-1.71)   | -0.49<br>(-1.59)         | -0.55†<br>(-1.78)  | -0.51<br>(-1.62)   | 0.46<br>(1)              | -2.44***<br>(-3.84) | 0.50<br>(1.08)                  | -2.41***<br>(-3.79)      | 0.46<br>(0.99)    | -2.43***<br>(-3.83) | 0.52<br>(1.1)            | -2.38***<br>(-3.69) |
| Size                    | 0.16*<br>(2.14)     | 0.19*<br>(2.46)          | 0.16*<br>(2.05)    | 0.18*<br>(2.32)    | 0.41***<br>(4.04)        | 0.01<br>(0.08)      | 0.42***<br>(4.16)               | 0.01<br>(0.03)           | 0.40***<br>(4.01) | 0.01<br>(0.06)      | 0.42***<br>(4.18)        | 0.05<br>(0.28)      |
| Year                    | YES                 | YES                      | YES                | YES                | YES                      | YES                 | YES                             | YES                      | YES               | YES                 | YES                      | YES                 |
| Industry                | YES                 | YES                      | YES                | YES                | YES                      | YES                 | YES                             | YES                      | YES               | YES                 | YES                      | YES                 |
| N                       | 1360                | 1360                     | 1345               | 1345               | 1320                     | 1320                | 1320                            | 1320                     | 1306              | 1306                | 1306                     | 1306                |
| Chi-square ( $\chi^2$ ) | 94.64***            | 103.32***                | 91.96***           | 99.22***           | 159.93***                | 161***              | 158.37***                       | 161***                   | 158.37***         | 161***              | 165.11***                | 165.11***           |
| Pseudo R <sup>2</sup>   | 0.09                | 0.09                     | 0.09               | 0.09               | 0.15                     | 0.15                | 0.15                            | 0.15                     | 0.15              | 0.15                | 0.16                     | 0.16                |
| Log Likelihood          | -489.83             | -485.49                  | -487.13            | -483.50            | -442.10                  | -441.56             | -441.27                         | -441.56                  | -441.27           | -441.27             | -437.89                  | -437.89             |

**Note:** Table presents the results from both logistic and multinomial logistic regressions estimating the probability of CEO Turnover – using **historical cost sub-sample** – with the following model.

Prob {CEO turnover} =  $f(\beta$  corporate performance +  $\gamma$  control variables), where  $\beta$  denotes the relationship tested.

In **logistics regressions** the dependent variable, **CEO turnover**, takes 1 if there is a change in CEO, 0 otherwise. In **multinomial logistic regressions**, the base case is no CEO turnover, hence, the dependent variable, **CEO turnover**, takes the value of 0 if there is no change in CEO, 1 if the CEO change is voluntary and 2 if disciplinary. The performance measures is either **ROA** (net income/total assets) or **Negative Net Income** (= 1 if net income is negative, 0 otherwise); **CEO Shares** takes the value of 0 if CEO holds no shares, the value of 1 for less than 10% of shares, 2 between 10% and 50%, and 3 for more than 50%; **Tenure** is the CEO's tenure in the company as CEO - time in whole years from the starting date until their dismissal; **Largest Shareholding** variable denotes the percentage of the largest shareholder's holding. **State Ownership** variable takes the value of 0 if there is state ownership and 1 if none. **Size** is natural logarithm of Total Assets; **Industry** and **Year** dummy variables are included in the models but are not shown. The t-values are presented in the brackets. Significance levels are \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ , \*\*\*\* $p < 0.001$

**Table 6.** CEO turnover, corporate performance, and accounting regimes: IFRS sub-sample

| Variables               | Logistic Regression           |                               |                               |                          | Multinomial Logistic Regression |                               |                               |                          |                   |                  |
|-------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------|---------------------------------|-------------------------------|-------------------------------|--------------------------|-------------------|------------------|
|                         | Contemporaneous               |                               | Lagged                        |                          | Contemporaneous                 |                               | Lagged                        |                          |                   |                  |
|                         | ROA Equation                  | Negative Income Equation      | ROA Equation                  | Negative Income Equation | ROA Equation                    | Negative Income Equation      | ROA Equation                  | Negative Income Equation |                   |                  |
| Performance             | -0.93 <sup>†</sup><br>(-1.69) | 0.91 <sup>***</sup><br>(3.38) | -1.24<br>(-1.06)              | 0.74*<br>(2.21)          | -6.84*<br>(-2.54)               | 0.89**<br>(2.81)              | 3.09**<br>(3.04)              | 1.37<br>(-1.04)          | -1.95<br>(-0.76)  | 0.86*<br>(2.28)  |
| CEO Shares              | -0.50 <sup>†</sup><br>(-1.89) | -0.54*<br>(-1.97)             | -0.48 <sup>†</sup><br>(-1.79) | -0.29<br>(-1.28)         | -0.89<br>(-0.97)                | -0.33<br>(-1.44)              | -0.63<br>(-0.73)              | -0.37<br>(-1.32)         | -0.10<br>(-0.15)  | -0.39<br>(-1.41) |
| Tenure                  | 0.07 <sup>†</sup><br>(1.85)   | 0.09*<br>(2.20)               | 0.09*<br>(1.93)               | 0.10*<br>(2.19)          | 0.13<br>(0.99)                  | 0.11*<br>(2.38)               | 0.17<br>(1.25)                | 0.11*<br>(2.22)          | -0.02<br>(0.18)   | 0.14*<br>(2.54)  |
| Largest Shareholding    | 1.03*<br>(1.99)               | 1.11*<br>(2.09)               | 0.48<br>(0.74)                | 0.58<br>(0.9)            | 4.63*<br>(2.37)                 | 0.96<br>(1.53)                | 5.13*<br>(2.46)               | 0.28<br>(0.38)           | 1.01<br>(0.61)    | 0.45<br>(0.60)   |
| State Ownership         | -0.91*<br>(-2.01)             | -0.96*<br>(-2.07)             | -1.25*<br>(-2.39)             | -1.27*<br>(-2.42)        | -2.74*<br>(2.4)                 | -0.50<br>(-0.82)              | -2.58*<br>(-2.3)              | -0.82<br>(-1.25)         | -2.33*<br>(-2.06) | -0.89<br>(-1.36) |
| Size                    | 0.28**<br>(3.13)              | 0.35 <sup>***</sup><br>(3.90) | 0.28**<br>(2.69)              | 0.33**<br>(3.08)         | 1.15**<br>(2.72)                | 0.35 <sup>***</sup><br>(3.31) | 1.27 <sup>***</sup><br>(3.26) | 0.31**<br>(2.61)         | 0.55<br>(1.51)    | 0.37**<br>(3.06) |
| Year                    | YES                           | YES                           | YES                           | YES                      | YES                             | YES                           | YES                           | YES                      | YES               | YES              |
| Industry                | YES                           | YES                           | YES                           | YES                      | YES                             | YES                           | YES                           | YES                      | YES               | YES              |
| N                       | 709                           | 709                           | 518                           | 518                      | 689                             | 689                           | 689                           | 506                      | 506               | 506              |
| Chi-square ( $\chi^2$ ) | 51.99**                       | 58.56.74***                   | 36.6**                        | 40.41**                  | 91.59**                         | 102.96***                     | 112.04 <sup>†</sup>           | 116.74*                  |                   | 116.74*          |
| Pseudo R <sup>2</sup>   | 0.07                          | 0.09                          | 0.08                          | 0.09                     | 0.15                            | 0.17                          | 0.17                          | 0.19                     |                   | 0.20             |
| Log Likelihood          | -280.52                       | -276.33                       | -198.83                       | -196.93                  | -258.07                         | -252.38                       | -228.76                       | -226.41                  |                   | -226.41          |

**Note:** Table presents the results from both logistic and multinomial logistic regressions estimating the probability of CEO Turnover – using IFRS sub-sample – with the following model.

Prob {CEO turnover} = f { $\beta$  corporate performance +  $\gamma$  control variables}, where  $\beta$  denotes the relationship tested.

In **logistics regressions** the dependent variable, **CEO turnover**, takes 1 if there is a change in CEO, 0 otherwise. In **multinomial logistic regressions**, the base case is no CEO turnover, hence, the dependent variable, **CEO turnover**, takes the value of 0 if there is no change in CEO, 1 if the CEO change is voluntary and 2 if disciplinary. The performance measures is either **ROA** (net income/total assets) or **Negative Net Income** (= 1 if net income is negative, 0 otherwise); **CEO Shares** takes the value of 0 if CEO holds no shares, the value of 1 for less than 10% of shares, 2 between 10% and 50%, and 3 for more than 50%; **Tenure** is the CEO's tenure in the company as CEO - time in whole years from the starting date until their dismissal; **Largest Shareholding** variable denotes the percentage of the largest shareholder's holding. **State Ownership** variable takes the value of 0 if there is state ownership and 1 if none. **Size** is natural logarithm of Total Assets; **Industry** and **Year** dummy variables are included in the models but are not shown. The t-values are presented in the brackets. Significance levels are <sup>†</sup>p < 0.10, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

In sum, our findings provide support for all three hypotheses formulated. Corporate performance, specifically contemporaneous performance, was found to have a negative relationship with turnover, especially in disciplinary cases and under IFRS. The changing behavior of the control variables suggests the interplay of the corporate governance mechanisms, therefore the system cannot be considered as inefficient.

## **7. Conclusion**

Corporate governance systems vary across countries with respect to the legal system, protection of investor rights, history and culture. Even though some convergence in these systems is observed and OECD corporate governance principles around the world are being enforced, it is argued by many researchers that different governance systems will evolve. Thus, there is no “one-size-fits-all” structure that can universally be applied.

Besides the investigation of corporate governance mechanisms, it is also crucial to examine the effectiveness of corporate governance systems. To test the effectiveness of a system, the focus should be on the outcomes. One major outcome of a corporate governance system which is working effectively is CEO change in times of poor corporate performance. The present paper has investigated the effectiveness of the Turkish corporate governance system, which is characterized as being poor by testing the relationship between CEO turnover and performance measures using logistic regressions.

We examined one dimension of effectiveness, and this can be taken as a limitation since it is not sufficient to determine clearly whether a system is effective. In spite of the efforts taken to identify every possible information source, the coding process of disciplinary versus voluntary CEO turnover remains a further limitation.

The findings lead to the following conclusions: 1) Even where a corporate governance system seems to have characteristics of a poor system, it may still be not ineffective due to the substitute mechanisms that are able to replace the ineffective ones. 2) The CEO turnover/corporate performance sensitivity is higher in disciplinary turnover cases. 3) Accounting regimes impact the CEO turnover/corporate performance sensitivity and measures based on IFRS financial reports strengthen this sensitivity.

## **References**

- Abe, Y. 1997. Chief executive turnover and firm performance in Japan, *Journal of the Japanese and International Economies* 11: 2–26. <http://dx.doi.org/10.1006/jjie.1996.0358>
- Adams, R.; Almeida, H.; Ferreira, D. 2009. Understanding the relationship between founder-CEO and firm performance, *Journal of Empirical Finance* 16(1): 136–150. <http://dx.doi.org/10.1016/j.jempfin.2008.05.002>
- Ararat, M.; Uğur, M. 2003. Corporate governance in Turkey: an overview and some policy recommendations, *Corporate Governance* 3(1): 58–75. <http://dx.doi.org/10.1108/14720700310459863>
- Armstrong, C. S.; Barth, M. E.; Jagolinzer, A. D.; Riedl, E. J. 2010. Market reaction to the adoption of IFRS in Europe, *Accounting Review* 85(1): 31–62. <http://dx.doi.org/10.2308/accr.2010.85.1.31>
- Aviazian, V. A.; Ge, Y.; Qiu, J. 2004. Corporate governance and manager turnover: an unusual social experiment, *Journal of Banking and Finance* 29(6): 1459–1481. <http://dx.doi.org/10.1016/j.jbankfin.2004.05.038>

- Balic, A.; Ararat, M. 2007. *Corporate Governance: Turkish Transparency and Disclosure Survey 2007: Pace of Improvement Has Slowed* [cited 6 April 2010]. Available from Internet: <http://www2.standardandpoors.com/portal/site/sp/en/eu/page.article/3,1,1,0,1148443974434.html>
- Ball, R.; Kothari, S. P.; Robin, A. 2000. The effect of international institutional factors on properties of accounting earnings, *Journal of Accounting and Economics* 29: 1–52. [http://dx.doi.org/10.1016/S0165-4101\(00\)00012-4](http://dx.doi.org/10.1016/S0165-4101(00)00012-4)
- Balsari, C.; Ozkan, S.; Durak, M. G. 2010. Earnings conservatism in the pre- and post- IFRS adoption periods in Turkey: panel data evidence on the firm specific factors, *Accounting and Management Information Systems* 9(3): 403–421.
- Barth, M.; Landsman, R. W.; Lang, M. H. 2008. International accounting standards and accounting quality, *Journal of Accounting Research* 46(3): 467–498. <http://dx.doi.org/10.1111/j.1475-679X.2008.00287.x>
- Bhagat, S.; Bolton, B. 2008. Corporate governance and firm performance, *Journal of Corporate Finance* 14: 257–273. <http://dx.doi.org/10.1016/j.jcorpfin.2008.03.006>
- Bushman, R.; Smith, A. 2001. Financial accounting information and corporate governance, *Journal of Accounting and Economics* 32 (1–3): 237–333. [http://dx.doi.org/10.1016/S0165-4101\(01\)00027-1](http://dx.doi.org/10.1016/S0165-4101(01)00027-1)
- Campbell, T. L.; Keys, P. Y. 2002. Corporate governance in South Korea: the chaebol experience, *Journal of Corporate Finance* 8: 373–391. [http://dx.doi.org/10.1016/S0929-1199\(01\)00049-9](http://dx.doi.org/10.1016/S0929-1199(01)00049-9)
- Campos, C. E.; Newell, R. E.; Wilson, G. 2002. Corporate governance develops in emerging markets, *McKinsey on Finance* 3: 15–18.
- Carati, G.; Tourani-Rad, A. 2000. Convergence of corporate governance systems, *Managerial Finance* 26(10): 66–83. <http://dx.doi.org/10.1108/03074350010766945>
- Chung, K. H.; Kim, J. K. 1999. Corporate ownership and the value of a vote in an emerging market, *Journal of Corporate Finance* 5: 35–54. [http://dx.doi.org/10.1016/S0929-1199\(98\)00014-5](http://dx.doi.org/10.1016/S0929-1199(98)00014-5)
- Daske, H.; Hail, L.; Leuz, C.; Verdi, R. S. 2008. Mandatory IFRS Reporting Around the World: Early Evidence on the Economic Consequences, *ECGI - Finance Working Paper* No. 198/2008, *Chicago GSB Research Paper* No. 12. Available from Internet: <http://ssrn.com/abstract=1024240>
- Demirağ, I.; Serter, M. 2003. Ownership patterns and control in Turkish listed companies, *Corporate Governance* 11(1): 40–51. <http://dx.doi.org/10.1111/1467-8683.00300>
- Denis, K. D.; McConnell, J. J. 2003. International corporate governance, *Journal of Financial and Quantitative Analysis* 38(1): 1–36. <http://dx.doi.org/10.2307/4126762>
- Denis, K. D. 2001. Twenty-five years of corporate governance research...and counting, *Review of Financial Economics* 10: 191–212. [http://dx.doi.org/10.1016/S1058-3300\(01\)00037-4](http://dx.doi.org/10.1016/S1058-3300(01)00037-4)
- Fan, K. K.; Lau, C. M.; Young, M. 2007. Is China's corporate governance beginning to come of age? The case of CEO turnover, *Pacific – Basin Finance Journal* 15: 105–120. <http://dx.doi.org/10.1016/j.pacfin.2006.08.001>
- Filatotchev, I.; Boyd, B. K. 2009. Taking stock of corporate governance research while looking to the future, *Corporate Governance: an International Review* 17(3): 257–265. <http://dx.doi.org/10.1111/j.1467-8683.2009.00748.x>
- Gibson, M. S. 2003. Is corporate governance ineffective in emerging markets, *Journal of Financial and Quantitative Analysis* 38(1): 231–250. <http://dx.doi.org/10.2307/4126771>
- Gönenç, H. 2004. Sermaye sahipliği yapısı, yatırımcıların korunması ve firma değeri: Türkiye, A.B.D. ve Japonya karşılaştırması, in *8th National Finance Symposium Proceedings*, 157–167.
- Graff, M. 2008. Law and finance: common law and civil law countries compared – an empirical critique, *Economica* 75: 60–83.

- Institute of International Finance. 2005. *Corporate governance in Turkey: an investor perspective*. Equity advisory group task force report.
- Jostarndt, P.; Sautner, Z. 2008. Financial distress, corporate control, and management turnover, *Journal of Banking and Finance* 32(10): 2188–2204. <http://dx.doi.org/10.1016/j.jbankfin.2007.12.040>
- Kaplan, S. N. 1994. Top executive rewards and firm performance: a comparison of Japan and the United States, *Journal of Political Economy* 102(3): 510–546. <http://dx.doi.org/10.1086/261944>
- Kato, T.; Long, C. 2006. CEO turnover, firm performance, and enterprise reform in China: evidence from micro data, *Journal of Comparative Economics* 34: 76–817. <http://dx.doi.org/10.1016/j.jce.2006.08.002>
- Kula, V. 2005. The impact of the roles, structure and process of boards on firm performance: evidence from Turkey, *Corporate Governance* 13(2): 265–277. <http://dx.doi.org/10.1111/j.1467-8683.2005.00421.x>
- La Porta, R.; Lopez De-Silanes, F.; Shleifer, A.; Vishny, R. 1998. Law and finance, *Journal of Political Economy* 106(6): 1113–1155. <http://dx.doi.org/10.1086/250042>
- Leone, A.; Wu, J. S.; Zimmerman, J. 2006. Asymmetric sensitivity of CEO cash compensation to stock returns, *Journal of Accounting and Economics* 42: 167–192. <http://dx.doi.org/10.1016/j.jacceco.2006.04.001>
- Macey, J. R. 1997. Institutional investors and corporate monitoring: a demand-side perspective, *Managerial and Decision Economics* 18: 601–610. [http://dx.doi.org/10.1002/\(SICI\)1099-1468\(199711/12\)18:7/8<601::AID-MDE862>3.0.CO;2-L](http://dx.doi.org/10.1002/(SICI)1099-1468(199711/12)18:7/8<601::AID-MDE862>3.0.CO;2-L)
- Macey, J. R. 1998. Measuring the effectiveness of different corporate governance systems: toward a more scientific approach, *Journal of Applied Corporate Finance* 10(4): 16–25.
- Manne, H. G. 1965. Mergers and the market for corporate control, *Journal of Political Economy* 73: 110–120. <http://dx.doi.org/10.1086/259000>
- Miller, M. 2003. Is American corporate governance system fatally flawed, in Stern, J.; Chew, H. J. (Eds.). *The Revolution in Corporate Finance*. Oxford: Blackwell Publishing, 518–525.
- OECD. 2003. *Survey on corporate governance developments in OECD countries*. OECD Publications Service.
- Parrino, R. 1997. CEO turnover and outside succession a cross-sectional analysis, *Journal of Financial Economics* 46: 165–197. [http://dx.doi.org/10.1016/S0304-405X\(97\)00028-7](http://dx.doi.org/10.1016/S0304-405X(97)00028-7)
- Peck, S. I.; Ruigrok, W. 2000. Hiding behind the flag? Prospects for change in German corporate governance, *European Management Journal* 18(4): 420–430. [http://dx.doi.org/10.1016/S0263-2373\(00\)00031-1](http://dx.doi.org/10.1016/S0263-2373(00)00031-1)
- Perotti, E. C.; von Thadden, E. L. 2003. Strategic transparency and informed trading: will capital market integration force convergence of corporate governance?, *Journal of Financial and Quantitative Analysis* 38(1): 61–85. <http://dx.doi.org/10.2307/4126764>
- Rubach, M.; Sebora, T. C. 1998. Comparative corporate governance: competitive implications of an emerging convergence, *Journal of World Business* 33(2): 167–184. [http://dx.doi.org/10.1016/S1090-9516\(98\)90004-9](http://dx.doi.org/10.1016/S1090-9516(98)90004-9)
- Shleifer, A.; Vishny, R. 1997. A survey of corporate governance, *The Journal of Finance* 52(2): 737–783. <http://dx.doi.org/10.2307/2329497>
- Sloan, R. G. 2001. Financial accounting and corporate governance: a discussion, *Journal of Accounting and Economics* 32: 335–347. [http://dx.doi.org/10.1016/S0165-4101\(01\)00039-8](http://dx.doi.org/10.1016/S0165-4101(01)00039-8)
- Soderstrom, N. S.; Sun, K. J. 2007. IFRS adoption and accounting quality: a review, *European Accounting Review* 16(4): 675–702. <http://dx.doi.org/10.1080/09638180701706732>

- Suchard, J. A.; Singh, M.; Barr, R. 2001. The market effects of CEO turnover in Australian firms, *Pacific-Basin Finance Journal* 9: 1–27. [http://dx.doi.org/10.1016/S0927-538X\(00\)00032-9](http://dx.doi.org/10.1016/S0927-538X(00)00032-9)
- Warner, J. B.; Watts, R. L.; Wruck, K. H. 1988. Stock prices and top management changes, *Journal of Financial Economics* 20: 461–492. [http://dx.doi.org/10.1016/0304-405X\(88\)90054-2](http://dx.doi.org/10.1016/0304-405X(88)90054-2)
- Watts, R. L. 2003. Conservatism in accounting part II: evidence and research opportunities, *Accounting Horizons* 17: 287–301. <http://dx.doi.org/10.2308/acch.2003.17.4.287>
- Weisbach, M. S. 1988. Outside directors and CEO turnover, *Journal of Financial Economics* 20: 432–460 [http://dx.doi.org/10.1016/0304-405X\(88\)90053-0](http://dx.doi.org/10.1016/0304-405X(88)90053-0).
- Wu, J. S.; Zhang, I. 2009. The voluntary adoption of internationally recognized accounting standards and firm internal performance evaluation, *The Accounting Review* 84: 1281–1309. <http://dx.doi.org/10.2308/accr.2009.84.4.1281>
- Wu, J. S.; Zhang, I. 2010. Accounting Integration and Comparability: Evidence from Relative Performance Evaluation Around IFRS Adoption, *Simon School Working Paper* No. FR 10-25. Available from Internet: <http://ssrn.com/abstract=1650782>
- Yoshikawa, T.; Phan, P. H. 2003. The performance implications of ownership-driven governance reform, *European Management Journal* 21(6): 698–706. <http://dx.doi.org/10.1016/j.emj.2003.09.013>
- Yurtoğlu, B. B. 2000. Ownership, control and performance of Turkish listed firms, *Empirica* 27: 193–222. <http://dx.doi.org/10.1023/A:1026557203261>
- Zingales, L. 1994. The value of the voting right: a study of the Milan Stock Exchange experience, *The Review of Financial Studies* 7(1): 125–148. <http://dx.doi.org/10.1093/rfs/7.1.125>

**Banu DURUKAN.** Dr Banu Durukan is a Professor of Finance in the Faculty of Business at Dokuz Eylül University. She has been a part of the academic staff of Dokuz Eylül University Faculty of Business since 1995 and chair of the Accounting and Finance Division between 1999–2008. Durukan spent two years as a visiting professor at Ljubljana University Faculty of Economics between 2008 and 2010. She teaches finance courses at graduate and undergraduate levels, and her research interests are in the areas of corporate governance, investor behavior, financial markets and institutions. Durukan has published books, book chapters and articles in national and international journals. She serves as a reviewer and on editorial boards of national and international journals.

**Serdar OZKAN.** Dr Serdar Ozkan is Head of Department of Business Administration at Izmir University of Economics. He received his master degree (MA) in Accounting and his Doctorate (Ph.D.) in Business, in 1995 and 2000, respectively, both from Dokuz Eylül University. He teaches accounting courses at graduate and undergraduate levels. His research interests include theory and application of international accounting standards, accounting education, capital markets research in accounting, corporate governance and accounting information systems. He serves as a reviewer and on editorial boards of national journals. He also provided technical assistance to the Turkish member of IFAC's Developing Nations Committee. Ozkan is a member of American Accounting Association (AAA) and European Accounting Association (EAA).

**Fatih DALKILIC.** Dr Fatih Dalkilic is an Assistant Professor of Accounting in the Faculty of Business at Dokuz Eylül University. Dalkilic spent 2008 spring term at University of Wisconsin as an exchange academic staff. He is actively involved in lecturing since he joined the faculty; he teaches accounting courses and his research interests are in the areas of corporate governance, IFRS, internal auditing, professional judgment and accounting & auditing ethics. He has published book chapters and articles in national and international academic publications. He holds CIA (Certified Internal Auditor) degree and also member of European Accounting Association (EAA), Institute of Internal Auditors (IIA) and Association of Certified Fraud Examiners (ACFE).