The Impact of the Sarbanes-Oxley Act on Takeover Protection Provisions

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Abstract

We investigate the effects of the Sarbanes-Oxley (SOX) Act on corporate governance metrics, such as the takeover protection provisions and the governance index (G-index). We look at provisions related to takeover protection such as severance agreements, indemnity contracts, golden parachutes, compensation schemes, director liability and indemnity. We examine the effects of SOX between the two periods, designating the 1998–2000 timeframe as the pre–SOX period and the 2002–2004 timeframe as the post–SOX period. Then, in order to determine whether these provisions were affected in any way after 2004, we compare the values from 2004 to the values from 2006. We discover that between the pre-SOX and post-SOX periods, the G-index mean score had increased, indicating a declining degree of total shareholder rights. When we examine the six protection provisions, we discover that two of them—compensation plans and golden parachutes—had deteriorated (i.e., the percentage of firms using these measures had increased) and four of them—indemnification contracts, severance agreements, director indemnity, and director liability—had improved. Put differently, following the passage of the Act, businesses began to select different takeover protection options. However, the SOX's long-term effects were restricted to two variables only. After 2004, the proportion of companies employing golden parachutes climbed (i.e., negatively), whilst the percentage of companies utilizing severance agreements decreased (i.e., positively). We conclude that, in general, the SOX Act had a favorable effect on the majority of the measures that we looked at, with the exception of two measures: golden parachutes and compensation schemes.

Keywords: *Corporate Governance, Sarbanes-Oxley, Takeover Provisions, G-Index.*

Introduction

Using the G-index as a basis, we analyze how the Sarbanes-Oxley Act affects the takeover protection. We examine the effects of SOX between the two periods, designating the 1998–2000 timeframe as the pre–SOX period and the 2002–2004 timeframe as the post–SOX period. Then, in order to determine whether these provisions were affected in any way after 2004, we compare the values from 2004 to the values from 2006.

The Governance Index (G-index) developed by Gompers, Ishii, and Metrick (2003) is used in this paper. It is divided into five dimensions or elements: voting rights (voting), director/officer protection (protection), related state laws (state), and other takeover defense provisions (others). In particular, we concentrate on the takeover protection aspect of the G-index. The protection aspect contains six provisions like compensation plans, indemnity contracts, golden parachutes, severance agreements, and director's indemnity and liability.

The G-index mean score shows a decrease in governance between the pre-SOX and post-SOX periods, but it remains unchanged between the post-SOX period and 2006, suggesting no long-term effects. Additionally, we discover that between the pre-SOX and post-SOX periods, the shareholder protection provided by four takeover protection provisions—namely, indemnity contracts, severance agreements, director indemnity, and director liability—had improved. However, only golden parachutes and severance agreements demonstrate the long-term effects of the SOX beyond 2004. In this regard, on the long term, golden parachutes suffered a detrimental impact.

This paper adds to the current literature by studying the impact of SOX not only on the overall Governance Index (G-index), but also on the six takeover protection provisions accounted for by the G-index and

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included in the IRRC database. In addition, unlike prior studies which mostly focus on specific elements of the takeover provisions and for the short-term, we examine both the immediate effect of SOX (short-term) and extended effect (long-term) of the SOX on the G-index as well as on the six takeover provisions. As such, for the short-term effect, we address our questions by comparing the scores from 1998-2000 to 2002-2004. We also address our questions for the long-term effect of SOX by comparing the scores between 2004 and 2006. In other words, this present study provides a more comprehensive examination of the impact of SOX on both the G-index and the takeover protection provisions.

The structure of the rest of this paper is as follows: The next section reviews the literature, followed by sections on hypotheses, and data and methodology. The next part presents the empirical findings, which are followed by the conclusions.

Literature Review

According to Black et al. (2017), the creation of a corporate governance index raises construct validity issues because it is difficult to define what exactly qualifies as excellent or bad governance. Numerous corporate governance metrics, such as the G-index, entrenchment index, governance score, takeover index, etc., have been developed over time by researchers.

Gompers, Metrick, and Ishii (2003) created the Governance Index (G-index), which is divided into five aspects of governance and labeled as delay, voting, protection, state, and other provisions. The G-index is based on 24 unique provisions from the corporate governance data from the Investor Responsibility Research Center (IRRC). The G-index that they create states that the greater the index score, the fewer shareholder rights there are (the greater the management control). According to their analysis, the mean score first rises between 1990 and 1995 before falling in 1998. A comparable pattern can be seen in the highest percentile category, where there were more businesses with scores of 13 or above in 1990–1995 before a decline in 1998. Additionally, they show that, between 1990 and 1999, the portfolio of companies in the lowest percentile group (weak shareholder rights) significantly outperformed the portfolio of companies in the highest percentile group, and that group of companies also experienced lower sales growth and lower profitability than other companies in their industry.

A few writers contest the G-index's capacity to elucidate business values. Bebchuk, Cohen, and Ferrell (2009), for instance, examine the relative significance of each of the 24 clauses that make up the G-index. They use just six of the provisions to create an entrenchment-index (E-index), and they find a negative correlation between the E-index value and firm value. A similar conclusion is supported by Da Graca and Masson's (2013) research, which suggests that lower business values are linked to more entrenched management. On the other hand, when other structural model estimations are employed, the result is the opposite: a higher E-index is linked to a greater company valuation. Conversely, Brown and Caylor (2006) use seven of the fifty-one provisions that represent both external and internal governance criteria to create the Gov-score index. They demonstrate that their Gov-score index effectively explains business value, in line with Bebchuk et al. (2009). What's more, they show that out of the seven governance measures in their index, only one was mandated by the three main U.S. stock exchanges or the SOX.

Danielson and Karpoff (1998) provide evidence that a decrease in takeover activity occurred in the early 1990s, coinciding with a rise in the adoption of corporate governance requirements. They investigate whether ownership structure and board composition have an impact on corporate governance provisions, as well as how frequently and in what combinations organizations apply them. They discover that businesses frequently employ a few of the governance provisions jointly. These results appear to support the findings of Adjei and Adjei (2016), who conclude that the G-index better explains the relationship between corporate governance and business value than the E-index. Their results suggest that an index's capacity to explain business value may be impacted by leaving out the other clauses.

Sokolyk (2007) demonstrates in a different study that takeover probability and premia do not appear to be explained by the G-index. Instead, a different takeover-index that employs just five of the 24 provisions appears to perform better. Karpoff et al. (2017) discovered that 14 provisions influence takeover likelihood, with ten decreasing the likelihood and four increasing the likelihood. As a result, the authors propose all these provisions must be incorporated in the governance index to ensure its validity. In a subsequent paper, Karpoff et al. (2021) looks at the specific G-index requirements that impact takeover deterrent. According to these authors, just 13 of the rules account for takeover likelihoods; of these, two—golden parachutes and written consent restrictions—have an unexpectedly positive rather than negative association with takeover likelihood.

Bebchuk and Cohen (2005) found that staggered boards, which corporations use to safeguard board members from hostile takeovers and proxy contests, diminish firm value. Guo et al. (2008) found that businesses that eliminate staggered boards are more likely to develop wealth and become takeover targets than those that postpone the process. Cuñat et al. (2020) also document that companies that eliminate antitakeover safeguards such as staggered boards, dual-class shares, and poison pills are more likely to be targeted and have higher premiums. However, Amihud et al. (2019) come to a mixed conclusion after reexamining earlier research that initially indicated that staggered boards depress company values but more recently the reverse. Stated differently, they find that value is created for some but not for others. According to Cremers et al. (2017), modifications (adoption or removal) of staggered boards have no detrimental long-term impact on firm value. Instead, they discovered that organizations with staggered boards generate value by committing to profitable ventures.

Numerous studies have also looked into how SOX affects other aspects of corporate governance, like the makeup of the board of directors. According to studies conducted by Uzun et al. (2004), and Hillman and Dalziel (2003), there is a negative correlation between the number of outside directors and corporate fraud, and there is an increasing number of outside directors following SOX. Additionally, it is suggested that having more internal rather than independent directors has a negative impact on the ability to monitor managers. Additional evidence of the favorable impact is provided by Valenti (2008), who reports that businesses appear to be making efforts to enhance board supervision in the wake of SOX. Additionally, a favorable correlation has been demonstrated between the number of independent directors on the board and the value and performance of the company (e.g. Klein, 1998; Petra, 2005).

Another SOX impact that has been looked into concerns the provisions related to the board of directors and board committees (audit, compensation, executive, etc.), with the expectation that this will lessen earnings manipulation. Many studies (e.g., Chtourou et al., 2001; Xie et al., 2003; Kanagaretnam et al., 2007; Ghosh et al., 2010; Laux, 2012) demonstrate the positive effects of strong audit committees and boards of directors on discouraging earnings management and enhancing the quality of accounting information. However, Hermalin and Weisbach (2003) state that prior research generally suggests that board size is significant, but negatively correlated with firm performance, while board composition does not explain firm performance. Linck et al. (2009) provides evidence that significant changes in elements related to board of directors after the passage of SOX include increased workload for directors, higher proportion of external directors with professional competencies and experiences, bigger size with increased independent members, and higher director compensations.

Other studies associated with SOX and takeover provisions include Bhabra and Hossain (2020) who provide evidence of the positive impact of SOX by showing that acquired companies earn better premiums and returns during the announcement period as well as in the near and long term. Meanwhile, Chhaochharia et al. (2011) document a negative effect of Section 404 by showing that the exemption given to small firms not only has reduced the takeover threat faced by small companies, but has also had a negative effect on the premiums paid in the acquisitions of such firms. Cuñat et al. (2020) find that companies that eliminate anti-takeover measures tend to see higher premiums due to improved synergy between acquirer and target, as well as increased bidding competitiveness – which is in line with the notion that with increased number of bidders, the higher will be the excess to the seller in an auction process.

Hypotheses

In this research, we examine the short-run and long-run impacts of the Sarbanes-Oxley Act (i.e. the SOX) on the governance index (i.e. G-index) and takeover protection provisions of American companies. The takeover protection provisions include provisions on compensation plans, indemnity contracts, golden parachutes, severance agreements, director's indemnity, and director's liability.

The 1998-2000 period is used as the pre-SOX period and the 2002-2004 period is used as the post-SOX period. To examine the short-term impact, we compare the pre-SOX period to the post-SOX period. For the long-run impact, we compare the pre-SOX period to 2006. Our hypotheses are as follows:

H1:   There is no difference between the G-index in the 1998-2000 period and the G-index in the 2002-2004 period.

H1:   There is no difference between the takeover protection provisions in the 1998-2000 period and the takeover protection provisions in the 2002-2004 period.

H3: There is no difference between the G-index in the Year 2004 and the G-index in Year 2006.

H4: There is no difference between the takeover protection provisions in Year 2004 and the takeover protection provisions in Year 2006.

Data and Methodology

The Investor Responsibility Research Center (IRRC) provided the governance data used in this study, which was based on the Governance Index (G-index) developed by Gompers, Ishii, and Metrick in 2003. The G-index is a measure of corporate governance policies and takeover protection for companies in the S&P 1500 index and other publicly traded companies chosen for their high levels of institutional ownership and market capitalization. The 24 distinct provisions are grouped into five elements by Gompers, Ishii, and Metrick (2003). These include the use of delay tactics to thwart hostile bids, voting rights, director/officer protection, relevant state legislation, and additional takeover defense provisions.

Gompers, Ishii, and Metrick (2003) create the G-index by adding one point for any clause that appears to limit shareholder rights (or increase managerial control) and zero otherwise. Because of this, the G-index is the total of all the points assigned to each provision's presence, with a maximum score of 24. As a result, the firm's shareholder rights decrease with increasing G-index value (i.e., managerial power increases). A portion of their results are condensed and replicated in the table that follows (refer to Figure 1 as well).

Table 1. Summary Statistics for the G-Index from 1990 – 1998

Period	1990	1993	1995	1998
Mean	9.0	9.3	9.4	8.9
Med	9.0	9.0	9.0	9.0
G <= 5	158 (11.64%)	139 (10.35%)	120 (8.74%)	215 (12.59%)
G >= 13	169 (12.45%)	196 (14.37%)	197 (14.35%)	189 (11.07%)

Source: Gompers, Ishii, and Metrick (2003).

Table 1 above shows that while the number of firms with scores of less than or equal to 5 reduces between 1990 and 1995 and then grows in 1998, the mean score increases from 1990 to 1995 and then declines in 1998. A similar pattern is shown for the two highest percentile categories, as Table 1 also demonstrates. In these groups, the proportion of businesses scoring 13 or above rises between 1990 and 1995 and falls in 1998.

As demonstrated in the following Table 2 and Figure 1, which indicates a mixed trend in the shareholder protection levels during these periods, the mean value of the G-index appears to increase again from the pre-SOX period (1998 – 2000) to the post-SOX period (2002 – 2004), and then declines slightly in 2006. This information complements that provided in Table 1.

Table 2. Summary Statistics for the Governance Index from 1998 – 2006

Period	Variable	N	Mean	Med.	Stdev	Min	Max
1998-2000	Governance index	3800	8.8782	9	2.7693	2	19
2002-2004	Governance index	3876	9.0454	9	2.5896	1	18
2006	Governance index	1896	9.0200	9	2.5170	2	18

Fig. 1. Governance Index Over Time
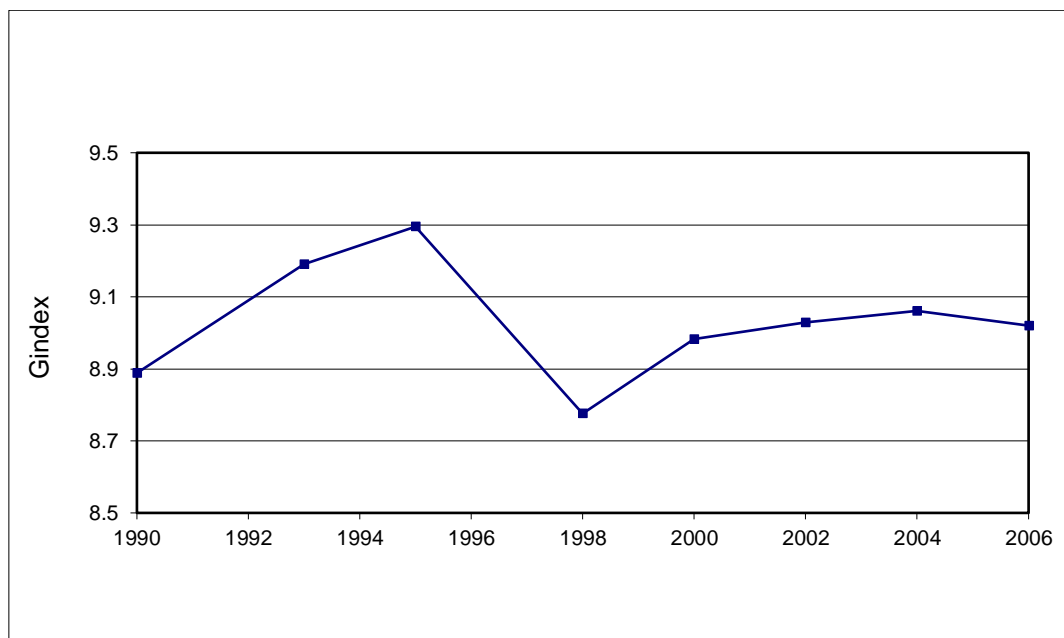
The present investigation centers on the protection aspect of the G-index, specifically those pertaining to takeover protection. The G-index's protection component comprises six clauses that limit the rights of shareholders, including indemnity contracts, golden parachutes, severance agreements, director indemnity, and director liability (refer to, for example, Danielson and Karpoff, 1998; Gompers et al., 2003, Sokolyk, 2007).

• Compensation plans (COMPENPLAN): A benefit plan with accelerated implementation.

• Indemnity contracts (INDEMCONT): Agreements between officers and directors that shield them from certain costs and rulings arising from judicial actions concerning their actions.

• Golden parachutes, (GOLDPARA): Severance clauses that offer management and board members monetary or non-monetary compensation in the event that they are fired, demoted, or resign due to a change in control.

• Severance agreements (SEVERAGRE): These are accords that, even in the absence of a change in control, guarantee officers their jobs or financial compensation in the event that they are replaced.

• Director's indemnity (DIRINDEM): This is the process by which officers and directors are shielded from certain costs and judgments arising from lawsuits pertaining to their actions by the use of the bylaws, the charter, or both.

• Director's liability (DIRLIAB): Amendments to the charter that limit a director's personal culpability for carelessness, but not for disloyalty, deliberate wrongdoing, or willful breaking of the law.

First, we will run nonparametric tests (i.e. Mann-Whitney-Wilcoxon tests) to compare the Pre-SOX period values to the Post-SOX period values (i.e. short-term impact), as well as to compare the Year 2004 values to the Year 2006 values (long-term impact).

To see whether there was a significant change in each of the six takeover protection provisions from the pre-SOX period to the post-SOX period, besides the nonparametric tests, we will also run logistic regressions. Our first regression model is shown below:

$$\text{Takeover\_protection} = c_0 + c_1(\text{Postsarbanes}) + c_2(\text{Delaware\_inception}) + c_3(\text{Substantial\_shareholder}) + c_4(\text{Dual\_class}) + c_5(\text{Classified\_board})$$

$$(1)$$

Where "Takeover-protection" will be the percentage of firms having a Compensation Plan, an Indemnity Contract, a Golden Parachute, a Severance Agreeement, a Director Indemnity, or a Director Liability provision. "Postsarbanes" is a dummy variable that takes the value "1" if it is the Post-SOX period, and the value "0" if it is the Pre-SOX period.

The control variables are explained below:

• *Delaware_Inception*: It takes the value "1" if the firm is established in Delaware and the value "0" if the firm is established in another U.S. state.

• *Substantial_Shareholder*: It takes the value "1" if the firm has a cumulative voting provision and the value "0" if the firm does not have a cumulative voting provision. Cumulative voting provision gives minority shareholders a chance to choose directors. Therefore, the presence of cumulative voting reflects an increase in shareholder rights.

• *Dual_Class:* It takes the value "1" if the firm has dual class common shares and the value "0" if the firms does not have dual class common shares. The dual class stocks provision allows for the existence of two or more classes of stock, each with a different voting right. In order to preserve their control over the company, the founding owners usually hold the class of shares with the most voting power.

• *Classified_Board*: It takes the value "1" if the firm has a classified board and the value "0" if the firm does not have a classified board. Because only a small number of board seats are up for election each year, the classified board provision forces a hostile bidder who has taken control of a company to wait before controlling the board, so prolonging the takeover attempt.

These variables are important measures related to the board structure and the voting arrangements within each firm.

We will also run logistic regressions to see the impact of SOX beyond Year 2004. Did any of the short-term impacts continue between year 2004 until year 2006? Our second regression model is below:

$$\text{Takeover\_protection} = c_0 + c_1(\text{Year\_2006}) + c_2(\text{Delaware\_inception}) + c_3(\text{Dual\_class}) + c_3(\text{Classified\_board})$$

$$(2)$$

Where "Year-2006" takes the value "1" if it is Year 2006 and takes the value "0" if it is Year 2004. Since we do not have data on "Substantial_shareholder" (i.e., cumulative voting) for 2006, we do not include these variables in our second model.

The summary statistics for each of the protective provisions between the pre-SOX, post-SOX, and 2006 periods are displayed in Table 3 and both Figure 2 and Figure 3. It should be noted that two of the six provisions—mean values of compensation plans and golden parachutes—have demonstrated an upward trend since 1998. On the other hand, the mean values of the other four provisions—director indemnity, severance agreements, indemnity contracts, and director ability—show declining trends from 1998 to 2006.

Table 3. Summary Statistics for Protection Provisions

Period	Variable	N	Mean	Med.	Stdev	Min	Max
1998-2000	COMPENPLAN	3800	0.660	1	0.474	0	1
	INDEMCONT	3800	0.098	0	0.297	0	1
	GOLDPARA	3800	0.601	1	0.490	0	1
	SEVERAGRE	3800	0.107	0	0.310	0	1
	DIRECTINDEM	3800	0.236	0	0.425	0	1
	DIRECTLIAB	3800	0.440	0	0.496	0	1
2002-2004	COMPENPLAN	3876	0.734	1	0.442	0	1
	INDEMCONT	3876	0.072	0	0.259	0	1
	GOLDPARA	3876	0.706	1	0.456	0	1
	SEVERAGRE	3876	0.064	0	0.245	0	1
	DIRECTINDEM	3876	0.174	0	0.379	0	1
	DIRECTLIAB	3876	0.307	0	0.461	0	1
2006	COMPENPLAN	1896	0.727	1	0.445	0	1
	INDEMCONT	1896	0.065	0	0.247	0	1
	GOLDPARA	1896	0.776	1	0.417	0	1
	SEVERAGRE	1896	0.031	0	0.172	0	1
	DIRECTINDEM	1896	0.166	0	0.372	0	1
	DIRECTLIAB	1896	0.277	0	0.448	0	1

Fig. 2. Compensation Plans, Indemnification Contracts, And Golden Parachutes Over Time
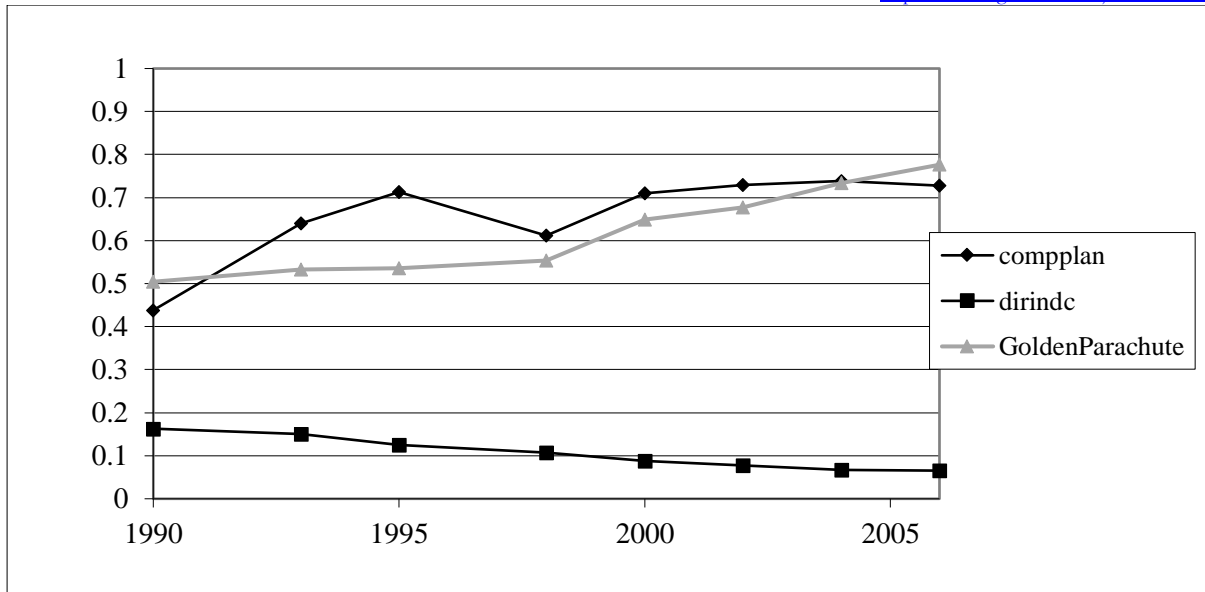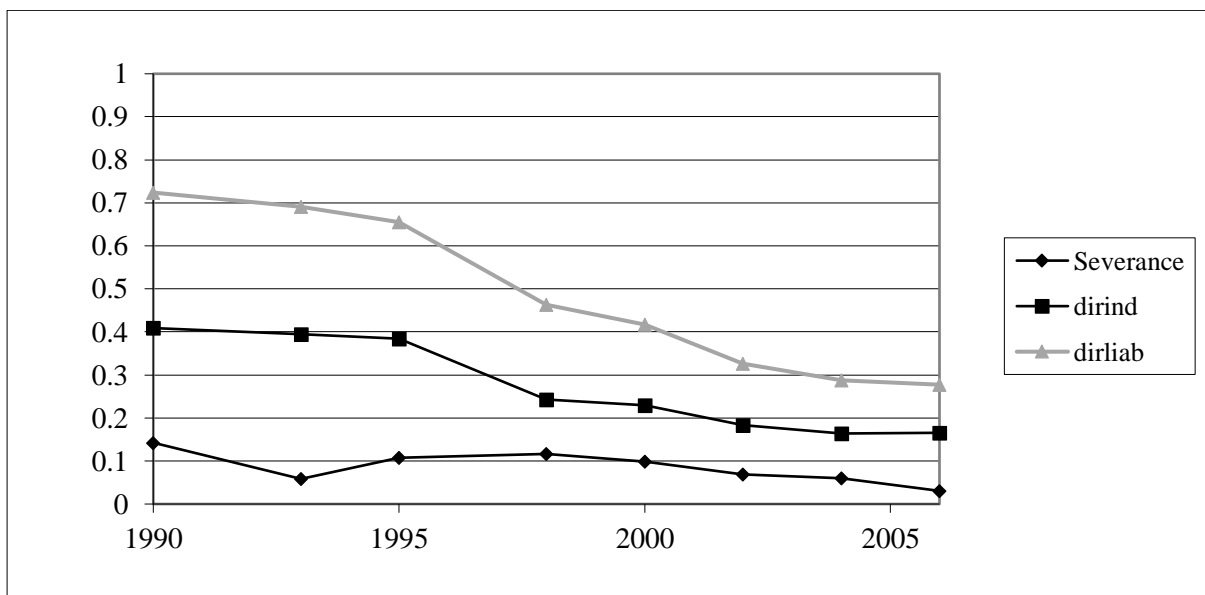
Fig. 3. Severance Agreements, Director Indemnification, And Director Liability Over Time

Empirical Results

We can argue that shareholder protection has increased in accordance with some provisions (lower mean values) but decreased in accordance with other related provisions (higher mean values) based on the descriptive statistics and pertinent figures of the protection aspect of corporate governance that we examine, i.e. the takeover protection provisions. Thus, we use the non-parametric Mann-Whitney test to determine whether the mean value changes of the takeover provisions in this section are significant.

The G-index is compared between the pre-SOX and post-SOX timeframes in Table 4 below. It should be noted that the value increased from the pre-SOX to the post-SOX period, suggesting less protection for shareholders. Additionally, there is a statistically significant difference between the two phases (p-value = 0.0031).

Table 4. The Impact of the SOX on the Governance Index

Variable	Pre-SOX	Post-SOX	Mann-Whit. p-value
Governance Index	8.8782	9.0454	**0.0031

Note: ** - denotes significance at the 5% level; * - denotes significance at the 10% level

We then examine how the SOX affects each of the protective clauses. The outcomes are displayed in Table 5. The table demonstrates that two protection provisions—compensation plans and golden parachutes—were higher (deteriorated) after the Act was passed, while four protection provisions—director indemnity, severance agreements, indemnity contracts, and director liability—were lower (improved) after the Act was passed. Take note that the differences are statistically significant for each of the six takeover protection provisions.

Table 5. The Impact of the SOX on the Protection Provisions

Variable	Pre-SOX	Post-SOX	Mann-Whit. p-value
COMPENPLAN	0.6603	0.7337	**<0.0001
INDEMCONT	0.0976	0.0725	**<0.0001
GOLDPARA	0.6011	0.7061	**<0.0001
SEVERAGRE	0.1074	0.0642	**<0.0001
DIRECTINDEM	0.2361	0.1736	**<0.0001
DIRECTLIAB	0.4403	0.3065	**<0.0001

Note: ** - denotes significance at the 5% level; * - denotes significance at the 10% level

We evaluate the potential long-term effects of the Sarbanes-Oxley Act by comparing the governance index values from 2004 to 2006. Table 6 demonstrates that while there is a little drop in the G-index value between 2004 and 2006, this difference is statistically negligible, indicating that the general protection of shareholder rights does not alter much after 2004.

Table 6. The Long-Run Impact on the Governance Index

Variable	2004	2006	Mann-Whit. p-value
Governance Index	9.0605	9.0200	0.3045

Note: ** - denotes significance at the 5% level; * - denotes significance at the 10% level

We examine whether the takeover protection provisions have an influence over the long term in Table 7. Only two of the protection provisions—golden parachutes, which had a larger value in 2006 and hence worsened, and severance agreements, which had a lower value in 2006 and hence improved—are statistically significant, as this table illustrates. With the exception of director indemnity, which is higher (not significant), the other four clauses are largely smaller and also insignificant in 2006.

Table 7. The Long-Run Impact on the Protection Provisions

			Mann-Whit.
Variable	**2004**	**2006**	**p-value**
COMPENPLAN	0.7386	0.7273	0.2127
INDEMCONT	0.0676	0.0654	0.3914
GOLDPARA	0.7341	0.7764	**0.0011
SEVERAGRE	0.0605	0.0306	**<0.0001
DIRECTINDEM	0.1640	0.1656	0.4454
DIRECTLIAB	0.2881	0.2774	0.2305

Note: ** - denotes significance at the 5% level; * - denotes significance at the 10% level

Table 8 presents the Pearson's correlation coefficients for our independent variables with p-values below in smaller font and in parentheses. We also examined the Variance Inflation Factors, which range from 1.00 to 1.02. These values are considerably smaller than the widely accepted critical value of 4.00, indicating the absence of significant multicollinearity issues.

T8. Pearson's Correlation Coefficients

	gindex	Postsarbanes	Delaware	Substan. Sh.	Dual Class	Class. Board
G-index	1	0.03119	-0.15241	0.03584	-0.18228	0.50349
		(0.0063)	(<.0001)	(0.0017)	(<.0001)	(<.0001)
Postsarbanes	0.03119	1	0.01811	-0.03051	0.00713	0.01703
	(0.0063)		(0.1127)	(0.0075)	(0.5322)	(0.1356)
Delaware	-0.15241	0.01811	1	-0.0009	0.06494	-0.01537
	(<.0001)	(0.1127)		(0.9371)	(<.0001)	(0.1782)
Substan. Sh.	0.03584	-0.03051	-0.0009	1	-0.01082	0.01657
	(0.0017)	(0.0075)	(0.9371)		(0.3434)	(0.1467)
Dual Class	-0.18228	0.00713	0.06494	-0.01082	1	-0.13342
	(<.0001)	(0.5322)	(<.0001)	(0.3434)		(<.0001)
Class. Board	0.50349	0.01703	-0.01537	0.01657	-0.13342	1
	(<.0001)	(0.1356)	(0.1782)	(0.1467)	(<.0001)	

Note: p-values are in parentheses.

Table 9 displays the outcomes of our Binary Logistic Regression analysis for six takeover protection provisions where "Postsarbanes" is our main independent variable. The Likelihood Ratios in all six models are significant at the 1% level. In summary, the model effectively explains the prevalence of each takeover protection provision among the sample firms.

T9. The Short-Term Impact on Takeover Protection Provisions (1998-2000 vs 2002-2004)

	Compenplan	Indemcont	Goldpara	Severagre	Directindem	Directliab
Intercept	***0.5376	***-2.2509	***0.2356	***-2.2206	***-0.7915	***0.1465
Postsarbanes	***0.3539	***-0.3282	***0.4825	***-0.5668	***-0.3776	***-0.5729
Delaware	-0.0455	0.0180	-0.1719	***0.3200	***-0.6563	***-0.5172
Substan. Sh.	11.6027	-11.3737	1.1374	0.4762	0.8761	1.1573

Dual Class	***-0.4746	***-0.5160	***-0.6596	***0.4388	***-0.3113	***-0.3960
Class. Board	***0.3673	0.1117	***0.6186	***-0.2768	-0.0048	*-0.0884
N	7,676	7,676	7,676	7,676	7,676	7,676
LR	***161.47	***32.41	***378.59	***91.50	***194.09	***296.31

Note: ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

We are seeing that the coefficient for "Postsarbanes" is positive and significant for "Compenplan" and "Goldpara", meaning that "Postsarbanes" has a positive and significant impact on these two provisions. This finding is in line with our findings in Table 5. The percentage of firms that have a Compensation Plan provision or a Golden Parachute provision is significantly higher in the Post-SOX period, when compared to the Pre-SOX period. The coefficient for "Postsarbanes" is significant at the 1% level in each of these two models.

The table also shows that the coefficient for "Postsarbanes" is negative and significant for "Indemcont", "Severagre", "Directindem", and "Directliab", meaning that "Postsarbanes" has a negative and significant impact on these four provisions. These findings are also perfectly in line with our findings in Table 5. The percentage of firms that have an Indemnity Contract provision, a Severance Agreement provision, a Director Indemnity provision, or a Director Liability provision is significantly lower in the Post-SOX period, when compared to the Pre-SOX period. The coefficient for "Postsarbanes" is significant at the 1% level in each of these four models.

With regard to the control variables, we find that "Delaware" is positive and significant for Severance Agreement, and negative and significant for Director Indemnity and Director Liability, but it has no statistically significant impact on the other three provisions. "Substan. Sh." (i.e., cumulative voting provision) has no significant impact on any of the six takeover protection provisions. "Dual Class" has a negative and significant impact on all but one provision (i.e., Severance Agreement). "Class. board" has a positive and significant impact on Compensation Plans and Golden Parachutes, but a negative and significant impact on Severance Agreements and Director Liability provisions.

Table 10 displays the outcomes of our Binary Logistic Regression analysis for six takeover protection provisions where "Year 2006" is our main independent variable. The Likelihood Ratios in five of the six models are significant at the 1% level. In summary, the model effectively explains the prevalence of five takeover protection provisions among the sample firms.

T10. The Long-Term Impact on Takeover Protection Provisions beyond 2004

	Compenplan	Indemcont	Goldpara	Severagre	Directindem	Directliab
Intercept	***0.9002	***-2.5663	***0.8637	***-2.8085	***-1.2237	***-0.5659
Year 2006	-0.0561	-0.0398	***0.2351	***-0.7132	-0.0039	-0.0680
Delaware	0.0339	-0.1629	-0.0090	*0.2830	***-0.6267	***-0.4222
Dual Class	***-0.4438	*-0.4343	***-0.7991	*0.3845	*-0.2628	**-0.3213
Class. Board	***0.3010	0.1220	***0.4601	*-0.2833	-0.0769	-0.1148
N	3,878	3,878	3,878	3,878	3,878	3,878
LR	***37.13	6.58	***108.56	***31.12	***56.60	***45.01

Note: ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

We are seeing that the coefficient for "Year 2006" is significant for only two provisions. It is positive and significant for "Goldpara" and negative and significant for "Severagre". It is not significant for any of the other four provisions. This finding is perfectly in line with our findings in Table 7. The percentage of firms that had a Golden Parachute provision went up significantly (at the 1% level) while the percentage of firms

that had a Severance Agreement provision went down significantly (at the 1% level) by Year 2006, when compared to the Year 2004.

With regard to the control variables, we find that "Delaware" is positive and significant (at the 10% level) for Severance Agreement, and negative and significant for Director Indemnity and Director Liability (at the 1% level), but it has no statistically significant impact on the other three provisions. "Dual Class" has a negative and significant impact on all but one provision (i.e., Severance Agreement). "Class. board" has a positive and significant impact (at the 1% level) on Compensation Plans and Golden Parachutes, but a negative and significant impact (at the 10% level) on Severance Agreements.

Conclusion

We look at how the Sarbanes-Oxley Act affects the takeover protection provisions in addition to the governance index, or G-index. Therefore, we analyze the effects of the SOX between the two periods, designating the 1998–2000 period as the pre–SOX period and the 2002–2004 period as the post–SOX period. Then, in order to determine whether these provisions were affected in any way after 2004 (long run impact), we compare the values from 2004 to the values from 2006. To address these queries, we utilize the Gompers, Metrick, and Ishii (2003) governance index, which is correlated with takeover defense and additional corporate governance measures for American companies, as well as the governance data from the Investor Responsibility Research Center (IRRC).

We discover that between the pre-SOX and post-SOX periods, the G-index mean score rises (indicating reduced governance), but is unchanged between the post-SOX and 2006 periods. This suggests that the long-term effects are inconsequential. We also find, based on our analysis, that two of the protection provisions—compensation plans and golden parachutes—had deteriorated (i.e., the percentage of firms using these measures had increased) and four of them—indemnification contracts, severance agreements, director indemnity, and director liability—had improved between the pre-SOX and the post-SOX periods.

However, beyond 2004, only two measures continued to change: The percentage of firms using golden parachutes continued to increase and the percentage of firms using severance agreements continued to decrease. As a result, we discover only a scant proof that the takeover defense and other measures had improved long after the Sarbanes-Oxley Act went into effect.

Our regression results confirm our findings with nonparametric tests. Similar to our nonparametric tests, our regression results show that, in the short-term, compensation plans and golden parachutes had deteriorated, and indemnification contracts, severance agreements, director indemnity, and director liability measures had improved. In the long-term, golden parachutes continued to increase and the percentage of firms using severance agreements continued to decrease. Both types of analysis lead us to the same conclusions regarding the short- and long-term impacts of SOX on takeover protection provisions.

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