



Contents lists available at ScienceDirect

Research in International Business and Finance

journal homepage: www.elsevier.com/locate/ribaf

Full length Article

Antitakeover provisions and CEO monetary benefits: Revisiting the E-index

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ARTICLE INFO

Keywords:

Corporate governance
Antitakeover provisions
CEO duality
Managerial entrenchment

ABSTRACT

We analyze and group antitakeover provisions as they relate to CEO's monetary benefits. We specifically focus on the determinants of the six E-index provisions that were proposed by Bebchuk et al. (2009) to conversely affect firm value. The six provisions are split into two indices: those that provide managers with a monetary benefit if a takeover was successful (MB provisions) and those that do not (TP provisions). Results indicate that CEOs with a role duality use their power to influence the adoption of MB provisions and resist the adoption of TP provisions. Moreover, in the presence of CEO duality, the relationship between MB provisions and firm value worsens. On the other hand, the relationship between TP provisions and firm value is unaffected by the presence of CEO duality. This suggests that CEOs having a role duality do not feel the need to work in the shareholders' best interest when entrenched with MB provisions. Our findings suggest that studying all the provisions of the E-index as a whole can be misleading in some cases.

1. Introduction

The market for corporate control is one of the main mechanisms used to discipline incompetent managers (Dalton et al., 2007). Empirical evidence suggests that antitakeover provisions entrench managers in their positions at the company (Gompers et al., 2003; Humphery-Jenner and Powell, 2011; Sundaramurthy, 1998). By adopting antitakeover provisions, managers try to insulate themselves from a takeover threat even if their firm is under-performing (Bebchuk et al., 2009). However, other researchers argue that takeover defenses are beneficial to shareholders because they result in a higher bid premium (Comment and Schwert, 1995; Harris, 1990; Stein, 1988).

One limitation in previous studies addressing the determinants of takeover defenses is the focus on a single or limited number of provisions (Cochran et al., 1985; Heron and Lie, 2006; Mallette and Fowler, 1992). However, due to the nature of takeover defenses, some provisions can act as substitutes and failing to control for the presence of other provisions might provide inaccurate results. Therefore, our paper investigates the determinants of six provisions that form the entrenchment index (E-Index) presented by Bebchuk et al. (2009). These six E-Index provisions have been found to have a significantly negative effect on firm performance. Studying the determinants of these provisions provides a better insight on the motives behind adopting takeover defenses. We look at different CEO, governance, and firm characteristics to observe the variables that inflate (or deflate) managerial entrenchment.

Moreover, this paper provides a new way to group and study antitakeover provisions. In addition to making a takeover process

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harder, some provisions provide managers with monetary benefits if a takeover successfully takes place¹ while others do not.² Agency theory suggests that managers could pursue opportunities that would provide them with financial outcome regardless of its effect on shareholders' wealth (Jensen and Meckling, 1976). Therefore, managerial preferences could differ between one provision and another based on the monetary benefit associated with it. Accordingly, study groups antitakeover provisions into two groups based on the monetary benefits acquired by a manager if a takeover is successful.

As a result, we study the determinants of the E-index as well as the determinants of the individual provisions from the two categories of takeover defenses. We focus on the relationship between CEO duality and each of the two categories of provisions to check if powerful CEOs act in an opportunistic way to influence the adoption of the provisions that provide them with personal benefits. Our Empirical evidence provides surprising results regarding the determinants of the E-Index. Contrary to agency theory and the managerial entrenchment hypothesis suggestions, independent directors seem to favor the adoption of the E-index provisions while CEOs acting as chairmen of the board are against the adoption of such provisions. Upon splitting the provisions into the two indices, the results become more consistent with the agency theory. We observe that CEOs acting as chairmen of the board support the adoption of MB provisions and oppose the adoption of TP provisions. Further tests also show a trade-off between the adoption of the two categories of provisions. This explains the CEO's behavior of opposing TP provisions in order to adopt MB provisions that provide them with personal benefits.

In addition, we show that, in the presence of CEO duality, the relationship between MB provisions and firm value worsens significantly. On the other hand, the relationship between TP provisions and firm value is unaffected by the presence of CEO duality. This indicates that CEOs acting as chairmen of the board feel demotivated in the presence of MB provisions, which leads to a further deterioration in firm value. Other findings show that independent directors generally oppose the adoption of MB provisions and favor the adoption of TP provisions.

Finally, we conclude that the relationship between CEO duality and firm performance depends on the levels of governance and shareholder rights.³ In companies with high (low) levels of governance and shareholder rights, CEO duality has a positive (negative) effect on firm performance. Thus, we provide partial support for the agency and stakeholder theories and conclude that one theory on its own cannot explain the complex aspects of corporate governance.

Burrell and Morgan (1979) suggest that there are four paradigms used in social science studies that help in classifying and understanding sociological theories. This paper employs a positivist functionalist viewpoint to address the research questions. In other words, we assume that people act in a rational way and that organizational behavior can be better understood through empirical hypothesis testing.

The rest of the paper is organized as follows: Section two surveys the literature and develops the hypothesis of this paper. Section three discusses the data used in this study. Section four provides descriptive statistics and empirical testing of our hypothesis. Section five concludes.

2. Literature review and hypothesis development

2.1. Literature review

Researchers argue that there are two opposing arguments explaining the adoption of antitakeover provisions (Deangelo and Rice, 1983). The managerial entrenchment hypothesis suggests that managers are willing to adopt takeover defenses to decrease the probability of a takeover, even if it is not in the shareholders' best interest. Dah (2016) finds that managers, during recessionary periods, are more entrenched and engage in higher levels of empire building than during normal periods. This aggravates agency problems between managers and shareholders leading to a worsened performance by firms who are already suffering from the economic situation. Humphery-Jenner and Powell (2011) provide evidence that takeovers in Australia (a country with no anti-takeover provisions) are value enhancing while the ones in the US market (a country where antitakeover provisions are common) are made for empire building. The authors believe that this is consistent with the entrenchment hypothesis since managers can engage in bad acquisitions safely because of the protection they have from the market for corporate control. Kumar and Rabinovitch (2012) add that entrenched managers engage freely in empire building activities due to the high cost of removing them from their positions.

The second argument supports the shareholder interest hypothesis for adopting antitakeover provisions (Becker-Blease, 2011). Stein (1988) believes that the presence of antitakeover provisions increases a manager's bargaining power leading to a higher bid premium. In addition, the presence of antitakeover provisions promotes a feeling of safety for managers to engage in long-term investments without having to worry about a possible takeover in the near future

Previous studies show that golden parachutes are inversely related to firm size (Cochran et al., 1985; Comment and Schwert, 1995; Wade et al., 1990) and to previous financial performance (Cochran et al., 1985; Heron and Lie, 2006). Managers of large firms will feel secure due to the high cost and complexity of taking over a large firm and, therefore, do not need antitakeover provisions for extra protection (Jensen, 1988). Moreover, firms tend to adopt antitakeover provisions in response to poor performance by a

¹ We are going to refer to these provisions as MB (Monetary Benefit) provisions. MB provisions include: Golden parachutes, Poison Pills and Staggered Boards. More discussion on the grouping process is provided in the methodology section.

² These provisions will be called TP (Takeover Protection) provisions and they include: Supermajority Requirement to Approve a Merger, Limitations on Bylaw Amendments and Limitations on Charter Amendments

³ Gompers et al. (2003) suggest that adopting a high (low) amount of antitakeover provisions is associated with poor (strong) levels of governance and shareholder rights

company's stock in the previous year, an event that would increase the possibility of a takeover (Heron and Lie, 2006). Harris (1990) believes that golden parachutes can help in solving agency problem between managers and shareholders. Managers are usually unwilling to have a takeover threat because most takeovers result in a change of management and the manager will ultimately lose his job. However, by providing managers with a large payment (a golden parachute), they will have less reason to try and block a takeover and might even be motivated to try and reach a successful deal.

Concerning other provisions, researchers find that managerial ownership is inversely related to the implementation of poison pills (Davis, 1991; Heron and Lie, 2006; Mallette and Fowler, 1992). Mallette and Fowler (1992) believe that as managerial ownership increases, managers are more likely to act in the shareholders' best interest and therefore will not adopt antitakeover provisions. Boyle et al. (1998) presents results consistent with the entrenchment hypothesis. The author's findings show that managers entrench themselves by either having high ownership in the corporation or by adopting antitakeover provisions. In addition, Mallette and Fowler (1992) find that CEO duality increases the likelihood of adopting a poison pill. This is consistent with the agency theory where a CEO uses the role duality for personal benefits to entrench himself in the company.

2.2. Grouping process and hypotheses development

2.2.1. Dependent variable: entrenchment

Bebchuk et al. (2009) construct the E-index using six of the 24 provisions that form the G-index.⁴ These E-index provisions were found to be the driving factor behind the reduction in firm performance. The E-index is a scale variable where the presence of each provision adds a point to the E-index. Thus, a value of zero indicates a low entrenchment level and the absence of all antitakeover provisions, while a value of six indicates a high level of entrenchment and the presence of all six provisions. Since the IRRC does not put out data on antitakeover provisions every year, we follow previous literature and use a filling method to fill in the missing data (Bebchuk et al., 2009; Gompers et al., 2003). We assume that, for a missing year, the antitakeover provisions present at a certain company are the same as the ones reported in the previous year. Other filling methods do not significantly affect our results.

As mentioned previously, the E-Index will be split into two categories of provisions based on the monetary outcome provided to a manager.

2.2.2. The grouping process

Sokolyk (2011) argues that different antitakeover provisions have different effects on the firm adopting them. Building up on this argument, we hypothesize that managers and independent directors have different preferences for different antitakeover provisions. Antitakeover provisions could serve as a one-line defense or as a two-line defense for managers. The first line of defense, which is common among all antitakeover provisions, is that these provisions do make a takeover process harder. The second line of defense, which is only applicable to certain provisions, is that even if a takeover successfully takes place, a manager would receive a monetary compensation. The provisions of the E-Index are split into two categories based on the monetary benefits acquired by a manager after a successful takeover takes place. The two categories of provisions are as follows:

2.2.3. Monetary benefit provisions

MB provisions are the provisions that are expected to provide, or help in providing, a manager with a two-line defense facing a takeover threat. One of the assumptions of agency theory is that the interests of managers and shareholders could diverge due to the self-interested human behavior (Eisenhardt, 1989). Therefore, managers may prefer some provisions over others based on the monetary outcome provided to the manager. In other words, we expect managers to prefer having two lines of defense against takeover rather than the non-monetary compensating one line defense.

The provisions included in this monetary benefit index are: Poison pills, golden parachutes and staggered boards. Poison pills and golden parachutes are included because they directly provide managers with monetary benefits when a takeover takes place. On the other hand, staggered boards are included because the presence of a staggered board is crucial for a poison pill to be effective (Bebchuk and Cohen, 2005). Although staggered boards do not provide a direct monetary benefit to managers, they help in providing the monetary benefit from poison pills and, therefore, are included in the MB provision.

2.2.4. Takeover protection provisions

TP provisions are the remaining provisions of the E-Index which only provide the first line of defense for managers. These provisions simply make a takeover process harder without providing any benefit for a manager in case a takeover takes place. The provisions included in this category are: Supermajority requirement to approve a merger, limits to bylaw amendments and limits to charter amendments.

2.2.5. CEO duality and the adoption of antitakeover provisions

Researchers claim that one of the main reasons behind recent scandals and governance problems is the presence of CEO duality which leads to a weak governance structure (Jackling and Johl, 2009). According to agency theory, single leadership (one person serving as both CEO and COB) would give too much power to one individual, allowing him to dominate the board of directors and

⁴ Gompers et al. (2003) construct the G-Index by grouping 24 antitakeover provisions into one index. However, Bebchuk et al. (2009) provide evidence that only 6 of these 24 provisions have a significant effect on firm performance

their decisions (Boyd, 1994; Dayton, 1984). Therefore, a dual leadership structure (two different persons serving as CEO and COB) is recommended to increase board independence and enhance the alignment of interest between managers and stockholders (Coles et al., 2001).

When we split the E-Index into MB and TP provisions, we expect a significant difference in the relationship between these categories and CEO duality. Powerful CEOs act in an opportunistic way to increase their wealth (Lewellyn and Muller-Kahle, 2012). Core et al. (1999) find that CEOs acting as chairmen of the board abuse the power given to them by seeking to maximize their own personal wealth. Building up on these arguments, CEOs are expected to influence the adoption of MB provisions, which provide them with a financial benefit in the case of a takeover.

Hypothesis 1a. There is a positive relationship between CEO duality and the adoption of MB provisions.

CEOs already have structural power due to their position in their firm, which could also be enhanced if they serve as chairmen of the board (Lewellyn and Muller-Kahle, 2012). However, the monitoring of independent directors attempts to control the power given to a CEO (Beatty and Zajac, 1994; Brickley et al., 1994; Combs et al., 2007). This creates a fair balance of power at some firms and, therefore, we expect that a CEO could only influence the adoption of a limited amount of takeover provisions. In addition, researchers suggest that antitakeover provisions have a negative effect on firm performance (Bebchuk et al., 2009; Gompers et al., 2003). Knowing so, it is expected that firms will not adopt a large number of provisions since each adoption will negatively affect firm value. As a result, we investigate if an opportunistic CEO opposes the adoption of TP provisions in order to have a higher probability of adopting MB provisions.

Hypothesis 1b. There is a negative relationship between CEO duality and the adoption of TP provisions.

2.2.6. Board independence and the adoption of antitakeover provisions

A company's board of directors is considered one of the main instruments used in corporate governance to monitor managers (Fama and Jensen, 1983) and, therefore, align the interests of managers and shareholders (Kang et al., 2007). From an agency theory perspective, Dalton et al. (2007) claim that this alignment of interest is better achieved by increasing the percentage of independent directors serving on the board. Increasing the percentage of independent directors has been linked with an increase in firm value (Setia-Atmaja, 2009), higher CEO turnover when a firm is underperforming (Weisbach, 1988), higher degree of transparency (Chiang and He, 2010) and a better capital structure (Alves et al., 2015)

According to agency theory, independent directors try to repel a manager's attempt to adopt antitakeover provisions (Singh and Harianto, 1989). Therefore, we expect independent directors to oppose the adoption of MB provisions which are favorable to managers and provide a more entrenching effect to managers.

Hypothesis 2a. There is a negative relationship between the percentage of independent directors and the adoption of MB provisions.

Since antitakeover provisions provide the management team with a higher bargaining power (Comment and Schwert, 1995; Heron and Lie, 2006), independent directors might support the adoption of a few antitakeover provisions. We hypothesize that independent directors favor the adoption of TP provisions rather than MB provisions because they provide managers with a lesser entrenching effect.

Hypothesis 2b. Independent directors prefer the adoption of TP provisions rather than the adoption of MB provisions.

2.2.7. Research philosophy

The objective of this section is to highlight the use of the research methodology and explain its limitations. Ontological and epistemological layers are used to relate the research's basic assumption to the methodological techniques used. Ontology refers to the way we understand reality while epistemology resembles a theory of knowledge (Lagoarde-Segot, 2016). Burrell and Morgan (1979) suggest that there are two different ontological positions: objectivism and subjectivism. Objectivism acknowledges that a firm is an entity that has an objective reality. In contrast, subjectivism claims the absence of an objective reality and that the social phenomena are in a continuous revision state (Ardalan, 2017). Similarly, researchers suggest that there are two epistemological positions that resemble this theory of knowledge: the interpretivist and the positivist. The goal of positivism is to gather data and use existing theories to create hypothesis that can be empirically tested and present generalizable policies (Lagoarde-Segot, 2016a). On the other hand, others argue that generalization is not of significant importance in interpretivist epistemology. Interpretivists aim to understand the world from their subjects point of view by entering their world and taking a sympathetic stand with them.

Given the nature of this research, and consistent with modern finance literature, this study adopts an objective positivist approach based on hypothetic-deductive reasoning. While this study attempts to study the determinants of different antitakeover provisions and come up with policy suggestions, more work needs to be done that embraces ethical concerns and their reflections on the society's well-being. Lagoarde-Segot (2017) suggests that inferring policies by empirically observing facts while giving less attention to deeper levels (real and actual) can provide incomplete results. Therefore, this paper is considered a step in the process of analyzing takeover defenses and their effect on firm performance.

3. Dataset and model variables

3.1. Data

The firms included in this research are mainly from the S & P Composite 1500 index. This index merges three major indices into one; S & P small-cap 600, S & P mid-cap 400 and S & P 500. Thus, the S & P 1500 covers a wide variety of US companies, consisting of around 90% of the total market capitalization in the United States. In addition to covering a wide portion of the US market, the dataset ranges from 1992 till 2015, allowing this research to reach more reliable conclusions. The early 1990s witnessed a huge increase in the adoption of antitakeover provisions. Therefore, this time period is important to study the rise of antitakeover provisions from the early 1990s up to the recent years.

3.2. Data source

The data is collected from the CompuStat, ExecuComp and the RiskMetrics governance databases. CompuStat provides information on firms' financials (such as capital expenditure, spending on research and development, etc...). Information about the CEO compensation and titles is presented by the ExecuComp database. Finally, information on governance variables such as managerial entrenchment, board size, percentage of independent directors is acquired from the RiskMetrics database.

3.3. Control variables

Consistent with the literature, we also control for several firm characteristics that could influence the adoption of antitakeover provisions. Specifically, our study controls for firm size, leverage and previous firm performance (Cochran et al., 1985; Heron and Lie, 2006; Mallette and Fowler, 1992; Wade et al., 1990). A large firm size acts as a takeover deterrent due to the complexity and high cost of such firms (Cyert et al., 2002). Similarly, highly levered firms are also expensive to acquire. Therefore, these firms have less need to adopt antitakeover provisions than small firms and/or low levered firms. Moreover, firms with weak previous performance become underpriced in the market. Under-priced firms are lucrative investment opportunities for acquirers and, thus, tend to adopt more takeover defenses than fairly priced firms.

This study also controls for CEO ownership since a high managerial ownership level is perceived as a substitute for antitakeover provisions (Singh and Harianto, 1989). In addition, we control for R & D expenditure as a proxy for long-term investments since managers might adopt antitakeover provisions to engage in long-term investments freely (Becker-Blease, 2011; Stein, 1988). Finally, our study controls for board size since smaller boards inspire a better governance structure (Hermalin and Weisbach, 2001; Yermack, 1996)

Research Model:

$$ATP_{i,t} = \beta_0 + \beta_1 * Duality_{i,t} + \beta_2 * Indep_{i,t} + \beta_3 * BoardSize_{i,t} + \beta_4 * Ownership_{i,t} + \beta_5 * ROA_{i,t-1} + \beta_6 * FirmSize_{i,t} + \beta_7 * Leverage_{i,t} + \beta_8 * R \& D_{i,t} + \lambda_j + \varepsilon_{i,t}$$

Where the subscripts i, t, and j refer to firm, year, and industry respectively. λ represents a set of industry dummies. ATP refers to the antitakeover provision under study.

4. Results

4.1. Descriptive statistics

Table 1 shows the summary statistics for the variables to be used in this paper. It can be seen that, on average, companies have around 2 or 3 of the antitakeover provisions comprising the E-index (2.47). Among the six antitakeover provisions, the golden parachute provision has the highest level of adoption in this sample (65.7%) while the limitation on charter amendment provision has the lowest level of adoption (25.3%).

To test for multicollinearity, we run spearman's rank correlation (Table 2) and find that the correlation coefficient of all variables is below 0.5. Gujarati (2003) states that for a multicollinearity problem to exist between two variables, the correlation coefficient should be greater than or equal to 0.8. We also calculate VIF for our variables and the results show that the VIF of all variables was below 2.5, confirming that no multicollinearity problems are expected between the variables (Gujarati, 2003). Finally, a Hausman test is implemented to check whether a fixed effect model or a random effect model should be used. Results support using a fixed effect model for our regression analysis.

Figs. 1 and 2 show how the percentages of MB and TP provisions vary across firms in the presence or absence of CEO duality. Fig. 1 shows that the probability of having all 3 provisions from the monetary benefit index increases in the presence of CEO duality (32.9% in the presence of CEO Duality; 21.33% otherwise). On the other hand, Fig. 2 shows that 67.98% of the firms with CEO duality do not have any provision from the takeover protection index. In the absence of CEO duality, this percentage decreases to 43.21%. These preliminary findings tend to support our trade-off hypothesis between the two categories of provisions. Powerful CEOs seem to favor the adoption of MB provisions and oppose the adoption of TP provisions. The next section presents regression analysis to test the significance of the findings found in Figs. 1 and 2.

Table 1
Descriptive Statistics.

Variable	Mean	Stand. Dev.	Number of obs.
E-Index	2.47	1.360	24,178
Golden Parachute	0.657	0.475	24,178
Poison Pill	0.436	0.496	24,178
Staggered Board	0.561	0.496	24,178
Supermajority Req.	0.313	0.464	24,178
Bylaw Amendment	0.339	0.474	24,178
Charter Amendment	0.254	0.435	24,178
% Independent Directors	61.284	27.281	23,620
CEO Duality	0.349	0.477	35,161
CEO Ownership	4.121	7.83	33,634
Lag ROA	0.123	0.227	28,907
Board Size	8.520	3.779	23,620
Firm Size	7.506	1.791	34,784
Leverage	0.192	0.190	34,783
R & D Expenditure	0.029	0.118	34,922

Table 1 presents a descriptive statistic for the variables used in this study. Continuous variables have been winsorized at the 1st and 99th percentiles to account for outliers.

Table 2
Spearman's Rank Correlation.

	E-Index	CEO Duality	% Indep	CEO Own	Board Size	Firm Size	Leverage	Liquidity	ROA	R & D	Adv.	Capital Exp
E-Index	1											
CEO Duality	-0.1252	1										
% Indep	0.2171	-0.0782	1									
CEO Own	-0.0552	0.0338	-0.1569	1								
Board Size	0.1112	-0.0008	0.3955	-0.2017	1							
Firm Size	0.0573	0.0549	0.1982	-0.3471	0.4792	1						
Leverage	0.0752	0.102	0.0286	-0.0921	0.1642	0.2949	1					
Liquidity	-0.0437	-0.1225	0.053	0.0471	-0.1875	-0.2842	-0.4446	1				
ROA	-0.0581	0.038	-0.0584	0.0167	-0.0489	-0.1259	-0.1153	0.1037	1			
R & D Exp	-0.018	0.0138	0.057	-0.0918	-0.1626	-0.2131	-0.2397	0.4044	0.052	1		
Adv. Exp	-0.043	-0.0428	0.0044	0.0222	0.0171	-0.013	-0.1074	0.1616	0.1205	0.0311	1	
Capital Exp	-0.0578	0.0868	-0.1154	-0.018	-0.0688	-0.1117	0.1026	-0.1128	0.4391	-0.0428	-0.0036	1

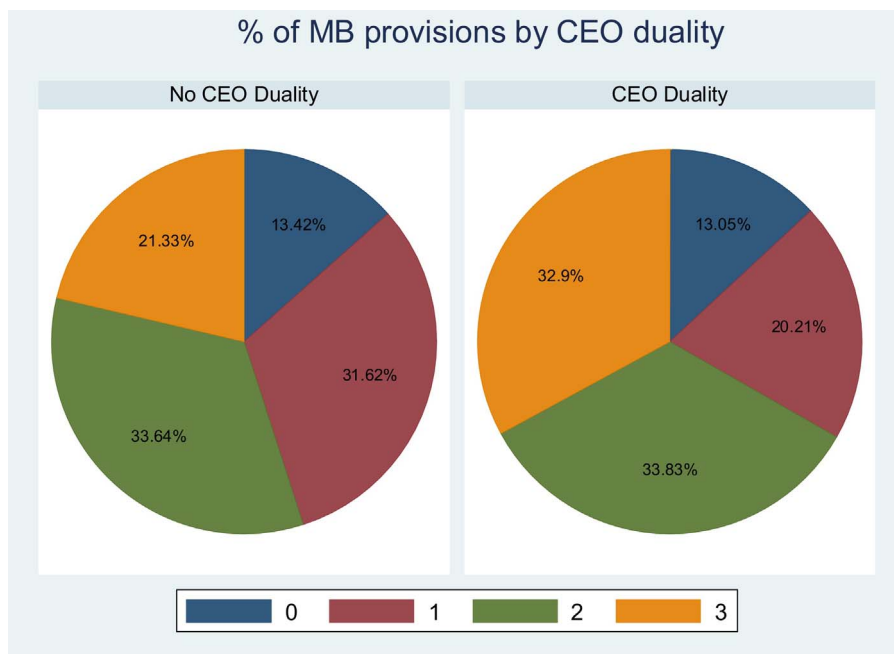


Fig. 1. Percentage of MB provisions by CEO Duality.

Fig. 1 displays the level of adoption of the monetary benefit (MB) provisions for firms with/without CEO duality.

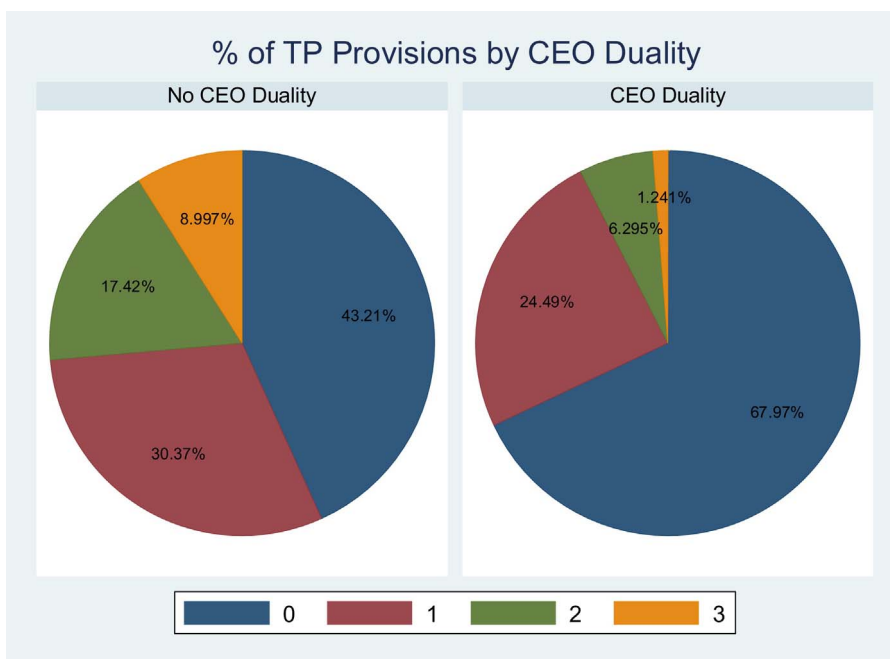


Fig. 2. Percentage of TP provisions by CEO Duality.

Fig. 2 displays the level of adoption of the Takeover Protection (TP) provisions for firms with/without CEO duality.

4.2. Determinants of antitakeover provisions

This section starts by studying the provisions of the E-Index. The E-index provisions are then split into two groups based on our grouping process (MB and TP provisions). We study the determinants of each provision from both indices separately to validate the rationality of our grouping process. In other words, if the determinants of the two groups of provisions provide divergent results, this would justify our grouping process and support our hypothesis for grouping the E-index provisions into two separate indices.

Table 3 investigates the determinants of antitakeover provisions. Contrary to agency theory suggestions, the percentage of independent directors is positively related to the adoption of antitakeover provisions. In addition, CEO duality has a negative relationship with the E-index. Although antitakeover provisions entrench managers in their position, the results show that independent directors favor the adoption of these entrenching provisions. On the other hand, powerful CEOs oppose the adoption of takeover defenses that would provide them with a protection from the market for corporate control. These striking results indicate that,

Table 3
Determinants of the E-Index.

	E-Index
% Independent Directors	0.0088***
CEO Duality	- 0.213***
CEO Ownership	- 0.0301***
Board Size	- 0.0147***
Lag ROA	- 0.1969*
Firm Size	- 0.0266***
Leverage	0.3279***
R & D Expenditure	- 1.8069
Constant	2.1137***
Adjusted R2	0.1226
N	22514
Industry Dummies	Yes

Table 3 presents an industry fixed effect regression for the determinants of the E-index. The dependent variable is the E-index which is a categorical value ranging from 0 to 6 (with 0 indicating a firm with no takeover defenses while 6 designates a firm that adopted all 6 takeover defenses). Robust standard errors are computed following White (1980) to account for potential heteroskedasticity. Continuous variables are winsorized at the 1 and 99 percentiles. The asterisks ***, **, * represent significance at the 1%, 5%, and 10% levels respectively.

contrary to agency theory, antitakeover provisions increase with board independence and decrease with CEO duality. However, as shown below, the division of the anti-takeover provisions into MB and TP provisions helps explain these surprising and unanticipated results.

4.2.1. Studying the determinants of individual provisions

In this section, the provisions of the E-Index are split into the two aforementioned categories (MB and TP provisions). We run probit regressions for each provision to test if the individual provisions support our method of grouping the takeover defenses. In any given regression, we also control for the presence of the other five provisions. Two different indices are used when controlling for the remaining provisions. When studying the determinants of a provision from the monetary benefit category, an index of the other two MB provisions will be created as a control variable along with the index for TP provisions.⁵ This grouping process is chosen since the provisions of each category could act as substitutes to one another. For example, the compensation obtained from having a poison pill may replace the need of having a golden parachute to obtain another kind of compensation. In the same sense, the takeover protection effect of one TP provision acts as a substitute for the takeover protection of another TP provision.

Table 4 shows that the three MB provisions (poison pills, golden parachutes and classified boards) support Hypothesis 1a. Results indicate that there is a positive relationship between CEO duality and each of the three provisions. The presence of a CEO duality increases the likelihood of adopting takeover defenses that provide them with a two line defense against a takeover threat. We also demonstrate that as the percentage of independent directors increases, the probability of adopting a poison pill or a staggered board decreases (partial support for Hypothesis 2a). This confirms our previous assumption that a powerful CEO is more likely to favor the adoption of these provisions than independent directors. However, the relationship between independent directors and golden parachutes is significantly positive. We will address this result later on in the paper.

Moving on to the next set of provisions, Table 5 shows the determinants of the individual TP provisions. Consistent with Hypothesis 1b, results suggest a negative relationship between CEO duality and the adoption of TP provisions. Moreover, there is a positive relationship between the percentage of independent directors and two of the TP takeover defenses (Supermajority Requirements and Limits on Charter Amendments). This is in compliance with our findings regarding the determinants of the E-index in Table 5 and seems to be the driving factor behind it.

Independent directors seem to favor the adoption of these provisions while a CEO who is also the chairman of the board does not support their adoption. Although these three provisions do make a takeover process harder for a bidder firm, the negative sign of the CEO duality coefficient could indicate that CEOs do not have the power to influence the adoption of numerous takeover defenses. As a result, CEOs oppose the adoption of TP defenses in order to have a higher probability or more power in influencing the adoption of MB defenses.

To confirm the validity of this assumption, we observe the coefficient estimates of the TP Index in Table 5. Specifically, we check if there is a trade-off between the provisions that yield a monetary benefit to a CEO in case of a takeover and those that do not. As expected, Table 5 highlights a negative relationship between poison pills and golden parachutes on the one hand and TP provisions on the other. That is, the adoption of TP provisions reduces the likelihood of adopting a poison pill or a golden parachute. This explains the negative relationship between CEO duality and TP provisions. Although TP provisions do help in entrenching a CEO in his company by making a takeover process harder, a CEO would be better off by adopting an entrenching provision that would also provide him with a monetary compensation in case a takeover attempt is successful. Therefore, a CEO opposes the adoption of TP provisions in order to have a higher probability of adopting a poison pill or a golden parachute. These results confirm the validity of grouping takeover defenses based on the monetary outcome provided to managers in case a takeover takes place.

4.2.2. The case of golden parachutes

Most of the results presented in Tables 4 and 5 support our aforementioned hypotheses. However, the only provision that was supported by both CEOs with a role duality and independent directors is the golden parachute. A study by Evans and Hefner (2009) helps explain the unanimous support for golden parachutes. They state that a golden parachute “is a recruitment tool that attracts a new management team that can return a financially risky firm to a satisfactory level of profitability” (Evans and Hefner, 2009). Their results show that firms hiring new CEOs have a higher probability of adopting a golden parachute than firms that do not, thus confirming the argument that golden parachutes are given to attract new managers. The authors conclude by arguing that the presence of a golden parachute is an ethical process that should be supported by directors as well as managers. Zhao (2013) also suggests that the presence of severance packages in a manager’s contract, such as golden parachutes, will enhance the manager’s engagement in investments with a positive but risky net present value.

Another possible explanation for supporting golden parachutes can be observed by studying the compensation schemes of newly hired executives. Agrawal and Knoeber (1998) report that a golden parachute acts as a substitute for extra compensation for senior executives. Poorly performing firms cannot afford to pay excessive compensation packages to attract high quality managers in order to enhance the profitability of their firms. Therefore, by providing managers with a golden parachute, directors are transferring the liability of paying executive compensation from the shareholders to the bidding firm (by paying a higher premium) in case a takeover takes place (Choi, 2004). Studies show that there is a positive relationship between the size of a golden parachute and the premium paid to shareholders when a takeover takes place (Harris, 1990; Machlin et al., 1993). Harris (1990) also suggests that, in most cases, the additional premium paid to shareholders when a golden parachute is present exceeds the value of the parachute itself. Therefore,

⁵ Probit regressions are also run where we control for each provision separately. The results are qualitatively similar.

Table 4
Board Compositions and the Adoption of MB Provisions.

	Golden Parachute	Poison Pills	Staggered Board
CEO Duality	0.0809**	0.5186***	0.0683**
% Independent Directors	0.0124***	−0.0008*	−0.0037***
CEO Ownership	−0.0416***	−0.0315***	0.0046**
Board Size	−0.0207***	−0.0030	0.0364***
Lag ROA	−0.6953***	0.0974	−0.2338**
Firm Size	0.0340***	−0.1238***	−0.1110***
Leverage	0.1991***	0.5369***	−0.0022
R & D Expenditure	−1.8390***	1.0299***	−2.4940***
TP Provisions	−0.0779***	−0.0397***	0.2187***
Remaining MB provisions	0.2445***		
Remaining MB provisions		0.4006***	
Remaining MB provisions			0.3701***
Constant	−0.3951***	0.2261***	0.4041***
Adjusted R ²	0.1101	0.1051	0.0583
N	22639	22639	22639
Industry Dummies	Yes	Yes	Yes

Table 4 presents a probit regression for the determinants of adopting MB provisions. The dependent variables (golden parachute, poison pill and staggered board) are dummy variables that take a value of 1 if the firm has adopted the provision and 0 otherwise. Robust standard errors are computed following White (1980) to account for potential heteroskedasticity. Continuous variables are winsorized at the 1 and 99 percentiles. The asterisks ***, **, * represent significance at the 1%, 5%, and 10% levels respectively.

Table 5
Board Composition and the Adoption of TP Provisions.

	Supermajority Req.	Bylaw Amendments	Charter Amendments
CEO Duality	−0.5369***	−0.0932***	−0.8362***
% Independent Directors	0.0052***	0.0074***	0.0090***
CEO Ownership	−0.0034	−0.0004	−0.0020
Board Size	0.0074	−0.0091	−0.0509***
Lag ROA	−0.0848	−0.0410	0.1253
Firm Size	0.1197***	−0.0146	−0.0010
Leverage	−0.2725***	0.2475***	0.1153
R & D Expenditure	−2.9531***	0.6992***	0.1946
MB Provisions	0.1134***	0.1026***	−0.1680***
Remaining TP provisions	0.0182		
Remaining TP provisions		0.8741***	
Remaining TP provisions			1.2393***
Constant	−1.6256***	−1.0992***	−1.6660***
Adjusted R ²	0.2257	0.3208	0.3092
N	22639	22639	22639
Industry Dummies	Yes	Yes	Yes

Table 5 presents a probit regression for the determinants of adopting TP provisions. The dependent variables (Supermajority requirement to approve a merger, limitation on bylaw amendments and limitation on charter amendments) are dummy variables that take a value of 1 if the firm has adopted the provision and 0 otherwise. Robust standard errors are computed following White (1980) to account for potential heteroskedasticity. Continuous variables are winsorized at the 1 and 99 percentiles. The asterisks ***, **, * represent significance at the 1%, 5%, and 10% levels respectively.

despite its entrenching effect for a firm's manager, both managers and independent directors favor their adoption. Table 1 provides support for this argument by showing that golden parachutes are the most common antitakeover provisions in our sample.⁶ Accordingly, golden parachutes could be similar to other necessary costs incurred by firms.⁷

4.2.3. Further implications on firm value

In a meta-analysis conducted to find the effect of CEO duality on firm performance, Rhoades et al. (2001) conclude that the relationship between CEO duality and firm performance depends on the focus of the study. Their findings provide partial support for both supporters and opponents of CEO duality. In the same sense, we expect to find different effects of CEO duality on firm value based on the levels of CEO entrenchment.

According to agency theory, CEO duality further increases agency problems at companies as CEOs abuse the power given to them

⁶ 65.7% of the firms in our sample have golden parachutes

⁷ Such as compensation plans for managers, independent directors and auditors

Table 6
Antitakeover Provisions and Firm Performance.

	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q
MB Provisions	-0.0735***	-0.0418***	-0.0723***	
TP Provisions	-0.1085***	-0.1071***	-0.1020***	
E INDEX				-0.0747***
MB*duality		-0.1134***		
TP*duality			-0.0530	
E*duality				-0.0727***
CEO Duality	0.0285	0.2267***	0.0523	0.2055***
% Independent Directors	-0.0007	-0.0006	-0.0007	-0.0007
CEO Ownership	0.0080***	0.0078***	0.0080***	0.0075***
Board Size	-0.0021	-0.0027	-0.0021	-0.0020
Firm Size	-0.0051	-0.0040	-0.0053	-0.0081
Leverage	0.0370	0.0361	0.0386	0.0453
Liquidity	1.6969***	1.6885***	1.6960***	1.6787***
ROA	5.4941***	5.4956***	5.4964***	5.5032***
R & D Expenditure	6.6661***	6.6698***	6.6639***	6.6661***
Advertising Expenditure	0.6638	0.6715	0.6510	0.6308
Capital Expenditure	2.1426***	2.1336***	2.1322***	2.1176***
Constant	0.1898	0.1399	0.1832	0.1957
Adjusted R ²	0.3615	0.3627	0.3616	0.3622
N	22683	22683	22683	22683
Industry Dummies	Yes	Yes	Yes	Yes

Table 6 presents a regression of firm performance on the adoption of antitakeover provisions and other firm and board characteristics. The dependent variable is firm performance proxied by Tobin's Q. Interaction variables are introduced for the different antitakeover indices with CEO duality. Robust standard errors are computed following White (1980) to account for potential heteroskedasticity. Continuous variables are winsorized at the 1 and 99 percentiles. The asterisks ***, **, * represent significance at the 1%, 5%, and 10% levels respectively.

and look to extract private benefits (Dayton 1984). Therefore, when a CEO with a role duality adopts certain provisions for his own benefit (MB provisions), the impact on firm value might be even worse. In order to test the following assumption, two interaction variables will be introduced. Interaction variables between each of the two indices (MB and TP provisions) and CEO duality will be generated to test for the marginal impact of adopting these provisions in the presence of CEO duality.

Table 6 shows the interaction between CEO Duality and different indices of antitakeover provisions.⁸ Following previous literature (Gompers et al., 2003; Bebchuk et al., 2009) Tobin's Q is used as a proxy for firm value. Moreover, advertising and capital expenditures and liquidity are added to control for their effect on firm performance (Faleye, 2007; Hermalin and Weisbach, 1991; McConnell and Servaes, 1990).

Table 6 indicates that, consistent with the previous literature, both MB and TP provisions have a negative effect on firm value (Bebchuk and Cohen, 2005; Faleye, 2007). However, the coefficient estimate of the interaction variable between MB provisions and CEO duality (model 2) is significantly negative. This implies that when a CEO acting as the chairman of the board adopts provisions from MB provisions, the effect on firm value is significantly worse than when a CEO with no role duality does so.

Another important finding in Table 6 is the coefficient of CEO duality in model 2 where we apply an interaction variable between MB provisions and CEO duality. The coefficient estimate of CEO duality in model 2 shows the impact of CEO duality on firm performance in the absence of all MB provisions. Unlike the propositions of agency theory, CEO duality increases firm value in this case.⁹ The absence of all MB provisions could imply that this firm has a high level of shareholder rights and is enjoying a good governance level. In such firms, consistent with the stewardship theory, CEOs are motivated to achieve superior performance and act as stewards whose primary role is to maximize shareholder value (Donaldson and Davis, 1991). Introducing an interaction variable between the E-Index and CEO duality (model 4) yields similar results. The interaction coefficient between the E-Index and CEO duality negatively affects firm value. In addition, the absence of all the E-Index provisions enhances the relationship between CEO duality and firm value. This is consistent with researchers who claim that a single theory (agency theory or stewardship theory) cannot fully explain the relationship between CEO duality and firm value on its own (Boyd, 1995; Brickley et al., 1997; Elsayed, 2007). Brickley et al. (1997) concludes that both leadership structures have their advantages and disadvantages. Therefore, a single leadership structure could be beneficial to a firm while a dual leadership structure could be beneficial to another. On the other hand, model 3 of Table 6 shows that there is no significant marginal impact of adopting provisions from the TP index on firm value in the presence of CEO duality. The coefficient of CEO duality on its own is also insignificant, indicating that the presence or absence of all TP provisions does not affect the relationship between CEO duality and firm value. This confirms our previous suggestions that CEOs with a role duality are affected by the presence/absence of MB provisions more than they are affected by the presence/absence of TP provisions. CEO duality can be beneficial for a firm with a high level of shareholder rights and a high level of governance (absence of MB provisions).

⁸ OLS regressions are run for the interactions between MB, TP, and the E-Index provisions on one hand and CEO duality on the other.

⁹ The first column of Table 6 shows that CEO duality has an insignificant effect on firm value when no interaction variable is introduced.

Although both sets of provisions adversely affect firm value, the results above show that the presence of CEO duality leads to a further decrease in firm value in the presence of MB provisions. Providing a CEO with a role duality job, along with provisions that provide him with a monetary benefit in case the firm was taken over, gives a CEO too much power. This leads to the ultimate expropriation of shareholders' rights, where a CEO can freely extract private benefits from a company. In such a case, a CEO does not fear the occurrence of a takeover, since the takeover will also provide the CEO with monetary benefits.

5. Discussion and conclusion

This paper provides a new idea of grouping and analyzing antitakeover provisions that is of particular importance when studying the relationship between governance variables and takeover defenses. While the majority of recent literature settles that antitakeover provisions have a negative effect on firm performance, many studies fail to differentiate between different types of takeover defenses. Antitakeover provisions in this paper are grouped into two categories based on whether the provision under study provides, or helps in providing, a monetary outcome for a manager if a takeover is successful or not.

This paper studies the determinants of the E-index as well as the determinants of its individual provisions. This is done to verify the rationality of the grouping process as our results suggest that there are significant differences in the determinants of individual provisions. Powerful CEOs and boards of directors have altered preferences for adopting takeover defenses. Upon studying the determinants of individual provisions, CEOs with a role duality favor (oppose) the adoption of all three MB (TP) provisions while independent directors are more likely to favor the adoption of TP provisions. CEOs having TP provisions still feel the need to continue working hard in order to protect their firm from a takeover and thus protect their position in their company. On the other hand, CEOs with MB provisions are highly entrenched in their company and have their position backed up with a monetary compensation if they were to be fired after a successful takeover. Further tests also show that the level of takeover defenses adopted by the company moderates the CEO duality-firm performance relationship. Specifically, CEO duality has a negative (positive) effect on firm performance in the presence (absence) of MB provisions. On the other hand, the presence of TP provisions does not have a significant impact on the relationship between CEO duality and firm performance. This suggests that the combination of having CEO duality and adopting MB provisions leads to excessive CEO power which transforms into a worsened effect on firm performance.

Our results suggest that studying the determinants of the E-index can be misleading since the results might be driven by only one or two of the six E-index provisions. Similarly, studies addressing the effect of the E-index on other governance aspects might be misleading as well. Future researchers could highlight more on the differences between the two categories of provisions and their interaction with other governance mechanisms. As mentioned previously, this study only tests the empirical relationship for adopting antitakeover defenses without addressing deeper reality levels. This provides demi-regularities that can offer clues for future researchers addressing the deeper reality levels of this study. Future studies also need to embrace ethical concerns and their reflections on the society's well-being to touch on deeper levels (real and actual).

The results of this paper are of particular importance to investors and practitioners. Although the literature demonstrates that the provisions of the E-index have a negative effect on firm performance, the motivation and the signals provided by adopting individual provisions might be different. Results show that the monetary benefit provisions are more entrenching and are adopted by opportunistic managers for private benefits. Previous studies show that investors are also interested and in the governance structure of the firm and are reluctant to invest in poorly governed firms (O'Connor, 2012).

Appendix A. Variable Definitions

Variable	Definition
Advertising Expenditure	The annual dollar amount spent by the company on advertising.
Board Size	The total number of directors serving on a company's board
Capital Expenditure	The annual dollar amount spent by a company to acquire or upgrade its tangible assets
MB provisions	Categorical variable ranging from 0 to 3. It includes the provisions that provide, or help in providing, a monetary compensation to a CEO in case a takeover occurs.
TP Provisions	Categorical variable ranging from 0 to 3. It includes the provisions that simply make a takeover process harder without providing manager with any monetary compensation in the case of a takeover.
CEO Age	The age of a firm's CEO
CEO Ownership	The percentage of stocks owned by a CEO excluding stock options
Duality _{t-1}	A dummy variable equal to 0 if two independent people serve as the Ceo and Cob and 1 otherwise
E-Index	Categorical variable ranging from 0 to 6. The presence of each of the six antitakeover provisions adds a value of 1 to the E-Index
Firm Size	The value of a firm's Total Assets
Independent Directors	The percentage of independent directors serving on a company's board. This study uses the definition of independent directors as provided by the RiskMetrics. Consistent with the NASDAQ listing rule 5605 (2), independent directors are those who are independent of top management, are not ex-employees, and do not have any business relationship with the company.

Leverage	The ratio of a firm's Debt to Total Assets.
Liquidity	The ratio of a firm's cash to Total Assets
R & D Exp.	The annual dollar amount spent by a company on research in order to create future opportunities for investments or invention of new products.
ROA _{t-1}	Return on Assets at time t-1.

Appendix B. Provisions Definitions

Variable	Definition
Golden Parachutes	Golden parachutes are compensations paid to senior managers in case they resign, or they are fired from their position, after a successful takeover. They suggest that golden parachutes take away the right of shareholders to replace the management team without experiencing heavy costs.
Poison Pills	Poison pills give stockholders of the acquired firm, different from the bidder, the right to buy stocks in one of the two merged companies at a great discount price.
Staggered Boards	A staggered board is a board in which its members are split into different and overlapping classes for re-election (usually 3 classes). This separation makes it impossible for the bidder to replace a majority of the board members in one single year, even if the bidder has support from the majority of shareholders. Therefore, in order for a bidding firm to gain full control of the board, they have to wait for several years (at least 2 election periods).
Supermajority Requirement to Approve a Merger	A supermajority requirement for mergers is a provision that necessitates a percentage of voting that is higher than that of the state law in order to approve a merger (common used percentages are 66.7, 75, or 85 percent).
Limitations on Bylaw and Charter Amendments	These provisions limit the ability of shareholders to make changes in the documents that govern the corporation. The limitations can range from requiring a supermajority of shareholders to vote in order to approve bylaws and charter amendments to eliminating the shareholders' capacity to make changes in the bylaws and charter or even give the directors the right to make amendments to the charter and bylaws without having the shareholders' consent.

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