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AN EMPIRICAL INVESTIGATION OF THE IMPACT OF 'ANTITAKEOVER' AMENDMENTS ON COMMON STOCK PRICES

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'Antitakeover' amendments are amendments to a corporation's charter that impede the ability of an 'outsider' to gain control of the firm. A number of individuals and institutions have objected to such amendments on the grounds that they are not in the best interests of the shareholders of the firms that adopt them. This paper employs event-time methodology to investigate the impact of antitakeover amendments on the common stock prices of firms that adopt them. The results indicate that the announcement of such amendments is associated with a positive revaluation of stock price. Contrary to the concerns of their critics, we conclude that antitakeover amendments are proposed by managers who seek to increase the value of the firm and are approved by stockholders who share that objective.

1. Introduction

This study is an empirical investigation of the impact of 'antitakeover' amendments on the common stock prices of firms that adopt them. Antitakeover amendments are amendments to a corporation's charter that make a takeover by an 'outsider' more difficult. The question of whether the announcement of information related to the proposal and adoption of antitakeover amendments results in an increase or decrease in the wealth of common stockholders is the major focus of this paper.

The study is motivated by the considerable number of individuals and institutions who have expressed concern about antitakeover amendments.

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Statements of caution or outright opposition have been issued by the New York Stock Exchange (NYSE),[1] the U.S. Securities and Exchange Commission (SEC),[2] at least one state securities commission,[3] a number of contributors to the legal literature,[4] a number of 'public interest' groups,[5] and the notorious Gilbert brothers.[6] A particularly strong position of opposition has been taken by the Securities Commissioner of the State of Wisconsin:

> We believe that certain of the common defensive charter amendments (are) an anathema to shareholder democracy and entirely inconsistent with the concept of public ownership of corporate issuers. For that reason, for the last two years or so, Wisconsin has been reviewing the articles and by-laws of issuers seeking to register their securities in this state. Where we find 'supermajority' provisions, requirements of 50 percent or more to call a special stockholder meeting, and various charter 'lock-in' provisions limiting amendments, among others, we have refused registration unless these provisions are modified or somehow justified. [Jeffrey B. Bartell, Securities Commissioner of Wisconsin, in Hochman and Folger (1979, p. 546)].

Those who believe that takeover attempts are an important mechanism to remove inefficient managers from office believe that antitakeover amendments impede the allocation of real corporate resources to their highest valued uses. In this view, antitakeover amendments are contrary to the best interests of the stockholders of the firms that adopt them.

A contrary view is held by the proponents of antitakeover amendments, who number among their most ardent supporters the managers of the firms that have adopted such amendments. According to their advocates, antitakeover amendments have at least two salutary effects. First, they strengthen the hand of incumbent management in dealing with corporate acquirors whose primary objective is to acquire the assets of the target firm at an unreasonably low price. Second, they provide for greater continuity in management and thus a greater stability in the firm's long-term planning,

[1]For example, see Phillip L. West, Vice President NYSE, in letters to the presidents of listed companies, December 26, 1969 (reprinted in NYSE Company Manual, 1969, pp. xxi–xxii) and February 21, 1969 (reprinted in NYSE Company Manual, 1978, pp. 30–31).

[2]For example, see SEC Release No. 34-15230 (October 13, 1978) and SEC Docket 1311 (October 31, 1978).

[3]See Section 8 of proposed revisions to Wisconsin Administrative Code of Rules of the Commissioner of Securities (July 1979) [reprinted in Fleischer (1979, p. 10)].

[4]For example, see Aranow and Einhorn (1973), Cary (1970), and Schwartz (1980).

[5]For example, see Green, Marlin, Kamber and Bernstein (1980), Nader and Green (1973), and Nader, Green and Sligman (1976).

[6]See Gilbert (1969–1979).

profitability and growth. The proxy statements of Gamble-Skogmo, Inc. and Bangor Punta Corporation contain typical statements along these lines:

> The proposed amendment is prompted by the increasingly frequent and disruptive attempts in recent years by one company or group to acquire control of a target company through the acquisition of a substantial number of shares of the target company's stock, which acquisition often is followed by a forced merger of the target company. Such attempts may be prompted by motives or objectives that serve the interests of the acquiring company or group, and that may not be in the best interests of the target company and its stockholders. The proposed amendment will make it more difficult for such a forced merger to be imposed upon the Company and its stockholders, and may therefore discourage attempts to do so. [Proxy statement of Gamble-Skogmo, Inc., November 18, 1974, p. 5]

> The Board of Directors believes that the proposed amendment will enable management to negotiate more effectively with respect to mergers, consolidations, or similar transactions. While a number of states have adopted statutes specifying minimum periods for cash tender offers, the Board of Directors believes the proposed amendment is a desirable supplement to such statutes and would reduce the possibility of an immediate takeover attempt which often causes shareholders to hurry into acceptance or rejection of a tender offer without adequate time to evaluate the offer or alternatives. [Proxy statement of Bangor Punta Corporation, February 10, 1978, p. 12]

The arguments of the two sides of the debate surrounding the use of antitakeover amendments lead to opposite empirical predictions. According to the opponents of such amendments, the introduction of an antitakeover amendment will have a negative impact on the firm's stock price because it reduces the probability that inefficient managers will be removed from office. According to the advocates of antitakeover amendments the introduction of such an amendment will have a positive impact on the firm's stock price because it reduces the probability that a corporate acquiror will gain control of the firm's assets without adequately compensating the target firm's shareholders. Unfortunately, neither side of the debate surrounding these amendments has marshalled empirical evidence to support its position. This study attempts to fill that void by investigating the impact of antitakeover amendments on the common stock prices of the firms that have adopted them. Specifically, we use standard event-time methodology to analyze common stock returns around the dates on which antitakeover amendments were (1) ratified by corporate boards of directors; (2) presented to stockholders in corporate proxy statements; and (3) voted upon by

stockholders at annual or special shareholders' meetings. A negative impact on stock price is consistent with the arguments of the opponents of antitakeover amendments. A positive impact is consistent with the arguments of the advocates of such amendments.

In the following section we describe the various forms of antitakeover amendments in more detail. Section 3 describes our sample and provides some historical perspective on the use of antitakeover amendments. The fourth section describes the empirical methodology and the data employed. Section 5 reports the results of the tests. Section 6 interprets the results and compares them with the results reported by DeAngelo and Rice (1981) in their contemporaneous study of antitakeover amendments. The final section is a summary.

2. Antitakeover amendments

According to the standard takeover scenario, one firm (the 'bidder') offers to buy a fixed number of the outstanding shares of another independent company (the 'target') at a specified price above the current market price. Subsequently, the bidder takes control of the target firm by nominating and electing a majority of the members of the target firm's board of directors. The bidder then implements a preferred operating strategy which often includes merging the target and bidding firms. Antitakeover amendments are designed to impede takeovers by (1) inhibiting a bidder's ability to take control of the target firm's board of directors (even when the bidder controls a majority or supermajority of the target firm's outstanding shares), or (2) inhibiting a bidder from implementing changes in the target firm's operating activities, including a merger or sale of major assets (even when a majority of the board of directors is loyal to the bidder).

In this section we describe in more detail the most frequently observed types of antitakeover amendments.[7]

2.1. Classification of the board of directors

Amendments which classify the corporate board of directors typically involve the establishment of three classes of directors, each of equal size, whose members each serve a three-year term of office. However, the terms of office of the three classes are staggered so that only one-third of the directors are elected in a given year. Thus, a bidder would be required to wait two years to gain control of the board even if the bidder owned a majority or supermajority of the voting shares outstanding. Amendments to classify the

[7]Our description of the various types of antitakeover amendments is based upon discussions in Hochman and Folger (1979) and Lipton and Steinberger (1978). See also Mullaney (1970) and Fleischer (1979).

board are often accompanied by an amendment specifying that supermajority shareholder approval is required to change the number of directors. This latter amendment inhibits a bidder from expanding the board and, subsequently, taking control of the board by electing its candidates to the newly created positions.

2.2. *Limitations on the right of shareholders to act by written consent*

The corporate codes of some states, including Delaware, permit stockholders to approve corporate actions in writing without a formal meeting. Thus, a bidder could request written consent from the target's shareholders approving changes in the corporate charter, including approval of changes in the way in which the board of directors is elected and/or approval of a proposed merger. Amendments which limit or eliminate this right would force a bidder to wait at least until the next shareholders' meeting to implement changes in the corporation's activities even if the bidder owned a majority or supermajority of the shares outstanding.

2.3. *Supermajority shareholder approval for the removal of corporate directors*

Corporate charter amendments have been adopted which permit directors to be removed from office only for specific causes. The exact conditions which constitute 'cause' are spelled out in the amendment. Furthermore, even if the 'cause' conditions are satisfied, a supermajority (often 80%) of the shares outstanding must be cast in favor of the director's removal for the proposal to be approved. This type of amendment limits a bidder's ability to replace quickly an incumbent board with directors loyal to the bidder even if the bidder controls a majority of the outstanding shares.

The corporate code of Delaware provides that directors of a classified board can be removed only for 'cause' whereas the members of a non-classified board can be removed at any time by a simple majority vote of the stockholders.

2.4. *Supermajority shareholder approval of a merger, consolidation, or sale of major assets of the firm*

One of the more widely used types of antitakeover amendments calls for supermajority shareholder approval of a merger, consolidation, or sale of major assets of the firm. The supermajority specified in this type of amendment ranges from two-thirds to as high as ninety-five percent in some cases.

One variation on the basic supermajority requirement is the 'standard 80–10 provision'. According to this provision the supermajority required to approve a merger increases to 80% when the merger partner controls 10+%

of the target's outstanding shares. In some cases the supermajority approval requirement increases only to 75% and in some cases the provision is activated if the merger partner controls 5+% of the target's outstanding shares. In most cases the amendment waives this provision if a majority of the target's board of directors approves the merger. In that case, the majority or supermajority approval that would otherwise be required applies.

The 'minority interest provision' and the 'related corporation clause' are two additional variations on the basic supermajority shareholder approval amendment. The minority interest provision specifies that not only must a supermajority of all shares outstanding approve a merger, but also a majority or supermajority of all shares not controlled by the merger partner must approve before the merger can be consummated. The related corporation clause specifies that supermajority approval is required to consummate a merger with a firm in a business related to the target's business. The amendment also typically defines related businesses.

The various supermajority shareholder approval requirements may delay or block a bidder from implementing an operating or merger strategy even when the bidder controls the target's board of directors.

As part of their corporate codes, a number of states currently require supermajority shareholder approval for mergers and/or business combinations. For example, the corporate codes of the states of New York, Ohio and Maryland require that two-thirds of a firm's outstanding shares approve a merger before it can be consummated. In 1969, Delaware and New Jersey reduced the fraction of shareholders required to approve a merger from two-thirds to a simple majority. Massachusetts and California followed suit in 1976 and 1977, respectively.

2.5. Fair price and share redemption provisions

The 'fair price' and 'share redemption' provisions inhibit a bidder from 'squeezing out' minority shareholders even after the bidder has gained control of a majority or supermajority of the target's shares and/or has gained control of the target's board of directors. The essence of the typical fair price and share redemption provisions is that in a 'clean-up' merger the price that a bidder must pay to the minority shareholders must be at least equal to the highest price paid in acquiring shares already held. The determination of the 'fair' price or redemption price may be stated in terms of market values or p/e ratios and earnings per share. An additional feature of some redemption clauses is that any shareholder may demand payment at a specified price for the shares he currently holds once some other shareholder acquires 50+% of the common stock currently outstanding.[8]

[8]Our discussion includes only the most frequently proposed types of amendments. Other types of antitakeover amendments which have been implemented, and which we came across in

2.6. Locking in the antitakeover amendment

Frequently supermajority shareholder approval amendments are accompanied by another amendment which specifies that supermajority shareholder approval is required henceforth to modify the corporate charter or specific articles of the charter. In the absence of such 'lock-in' amendments, a bidder could obtain control of a simple majority of the firm's outstanding shares and remove previously adopted supermajority approval provisions. The lock-in amendment prescribes a bidder's ability to circumvent other antitakeover amendments.

3. The sample

3.1. Antitakeover amendments in the sample

The sample of firms included in the study was taken from the unofficial summary of firms proposing charter amendments compiled by the New York Stock Exchange (NYSE).[9] This list is an unofficial record of all by-law and charter amendments that will affect shareholder voting rights that were proposed by firms listed on the NYSE over the period from 1949 through 1980. We focus our attention upon antitakeover amendments proposed over the period January 1960 through December 1980. From the unofficial summary we identified 475 separate instances in which 398 corporations listed on the NYSE proposed at least one charter or by-law amendment that could be identified as one of the types of antitakeover amendments described in section 2. The number of proposals exceeds the number of firms because 55 companies proposed different amendments at different points in time. Further information regarding the specific amendments was gathered from proxy statements filed with the SEC.

Table 1 is a frequency distribution of antitakeover amendments according to the year in which they were proposed. The table shows that over 97% of the antitakeover amendments proposed by NYSE firms over the period January 1960 through December 1980 occurred after January 1968. The table

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assembling our sample, include amendments eliminating cumulative voting, amendments creating classes of unissued preferred stock with voting rights to be specified by the board of directors at the time of issuance, amendments requiring that 'social impact' be considered before a merger may be consummated, amendments precluding special shareholders' meetings without prior approval of a supermajority of shareholders, and amendments granting specific rights of appraisal to minority shareholders in a merger.

[9]We are grateful to Mr. Stephen Walsh, NYSE proxy ruling specialist, for making the unofficial summary available to us.

Table 1

Frequency distribution, by year, of the number of proxy statements issued by corporations listed on the NYSE that contained antitakeover amendments, 1960–1980.

Year	Number of proxy statements	Year	Number of proxy statements
1960	0	1971	7
1961	2	1972	16
1962	0	1973	27
1963	0	1974	34
1964	2	1975	65
1965	1	1976	42
1966	0	1977	48
1967	8	1978	49
1968	17	1979	27
1969	68	1980	23
1970	39		
		Total	475

also shows that the adoption of antitakeover amendments by these firms was clustered in the periods 1968–1970 and 1975–1978.

There are at least two possible explanations for the upsurge in antitakeover amendments after 1967 and for the clustering of proposals in 1968–1970. First, as we noted above, in 1969 Delaware and New Jersey reduced the fraction of shareholders required to approve a merger in those states from two-thirds to a simple majority.[10] Second, the Williams Act, which substantially altered federal regulations concerning intercorporate tender offers, was enacted in 1968.[11] Potential explanations for the clustering of proposals for antitakeover amendments in 1975–1978 are less obvious, although a number of states enacted legislation over this period regulating tender offers for companies incorporated in those states and the Hart–Scott–

[10]The change in the New Jersey and Delaware laws appears to have been motivated by a similar change in the Model Business Corporation Act (MBCA). The MBCA is an ongoing project of the American Bar Association and the American Law Institute. In 1969 the MBCA was amended so as to reduce the provision calling for supermajority shareholder approval of mergers from two-thirds to a simple majority. Of the total of 475 proxies containing antitakeover amendments, 252 were issued by New Jersey and Delaware corporations. It is possible that companies domiciled in other states were motivated to amend their charters by the change in the MBCA with the anticipation that the corporate code in their own states also would be changed to conform with the MBCA.

[11]The Williams Act (and its amendment in 1970) and the way in which the Act has been implemented by the SEC impose substantial disclosure requirements on bidder firms in tender offer/takeover attempts. See Jarrell and Bradley (1981).

Rodino Antitrust Improvements Act which was introduced in 1976, imposed additional federal regulations on intercorporate tender offers.[12]

Table 2 contains some descriptive data on the sample. Panel A of the table is a frequency distribution of frequently used types of antitakeover amendments in our sample. These are amendments requiring supermajority shareholder approval for merger, consolidation, or sale of major assets (280 cases), classification of the board of directors (248 cases), and supermajority shareholder approval to remove a director or to change the number of directors (129 cases). Of the 475 proposals, 327 included at least one amendment requiring supermajority shareholder approval for some action of the firm. Of these, 115 called for a supermajority approval of two-thirds and 212 called for a supermajority in excess of two-thirds, typically 75% or 80%. Additionally, there were 289 cases in which supermajority 'lock-in' amendments were proposed. Only 28 proposals contained amendments to limit shareholder's right to act by written consent and only 24 proposals contained fair price or share redemption provisions.[13] Because many proposals contained multiple amendments the total number of proposed amendments shown in panel A is greater than the total number of proxy statements issued. Panel B shows the number of antitakeover amendments per proposal. Over 67% of the proposals contained multiple antitakeover amendments.

[12]Thirty-eight states have adopted some form of legislation regulating intercorporate tender offers. The first state to do so was Virginia, in 1968. However, the majority of states adopting tender offer legislation did so during the period 1974–1977. During this period 24 states enacted legislation regulating tender offers.

In general, the state statutes impose more severe disclosure requirements than the Williams Act. In particular, the state laws typically call for prenotification of a forthcoming tender offer and permit the state securities commissioner to seek a court injunction delaying the tender offer.

The Hart–Scott–Rodino Antitrust Improvements Act provides for the prescreening of proposed mergers between companies which meet specified criteria. The legislation is concerned primarily with mergers, but also specifically covers intercorporate tender offers. Just why the state or federal laws would have stimulated the introduction of antitakeover amendments is unclear.

[13]Curiously, all 24 of the amendments containing fair price and share redemption provisions were proposed after 1976. One possible explanation for this phenomenon is the outcome of the case of Singer vs. Magnavox that was tried before the Delaware Court of Chancery in 1976. In this case, suit was brought by the minority shareholders of Magnovox who had been 'frozen out' by a merger which followed a successful tender offer by North American Philips Development Corporation. Management of Magnavox initially rejected the tender offer at $8 per share, but later reversed its position when the offer price was raised to $9 per share and when North American agreed to a two year employment contract with Magnavox management at their then current salaries. The tender offer was successful with 84% of the Magnavox shares being tendered. Subsequently a merger between the two companies was consummated with a price of $9 per share being paid to the non-tendering Magnavox shareholders. The case hinged upon the question of whether $9 per share was a 'fair' price to the non-tendering shareholders. Following trial and appeal the Supreme Court of Delaware ruled that the directors of Magnavox had violated their fiduciary responsibility to non-tendering shareholders and could be held personally liable. Thus, it is possible that the fair price provisions were proposed by directors and managers as a means of reducing personal liability in takeover attempts.

Table 2

Description of sample of antitakeover amendments proposed by NYSE firms during the period 1960–1980.

A. *Frequency distribution of selected antitakeover amendments, by type of amendment*

	Type of amendment	Number of proxy statements
1.	Supermajority shareholder approval required for mergers, consolidations, and sale of major assets	280
2.	Classified board of directors and staggered elections	248
3.	Supermajority shareholder approval required to amend corporate charter or by-laws	289
4.	Supermajority approval required to remove directors or to change number of directors	129
5.	Limitations on the right of shareholders to act by written consent	28
6.	Fair price or share redemption provisions	24
Total		998

B. *Frequency distribution of multiple antitakeover amendments per proposal*

	Multiple amendments proposed	Number of proxy statements
1.	Single amendment only	155
2.	Two amendments only	119
3.	Three amendments only	103
4.	Four or more amendments	98
Total		475

C. *Frequency distribution of various antitakeover amendments in combination with a 'lock-in' provision*

	Type of proposed amendments	Number of proxy statements
1.	Supermajority shareholder approval required for mergers, etc., *and* supermajority approval required to amend charter	240
2.	Supermajority shareholder approval required to remove or change number of directors, *and* supermajority approval required to amend charter	80
3.	Limitations on the right to act by written consent, *and* supermajority approval required to amend charter	21
Total		341

Panel C of table 2 gives the frequency with which various types of amendments were proposed in conjunction with a supermajority lock-in provision. In some instances a single lock-in provision provided coverage for several antitakeover amendments in the same proposal. For this reason the total of 341 lock-in amendments in combination with some other amendment exceeds the total of 289 individual observations of a lock-in provision as shown in panel A. The most frequently observed combinations were supermajority lock-in amendments coupled with a requirement of supermajority shareholder approval for merger (240 cases) or with a requirement of supermajority approval to remove a director or to change the number of directors (80 cases).

Although this study focuses on the adoption of antitakeover amendments, in compiling our sample we also discovered 61 cases in which firms introduced proposals to reverse or rescind previously enacted antitakeover amendments. Of these, 32 were proposals to reduce supermajority voting requirements and 29 were proposals to abolish the staggered method for electing members to a classified board of directors. Approximately half of the firms requesting a reduction in supermajority provisions for merger were incorporated in New Jersey (15 companies). The 1969 New Jersey legislation which reduced the fraction of shareholders required to approve a merger from two-thirds to a simple majority also specified that any firm that was incorporated in that state prior to the effective date of the law would be required to operate under a two-thirds rule unless the shareholders approved a charter amendment adopting the simple majority rule. Apparently some firms domiciled in New Jersey amended their charters to conform with the new state law. There were, however, two Delaware companies, Gamble-Skogmo in 1976 and U.S. Home Corporation in 1979, in which management proposed the removal of antitakeover amendments.

3.2. Announcement dates

As with all event-time studies it is necessary to identify the date on which new information regarding charter amendments becomes available to market participants. The usual procedure involves a search of financial publications, especially the *Wall Street Journal*, to determine the date on which information regarding the event in question first appeared. That procedure is not appropriate here because information concerning antitakeover amendments is rarely reported in the financial press either before or after the amendments are approved by shareholders. Indeed, of the 475 cases contained in our sample only 21 were reported in the *Wall Street Journal* prior to the date of the shareholders' meeting at which the amendments were adopted.

The procedure followed by most corporations to amend their charters requires that each amendment first be approved in a resolution by the corporation's board of directors and then be submitted to a vote of the shareholders. Given this procedure, the earliest date on which specific information regarding antitakeover amendments can become available is the date on which the board of directors ratifies the proposed amendments. However, we could find no evidence that any of the firms in our sample issued press releases describing the amendments at the time of the board meeting. Thus, we cannot determine how widely information regarding the amendments was disseminated. We can be certain, however, that a substantial number of 'insiders', including inside and outside directors and other members of the firms' upper-level management became aware at that time (or before) that the amendments were ratified (or were soon to be ratified). Of course, even then there remains some uncertainty as to whether the amendments will be presented to the stockholders for a vote. That uncertainty is resolved when the proxy statements describing the amendments are presented to the stockholders. It is also clear that 'outside' stockholders learn of the proposed amendments when they receive the proxy statements describing them — if they had not learned of them previously.

To determine the dates on which the boards of directors approved the proposed antitakeover amendments, letters of inquiry were sent to each of the firms contained in the original sample that still exists as an independent entity. If the firm had merged following the adoption of the amendments, a letter was sent to the surviving or parent company. We also examined proxy statements filed with the SEC describing each of the proposed amendments. From the responses to the written inquiries and the search of proxy statements we determined 179 dates on which the boards of directors of firms in the sample ratified proposals containing antitakeover amendments. Additionally, we determined mailing dates for 408 proxy statements from information sent to us in response to our written inquiries or from proxy statements filed with the SEC. We shall use the mailing dates as proxies for the date on which the amendments were presented to shareholders.

Table 3 is a frequency distribution of board of directors' approval dates and proxy statement mailing dates by the year in which the related amendments were proposed. Table 4 is a frequency distribution of our sample of board approval dates and proxy mailing dates by type of related amendments. A comparison of these tables with tables 1 and 2 shows that the samples for which we could identify board approval dates and proxy mailing dates are representative of the full sample of proposed antitakeover amendments.

Finally we collected the dates of the stockholders' meetings at which each of the amendments was presented for a vote. Of the 475 different proposals for antitakeover amendments for which proxy statements were sent to

Table 3

Frequency distribution, by year of proxy statements containing antitakeover amendments issued by NYSE listed corporations for which board of directors' approval dates and proxy mailing dates could be identified, 1960–1980.

Year	Proxy statements	Proxy statements with board approval dates identified	Proxy statements with proxy mailing dates identified
1960	0	0	0
1961	2	0	0
1962	0	0	0
1963	0	0	0
1964	2	1	1
1965	1	0	0
1966	0	0	0
1967	8	2	2
1968	17	5	7
1969	68	24	58
1970	39	12	32
1971	7	4	7
1972	16	4	10
1973	27	7	23
1974	34	12	33
1975	65	19	61
1976	42	21	42
1977	48	22	43
1978	49	23	44
1979	27	13	24
1980	23	10	21
Total	475	179	408

shareholders, 473 were actually presented to stockholders for a vote. Two were withdrawn from consideration prior to the stockholders' meeting.[14] On the date of the stockholders' meeting any remaining uncertainty as to whether the antitakeover amendments will be adopted is resolved. As it turns out, this uncertainty may be relatively slight. Of the 473 proposals on which shareholders actually voted, only 10 failed to receive shareholder approval.

[14]The two cases involved C.I. Realty Investors and Piedmont Aviation, Inc. Apparently in both cases major shareholders were able to persuade management to withdraw the proposed amendments prior to the stockholders meeting (see *Wall Street Journal*, February 27, 1975, p. 42).

Hochman and Folger (1979) claim that, in many instances, institutional investors have opposed the introduction of specific antitakeover amendments, but they provide no documentation. However, we did discover three instances in which corporations that were major stockholders in other firms proposing antitakeover amendments initiated publicity campaigns in opposition to the amendments. The three companies proposing amendments were PSA, Inc., Tosco Corporation and Joseph Dixon Crucible. In no case were the campaigns against the amendments successful.

Table 4

Frequency distribution, by type of amendment, of antitakeover amendments proposed by NYSE listed corporations for which board of directors' approval dates and proxy mailing dates could be identified, 1960–1980.

	Type of amendment	Amendments proposed	Amendments with board approval dates identified	Amendments with proxy mailing dates identified
1.	Supermajority shareholder approval required for mergers, consolidations, and sale of major assets	280	112	253
2.	Classified board of directors and staggered elections	248	88	216
3.	Supermajority approval required to remove directors or to change number of directors	129	52	116
4.	Limitations on the right of shareholders to act by written consent	28	11	27
5.	Fair price or share redemption provisions	24	14	24
6.	Supermajority shareholder approval required to amend corporate charter or by-laws	289	119	264
	Total	998	396	900

To obtain a further perspective on the impact of antitakeover amendments on stock prices we also collected board approval dates, proxy mailing dates and stockholder meeting dates for those 61 cases in which corporations either rescinded an amendment requiring supermajority shareholder approval for some corporate action or eliminated a classified and staggered board of directors. Of these we obtained the board approval date in 24 cases and the proxy mailing date in 54 cases. Table 5 gives a breakdown of the availability of the dates by type of amendment.

4. Methodology

The primary methodology employed to measure the magnitude and timing of security price adjustments to the release of information surrounding the introduction and adoption of antitakeover amendments is the residual analysis technique based upon the market model. This technique was pioneered by Fama, Fisher, Jensen and Roll (1969) and is described in Fama (1976) and Brown and Warner (1980). Specifically, we assume that the

Table 5

Frequency distribution, by type of proposal, of proposals issued by NYSE listed corporations to reduce supermajority shareholder approval requirements or to eliminate classified board of directors, 1960–1980.

Type of proposal	Proposals	Proposals with board approval dates identifed	Proposals with proxy mailing dates identified
Reduce (or rescind) supermajority shareholder approval requirement	32	13	30
Eliminate classified board of directors	29	11	24
Total	61	24	54

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

$$\tilde{R}_{jt}=\alpha_j+\beta_j\tilde{R}_{mt}+\tilde{\varepsilon}_{jt}, \tag{1}$$

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, and
$\tilde{\varepsilon}_{jt}$ = disturbance term for security j at time period t, where $E(\tilde{\varepsilon}_{jt}) = E(\tilde{\varepsilon}_{jt}\cdot\tilde{\varepsilon}_{jt-1})=0$ and $E(\tilde{\varepsilon}_{jt}\cdot\tilde{\varepsilon}_{jt})=\sigma_j^2$.

According to this model each security's period t return is expressed as a linear function of the contemporaneous return on the market portfolio plus a stochastic error term which reflects security specific effects.

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

$$AR_{jt}=R_{jt}-(\hat{\alpha}_j+\hat{\beta}_jR_{mt}), \tag{2}$$

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 computed over an estimation period which precedes the event date in question, but excludes an arbitrarily chosen time interval in which information concerning the event may have influenced security returns.

To reduce the impact of random estimation errors and other unrelated security specific effects, portfolios were formed in event time such that each daily or monthly portfolio 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. With daily data we examine the event-time period which begins 90 trading days before the event date of interest (time 0) and ends 90 trading days after the event. Cumulative average abnormal returns are also examined and are computed as

$$CAR_t = \sum_{k=-90}^{t} \overline{AR}_k,$$

where $t = -90$ through $+90$. When monthly data are used the event time period begins 24 months before the event date of interest and ends 24 months after the event.

To implement the tests, securities' returns were taken from the Center for Research in Securities Prices (CRSP) daily and monthly returns files. The daily market index used was the CRSP equal weighted return index of NYSE and American Stock Exchange (ASE) firms. The monthly market index used was the CRSP equal weighted return index of NYSE firms.

For tests using daily data the market model parameters were estimated with ordinary least squares regression using the 110 daily returns beginning with day -200 and ending with day -91.[15] For tests using monthly data market model parameters were estimated using the 60 monthly returns beginning with month -84 and ending with month -25. The actual number of securities in the portfolio on any event date is determined by the availability of return data for that security. When a security did not have sufficient data for model estimation it was excluded from the analysis. Further, if the return series for a security ended during the event period that security did not enter the portfolio after that point in time. For these reasons, as the results reported in the next section indicate, the event-time portfolios often include fewer securities than the total number of instances for which we identified announcement dates.

[15]We examined the sensitivity of our daily results to the non-synchronous trading problem by replicating our analysis using the market model estimators suggested by Scholes and Williams (1977) and Dimson (1979). The results using these estimation procedures were not significantly different from those presented here. The results were also found to generally be insensitive to the use of different estimation periods for computing the market model parameters.

To determine the statistical significance of the average abnormal returns we employ a parametric mean test.[16] The statistic used to test the null hypothesis is computed as

$$Z = \overline{\overline{AR}}_t / S(\overline{\overline{AR}}), \tag{3}$$

where

$$\overline{\overline{AR}}_t = \frac{1}{N}\left(\sum_{j=1}^{N} \widehat{AR}_{jt}\right), \qquad S(\overline{\overline{AR}}) = \left(\frac{T-2}{N(T-4)}\right)^{\frac{1}{2}},$$

and

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

where

$$S_t(AR_j) = \left\{S_j^2\left(1 + \frac{1}{T} + \frac{(R_{mt} - \bar{R}_m)^2}{\sum_{\tau=1}^{T}(R_{m\tau} - \bar{R}_m)^2}\right)\right\}^{\frac{1}{2}},$$

and

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

$\bar{R}_m$ = 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 or months in the inverval used to estimate the market model, and

N = number of securities in the portfolio of interest.

The expression for $S(\overline{\overline{AR}})$ follows because the $\widehat{AR}_{jt}$'s have a t-distribution with $T-2$ degrees of freedom [see DeGroot (1975)]. The Z-statistic in (3) is distributed approximately unit normal for large N.

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

$$Z = \overline{CAR}/S(\overline{\overline{AR}}), \tag{4}$$

where

$$\overline{CAR} = \left(\frac{1}{N}\sum_{j=1}^{N} \widehat{CAR}_j\right), \qquad \widehat{CAR}_j = \left(\sum_{t=K}^{L} \widehat{AR}_{jt}\right) \Big/ (Q)^{\frac{1}{2}},$$

and K, L represent the boundary points, in trading days, for some interval

[16] A non-parametric sign test of the cross-sectional security residuals on each event date did not lead to conclusions different from those indicated by the parametric test.

relative to a specific event day 0. Q is the number of trading days encompassed by the interval K, L. The Z-statistic in (4) is distributed approximately unit normal for large N.

5. Results

The tables below report the average abnormal return (columns 2 and 5) and the cumulative average abnormal return (CAR) (columns 3 and 6) for each relevant event-related day or month (columns 1 and 4).

5.1. *Board of directors' meeting*

Table 6 presents results centred on the day on which the board of

Table 6

Daily abnormal returns (in percent) surrounding the event day on which the board of directors approved proposals containing all types of antitakeover amendments ($N = 172$).

(1) Event day	(2) Average residual[a]	(3) Cumulative average residual	(4) Event day	(5) Average residual[a]	(6) Cumulative average residual
−90	−0.114	−0.114	0	0.217	1.698
−60	0.048	0.648	+1	−0.170	1.528
−30	−0.066	2.531	+2	0.218	1.746
−20	−0.174	1.359	+3	−0.154	1.592
−19	0.022	1.381	+4	0.008	1.600
−18	0.023	1.404	+5	−0.084	1.516
−17	0.269*	1.673	+6	−0.359**	1.157
−16	−0.019	1.654	+7	0.112	1.269
−15	0.255**	1.909	+8	0.152**	1.421
−14	−0.240	1.669	+9	0.292	1.713
−13	0.005	1.674	+10	0.217	1.930
−12	0.171	1.845	+11	0.098	2.028
−11	−0.232	1.613	+12	0.115	2.143
−10	0.183*	1.796	+13	−0.101	2.042
−9	−0.250	1.546	+14	−0.111	1.931
−8	0.006	1.552	+15	−0.293	1.638
−7	−0.069	1.483	+16	−0.037	1.601
−6	0.021	1.504	+17	−0.080	1.521
−5	−0.092	1.412	+18	−0.259	1.262
−4	0.146	1.558	+19	0.040	1.302
−3	−0.434**	1.124	+20	0.387*	1.689
−2	0.400**	1.524	+30	0.041	2.506
−1	−0.043	1.481	+60	0.172	3.941
			+90	−0.192	4.108

[a]**(*) indicates that the average of the standardized residuals is significantly different from zero at the 5% (10%) level of significance using a two-tailed test.

directors ratified the proposed amendments for the entire sample for which the directors' approval date could be identified. This sample represents 172 different board approval dates. Over the 90 days prior to the board date the *CAR* accumulates to +1.481%. This total is significantly different from zero at the 0.01 level ($Z = +2.30$). This result is consistent with the hypothesis that firms introduce antitakeover amendments after a time period in which they have done well or with the hypothesis that the amendments have a positive impact on stock price and that there was leakage of information prior to the board of directors' meeting.

On day zero and day +1 the average abnormal returns are +0.217% and −0.170% with *Z*-statistics of +1.43 and −0.98, respectively. Neither of these returns is significantly different from zero at the 0.05 level. Over the 21 day interval immediately surrounding the event day 12 of the average residuals are positive and nine are negative. Thus, there is no evidence of a predominant positive or negative price impact on or immediately around the date on which the directors ratified the proposed antitakeover amendments.

Over the 90 days following the board of directors' approval the *CAR* increases from +1.528% to +4.108%. This increase is signficantly different from zero at the 0.01 level ($Z = +3.11$). This result is consistent with the hypothesis that antitakeover amendments have a positive impact on stock price and that additional uncertainty regarding the eventual introduction and approval of the amendments is resolved over the 90 day period following the directors' ratification of the proposal.

The strongest form of proposed antitakeover amendment is usually considered to be the requirement of a supermajority shareholder approval for a merger in combination with a supermajority lock-in provision. Table 7 reports the results centered on the date on which the boards of directors approved this particular combination of amendments. This sample contains the 100 observations of this combination of amendments for which we were able to identify the directors' approval date (and for which sufficient data were available to compute the necessary statistics).

The results for this subsample are similar to those for the overall sample. Over the 90 day period prior to the board meeting the *CAR* accumulates to +1.162% although with a *Z*-statistic of +1.44, this amount is not different from zero at the 0.05 level of significance. On the day of the board meeting and on the following day the average residuals of +0.277% and −0.136%, with *Z*-statistics of +0.64 and −0.84, are not significantly different from zero. Over the 21 day interval surrounding the directors' meeting date ten of the average residuals are positive and 11 are negative. The one difference between this set of results and those for the overall sample occurs over the 90 day period following the board date. For this set of companies, over the 90 day period following the board date, the *CAR* declines from +1.303% to

Table 7

Daily abnormal returns (in percent) surrounding the event day on which the board of directors approved proposals containing an amendment requiring supermajority shareholder approval of merger in combination with an amendment requiring supermajority shareholder approval to subsequently amend the corporate charter ($N = 100$).

(1) Event day	(2) Average residual[a]	(3) Cumulative average residual	(4) Event day	(5) Average residual[a]	(6) Cumulative average residual
−90	−0.211	−0.211	0	0.277	1.439
−60	−0.122	0.726	+1	−0.136	1.303
−30	−0.290	3.576	+2	0.313	1.616
−20	−0.424	1.834	+3	−0.135	1.481
−19	−0.002	1.832	+4	−0.062	1.419
−18	−0.025	1.807	+5	0.021	1.440
−17	0.281	2.088	+6	−0.532**	0.908
−16	−0.033	2.055	+7	0.212	1.120
−15	−0.101	1.954	+8	−0.273	0.847
−14	−0.355	1.599	+9	0.317	1.164
−13	0.148	1.747	+10	0.015	1.179
−12	0.343	2.090	+11	0.180	1.359
−11	−0.327	1.763	+12	0.068	1.427
−10	0.092	1.855	+13	−0.169	1.258
−9	−0.054	1.801	+14	−0.303	0.955
−8	−0.115	1.686	+15	−0.102	0.853
−7	−0.332	1.354	+16	0.132	0.985
−6	−0.167	1.187	+17	0.051	1.036
−5	−0.256	0.931	+18	−0.275	0.761
−4	0.351	1.282	+19	−0.176	0.585
−3	−0.487**	0.795	+20	0.212	0.797
−2	0.238	1.033	+30	−0.035	1.821
−1	0.129	1.162	+60	0.050	1.683
			+90	−0.187	1.223

[a]**(*) indicates that the average of the standardized residuals is significantly different from zero at the 5%(10%) level of significance using a two-tailed test.

+1.223%, but this decline is not significantly different from zero ($Z = +0.86$).[17]

Based on this set of results, if one were forced to choose between concluding that antitakeover amendments have a positive or a negative impact on stock price, one would have to conclude that the impact is positive, primarily because the average residual is positive on the board of directors' approval date and because the *CAR* shows an upward drift both before and (for the full sample) after the board approval date. Contrarily, there is no evidence of a negative impact on stock price.

[17]Results were also generated after excluding from the sample the four cases in which amendments were defeated for which board of directors' approval dates had been identified. These results are:

5.2. Proxy mailing

Table 8 contains results centered on the date on which the proxy statements describing all types of proposed antitakeover amendments were mailed to shareholders. This sample represents 388 different proxy mailing dates. Over the 90 days prior to the proxy date the *CAR* declines to −0.287%. This number is not different from zero at the 0.05 level of significance ($Z = +0.87$). Thus, it is not possible to reject the hypothesis that the companies in the sample earned normal returns over the period immediately prior to the date on which the descriptions of the amendments were released to shareholders. On day zero the abnormal return is −0.008% and on day +1 it is +0.083. With *Z*-statistics of +0.07 and +1.45, respectively, neither of these abnormal returns is statistically different from zero at the 0.05 level of significance. Over the 21 day interval surrounding the proxy mailing date there are 11 positive and 10 negative abnormal returns. Thus, in the period immediately surrounding the mailing of the proxy statements to shareholders there is no evidence of either a predominant positive or negative revaluation of the companies' stock prices. However, over the 90 day period following the proxy mailing date the *CAR* increases from −0.212 to +0.990 and, with a *Z*-statistic of +2.42, this increase is statistically significant. This result is consistent with the hypothesis that the amendments have a positive impact on stock price and that further uncertainty regarding the eventual approval of amendments by shareholders is resolved over the 90 days following the proxy date. However, as we noted above, this uncertainty may be slight (but not zero) since approximately 97% of all proposed antitakeover amendments were eventually approved by shareholders.

We also examined returns around the proxy date for those companies that proposed supermajority shareholder approval requirements for merger along with a supermajority lock-in provision. The results for this sample of 212 firms are presented in table 9. They are not much different from those for the total sample. Over the period from day −90 to day −1 the *CAR* declines to a statistically insignificant −1.470% ($Z = +0.18$). The day zero abnormal

	All types of antitakeover amendments ($N = 168$)	Cases requesting supermajority vote for merger with in-lock ($N = 96$)
CAR day −90 to −1	+1.543% ($Z = +2.34$)	+1.259% ($Z = +1.64$)
AR day 0	+0.220% ($Z = +1.43$)	+0.286% ($Z = +0.65$)
AR day +1	−0.132% ($Z = -0.69$)	−0.069% ($Z = +1.02$)
CAR day +1 to +90	+2.360% ($Z = +2.93$)	−0.413% ($Z = +0.88$)

These results are virtually the same as those presented for the full sample, both in value and in statistical significance.

Table 8

Daily abnormal returns (in percent) surrounding the event day on which proxy statements containing all types of antitakeover amendments were mailed to shareholders ($N = 388$).

(1) Event day	(2) Average residual[a]	(3) Cumulative average residual	(4) Event day	(5) Average residual[a]	(6) Cumulative average residual
−90	−0.025	−0.025	0	−0.008	−0.295
−60	−0.143	0.672	+1	0.083	−0.212
−30	0.097	−0.322	+2	0.163	−0.049
−20	−0.053	−0.126	+3	0.058	0.009
−19	−0.041	−0.167	+4	0.206	0.215
−18	0.046	−0.121	+5	0.127	0.342
−17	0.277**	0.156	+6	0.087	0.429
−16	−0.162	−0.006	+7	0.096	0.525
−15	0.033	0.027	+8	−0.121	0.404
−14	−0.066	−0.039	+9	0.123	0.527
−13	0.119	0.080	+10	0.108	0.635
−12	0.028	0.108	+11	0.085*	0.720
−11	0.240	0.348	+12	−0.003	0.717
−10	0.156*	0.504	+13	0.199*	0.916
−9	−0.192	0.312	+14	−0.806	0.830
−8	−0.060	0.252	+15	−0.241*	0.589
−7	−0.085	0.167	+16	0.090	0.679
−6	−0.083	0.084	+17	−0.001	0.678
−5	0.091	0.175	+18	0.079	0.757
−4	−0.166	0.009	+19	0.142	0.899
−3	−0.108	−0.099	+20	−0.133	0.766
−2	−0.026	−0.125	+30	−0.190	1.392
−1	−0.162	−0.287	+60	−0.026	0.555
			+90	0.101	0.990

[a]**(*) indicates that the average of the standardized residuals is significantly different from zero at the 5%(10%) level of significance using a two-tailed test.

returns of +0.022% ($Z = +0.04$) and the day +1 abnormal return of +0.123% ($Z = +1.29$) are not significantly different from zero at the 0.05 level. Over the 21 day interval immediately surrounding the proxy date 12 of the abnormal returns are positive and nine are negative. Again there is one minor difference between this set of results and those for the overall sample — over the 90 day period following the proxy date the *CAR* declines from −1.325 to −1.922, but, with a *Z*-statistic of +1.48, this decline is not statistically significant at the 0.05 level.[18]

Based on these results there is even less evidence of a predominant stock price impact than with the results centered on the board of directors meeting date. Indeed, the only statistically significant result is the increase in stock

[18]We also performed the analysis after excluding the 10 cases for which proxy dates were available but in which shareholders did not adopt the proposed amendments. This set of results are shown below.

Table 9

Daily abnormal returns (in percent) surrounding the event day on which proxy statements containing an amendment requiring supermajority shareholder approval of merger in combination with an amendment requiring supermajority shareholder approval to subsequently amend the corporate charter were mailed to shareholders ($N = 212$).

(1) Event day	(2) Average residual[a]	(3) Cumulative average residual	(4) Event day	(5) Average residual[a]	(6) Cumulative average residual
−90	−0.171	−0.171	0	0.022	−1.448
−60	−0.308	0.614	+1	0.123	−1.325
−30	−0.165	−0.438	+2	0.165	−1.160
−20	0.019	−0.754	+3	0.019	−1.141
−19	0.092	−0.662	+4	0.091	−1.050
−18	−0.169	−0.831	+5	−0.004	−1.054
−17	0.266	−0.565	+6	0.054	−1.000
−16	−0.346	−0.911	+7	0.110	−0.890
−15	−0.039	−0.950	+8	−0.009	−0.899
−14	−0.143	−1.093	+9	−0.026	−0.925
−13	0.135	−0.958	+10	0.117	−0.808
−12	0.245	−0.713	+11	0.184**	−0.624
−11	0.198	−0.515	+12	0.028	−0.596
−10	−0.093	−0.608	+13	0.302**	−0.294
−9	−0.422**	−1.030	+14	−0.190	−0.484
−8	−0.134	−1.164	+15	−0.236	−0.720
−7	0.075	−1.089	+16	0.080	−0.640
−6	−0.153	−1.242	+17	0.069	−0.571
−5	0.042	−1.200	+18	0.223	−0.348
−4	−0.208	−1.408	+19	0.214*	−0.134
−3	0.055	−1.353	+20	−0.075	−0.209
−2	0.022	−1.331	+30	−0.225	0.092
−1	−0.139	−1.470	+60	−0.005	−1.068
			+90	−0.010	−1.922

[a]**(*) indicates that the average of the standardized residuals is significantly different from zero at the 5%(10%) level of significance using a two-tailed test.

	All types of antitakeover amendments ($N = 378$)	Cases requesting supermajority vote for merger with lock-in ($N = 202$)
CAR day −90 to −1	−0.685% ($Z = +0.78$)	−2.272% ($Z = +0.06$)
AR day 0	−0.022% ($Z = -0.01$)	−0.001% ($Z = -0.07$)
AR day +1	+0.052% ($Z = +1.32$)	+0.067% ($Z = +1.12$)
CAR day +1 to +90	+0.900% ($Z = +2.19$)	−1.298% ($Z = +1.16$)

These results are not significantly different from those presented in the text for the full sample, and in a statistical sense are identical.

price (for the full sample) following the proxy mailing date. However, we should emphasize that for neither set of results is there any evidence that antitakeover amendments have a negative impact on stock prices.

5.3. Stockholders' meeting

We also examined returns around the date of the meeting at which stockholders approved antitakeover amendments. We examined returns for the full set of companies (sample size = 438) which adopted antitakeover amendments and for the subsample that adopted amendments calling for a supermajority approval of merger coupled with a supermajority lock-in provision (sample size = 219). Because these results are relatively uneventful we do not report them in detail, but merely summarize them here.

For the full sample, over days −90 to −1 the *CAR* declines to a statistically insignificant −0.998% ($Z = +0.75$). On day zero and day +1 the average abnormal returns are both positive, +0.103% and +0.034%, but with *Z*-statistics at +0.88 and +0.17, both are statistically insignificant. Over the 21 day interval surrounding the stockholders' meeting date 15 of the residuals are positive and 6 are negative. Finally, over the 90 day period following the stockholders' meeting the *CAR* declines from −0.861% to −2.190%, but the decline is not statistically significant ($Z = -0.41$).

For the sample of firms that approved supermajority merger requirements in combination with a lock-in provision, the *CAR* declines to a statistically insignificant −1.965% by day −1 ($Z = -0.20$). On day zero the average abnormal return is positive, +0.180%, and on day +1 it is negative, −0.180%, but neither is significantly different from zero at the 0.05 level ($Z = +0.70$ and $Z = -0.27$). Over the period from day +1 to day +90 the *CAR* declines from −1.965 to −4.350%, but, with a *Z*-statistic of −0.45, this decline is not significantly different from zero.

Thus, perhaps not unexpectedly, neither the abnormal returns on the day of the shareholders' meeting nor those over the periods immediately surrounding the meeting are significantly different from zero.

5.4. Abnormal returns over the intervals between event dates

The results to this point tend to support the argument that antitakeover amendments are in shareholders' best interest. This conclusion is based upon the statistically significant increase in the *CAR* immediately prior to and after the board meeting at which antitakeover proposals were ratified and the statistically significant increase in the *CAR* over the 90 days following the proxy date for the full sample. One difficulty that arises in interpreting these results is that in many (or most) cases the 90 days following the board date also encompasses the proxy mailing date and the stockholders' meeting date,

and the 90 days following the proxy date includes the date of the stockholders' meeting at which the amendments are voted on. Additionally, the number of trading days between event dates varies across firms. The average number of trading days between the board date and the proxy date is 27 and the median is 24. The shortest time period is 2 trading days and the longest is 89. For the interval between the proxy mailing date and the shareholders' meeting date both the mean and median number of trading days is 24, with the shortest interval covering 8 days and the longest covering 39 days.

To isolate security price revaluations over the intervals between event dates we computed average abnormal returns over each interval i as follows: For each security j we computed the cumulative abnormal return (CAR_{ji}) over each interval of interest.[19] We then computed the cross-sectional mean of the CAR_{ji} for each interval i, CAR_i. These results are presented below. To test the statistical significance of the average abnormal returns between event dates we compute a standardized Z-statistic as follows:

$$Z = \overline{STCAR}_i \Big/ \left(\frac{T-2}{N(T-4)}\right)^{\frac{1}{2}},$$

where

$$\overline{STCAR}_i = \frac{1}{N}\sum_{j=1}^{N} \widehat{CAR}_{ji}, \qquad \widehat{CAR}_{ji} = \left(\sum_{t=b_j}^{c_j} \widehat{AR}_{jt}\right) \Big/ (q_j)^{\frac{1}{2}},$$

and q_j is the number of trading days in the interval between event dates for company j; b_j and c_j are the beginning and ending points, in event time, of the interval between event dates for company j.

The results for the average abnormal returns over the intervals between event dates are contained in table 10. The sample used to compute the abnormal return over each interval includes all firms for which we identified the event dates which demarcate both the beginning and end of the interval. Thus, as shown in the table, the number of securities in the sample differs among intervals. This procedure maximizes the number of observations used to compute the abnormal returns. The average abnormal return over the interval beginning 90 days before through one day before the board of directors' approval date is +1.481%. With a Z-statistic of +2.30 this amount

[19]The results presented in this section are based upon the market model coefficients for each firm estimated over the event period −200 through −91 relative to the board of directors' approval date. When the board of directors' approval date was not available it was estimated. This estimation was done by assuming that the number of trading days between event dates for firms lacking a board date date but for which a stockholders' meeting date could be identified, was the same as the mean number of trading days between even dates for those cases in which all three event dates were identified.

Table 10

Average abnormal returns (in percent) over the intervals surrounding the event dates on which information regarding antitakeover amendments is released.

	All types of amendments			Amendments with supermajority approval requirement for merger with a lock-in amendment		
Interval	Average abnormal return	Z-statistic[a]	Sample size	Average abnormal return	Z-statistic[a]	Sample size
90 days before through 1 day before board of directors' approval date	+1.481%	+2.30**	172	+1.162%	+1.44	100
Board of directors' approval date through 1 day before proxy mailing date	+0.714%	+1.20	170	+0.034%	+0.09	98
Proxy mailing date through 1 day before stockholders' meeting	+1.429%	+3.41**	307	+1.798%	+3.11**	212
Stockholders' meeting date through the following 90 days	+0.855%	+1.65*	437	−0.584%	+1.23	219

[a]**(*) indicates that the Z-statistic permits rejection of the null hypothesis at the 5%(10%) level of significance.

is significantly different from zero at the 0.01 level. Over the interval beginning with the board approval date through the day before the proxy date the average abnormal return of +0.71% ($Z = +1.20$) is not significantly different from zero at the 0.05 level. The average abnormal return over the period beginning with the proxy mailing date through the day before the stockholders' meeting is +1.429% and, with a Z-value of +3.41, it is significantly different from zero at the 0.05 level. Finally, the average abnormal return of +0.855% over the interval beginning with the stockholders' meeting at which the amendments were approved and ending 90 days later is not significantly different from zero at the 0.05 level ($Z = +1.65$). The sum of the average abnormal returns over the four intervals of interest is +4.479%.

We also examined the average abnormal returns over the corresponding four intervals for the subsample of companies that proposed supermajority requirements for merger in combination with a supermajority lock-in provision. These results are roughly consistent with those for the overall sample. As reported in table 10, the average abnormal returns over the four

intervals are +1.162%, +0.034%, +1.798% and −0.584%, respectively, with Z-statistics of +1.44, +0.09, +3.11 and +1.23. Of these, only the abnormal return between the proxy date and the stockholders' meeting is statistically significant, but three of the four are positive and the one negative abnormal return occurs over the 90 days following stockholder approval of the amendments.[20]

The results in this section support the contention that antitakeover amendments benefit shareholders. Perhaps more importantly, from a policy perspective, the results provide no support for the argument that antitakeover amendments have a negative impact on stockholder wealth. The results do suggest, however, that corporations that introduce antitakeover amendments may have been performing well prior to the introduction of the amendments.

5.5. *Monthly returns around the month in which directors ratified antitakeover amendments*

To gain a perspective on the longer-term performance of the companies in our sample we examined monthly abnormal returns over the 24 months before and after the date on which the boards of directors ratified proposals containing antitakeover amendments. This sample contains all 115 firms for which sufficient data were available on the CRSP tapes to compute the necessary statistics. For some of the firms in the sample the month of the directors' meeting also includes the proxy mailing date and the shareholders' meeting date. For virtually all of the firms in the sample the month of the board meeting plus the following three months encompass all three event dates. The results are presented in table 11.

Over the period from month −24 through month −1 the CAR is virtually unchanged as it declines from −0.593% to −0.630%. Furthermore, over this period 16 of the average abnormal returns are negative and eight are positive. Thus, there is no evidence here that the firms which adopted

[20]Results for the interval tests after excluding those cases in which shareholders did not adopt the proposed amendments are not significantly different from those shown in table 10. They are

Interval	All types of antitakeover amendments	N	Cases requesting supermajority vote for merger with lock-in	N
1	+1.543% (Z = +2.34)	168	+1.259% (Z = +1.64)	96
2	+0.918% (Z = +1.39)	166	+0.365% (Z = +0.33)	94
3	+1.236% (Z = +3.23)	377	+1.457% (Z = +2.88)	202
4	+0.855% (Z = +1.65)	437	−0.584% (Z = +1.23)	219

Interval 4 in this note is the same as that presented in table 10 and is computed using only those cases in which amendments were adopted.

Table 11

Monthly abnormal returns (in percent) surrounding the event month in which the board of directors approved proposals containing all types of antitakeover amendments ($N = 115$).

(1) Event month	(2) Average residual[a]	(3) Cumulative average residual	(4) Event month	(5) Average residual[a]	(6) Cumulative average residual
−24	−0.593	−0.593	0	1.840**	1.210
−23	−0.144	−0.737	+1	0.091	1.301
−22	0.356	−0.381	+2	0.960	2.261
−21	1.502**	1.121	+3	0.159	2.420
−20	−0.267	0.854	+4	0.512	2.932
−19	−0.032	0.822	+5	1.171	4.103
−18	−0.432	0.390	+6	1.124*	5.227
−17	1.689**	2.079	+7	−0.655	4.572
−16	−0.410	1.669	+8	−0.660	3.912
−15	−0.805	0.864	+9	2.320**	6.232
−14	−0.805	0.059	+10	0.645	6.877
−13	−0.032	0.027	+11	−0.906	5.971
−12	−2.090**	−2.063	+12	−0.805	5.166
−11	1.660**	−0.403	+13	−0.945	4.221
−10	−0.236	−0.639	+14	1.097	5.318
−9	−1.492*	−2.131	+15	0.122	5.440
−8	−0.064	−2.195	+16	0.933	6.373
−7	−0.805*	−3.000	+17	−0.825*	5.548
−6	0.564	−2.436	+18	0.577	6.125
−5	0.247	−2.189	+19	−0.613	5.512
−4	−0.305	−2.494	+20	−0.035	5.477
−3	1.402**	−1.092	+21	−1.418*	4.059
−2	1.424**	0.332	+22	−0.699	3.360
−1	−0.962	−0.630	+23	−0.138	3.222
			+24	−0.657	2.565

[a]**(*) indicates that the average of the standardized residuals is significantly different from zero at the 5%(10%) level of significance using a two-tailed test.

antitakeover amendments were performing abnormally well prior to the introduction of the amendments.

In the month in which the boards of directors ratified proposals containing antitakeover amendments, the average abnormal return of +1.840% is different from zero at the 0.01 level of significance ($Z = +2.51$). Furthermore, in each of the following six months the average abnormal return is positive, but none is significantly different from zero at the 0.05 level. The *CAR* reaches a level of +5.227% by month +6 and then remains relatively unchanged over the following 18 months. Thus, these results are consistent with the hypothesis that antitakeover amendments have a positive impact on stock price in the month in which the boards of directors approve them and that further uncertainty regarding the eventual introduction and approval of

the amendments is resolved in the following months. Again, there is no evidence that antitakeover amendments, in general, have an adverse impact on stock prices.

5.6. *The effect of changes in the Delaware corporate code*

As we noted in our discussion of antitakeover amendments, four states changed their corporate codes so as to reduce the percentage of shareholders required to approve a merger from two-thirds to a simple majority. Of these states, Delaware is by far the most important in terms of the number of firms incorporated in the state. Presumably, if the imposition of a supermajority requirement for merger has an impact on stock price, the elimination of this provision from the Delaware code would have an opposite effect on the stock prices of firms incorporated in that state. To gain some perspective on this question we examined monthly returns for all of the firms in our sample that were domiciled in Delaware in June 1969 that subsequently proposed antitakeover amendments. This sample contains 120 firms.

The results are centered on June 1969 because of the legislative history of this change in the Delaware corporate code. The legislation reducing the fraction of shareholders required to approve a merger from two-thirds to a simple majority was introduced into the state House of Representatives on Thursday, May 29; on May 30 the NYSE was closed in observance of Memorial Day; on June 11 the legislation was passed by the House; on June 12 the legislation was introduced into the state Senate; on June 17 the legislation was passed by the Senate; and on June 23 the Governor of Delaware signed the bill into law. Thus, even if there were some anticipation of the impending legislation prior to June 1969, any stock price reaction to the legislative process itself should have occured during June 1969.[21]

The results are contained in table 12. Over the 24 months prior to June 1969 there is some evidence that Delaware companies did perform abnormally well — by month -1 the CAR is $+8.191\%$. However, most of this increase occurred during months -24 to -12. From month -12 to month -1 the CAR increases from $+6.954\%$ to $+8.191\%$, but this increase is not statistically significant. Furthermore, over the same 12 month period eight of the average abnormal returns are negative and four are positive.

In June 1969 the average abnormal return is -1.663% with a Z-statistic of -2.15 and in July the average abnormal return is -1.322 with a Z-statistic of -2.29. Both of these abnormal returns are significantly negative at the 0.01 level.

[21]At the time that the Delaware law was amended to reduce the merger approval requirement, there were also additional amendments made to the code. See for instance Arsht and Stapleton (1969).

Table 12

Monthly abnormal returns (in percent) surrounding June 1969 (the month in which the Governor of Delware signed legislation reducing the fraction of shareholders required to approve a merger from two-thirds to a simple majority) for corporations domiciled in Delaware that subsequently proposed an antitakeover amendment ($N = 120$).

(1) Event month	(2) Average residual[a]	(3) Cumulative average residual	(4) Event month	(5) Average residual[a]	(6) Cumulative average residual
−24	2.678**	2.678	0	−1.663**	6.528
−23	1.163	3.841	+1	−1.332**	5.196
−22	1.948**	5.789	+2	0.257	5.453
−21	−1.034	4.755	+3	−0.500	4.953
−20	0.590	5.345	+4	−0.647	4.306
−19	1.213	6.558	+5	−0.281	4.025
−18	0.877	7.435	+6	−1.293*	2.732
−17	−0.419**	7.016	+7	−0.289	2.443
−16	−1.331	5.685	+8	−2.101**	0.342
−15	−0.017	5.668	+9	0.894**	1.236
−14	1.345**	7.013	+10	0.410	1.646
−13	0.366	7.379	+11	−0.234	1.412
−12	−0.425	6.954	+12	−1.405	0.007
−11	−0.159	6.795	+13	1.539**	1.546
−10	−0.506	6.289	+14	0.595	2.141
−9	1.436**	7.725	+15	1.641**	3.782
−8	−0.001	7.724	+16	−1.063	2.719
−7	−0.199	7.525	+17	0.459	3.178
−6	0.447	7.972	+18	−0.743	2.435
−5	−0.135	7.837	+19	0.965	3.400
−4	0.572	8.409	+20	−0.989	2.411
−3	0.354	8.763	+21	−0.341	2.070
−2	−0.542	8.221	+22	0.703	2.773
−1	−0.030	8.191	+23	−1.313**	1.460
			+24	0.989	2.449

[a]**(*) indicates that the average of the standardized residuals is significantly different from zero at the 5%(10%) level of significance using a two-tailed test.

These results are consistent with the hypothesis that the change in the Delaware corporate code that reduced the fraction of shareholders required to approve a merger to a simple majority, on average, had a negative impact on the stock prices of corporations domiciled in the state. However, some caution should be exercised when interpreting these results. Although the sample is comprised of 120 firms, the monthly abnormal returns examined occurred in the same calendar months for all firms. Thus, it could be argued that the month zero abnormal return is merely a single observation of a single stock index, and it is always dangerous to generalize from a single observation. While we are not entirely convinced by that argument (after all,

the cross-sectional sample is large) it is nevertheless appropriate to point out that caveat.

5.7. *Firms that removed amendments requiring supermajority shareholder approval for merger or that eliminated classified boards of directors*

Another way to examine the impact on stock price of the removal of antitakeover amendments is to examine directly the abnormal returns earned by the sample of firms that reduced the fraction of shareholders required to approve a merger from a supermajority to a simple majority or which eliminated classified boards of directors. Presumably the abnormal returns earned by this sample of firms around the relevant event dates would be opposite those of the firms introducing antitakeover amendments, but consistent with those earned by Delaware corporations in June 1969. The results of this analysis are summarized in table 13.

Table 13

Average abnormal returns (in percent) over the intervals surrounding the event dates on which information regarding the removal of antitakeover amendments was released.

	Proposals to remove antitakeover amendments for which event dates could be identifed			Proposals to remove antitakeover amendments for which event dates could be identified or estimated		
Interval	Average abnormal return	Z-statistic[a]	Sample size	Average abnormal return	Z-statistic[a]	Sample size
90 days before through 1 day before board of directors' approval date	−7.708	−0.91	20	−1.066	−0.08	49
Board of directors' approval date through 1 day before proxy mailing date	−1.932	−0.55	20	−3.631	−2.33**	49
Proxy mailing date through 1 day before stockholders' meeting	+0.180	+0.55	43	+0.795	+0.87	49
Stockholders' meeting date through the following 90 days	−5.827	−1.33	49	−5.827	−1.33	49

[a]**(*) indicates that the Z-statistic permits rejection of the null hypothesis at the 5%(10%) level of significance.

Rather than report in detail the daily abnormal returns before and after each event date we merely report the average abnormal returns over the 90 day interval before the directors' approval date, over the 90 day interval after the shareholders' meeting date, and over the intervals between the three event dates of interest. However, because of the small size of the samples, the power of the statistical tests is relatively weak. Over the 90 day period prior to the directors' approval date and over the interval between the directors' approval date and the proxy date the sample contains 20 securities; over the interval between the proxy mailing date and the shareholders' meeting date the sample contains 43 securities; over the 90 day period following the stockholders' meeting date the sample contains 49 securities.

As reported in table 13, the average abnormal return over the 90 days prior to the directors' approval date the average residual is -7.708% with a Z-statistic of -0.91; over the interval beginning with the directors' approval date through one day before the proxy mailing date the average abnormal return is -1.932% with a Z-statistic of -0.55; over the interval from the proxy mailing date through one day before the stockholders' meeting date the average abnormal return is $+0.180\%$ with a Z-statistic of $+0.55$; and over the 90 day interval following the shareholders' meeting date the average abnormal return is -5.827% with a Z-statistic of -1.33. Thus, although three of the four average abnormal returns are negative, none is statistically different from zero. As we noted, the power of these tests is relatively weak, at least over the first two intervals, due to the relatively small samples.

To augment the sizes of the samples we approximated the proxy mailing date and the board approval date for those companies for which we identified the stockholders' meeting date, but could not identify one or both of the prior event dates. We approximated these dates by assuming that the number of trading days between event dates was the same as the mean number of trading days between event days for those companies for which the event dates could be identified. Thus, with this procedure the number of securities used to compute abnormal returns over each interval is 49. These results are also presented in table 13.

The average abnormal returns over the four intervals are -1.066%, -3.631%, $+0.795\%$, and -5.827% with Z-statistics of -0.08, -2.33, $+0.87$, and -1.33. Thus, the signs of none of the average abnormal returns is changed, but the abnormal return between the directors' approval date and the proxy mailing date is now statistically significantly negative at the 0.01 level. Thus, these results, in combination with those for Delaware firms centered on June 1969, generally support the hypothesis that the removal of antitakeover amendments has a negative impact on shareholder wealth. Contrarily, these results provide no support for the argument that removal of antitakeover amendments has a positive impace impact on stock price.

5.8. Defeated antitakeover amendments

As a final look at the data we examined returns for the 10 cases in which shareholders defeated antitakeover amendments. For this sample of companies we were able to identify the directors' approval date in only four cases and the proxy mailing date in only four cases. For that reason we examined abnormal returns only around the date of the stockholders' meetings at which the amendments were defeated. The results are reported in table 14. Again, the power of the statistical tests are weak because of the small sample size.

Over the period from day −90 to day −1 the *CAR* increases to +12.504% and from day +1 to day +90 it increases to +24.093%, but neither of these are different from zero at the 0.05 level of significance ($Z =$

Table 14

Daily abnormal returns (in percent) surrounding the event day on which shareholders defeated antitakeover amendment proposals by a vote at a duly held meeting ($N = 10$).

(1) Event day	(2) Average residual[a]	(3) Cumulative average residual	(4) Event day	(5) Average residual[a]	(6) Cumulative average residual
−90	−0.305	−0.305	0	0.568	13.072
−60	1.644	1.364	+1	1.272	14.344
−30	0.179	5.316	+2	−1.862**	12.482
−20	−0.340	6.909	+3	−0.444	12.038
−19	1.092**	8.001	+4	0.195	12.233
−18	0.147	8.148	+5	1.359**	13.592
−17	0.022	8.170	+6	−0.955	12.637
−16	−0.356	7.814	+7	−0.342	12.295
−15	1.104	8.918	+8	1.695*	13.990
−14	−1.094	7.824	+9	−1.184	12.806
−13	−0.158	7.666	+10	−1.474**	11.332
−12	−0.092	7.574	+11	0.469	11.801
−11	1.076	8.650	+12	−1.648	10.153
−10	0.184	8.834	+13	1.276	11.429
−9	1.226*	10.060	+14	−1.092	10.337
−8	−1.182	8.872	+15	0.394	10.731
−7	0.627	9.505	+16	0.002	10.733
−6	0.433	9.938	+17	−0.230	10.503
−5	0.059	9.997	+18	−0.762	9.741
−4	0.350	10.347	+19	−0.934	8.807
−3	1.471*	11.818	+20	−0.374	8.433
−2	−0.234	11.584	+30	0.285	12.248
−1	0.920	12.504	+60	1.673**	12.513
			+90	0.996	24.093

[a]**(*) indicates that the average of the standardized residuals is significantly different from zero at the 5%(10%) level of significance using a two-tailed test.

+1.17 and $Z = +1.08$). On day 0 and day +1 the average abnormal returns are +0.568% and +1.272% but, with Z-values of +0.69 and +1.45, neither is significantly different from zero. Qualitatively these results indicate that the rejection of antitakeover amendments by stockholders has a positive impact on stock prices, but statistically, the impact is not distinguishable from zero. Thus, it is difficult to know how to interpret this set of results.

6. Interpretation of the results

We have cast up our investigation of antitakeover amendments in terms of the popular debate which surrounds them. A more formal statement of the alternative hypotheses surrounding the implementation of these amendments is provided by DeAngelo and Rice (1981).

DeAngelo and Rice trace the origins of the prediction that antitakeover amendments will have a negative impact on stock prices to Cary (1969–1970) and Williamson (1975). They label this view the 'managerial entrenchment hypothesis'. According to the managerial entrenchment hypothesis the primary effect of an antitakeover amendment is to increase the job security (and, indirectly, the wealth) of management. A major assumption underlying the managerial entrenchment hypothesis is that once a particular team of managers gains control of the firm they are confronted with incentives and opportunities to shirk their responsibilities and to divert corporate resources from the firm's security holders to themselves. It is further assumed that the various mechanisms which serve to control managerial inefficiencies — such as contractual arrangements, direct removal by means of a shareholder vote, and pressures brought to bear by the managerial labor market — are sufficiently costly and/or ineffective that they do not serve as credible threats to entrenched managers.

In this view, then, the threat of takeover by 'outsiders', is the dominant force in disciplining corporate managers. Antitakeover amendments are a device by which enterprising managers can reduce the threat to their job security represented by the acquisition of their firm by another independent firm. Finally, to close the loop, it is assumed that there exist enough stockholders who are unaware of the implications of the antitakeover amendments that these amendments are adopted despite the negative impact which they have on shareholder wealth.[22]

A key element of the managerial entrenchment hypothesis is that tender offers play a primary role in ensuring that managers are devoted to

[22]This latter condition follows from two assumptions. The first assumption is that it is costly for shareholders who are aware of the negative wealth effects of antitakeover amendments to communicate this knowledge to uninformed shareholders. Secondly, it is assumed that uninformed shareholders believe that, on average, consistently voting for management proposals leads to greater increases in wealth than does a policy of opposition.

furthering stockholders' best interests. Contrarily, Fama (1980) has argued that the primary factor in disciplining managers is the labor market for their services, both within and outside the firm. Fama relegates the threat of outside takeovers to providing 'discipline of last resort' (p. 295). The absence of a negative stock price reaction to the introduction of antitakeover amendments is consistent with the existence of an efficient labor market for managerial services.

DeAngelo and Rice trace the origins of the prediction that antitakeover amendments will have a positive impact on stock prices to Grossman and Hart (1980), but they go on to extend the Grossman and Hart analysis also incorporating the developments of Jarrell and Bradley (1980). They label the Grossman and Hart analysis in combination with their own extensions the 'shareholder interests hypothesis'. According to this hypothesis, antitakeover amendments are a rational response by shareholders to offset potential drains in value that accompany tender offers. According to both Grossman and Hart and DeAngelo and Rice, the net effect of antitakeover amendments is to raise tender offer prices when the occur.

A key assumption of the shareholder interests hypothesis is that monopolistic gains are generated by a tender offer which results in a successful merger of the two firms. The monopolistic gains come about because the bidder is assumed to have monopolistic information concerning profitable redeployment of the target firm's resources. The goal of the shareholders and managers of the target firm is to devise a means to reap the maximum possible share of those gains. One possible mechanism for accomplishing this goal is the introduction of antitakeover amendments.[23]

As DeAngelo and Rice note, if the tender offer/takeover market is competitive, competition among the bidders will drive the tender offer price up to the point where all of the gains from the merger are reaped by the shareholders of the target firm. Thus, if the acquisitions market is competitive along the lines suggested by Mandelker (1975), Dodd and Ruback (1977) and Bradley (1980), antitakeover amendments are a redundant means of increasing tender offer prices. The absence of a positive stock price impact would be consistent with the existence of a competitive acquistions market.

In an attempt to distinguish empirically between the managerial entrenchment and the shareholder interests hypotheses DeAngelo and Rice conduct an event-time study with a sample of 100 firms that adopted antitakeover amendments over the period 1974–1979. They center their analysis on the date on which the proxy ststements describing the

[23]In the Grossman and Hart analysis, antitakeover amendments act to restrict the dilution factor they suggest is necessary for tender offers to ever occur. This will then raise the minimum acceptable price that the target firm's shareholders will demand in any tender offer. DeAngelo and Rice claim that the positive effect on tender offer prices comes about because antitakeover amendment requirements establish a set of circumstances that lead to a reduction in the private incentive to tender prematurely rather than holding out for a higher price.

amendments were mailed to shareholders. Like us, they find neither a statistically significant positive or negative average abnormal return on or around that date. However, they find a predominance of insignificant negative abnormal returns around the proxy date and, when confronted with the demand to make a choice, they conclude that their results are more compatible with the managerial entrenchment hypothesis.

Contrary to DeAngelo and Rice, we find no evidence to support the managerial entrenchment hypothesis. The question is whether our results are sufficiently strong to conclude that they allow us to reject the null hypothesis that antitakeover amendments have no impact on stock prices. On the one hand, with daily data, the average abnormal returns are not significantly different from zero on any of the three event days which we examine. Thus, these results are consistent with the hypothesis that antitakeover amendments have no effect on stock prices. Such an interpretation is consistent with an efficient labor market in which takeover threats play only a secondary or tertiary role in disciplining managers and with a competitive takeover market in which stockholders may safely rely upon competition among bidders, who may include the firm's own managers, to maximize any tender prices once a tender offer is made.

On the other hand, with monthly data, the average abnormal return is statistically significantly positive in the month in which the boards of directors ratify proposals containing antitakeover amendments and is positive (but not statistically significant) in each of the following six months. Likewise, when we use daily data to compute cross-sectional average abnormal returns over the 90 days prior to the directors' approval date; over the interval between the directors' approval date and the proxy mailing date; over the interval between the proxy date and the shareholders' meeting date; and over the 90 day interval following the shareholders' meeting, the average abnormal returns are positive and generally statistically significant. These results are consistent with the hypothesis that antitakeover amendments have a positive impact on stock price and that uncertainty regarding the eventual introduction and approval of the amendments is gradually reduced over a long period of time, beginning prior to the directors' approval date and ending with the stockholders' meeting to approve the amendments.

On the other side of the coin, in the month in which Delaware enacted legislation reducing the fraction of shareholders required to approve a merger from two-thirds to a simple majority the monthly abnormal return for a sample of Delaware companies is statistically negative. Likewise, for a sample of individual companies that removed antitakeover amendments from their charter, the average daily abnormal returns are generally negative over the intervals between announcement dates, but the abnormal return is statistically significantly negative in only one of the tests conducted. Thus, while none of the tests conducted is overwhelmingly convincing individually,

in the aggregate, the results suggest that antitakeover amendments (on average) are sponsored by managers who seek to increase stockholder wealth and subsequently approved by rational (and informed) stockholders motivated by the same objective. Thus, the results are broadly consistent with the 'shareholder interests hypothesis'.

7. Summary and conclusion

This study is an empirical investigation of the impact of 'antitakeover' amendments on common stock prices. Antitakeover amendments are amendments to a corporation's charter that are designed to impede the ability of a separate independent firm to acquire control of the firm adopting the amendments. The study is motivated by the considerable controversy that surrounds the use of antitakeover amendments by large U.S. corporations. A number of individuals and institutions have spoken out against these amendments, arguing that they have a negative impact on the efficient allocation of real capital in the U.S. economy and on the wealth of the stockholders of the firms that adopt them. Contrarily, the managers of these firms contend that antitakeover amendments have a positive impact on stock prices because they strengthen management's position in dealing with corporate raiders.

The primary methodology used in the analysis is an event-time investigation of common stock returns around (and between) several event-dates on which information regarding the amendments has been released. Specifically, we examine returns around: (1) dates on which boards of directors ratified proposals containing antitakeover amendments; (2) dates on which proxy statements describing the amendments were mailed to shareholders; and (3) dates of the stockholder meetings at which shareholders voted on the proposed amendments. The original sample encompasses all NYSE firms that proposed any form of antitakeover amendment over the period January 1960 through December 1980. There were 475 instances in which NYSE firms proposed some form of an antitakeover amendment. We also examined returns for a sample of 61 firms that removed antitakeover amendments from their charters. However, because of various limitations in the data used not all possible observations enter each set of analyses.

Although the results are not unambiguous, the overall impression yielded by the analysis is that the introduction and adoption of antitakeover amendments is associated with an increase in common stock prices and that the removal of antitakeover amendments is associated with a decline in stock prices. Contrarily, there is no evidence that antitakeover amendments have a negative impact on stock prices. From the perspective of the individual firms, the implication is that antitakeover amendments are proposed by managers who seek to enhance shareholder wealth and approved by rational

stockholders who share that objective. From a policy perspective, the implication is that public concern over the use of antitakeover amendments by large U.S. corporations is misplaced. Such amendments do not have an adverse impact on the wealth of the shareholders of the firms that adopt them, nor do they lead to a misallocation of real corporate assets.

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