The Differential Impact on Stockholder Wealth of Various Antitakeover Provisions

James M. Mahoney; Chamu Sundaramurthy; Joseph T. Mahoney

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James M. Mahoney

Federal Reserve Bank of New York, New York, USA

Chamu Sundaramurthy

University of Kentucky, Lexington, KY, USA

and

Joseph T. Mahoney

University of Illinois, Urbana-Champaign, Champaign, IL, USA

This paper examines the relationship between the passage of six types of corporate antitakeover provisions (supermajority, classified boards, fair-price, reduction in cumulative voting, anti-greenmail and poison pills) and stockholder wealth. Our event study from a sample of 381 firms that adopted 486 antitakeover provisions in the 1984 to 1988 period indicates a strongly negative effect on stockholder wealth, supporting the management entrenchment view of the antitakeover provisions. Moreover, the empirical results of this paper indicate that the market reacts equally negatively to both non-operating provisions that require stockholder approval and to operating provisions that do not require stockholder approval. However, separate analyses of the antitakeover provisions provide some support for the argument that stockholders discriminate between individual provisions.

INTRODUCTION

The takeover wave of the 1980s that included a large number of intra-industry mergers (e.g. in the oil and airline industries) had a profound impact on the structure of corporate America. Several conglomerates refocused their attention on related operations (Shleifer and Vishny, 1991). Managers adopted antitakeover provisions as an adaptive response to this merger wave (Jarrell, Brickley and Netter, 1988; Rechner, Sundaramurthy and Dalton, 1993). Considerable controversy at the federal, state, and individual firm level surrounds the use of these antitakeover provisions, because they provide managers considerable bargaining power which can be used to curb the monitoring influence of the market for corporate control, adversely affecting stockholder

interests (Margotta, McWilliams and McWilliams, 1990; Ryngaert and Netter, 1990; Turk and Zardkoohi, 1994).

This paper evaluates empirically the impact of antitakeover provisions on stockholder wealth by examining market reaction to these provisions (described below). Walsh and Seward (1990) make a theoretical case that some antitakeover provisions, such as those not requiring stockholder approval, are more detrimental to stockholders than others. This paper tests Walsh and Seward's (1990) framework and also tests whether various antitakeover provisions have differential impact on stockholder wealth.

The next section discusses agency theory and the alternative hypotheses for explaining the logic behind the adoption of antitakeover provisions. The third section draws a distinction between

antitakeover provisions based on Walsh and Seward's (1990) conceptual views. The fourth section discusses methodology. The fifth section presents the current paper's tests for the wealth effects of the adoption of supermajority, classified board, fair-price, reduction in cumulative voting, anti-greenmail and poison pill provisions (Appendix 1) using a sample from the Investor Responsibility Research Center (IRRC) database (Rosenbaum, 1987, 1989). This section also provides a test of the differential wealth effects of antitakeover provisions. The final section provides conclusions.

THEORETICAL PERSPECTIVES OF STOCKHOLDER WEALTH EFFECTS OF ANTITAKEOVER PROVISIONS

Agency theory has gained wide currency in management, industrial organization economics, and finance theory (Eisenhardt, 1989; Fama and Jensen, 1983a,b; Jensen and Meckling, 1976). Agency costs in the corporation, as defined by Jensen and Meckling (1976), are the difference between the value of the firm if monitoring of management were costless and the value of the firm as actually operated. Agency costs are mitigated by the takeover market that creates a check on management that cannot be replicated by incentive mechanisms. An incentive scheme may check opportunism but will be inadequate if management lacks the capabilities to maximize stockholder wealth. The takeover market is one mechanism that places checks on both incompetent decision-making as well as managerial shirking (Ryngaert, 1988). Since the takeover market is a critical component in our 'institutions of capitalism' (Moerland, 1995; Rediker and Seth, 1995; Williamson, 1985), antitakeover provisions need to be scrutinized carefully by agency theorists.

Two competing theoretical perspectives that draw on agency theory drive the research addressing stockholding wealth effects of the adoption of antitakeover provisions. One view is that antitakeover provisions benefit stockholders and is known in the literature as the 'stockholder interests hypothesis' (Berkovitch, Bradley and Khanna, 1989; Berkovitch and Khanna, 1990; DeAngelo and Rice, 1983). A competing viewpoint known as the 'management entrenchment hypothesis' is that antitakeover provisions are not in the stock-

holders' interests (Easterbrook and Fischel, 1981; Gilson, 1981, 1982; Jarrell and Poulsen, 1987).

Stockholder Interests Hypothesis

According to the stockholder interests hypothesis, the market would react positively to the adoption of antitakeover provisions for at least two reasons. First, the adoption of antitakeover provisions effectively creates a long-term contract with the current management team and may encourage them to make firm-specific capital investments and long-term investments which are in the long-run best interest of stockholders (Knoeber, 1986).[1]

Second, antitakeover mechanisms provide corporate management additional veto power in certain takeover situations, enabling management to negotiate better deals for their stockholders. For example, in a takeover situation involving *asymmetric information* and *unique synergy* (Bradley, Desai and Kim, 1983; DeAngelo and Rice, 1983; Mahoney and Mahoney, 1993), where the value of the target firm to the bidding firm is greater than the value of the target to any other bidder, antitakeover provisions can enable the target firm's board to coordinate more effectively and at lower cost than individual stockholders to extract a larger percentage of the bilateral monopoly gain. Another scenario would involve two-tier tender offers where individual stockholders would be motivated to tender their shares, even though stockholders as a group would be better off holding out for a higher bid. Antitakeover provisions encourage a cartelized response by target stockholders to an offer for control and thereby circumvent stockholders' prisoner's dilemma problems. Target stockholders benefit on *net* from a greater expected share of the gains from the combination (DeAngelo and Rice, 1983; Stulz, 1988)—i.e. the market expects the value to stockholders of increased ability to extract higher payments from a bidder outweigh all perceived costs (e.g. a lower probability of takeover (Ambrose and Megginson, 1992; Duggal and Millar, 1994; Pound, 1987)).

Management Entrenchment Hypothesis

According to the management entrenchment view, antitakeover provisions protect inefficient incumbent management that may indulge in shirking

and maintaining short time horizons, resulting in a present-value loss for the firm. Those who subscribe, to the 'management entrenchment' view argue that all of the 'institutions of capitalism' are mechanisms which mitigate, but do not eliminate, managerial discretion (Williamson, 1985). Supporters of the management entrenchment view indicate that the additional managerial veto power provided by antitakeover mechanisms reduce the probability of a firm receiving valuable takeover offers from alternative management teams. Empirical evidence also indicates that managers of firms with antitakeover provisions oppose takeover bids almost twice as frequently as firms without antitakeover provisions (Pound, 1987), exacerbating the principal–agent problem of incentive misalignment resulting from the separation of ownership and control (Berle and Means, 1932; Schwartz, 1989).

Moreover, while antitakeover provisions (e.g. some poison pill provisions and fair-price amendments) can solve stockholders' prisoner's dilemma problems, they may exacerbate the free-rider problem associated with dispersed stockholder ownership. Grossman and Hart (1980) assume that atomistic stockholders view their decision to sell shares as having no effect on the outcomes of the bid. Therefore, if stockholders believe that a takeover bill will succeed, they will not sell stock for less than the post-acquisition price. Consequently, an acquirer will be unable to profit from an appreciation in the price of shares purchased in a takeover. Thus, a takeover could be collectively beneficial for stockholders but it is not 'individually rational' for an acquirer.

Combining the prisoner's dilemma argument under the stockholder interests hypothesis and the free-rider argument under the management entrenchment hypothesis highlights *time-inconsistency problems in corporate takeovers* and the consequent impacts of antitakeover provisions (Malatesta and Walkling, 1988; Ryngaert, 1988). *Ex ante*, stockholders want third parties to monitor management and make takeover bids for the firm. Thus, stockholders may prefer corporate charters that allow bidders to appropriate gains through two-tier offers (to attenuate free-rider problems). *Ex post* (once a takeover bid exists), however, stockholders collectively would benefit by appropriating those gains by prohibiting two-tier tender offers (to solve the prisoner's dilemma problem). Enabling management to deter

takeovers, however, may entrench inefficient management by exacerbating the free-rider problems of disciplining management. Thus, antitakeover provisions are viewed as reducing the effectiveness of the market for corporate control and hence, a negative relationship between the adoption of antitakeover provisions and stockholder returns is expected (DeAngelo and Rice, 1983).

Studies testing the stockholder interests and management entrenchment hypotheses examine market reactions to the adoption of antitakeover provisions. These studies, summarized in Table 1, generally rely on the SEC (1985) sample and provide support for the management entrenchment hypothesis.

In addition, Mahoney and Mahoney (1993) demonstrate that classified boards and supermajority provisions adopted in the early 1970s have minimal positive stock price impacts, and those adopted in the 1980s, during the takeover boom, have significantly negative stock price impacts. This negative trend over time is due, in part, to an increase in control by more informed institutional investors (Graves, 1988; Hansen and Hill, 1991; Hill and Hansen, 1989), whose stake in public corporations has increased from 17.5% in 1970 to over 30% by 1986 (Brickley, Lease and Smith, 1988). Since this paper covers the 1984 to 1988 period, negative market reactions to a wide variety of antitakeover provisions are expected.

Hypothesis 1: The market is likely to react negatively, on average, to the adoption of each type of antitakeover provision.

DIFFERENCES AMONG ANTITAKEOVER PROVISIONS AND MARKET REACTIONS

Walsh and Seward (1990) subscribe to the entrenchment view, but differentiate among antitakeover provisions. They provide a useful theoretic framework to classify different antitakeover provisions, and the current paper uses their taxonomy to classify the six antitakeover provisions studied in this paper. Walsh and Seward (1990) suggest two dimensions to classify antitakeover actions of firms. They distinguish between operating and non-operating measures, and between measures that require stockholder approval and

Table 1. **Summary of Published Empirical Results on Antitakeover Provisions**
This table summarizes the major findings of various empirical studies of antitakeover provisions. (Note that date 0 of event window is proxy mailing date)

Authors	Sample	Type of provision	Event window	Stock price reaction (%)
Agrawal and Mandelker (1990)	365 provisions (1979–1985)	CB, SM, FP	(−40, +1)	−2.60[c]
Bhagat and Brickley (1984)	19 provisions (1962–1982)	RCV	(−1, +1)	−1.57[a]
Choi, Kamma and Weintrop (1989)	267 provisions (1985–1986)	PP	(−1, +1)	−0.48[c]
DeAngelo and Rice (1983)	100 provisions (1974–1979)	CB, SM	(−40, +10)	−0.55
Eckbo (1990)	32 provisions (1984–1985)	AG	(0, +1)	−0.48
Jarrell and Poulsen (1987)	649 provisions (1979–1985)	FP (408 provisions)	(−20, +10)	−0.65
		SM (48 provisions)	(−20, +10)	−4.92[b]
		CB (28 provisions)	(−20, +10)	−1.29
Lauterbach, Malitz and Vu (1991)	383 provisions (1979–1985)	CB, SM, FP	(−20, −1)	−0.43
Linn and McConnell (1983)	388 provisions (1960–1980)	CB, SM, FP	(−90, +90)	0.99
Mahoney and Mahoney (1993)	409 provisions (1974–1988)	CB, SM	(−50, +10)	−1.6[c]
Malatesta and Walkling (1988)	113 provisions (1982–1986)	PP	(−1, 0)	−0.915[c]
McWilliams (1990)	765 provisions (1980–1984)	CB, SM, FP	(−40, −1)	−0.63
Ryngaert (1988)	283 provisions (1982–1986)	PP	(−1, 0)	−0.34[a]

[a]Significant at the 10% level.
[b]Significant at the 5% level.
[c]Significant at the 1% level.

AG   = Anti-greenmail
CB   = Classified board
FP   = Fair-price
PP   = Poison pill
RCV = Reduction in cumulative voting
SM   = Supermajority

those that do not. Using these two dimensions, Walsh and Seward (1990) classify firms' anti-takeover provisions into a two-by-two matrix (Table 2).

Operating measures result in changes in a firm's assets, financial structure or both. For example, managers of a firm may repurchase a large block of shares from a bidder to prevent the firm from being taken over (i.e. managers pay greenmail). This purchase will be reflected in the company's balance sheet and is classified as an operating measure. Non-operating measures do not involve a change in a firm's balance sheet but nonetheless

are believed to affect, often adversely, the probability of a successful takeover effort. For example, firms can change their charters to restrict the voting rights of stockholders. These charter changes are viewed as non-operating measures as they do not affect the balance sheet. Walsh and Seward (1990, p. 439) contend that: 'Shareholders are usually harmed more by operating than by non-operating defensive measures. Perhaps this is due to the latter's being likely to be less costly to reverse if circumstances warrant.'

Another dimension on which Walsh and Seward (1990) categorize antitakeover provisions is

Table 2. Antitakeover Provisions

	Operating	Non-operating
	1	3
Stockholder approval required	Example: Dual-class recapitalizations	1. Supermajority amendments 2. Classified boards 3. Fair-price amendments 4. Reduction in cumulative voting rights 5. Anti-greenmail
	2	4
No stockholder approval required	1. Poison pills	Example: Golden parachutes

Mechanisms intended to restrict transfer of managerial control (adapted from Walsh and Seward, 1990: 438). The current paper focuses on antitakeover provisions in cells 2 and 3.

whether or not a measure requires stockholder approval. For instance, payment of greenmail does not require stockholder approval, whereas restriction of stockholder voting rights requires stockholder approval. Walsh and Seward (1990, p. 438) indicate that: 'Theoretically actions taken by management that do not require stockholder approval may be particularly damaging to shareholder interests [when compared to actions that require shareholder approval].' This conjecture is intuitive given that agency problems (Eisenhardt, 1989; Jensen and Meckling, 1976) are likely to be higher when stockholders are not provided an opportunity to participate and curb actions that may be detrimental to them.

Walsh and Seward's (1990) framework suggests that actions in cell 2 of Table 2 are the most harmful actions from an agency perspective, because operating measures and those that do not require stockholder approval entail higher agency costs than non-operating measures or measures that require stockholder approval. Cell 3 of Table 2 represents least harmful actions from stockholders' viewpoint as they are non-operating measures and require stockholder approval. Cells 1 and 4 of Table 2 represent actions that fall in-between in their predicted effect on stockholder wealth, because they are either operating antitakeover provisions or do not require stockholder approval *but not both*. The logic of Walsh and Seward's (1990) framework leads to the following hypothesis:

Hypothesis 2: The market is likely to react more negatively to the adoption of operating antitakeover provisions that do not require stockholder approval (poison pills) than to the adoption of non-operating antitakeover provisions that require stockholder approval (i.e. supermajority requirements, classified board provisions, fair-price provisions, reduction in cumulative voting rights, or anti-greenmail provisions).

METHOD

The efficient capital market theory provides a framework for the empirical testing of the hypotheses in this paper. Stockholder wealth effects of the adoption of antitakeover provisions are tested by considering the equity value impact at the time of the antitakeover provision proposal.

Sample

This paper's sample of firms proposing antitakeover provisions is derived from the Investor Responsibility Research Center (IRRC) (Rosenbaum, 1987, 1989). The IRRC is a Washington-based nonprofit organization that, among other activities, follows the antitakeover proposals of 1500 of the largest American corporations, measured in terms of annual sales.[2] The accuracy of IRRC's data is high with respect to major corporate charter antitakeover provisions (e.g. poison pills, supermajority amendments, classified boards,

etc.) (Pound, 1992, p. 663). The current paper's sample includes 381 firms adopting 486 anti-takeover provisions for the 1984 to 1988 period (Rosenbaum, 1987, 1989). In this period, the takeover wave of the 1980s peaked (Davis and Stout, 1992). Also, the sample begins in 1984 to mark the initial adoption of the poison pill. In fact, prior to the Delaware court decision in 1985 that upheld the legality of poison pill plans, there were only four such plans in the United States (Mallette and Fowler, 1992). The large sample of 486 provisions should provide a powerful test with a low probability of Type II error of accepting the null hypothesis of no abnormal stock returns when it is false. In terms of individual provisions, the sample includes 20 supermajority amendments, 106 classified board amendments, 110 fair-price amendments, 21 provisions for reduction in cumulative voting, 33 anti-greenmail provisions, and 196 poison pill provisions.

Event Date

The proxy statement mailing date is utilized as the best available estimate of the date of the first public announcement of antitakeover amendment consideration (Jarrell and Poulsen, 1987). Once the announcement is made, the uncertainty regarding stockholder approval is slight. The IRRC (Rosenbaum, 1989) reports that some companies employ proxy solicitation firms to assess the voting outcomes of a proposed investment before proposing it to stockholders. If proposing an amendment that fails is expensive, managers will not propose amendments with a high failure probability. Thus, failure should be infrequent. In our sample years of 1984 to 1988, over 95% of proposed antitakeover amendments received stockholder approval (Brickley, Lease and Smith, 1988; Rosenbaum, 1989).

In addition, unlike many other corporate events, antitakeover proposals are rarely reported by the press (Agrawal and Mandelker, 1990). The first public release of information about these proposals occurs when the firm mails the proxy statement containing the proposal to stockholders. Thus, the current paper defines the proxy mailing date as the announcement date. For this paper's sample, 36 announcements were located in the *Wall Street Journal Index* before the proxy mailing date. For these 36 announcements, this earlier date is used as the announcement date.

The current paper considers an event window of 50 days before the proxy mailing date (-50) to 5 days following the proxy mailing date ($+5$). An average of 27 trading days (and a median of 24) separates the board meeting date (when an amendment is passed) from the proxy mailing date (Linn and McConnell, 1983). Although it is against SEC rules to solicit actively votes before the proxy mailing date, the possibility remains that the board decision to adopt antitakeover amendments is leaked to some market participants. The market returns in the -40 to -20 interval roughly surround the board meeting date. If one holds to the (semi-strong or strong form) efficient market hypothesis then a longer event window is not only justified but essential.

A time period of 50 days before the proxy mailing date is chosen to ensure the inclusion of the board meeting date. A time period of 5 days after the proxy mailing date is considered a sufficient time period for the market to react fully to the antitakeover provision. Larcker (1983) finds significant market reaction around the date that the SEC receives the proxy, the so-called 'SEC stamp date.' Brickley, Bhagat and Lease (1985) find that the SEC stamp falls on average 3.2 days (median of 3.0 days) after the proxy mailing date. Therefore, the windows for the current paper are intended to give the market sufficient time to react to various possible sources of the announcement of the antitakeover provision adoption.

Empirical Analysis

Methodologies based on the market model using ordinary least squares (OLS) and using standard parametric tests are well specified under a variety of conditions for daily stock return data (Brown and Warner, 1985). A detailed discussion of this methodology which is used in the current study is provided in Appendix 2. The security market rates of return utilized in testing were taken from the CRSP (Center for Research in Security Prices, University of Chicago) daily file for firms listed on the New York Stock Exchange, the American Stock Exchange, and the National Association of Security Dealers.

RESULTS

Results of the stock price reaction for all antitakeover provisions are presented in Table 3. For the event window (-50, $+5$), the cumulative av-

erage abnormal return (CAR) over the 56-day period decreased by 2.44%. The decrease in the CAR is significantly different from zero[3] at the 0.01 level using a two-tailed test.[4] Results of the stock price reaction of the non-operating anti-takeover provisions that require stockholder approval (supermajority, classified board, fair-price, reduction in cumulative voting, and anti-greenmail) are also presented in Table 3. For the event window $(-50, +5)$ the CAR over the 56-day period for this subsample decreased by 2.17%. The decrease in the CAR is significantly different from zero at the 0.05 level using a two-tailed test. This result is consistent with the management entrenchment hypothesis (Hypothesis 1). To ensure that these results are not influenced by outliers we also tested for the fraction of firms in the sample with negative CARs. As can be seen in Table 3, for the entire sample of 486 antitakeover provision announcements, 58% of firms had negative CARs and for the sample of 290 antitakeover amendments (of cell 3 of Table 2), 58.5% had negative CARs which are significant at the 0.01 and 0.05 levels, respectively.

Table 3 also presents the corresponding empirical results for the poison pill provisions. The CAR for the period $(-50, +55)$ is -2.86%, which is statistically significant at the 0.05 level using a two-tailed t-test and is again consistent with Hy-

pothesis 1 (management entrenchment hypothesis). The fraction negative is 57% and is significant at the 0.05 level using a two-tailed test.[5] Table 3 breaks down the antitakeover provisions by type of proposal. Some statistical significance is lost for the smaller sample sizes, with the poison pill and fair-price provisions remaining significantly negative at the 5% level and the reduction in cumulative voting signficantly negative at the 10% level using two-tailed tests.

Fair-price provisions lead to significantly negative stockholder wealth effects,[6] contrary to the results of Jarrell and Poulsen's (1987) study that found an insignificant impact for fair-price provisions adopted between 1979 and 1985. The results of the current study which are based on fair-price provisions adopted between 1984 and 1988 in conjunction with results of Jarrell and Poulsen's (1987) study indicate a negative trend over time in stockholder reactions. Stockholders' more negative reaction to fair-price requirements adopted in the latter part of the 1980s may be due to several factors: changes in the composition of stockholders (i.e. an increase in control by institutional investors),[7] learning over time by stockholders (i.e. stockholders may update their expectations of the effects of an antitakeover provision after seeing the effects on firms that have already

Table 3. Effects of Antitakeover Provisions from 1985 to 1988 by Type of Provision
This table reports the cumulative abnormal returns of firms that adopted antitakeover provisions, for the entire sample and for the provisions by type.

Type of provision	Sample size	CAR$_{-50, +5}$(%)	t(CAR$_{-50, +5}$)	Fraction negative	t(fraction negative)
OVERALL	486	−2.44	−3.33[c]	0.58	3.53[c]
Anti-greenmail	33	−3.18	−1.19	0.63	1.56
Classified Board	106	−1.06	−0.54	0.56	1.17
Reduction in cumulative voting	21	−5.25	−1.81[a]	0.67	1.52
Fair-price	110	−3.22	−2.12[b]	0.63	2.67[b]
Poison pills	196	−2.86	−2.60[b]	0.57	2.00[b]
Supermajority	20	−1.71	−0.42	0.45	−0.44
Differences					
Poison pill	196	−2.86	−2.60[b]	0.57	2.00[b]
Antitakeover amendments	290	−2.17	−2.76[b]	0.585	2.25[b]
Difference		−0.69		0.015	
t(difference)			−0.8312		0.11

[a]Significant at the 10% level.
[b]Significant at the 5% level.
[c]Significant at the 1% level.

passed them), and changes in the structure of the takeover market.[8]

Finally, in Table 3, in order to test Hypothesis 2 for differences between the two groups, the current paper compares the 56-day period mean CARs for the two groups (non-operating provisions that require stockholder approval and operating antitakeover provisions that do not require stockholder approval) and finds that the difference between the stock price effects of poison pills in cell 2 of Table 2 (-2.86%) and corporate charter antitakeover amendments in cell 3 of Table 2 (-2.17%) is not significant at traditional significance levels. This result is contrary to Hypothesis 2, which predicted that the market is likely to react more negatively to the adoption of operating antitakeover provisions that do not require stockholder approval than to the adoption of non-operating antitakeover provisions that require stockholder approval.[9]

A further test of Hypothesis 2 is conducted by comparing the mean CARs after the event for each of the non-operating amendments requiring stockholder approval with CARs for poison pill provisions. Mean cumulative average returns of poison pills were significantly more negative than the returns of supermajority provisions (2.03; $p < 0.05$) in partial support of Hypothesis 2. However, contrary to our expectations, stockholders perceived reduction in cumulative voting more negatively than adoption of poison pills (-2.25; $p < 0.05$).[10] There was not a significant stockholder wealth effect difference between each of the other non-operating amendments (classified boards, fair-price, anti-greenmail) and poison pill provisions. Thus, distinctions between operating and non-operating antitakeover provisions and between requirements of stockholder approval and non-stockholder approval do not appear to be critical dimensions that influence stockholder reactions to antitakeover provisions.[11] Poison pill provisions (cell 2 of Table 2) and antitakeover amendments (cell 3 of Table 2) appear to be equally harmful to the stockholders of the firms adopting them.

CONCLUSIONS

This study enriches the literature on antitakeover provisions by examining the impact of a wide variety of antitakeover provisions on stockholder wealth. Further, it extends researchers' understanding of the impact of antitakeover provisions by incorporating the moderating impact of type of antitakeover provision adopted based on Walsh and Seward's (1990) theoretical framework.

Consistent with prior findings based on the SEC (1985) sample, the market reacts negatively to antitakeover provisions adopted by firms in this paper's sample based on the IRRC database. Our results are particularly strong since the tests are potentially biased against the management entrenchment hypothesis. The proposal of antitakeover provisions may provide information, signaling an increased probability that the firm may currently be a takeover target. The signal of a potential bidder to the target stockholders empirically leads to an increase in the stock price. Thus, the significant decline in the stock price around the event date of the antitakeover provisions, despite the positive signaling effect, strengthens our interpretation of the evidence in support of the management entrenchment hypothesis.

Although we found a negative average impact, this does not preclude the possibility that some firms' antitakeover provisions actually benefit stockholders. Our test is properly interpreted as providing evidence concerning the average effect of antitakeover provisions on stockholder wealth. Moreover, this paper's event study does not *prove* that managers are acting opportunistically. Top management may pass antitakeover provisions due to escalating commitments (Staw, 1981). Well-intended managerial commitments which are perceived by the market to have a low likelihood of success may result in a takeover threat that incumbent management attempts to avoid through antitakeover provisions. It is also possible that management is acting in the interests of other stakeholders such as protecting suppliers and employees whose jobs are at risk in the event of a takeover (Freeman, 1984). Nevertheless, this paper's empirical results should make one skeptical that the main rationale for adopting antitakeover provisions is stockholder wealth maximization. As Williamson (1985, p. 305) observes: 'The contract between the firm and the shareholders actually can be, and sometimes is, adjusted by making changes in the corporate charter. These changes appear, however, mainly to be initiated by the management and are frequently management-favoring in character.'

Furthermore, the cumulative average returns and t-statistics over the period from three years to three months before the antitakeover provisions announcement were analyzed for the firms in this paper's sample. These firms were performing significantly worse than the market on a risk-adjusted basis. On average, the returns of the firms in the sample were 8.34% below the market on a risk-adjusted basis. This poor performance may explain why the managers of these firms were concerned with the threat of takeover.

With respect to differential wealth effects of antitakeover provisions, the results indicate no significant difference in stockholder reaction to operating antitakeover provisions that do not require stockholder approval and to non-operating antitakeover provisions that require stockholder approval. Both sets of antitakeover provisions are viewed by stockholders as equally negative. These results indicate that stockholders do not discriminate between antitakeover provisions on the basis of the dimensions studied in this paper. Also, there was no statistically significant performance differences between firms adopting cell 2 and cell 3 provisions of Table 2 over the period from three years to three months before the antitakeover provision announcement. The stock performance of firms proposing poison pills from three years to three months before the defense is proposed indicates a significantly negative CAR of -5.14%. The stock performance of firms proposing antitakeover amendments from three years to three months before the defense is proposed indicates a significantly negative CAR of -10.50%. The difference of -5.36% between poison pills and antitakeover amendments is not statistically significant at the 10% level using a two-tailed test.

Walsh and Seward's (1990) dimensions may not be expected to be critical in terms of stockholder wealth effects, as suggested by the current paper's results, since (1) operating antitakeover provisions, such as poison pills that have not been activated, may be as easily reversible as non-operating antitakeover provisions; (2) (small) stockholders in widely held corporations may be 'rationally ignorant' as they do not have an incentive to study closely every decision which is put to their approval (Agrawal and Mandelker, 1990; Demsetz, 1983). Rationally ignorant stockholders may be in a majority (Baysinger and Butler, 1985), in which case they may not participate in the voting process[12] and hence be indifferent to Walsh

and Seward's (1990) dimensions (Austen-Smith and O'Brien, 1992); and (3) some poison pills in cell 2 of Table 2 and fair-price amendments in cell 3 of Table 2 are similar in stated intent (i.e. to prevent two-tier tender offers). For example, Malatesta and Walkling (1988, p. 355) note that: 'Defensive positions substantially identical to flip-over and back-end plans could, in principle, be devised using a combination of fair-price and right-of-redemption[13] corporate charter amendments.' Consistent with this interpretation, the empirical differences in stockholder reactions between fair-price amendments and poison pill provisions are statistically insignificant.

Based on the current study it is premature to reject the importance of the two dimensions proposed by Walsh and Seward (i.e. operating versus non-operating antitakeover provisions and stockholder approval versus non-stockholder approval). Although these dimensions were not perceived differently by stockholders in the 1984 to 1988 time period, these dimensions may be important predictors of other consequences of antitakeover provisions, such as probability of receiving takeover bids, future competitive position, and subsequent firm performance.

In summary, this study provides substantial evidence that management entrenchment is an important explanation for the adoption of antitakeover provisions. However, the study does not provide support for systematic differences in stockholder reactions to antitakeover provisions classified on the basis of Walsh and Seward's (1990) framework. Non-operating antitakeover amendments that require stockholder approval are manifestations of agency problems that are every bit as troublesome as operating antitakeover provisions that do not require stockholder approval.

APPENDIX 1: DESCRIPTION OF ANTITAKEOVER PROVISIONS

Non-operating Antitakeover Provisions that Require Stockholder Approval:

(1) Supermajority merger approval provisions typically stipulate stockholder approval percentages in the 66–80% range, thus superseding the approval requirement of the charter of the state in which the firm is incorporated. Various superma-

jority stockholder approval requirements may block a bidder from implementing a merger even when the bidder controls the target's board of directors since the stockholder approval may remain below the specified percentage (McWilliams, 1994). Supermajority amendments also typically include escape clauses applicable to actions such as mergers with a firm's subsidiary. If the board is able to determine when and if the supermajority provisions will be in effect, the amendment is said to have a board-out clause (Linn and McConnell, 1983). Pure supermajority provisions would seriously limit the management's flexibility in takeover negotiations.

(2) Classified board provisions segment (or stagger) the board of directors into classes with one class standing for election each year. Typically, with a classified board provision, one-third of the board is elected each year for a three-year term. With a classified board, a new majority stockholder would have to wait for two annual meetings to attain majority representation on the board before being guaranteed a successful proposal of a merger for stockholder vote (DeAngelo and Rice, 1983). Amendments to classify the board are often accompanied by a supermajority stockholder approval requirement in order to change the number of directors, thereby inhibiting a bidder from expanding the board and thus taking control by electing candidates to the newly created board positions. In practice, the directors are very likely to resign after a hostile bidder acquires the required number of shares. Nonetheless, lenders cannot be sure when the directors will resign and this uncertainty can make a difference in some circumstances. By 1988 about one-half of Standard and Poors' 500 firms had adopted classified boards (Ruback, 1988). These proposals often describe the benefits of 'continuity' of board members as the main advantage of classified boards.

(3) Fair-price amendments require supermajority voting approval by stockholders for the transfer of control if the bidder does not offer a 'fair price.' Usually, the fair price is defined as the highest price paid by the bidder for any shares acquired in the target firm during a specified period or some premium over market price. Sometimes the fair-price formula is more elaborate. Some fair-price amendments require outside appraisals. For example, the price paid in the merger may have

to be approved as fair by an independent investment banking firm selected by independent directors. In many cases more than one test is used, and the required fair price must at least match the highest of them (Herzel and Shepro, 1990). The amendments are effective mainly against hostile two-tier tender offers than can place diffuse stockholders on the horns of a prisoner's dilemma (Dixit and Nalebuff, 1991, pp. 81–4). Courts uphold takeover bids structured as prisoner's dilemmas (McChesney, 1993). Hostile bidders can avoid the supermajority requirement of the fair-price amendment by making a uniform offer for all outstanding shares. The fair-price amendment limits the options of a firm's stockholders and this *loss* of flexibility may be a strategic advantage. This example is a special case of Schelling (1960, p. 22) that 'the power to constrain an adversary may depend on the power to bind oneself: that in weakness there is strength, freedom may be freedom to capitulate, and to burn bridges behind one may suffice to undo an opponent.' The sacrifice of the stockholders' freedom to accept a two-tier offer enables the target firm's stockholders to avoid the prisoner's dilemma.

(4) Reduction in cumulative voting restricts the rights of stockholders to accumulate their votes in favor of a particular director or board of directors. The number of votes to which a stockholder is entitled is the number of shares owned multiplied by the number of directors to be elected in a given year. Therefore, with cumulative voting it may be possible for minority stockholders to elect some board members even if the majority of stockholders oppose their election. A reduction in cumulative voting rights reduces the minority stockholders' ability to elect their nominees as directors (Bhagat and Brickley, 1984) and thus makes the firm a less desirable takeover target.

(5) Anti-greenmail provisions are amendments to corporate charters which prohibit payment of greenmail. Greenmail involves private repurchase of a sizeable block of company stock at a premium (Davis, 1991; De and Kenz, 1993; Duggal and Cudd, 1993; Mikkelson and Ruback, 1991). These transactions often occur under the explicit or rumored threat of takeover by a substantial stockholder or stockholders (Bagnoli, Gordon and Lipman, 1990; Bagwell, 1991; Macey and McChesney, 1985; Sinha, 1991). In exchange for a

premium above market price, the raider agrees not to ,acquire the firm and displace incumbent mangement (Bradley and Wakemen, 1983; Dann and DeAngelo, 1983; Kosnik, 1987, 1990). Often this transaction is followed by a standstill agreement whereby the raider also agrees not to acquire stock in the concerned company for a specified period of time, often for as long as five years (Shleifer and Vishny, 1986). Managers who engage in targeted block share repurchases frequently are expelled from corporate ranks and the probability of being replaced increases with the repurchase premium paid (Ang and Tucker, 1988; Klein and Rosenfeld, 1988b). Klein and Rosenfeld (1988a) find the average premium over market paid in greenmail is 22%. Well-known cases of greenmail include: (a) Walt Disney Productions paid $325 million for Saul Steinberg's 4.2 million shares of common stock, an average of $14.25 per share more than he paid originally; (b) Rupert Murdoch received a 35% premium for his shares of Warner Communications; (c) The Bass Brothers netted $400 million after Texaco bought back their 10% stake at $5 per share premium; (d) T. Boone Pickens purchased a large portion of Gulf's outstanding shares and later sold them back at a premium; (e) Carl Icahn used greenmail techniques with such companies as Saxon Industries, Hammermill Paper Company, Gulf & Western, American Can Company, Marshall Field and ACF Industries (Kesner and Dalton, 1985). Typical anti-greenmail charter amendments prohibit firms from repurchasing some or all of the common (voting) stock of an 'interested' stockholder, normally defined as a stockholder who owns 5% or more of the outstanding common stock and who acquired this ownership within the past three years. *Ex post*, the payment of greenmail may be a management entrenchment device. However, from an *ex ante* perspective, anti-greenmail provisions could also potentially be management entrenchment devices that reduce the probability of a takeover. There may be value in the *option* to pay greenmail (Eckbo, 1990). Thus, in a dynamic view, both greenmail and anti-greenmail provisions can be potential management entrenchment devices.

Operating Antitakeover Provision That Does Not Require Stockholder Approval:

(6) Poison pills belong to cell 2 of Table 2 as they are operating measures and do not require stockholder approval. Poison pills gained power to deter takeover attempts when the Supreme Court of Delaware upheld its legality against a challenge to this technique by a group of stockholders in *Moran v. Household International Inc.* A poison pill provision, formally called a 'shareholder rights plan' is a dividend distribution of rights or securities to owners of common stock that are issued by the board of directors that provides target stockholders the right to purchase additional shares at a discount or to sell shares to the target at very attractive prices. These conversion features are activated by an unsolicited takeover bid. Often the effect is to make a takeover prohibitively expensive by 'poisoning' the target with the obligations implied by the pill. The family of contingent securities of poison pills can be classified under the following five categories: original poison pill plans, voting plans, flip-over plans, flip-in plans and back-end plans (Ryngaert, 1988):

- Original poison pill plans. Original poison pill plans deter hostile two-tier takeovers by reducing the percentage of shares that can be frozen out by an acquirer. In these plans a dividend of preferred stock convertible into common stock is issued to stockholders of the potential target. A supermajority vote of the preferred stock is required to approve mergers unless an acquirer purchases all common and preferred stock at a uniform price (Ryngaert, 1988).

- Voting plans. Voting plans are the most straightforward poison pills. They are designed to prevent any single party from obtaining voting control of the firm adopting the plan. Under a voting plan, the firm declares a dividend of preferred stock. If anyone acquired a substantial block of these firms' voting stock, preferred stockholders other than the large block holder would become entitled to supervoting privileges. The larger blockholder thus would be prevented from exercising voting control (Malatesta and Walkling, 1988).

- Flip-over plans. The target stockholders' right to purchase at a discount is known as flip-over plan. Under the flip-over plan, the firm declares a common stock dividend in the form of rights to purchase some class of its own securities, usually common stock. For example, Crown Zellerbach's common stock purchase rights had an exercise price of $100 per share

while Crown common stock traded at $30 per share (Malatesta and Walkling, 1988). If an acquirer merges with the firm, the rights 'flip over' and holders are entitled to purchase shares in the surviving firm at a substantial discount from the post-merger market price, typically 50% (MacMinn and Cook, 1991). In our example, if the rights' exercise price is $100 and the surviving firms' stock when the merger is consummated trades at $50 per share, each right entitles its holders to purchase four shares of stock for $100.

- Flip-in plans. In the more potent flip-in plan, the mere acquisition of a threshold stake (usually between 10% and 20%) enables the rights' holders to purchase additional shares of the target firm at a discount. The bidder is excluded from exercising any conversion rights commensurate to the bidder's initial ownership (Choi, Kamma and Weintrop, 1989). The intended result is that no one dares to pass the flip-in triggering percentage, and bidders are forced to negotiate with target boards. Approximately half the flip-over plans contain a flip-in provision.
- Back-end plans. Finally, the right to sell shares to the target at an attractive price is called a back-end plan (Ryngaert, 1988). Back-end plans are so named because they attempt to place specific minimum price on the back-end of a two-tier acquisition bid (Malatesta and Walkling, 1988).

Recently, shareholder-sponsored corporate governance proposals have led to successful repeal of poison pills at Avon Products, K-mart, Lockheed and USX, among others (Gordon and Pound, 1993).

APPENDIX 2: EVENT STUDY METHODOLOGY

Event study methodology is one of the most frequently used analytical tools in financial research (Peterson, 1989). The objective of an event study is to assess whether there are abnormal returns earned by security holders accompanying specific events (e.g. announcement of proposals for antitakeover provisions) where an abnormal return is the difference between the observed return and that appropriate given a particular return gener-

ating model (e.g. capital asset pricing model (CAPM)). Brickley (1986) documents a zero abnormal return, as expected, around the proxy mailing date for a random sample of firms without unusual items in the proxy.

The statistical tests presented below consider the estimation of the market-price impact associated with public announcement of proposed antitakeover provisions. Capital market residual analysis techniques are anlayzed (Fama et al., 1969). If one assumes that security returns have a multivariate normal distribution, a single factor model consistent with the capital asset pricing model can be formulated for time-event studies (Lintner, 1965; Sharpe, 1964). Therefore, the statistical tests described below entail a joint hypothesis of market efficiency,[14] the capital asset pricing model[15] and the effects of antitakeover provisions.

Specifically, the market model is assumed to be a valid representation of the stochastic process which generates returns for security j in time period t:

$$\tilde{r}_{jt} = \alpha_j + \beta_j \, \tilde{r}_{mt} + \tilde{\epsilon}_{jt} \qquad (A1)$$

where

$\tilde{r}_{jt}$ = stochastic return on security j over time period t

$\tilde{r}_{mt}$ = stochastic return on a market portfolio of common stocks over time period t

$\tilde{\epsilon}_{jt}$ = disturbance term for security j at time period t which is assumed to be normally distributed, with zero mean, serially uncorrelated and has constant variance over time.

According to the market model, each security's period t return is expressed as a linear function of the corresponding time period's return on the market portfolio plus a random error term which reflects security-specific effects.

The market model is implemented by computing ex-post abnormal returns for each security as

$$AR_{jt} = r_{jt} - \left(\hat{\alpha}_j + \hat{\beta}_j \, r_{mt} \right) \qquad (A2)$$

where r_{jt} and r_{mt} are the observed returns for security j and the market portfolio, respectively, in time period t relative to the event date of interest.

The security specific parameters $\hat{\alpha}_j$ and $\hat{\beta}_j$ are estimated over a period of 110 days (-160 to

−51) preceding the event date (Linn and Mc-Connell, 1983). To reduce the impact of random estimation errors, portfolios are formed in event time such that each daily abnormal return is an equally weighted average of individual securities' abnormal returns for that common event date,

$$\overline{AR}_t = \sum_{j=1}^{N} AR_{jt}/N$$

where N is the number of securities in the portfolio on event date t. Cumulative average abnormal returns are computed as:

$$CAR_t = \sum_{k=-50}^{t} \overline{AR}_k$$

where $t = -50$ through $+5$. To determine the statistical significance of the average abnormal returns, this paper employed a parametric mean test as described in Linn and McConnell (1983). The statistic used to test the null hypothesis is computed as:

$$Z = \overline{AR}_t/S(\overline{AR}) \qquad (A3)$$

where

$$\overline{AR}_t = 1/N\left(\sum_{j=1}^{N} \overline{AR}_{jt}\right)$$

$$S(\overline{AR}) = (T - 2/(N(T-4)))^{1/2}$$

and

$$\widehat{AR}_{jt} = AR_{jt}/S_t(AR_j)$$

where

$$S_t(AR_j) =$$

$$\left(S_j^2\left(1 + 1/T + (r_{mt} - \overline{r_m})^2/\sum_{t=1}^{T}(r_{mt} - \overline{r_m})^2\right)\right)^{1/2}$$

$S_j^2 =$ residual variance from the ordinary least squares estimation of the market model for security j

$\overline{r_m} =$ average return on the market portfolio computed over the same event period used to estimate the market model for security j

$T =$ total number of days in the interval used to estimate the market model, and

$N =$ number of securities in the portfolio of interest.

The Z-statistic in Eqn (A3) is distributed approximately unit normal for large N.

The test statistic of the null hypothesis that the cumulative average abnormal return (CAR) is equal to zero is computed as:

$$Z_t = \overline{CAR}_t/S(\overline{AR}) \qquad (A4)$$

where

$$\overline{CAR}_t = \left(1/N\sum_{j=1}^{N}\widehat{CAR}_j\right)$$

$$\widehat{CAR}_j = \left(\sum_{t=1}^{T} AR_{jt}\right)/(T)^{1/2}$$

The Z-statistic in Eqn (A4) is distributed approximately unit normal for large N.

In addition, a less powerful but more robust non-parametric test is performed on the fraction of firms that have a negative stock price reaction to the announcement of the antitakeover provision. This test is less influenced by large outliers. Under the null hypothesis of no effect of antitakeover provisions on stock price, the non-parametric test statistic Z can be written as:

$$Z = \frac{(N^- - E(N^-))}{\sqrt{N * p_0 *(1 - p_0)}}$$

where N is the number of firms in the sample, N^- is the number of firms in the sample with negative stock price returns and p_0 is the expected fraction of firms with negative stock price reactions. Since under the null hypothesis, half of the sample is expected to realize negative abnormal stock returns, this test statistic can be equivalently written as:

$$Z = 2 * \sqrt{N} *(p^- - 0.5)$$

where p^- is the fraction of firms with negative stock price reactions. Under the null hypothesis, the statistic Z is distributed approximately unit normal for large N.

The test statistic for the hypothesis that two standardized abnormal returns, Z_1 and Z_2 (with sample sizes N_1 and N_2,) are equal is as follows:

$$Z_{\text{diff}} = \left(\sqrt{N_2} * Z_1 - \sqrt{N_1} * Z_2\right)/\sqrt{N_1 + N_2}$$

Under the null hypothesis of no difference, Z_{diff} is distributed approximately unit normal for large N_1 and N_2.

Several methodological issues concerning event studies must be addressed (Brown and Warner, 1985). First, a pre-event period was chosen to estimate the parameters α and β in the market model. These parameters may change due to the event, thus yielding potentially biased and inefficient estimates for the market model. Changes in the parameter values are generally not a major concern when events are non-operating, that is, when the events do not change the asset structure (business risk) or the capital structure (financial risk) of a firm. However, two situations may cause pre-event estimates of α's and β's to be unreliable. First, if rumors about a takeover of the firm circulated before the board meeting date (rumors which may have lead to the proposal of the anti-takeover provision), the α's in the pre-event period may be overestimated due to the positive stock impact of the rumor. The overestimation would lead to a downward bias in the estimate of the stock price impact of the antitakeover provision. Second, if information of the proposal was conveyed to some market participants the α's may be overestimated or underestimated, depending on the impact of the impending proposal. Therefore, this paper's event study was replicated using a post-event estimation period ($+11$ to $+120$) in place of our pre-event estimation period (-160 to -51) to estimate α and β, and we still found significantly negative CARs which is consistent with our earlier results supporting the management entrenchment hypothesis.

Second, correlation among securities due to clustering of events in calender time violates the OLS assumption of contemporaneously uncorrelated error terms. In this study, cross-correlation is not viewed as a problem since the event dates are scattered through the years which we study. In addition, the problem of non-synchronous trading (Scholes and Williams, 1977) was not considered a major problem since the firms proposing antitakeover provisions are in general large, heavily traded corporations.

Third, a consistent choice of market index is needed in order to properly interpret the results (Brown and Warner, 1985). Thus, the equally weighted market index was used in order to be consistent with the equal weighting of the firms in the event-study portfolio. The justification for the use of the equally weighted index is that, in practice, the precision with which beta and hence residuals are measured is greater with the equally weighted index than the value weighted index (Brown and Warner, 1985). The results were not qualitatively altered by the choice of market index when either the equally weighted or value weighted NYSE/AMEX composite index from CRSP was used.

Fourth, this paper tested for increased variance around the event date which would violate the OLS assumption of constant variance and would not allow standard interpretations in the t-tests for significance. The hypothesis that the residuals from the OLS regression (A1) above had the same variance before and after the event date cannot be rejected.[16]

Recent research by Fama and French (1992) indicates that a simpler model than the Capital Asset Pricing Model (CAPM) can be employed to predict expected returns on a large sample of firms. Alternate proxies of risk, such as firm size and market to book ratios, can predict as much variance in returns as β. CAPM does not allow the 'firm size effect' empirically found in the literature (where smaller firms have higher realized returns relative to larger firms), since β is the only measure of risk. However, the market model adjustment allows two measures of risk, the α term and the β term. If small firms truly earn higher returns than large firms, the difference will be captured by the α term in the OLS regression during the estimation period. Thus, if small firms earn more during the estimation period, they will be expected to earn more during the testing period. The adjustment for both an α term and a β term makes the market model adjustment robust to extraneous effects such as size effects, industry effects, or market to book effects.

However, in order to test our conclusions under a different methodology, a size adjustment was made, where the returns on the corresponding decile portfolio is subtracted from the returns of the stocks in the sample. The results of this decile adjustment also indicate a significantly negative

stock price impact of antitakeover provision proposals.' Therefore, the conclusion that antitakeover provisions lead to decreases in stockholder wealth appears robust to the methodology employed. The results across types of antitakeover provisions are also confirmed, with no statistical difference between the operating provisions which do not require stockholder approval and the non-operating amendments which do require stockholder approval.

Acknowledgements

NOTES

1. Pugh, Page and Jahera (1992) provide empirical support that upon passage of antitakeover provisions, managers adopt a longer-term view with respect to capital expenditure and R&D. However, Mallette (1991) finds no such relationship and Meulbroek et al. (1990) find a significantly negative relationship between a firm's adoption of antitakeover provisions and subsequent R&D expenditures. Mahoney (1994) finds a significantly negative relationship between a firm's adoption of antitakeover provisions in the 1984 to 1988 period and subsequent R&D and capital expenditures.
2. Since the IRRC publication follows the larger firms, most of the firms in our sample are traded on the NYSE and AMEX. Therefore, few firms in this paper's sample are traded on NASDAQ: 4 of the 196 firms adopting poison pills and 15 of the 185 firms adopting other antitakeover provisions were traded on NASDAQ. Since these firms comprise only 5% of this paper's sample the empirical results are robust to the decision to include them.
3. Formally, the hypotheses which we are testing are:
   H_0: $CAR_5 = 0$ Null hypothesis of no stockholder wealth effect
   H_{1A}: $CAR_5 > 0$ Supports the stockholder wealth hypothesis
   H_{1B}: $CAR_5 < 0$ Supports the managerial entrenchment hypothesis
4. The results of significantly negative CARs and fraction negative at the 0.05 level using a two-tailed test are robust to various windows (e.g. $(-50, +5)$, $(-40, +5)$, $(-10, +5)$, $(-2, +5)$).

5. Once again, the results of statistically significant negative CARs and fraction negative at the 0.05 level using a two-tailed test are robust to various windows (e.g. $(-50, +5)$, $(-40, +5)$, $(-20, +5)$, $(-10, +5)$, $(-5, +5)$).
6. While the significantly negative stockholder wealth effects are robust to various event windows for poison pill provisions the significantly negative stockholder wealth effects for fair-price amendments hold only for the larger event window $(-50, +5)$. Our argument in the text is that the larger event window is not only appropriate but essential if we are to assume efficient markets.
7. As Graves and Waddock (1990, p. 76) note: 'In the computer industry, institutional ownership has grown from 16 percent of common equity in 1976 to almost 50 percent in 1984; in the chemical industry, from 15 percent of equity in 1976 to 52 percent in 1984; and in aerospace, from 10 percent in 1976 to 34 percent in 1984. In 1984 institutional investors held about 60 percent of all shares of U.S. corporations.'
8. Many changes in the takeover market may have caused antitakeover provisions to have a relatively larger effect on stockholder wealth in the 1980s relative to the 1970s. For example, state antitakeover laws have been largely invalidated since 1982, and antitrust impediments have been reduced for the merger of large firms and between competitors since 1980 (Jarrell and Poulsen, 1987).
9. As Bhagat and Jefferis (1991) note, firms tend to bundle antitakeover provisions. For multiple antitakeover provisions, CARs were regressed on dummy variables representing the types of antitakeover provisions, and again the finding was that differences of effects among takeover defense types were not significant.
10. Pairwise comparisons between each of the non-operating amendments' mean cumulative average returns indicate that stockholders reacted more negatively to reduction of cumulative voting than to the adoption of fair-price provisions $(-1.646; p < 0.1)$ or to classified boards $(-2.17; p < 0.05)$.
11. One could argue that the market reaction to the poison pill is not greater because for many firms other antitakeover provisions are already in place. However, Ryngaert (1988) finds that the stock price effect of the poison pill is not significantly influenced by the existence of an antitakeover provision.
12. Managers are most likely to be constrained by voting (1) in small firms with less dispersed ownership; (2) in firms with large outside blockholders; (3) when information about the wealth effects of the proposed action is widely disseminated; (4) in firms with more stringent voting rules; and (5) in firms with low ownership by financial institutions with potential or existing business ties with the firm (Brickley, Lease and Smith, 1994).
13. Right-of-redemption amendments confer rights on the minority holders of a target company following a bidder's acquisition of a substantial block of

shares. These holders may then require the target company to purchase their shares at a price at least equal to the price paid by the bidder for his or her substantial block.

14. A market is efficient with respect to an information set if it is impossible to make economic (abnormal) profits by trading on the basis of the information set. While many in organization science take exception to the idea of perfect competition in *product* markets, the efficiency of *security* markets seems more plausible. The record on the efficient market hypothesis is extensive, and in large measure it is reassuring to advocates of the (semi-strong) efficiency of markets. Although anomalous events have occurred (Shiller, 1984; Shleifer and Summers, 1990) (e.g. the stock market crash of 19 October 1987), empirical studies continue to provide support that the market is semi-strong form efficient (i.e. all publicly available information is impounded in the price of the stock). Furthermore, the price reaction to news appears to be almost immediate. For example, within 5 to 10 minutes of earnings or dividends announcements on the broad tape most of the price adjustment has occurred and any remaining gain from acting on the news is less than the transaction costs. In fact, empirical tests even tend to support the view that the market is gifted with a certain amount of foresight. News tends to leak out and be reflected in stock prices even before the official release of the information. This fact provides the rationale for this paper's $(-50, +5)$ event-study window. Finally, it should be noted that if the market was highly inefficient there would be mostly noise and insignificant results for the event studies on abnormal returns for various events. Much of the empirical evidence (but by no means all) supports this paper's premise of an efficient market.

15. Some of the assumptions of CAPM seem reasonable. First, it is assumed that investors require some extra return for taking on risk. Second, investors are concerned principally with those risks that they cannot eliminate by diversification. CAPM captures these ideas and suggests that the expected return on a security is positively (and linearly) related to the security's beta. The basic logic behind CAPM is that only undiversifiable or systematic risk will command a risk premium. In terms of obtaining expected returns by CAPM, Brown and Warner (1980, 1985) find that the OLS model used in this paper performs as well as other models.

16. The event study methodology outlined in this appendix has been applied to many economic, financial and strategic management issues. In most instances, there is not one correct technique to apply, but many appropriate techniques (e.g. OLS regression, Scholes–Williams (1977) estimator, Dimson estimator, mean-adjusted and market-adjusted models) (see Peterson, 1989). The OLS model was chosen with equally weighted indices. The OLS model was chosen because it is grounded in theory

(i.e. CAPM). Although the CAPM suggests the use of value-weighted index as a market index, this paper nevertheless follows many researchers in using the equally weighted index which is more likely to detect abnormal security returns. This result is due to the greater degree of correlation between the equally weighted index and security returns; the greater the precision of the estimated parameters, the more easily detectable are the abnormal returns. The critical point to emphasize is that the estimation results are seldom sensitive to these choices among statistically correct approaches (Brown and Warner, 1980; Peterson, 1989).

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