

A Study

By

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The Effects of Poison Pills on the
Wealth of Target Shareholders

The views expressed herein are those of the Office of the Chief Economist only. The Commission has expressed no view on this study.

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I. Introduction.

Since its introduction in late 1982, the "poison pill" has become the most popular and controversial device used to defend against hostile takeover attempts.^{1/} The term "poison pill" describes a family of shareholder rights agreements that, when triggered by an event such as a tender offer for control or the accumulation of a specified percentage of target shares by an acquirer, provide target shareholders with rights to purchase additional shares or to sell shares to the target at very attractive prices. These rights, when triggered, impose significant economic penalties on a hostile acquirer.

Poison pills are considered very effective deterrents against hostile takeover attempts because of two striking features. First, pills can be cheaply and quickly redeemed by target management if a hostile acquirer has not pulled the trigger. This forces potential acquirers to negotiate directly with the target's board if they wish to have the pill removed. Second, if not redeemed,

^{1/} Marty Lipton, the famous takeover lawyer, is widely credited with inventing the poison pill. He is quoted on page 37 in Takeover, by Moira Johnston, as saying that he conceived of the idea in December, 1982 when he was helping El Paso defend against a hostile bid by Burlington & Northern Railroad. This first pill was very similar to a fair price provision (see our discussion of "Original Plans"), and it was removed shortly after its adoption as part of a settlement. Interestingly, the settlement apparently did not improve the terms under which Burlington won majority control over El Paso. See WSJ "Rail Firm Agrees to Buy Control of El Paso Co.", Jan. 11, 1983, p. 2, Col. 2.

the pill makes hostile acquisition exorbitantly expensive in most cases. As an obstacle to hostile takeover attempts, the poison pill is unmatched except by dual-voting recapitalizations or direct majority share ownership by incumbent management.

The potency and financial complexity of the poison pill probably would guarantee considerable controversy. But, concern over pills is heightened by the Delaware Supreme Court's 1985 ruling saying that poison pills do not require majority approval by voting shareholders. The business judgment rule, which protects the decisions of corporate managers from the paralyzing effects of judicial second-guessing, has been ruled to cover decisions about initiating poison pill defenses. This makes the poison pill the most potent defensive tactic available against hostile takeovers that does not require voting approval by shareholders.

The debate over poison pills has two polar positions. Proponents claim that providing target management with veto power over hostile takeovers benefits target shareholders, by either stopping harmful offers or by allowing target management to obtain the best takeover offer. Harmful offers would include front-end loaded or two-tier offers that allegedly stampede target shareholders into accepting undervalued offers.^{2/} Poison pills effectively

^{2/} See Note, "Protecting Shareholders Against Partial and Two-Tiered Takeovers: The 'Poison-Pill' Preferred," Harvard Law Review (June 1984), Vol. 97, No. 8, pp. 1964-83. For a description and analysis of two-tier offers and comparison of premiums with any-or-all and partial offers, refer to OCE (April 19, 1985). Also see Comment and Jarrell (forthcoming 1987).

force would-be hostile bidders to negotiate terms of the takeover with target managers, and provide time for target managers to shop around for superior bids.

Most opponents of poison pills do not dispute the potential benefits to target shareholders of this veto power. But, they abhor the lack of a requirement that pills be ratified by shareholder voting. Opponents fear that target management's obvious conflict of interest in hostile takeover battles, coupled with the lethal effectiveness of modern poison pills, renders this defensive tactic especially prone to abuse.

Moreover, opponents of pills dismiss the claim that pills are needed to protect shareholders. The Williams Act's substantive provisions should provide adequate protection in most cases. Fair price amendments can be proposed by target management for consideration and voting by shareholders if stronger protection against the potential harmful effects of two-tier offers is considered advisable.^{3/}

The few empirical studies on poison pills do not settle this debate. While the bulk of the existing evidence suggests that pills are harmful, various shortcomings caution against relying heavily on this interpretation. The 1985 study by the SEC's Office of the Chief Economist (OCE, 1985a) concludes that poison pills

^{3/} Indeed, among a representative 200-firm subsample of this study's 245 firms adopting poison pills, about 65 percent already had adopted fair price or other strict supermajority requirements to guard against bids structured to stampede shareholders.

depress stock prices in the two days following their announced adoption, but this result covers only 37 pills (25 of which were adopted during takeover battles). A recent Kidder Peabody (1986) study covers 154 cases, but measures stock price changes over a 60-day period, thereby vitiating the study as a test of the pure effects of poison pills. The lone academic study (Malatesta and Walkling, 1985) provides the most vivid evidence of the pill's harmful effects, but covers only 14 cases.^{4/}

Our goal is to examine a large, exhaustive sample of poison pills (245 cases) in several ways to shed further light on how pills affect the welfare of target shareholders. Overall, the evidence presented here is consistent with the view that poison pills are not in the best interests of shareholders. The most striking finding is that the defeat rate for poison pills is very high compared with other defensive tactics. Among the 30 cases involving actual control battles, we show that about 45 percent of the firms adopting pills killed the takeover attempt and remained independent. These defeated cases show large stock price declines. Another 45 percent sold out to a higher bid, providing additional value to target shareholders. The gains from these favorable, "auction" outcomes do not appear to

^{4/} The three studies on poison pills are, OCE "The Economics of Poison Pills" (1986); Kidder Peabody "Impact of Adoption of Stockholder Rights Plans on Stock Price" (1986); and Malatesta and Walkling "The Impact of 'Poison Pill' Securities on Stockholder Wealth," working paper (1985).

balance out the heavy losses to target shareholders from outright defeats. Moreover, more restrictive, discriminatory poison pills show a higher defeat rate (64 percent) and a lower auction rate.

Other important evidence comes from stock price changes when firms first announced their pill adoptions. We attempt to identify and weed out cases with "confounding events"--important news (usually good) released simultaneously with the pill announcement. Confounding events include news on earnings, sales updates, self-tender offers, 13-D filings, competing takeover bids, or other defensive measures.

After correcting for confounding events, we find that poison pill adoptions reduce stock prices an average of about 1.7 percent, net of general market movements and measured over a two-day announcement period. Flip-over pills have the mildest effects. They reduce stock prices about one percent if takeover speculation is present, but have no effect for cases with no takeover speculation. Discriminatory pills have more harmful effects, reducing stock prices an average 2.2 percent over cases with takeover speculation. Even for cases with no takeover speculation, discriminatory pills reduce stock nearly one percent on average, which is statistically significant.

Before we present the details of these empirical tests, we describe the five different kinds of poison pills that have

evolved since 1983. Section III explains the economic workings of these poison pills, focusing on the popular flipover and back-end plans. A simple model shows how stock prices should be affected by pill adoptions, according to competing theories, and indicates why the presence of takeover speculation is so important to testing for these predicted effects.

II. Poison Pill Plans Described

Poison pill plans are so-named because they make it prohibitively expensive to gain control of the target. If the pill is "swallowed," it is designed to economically "poison" the acquirer. Thus, its presence deters the (rational) would-be acquirer, forcing him to negotiate for the pill's redemption or otherwise avoid its harmful ramifications.

For our study, a poison pill is any financial device that, when triggered by a particular action (e.g. merging a target's assets or acquiring more than some specified amount of the target's common stock), results in one or a combination of the following:

- (1) the acquirer is forced to purchase securities from the shareholders of the target firm at prices equal to or exceeding their market value;
- (2) security holders of the target firm gain rights to exchange stock of the target firm for a combination of cash and securities from the target firm having value exceeding that of the surrendered stock (acquirer is generally excluded from this exchange);

(3) the security holders of the target firm gain rights to purchase securities from the target firm at prices below market value (acquirer is generally excluded);

(4) the acquirer must sell securities of the acquiring entity at prices below market value to security holders of the target firm;

(5) the acquirer loses substantial voting power of his or her shares relative to other security holders of the target firm.

There have developed five types of poison pills that fall within this general definition--original plans, flip-over plans, back-end plans, flip-in plans, and voting plans. We describe the essential features of these different plans in turn.

A. Original Plans

The first "original plan" was introduced by Lenox in June of 1983. It works much like a fair-price amendment, in that it deters hostile "two-tier" takeovers. Two-tier takeovers occur when an acquirer offers a premium price for a majority interest in the target, and then later uses his voting control to force a merger that "freezes out" minority shareholders at a lower premium.

In these plans a pro rata dividend of preferred stock that is convertible into common stock is issued to shareholders.^{5/}

The holders are entitled to redeem the share for cash if an

^{5/} The preferred generally yields a higher dividend than the common stock to discourage conversion.

outside party acquires a substantial holding (for instance 40 percent), with the redemption price set at the highest price paid by the acquirer for the firm's common or preferred during the preceeding year.^{6/} In the event of a merger, preferred holders can convert the preferred into voting securities of the acquirer, the value being set at least equal to the highest price paid by the acquirer for common or preferred shares during the preceeding year.^{7/} Also, a supermajority vote of the preferred stock is required for any merger to occur. These "fair price" conversion terms can be waived by a majority or a supermajority vote of the firm's board of directors.

Despite this pill, two-tier takeovers remain possible. The acquirer must buy a supermajority of the preferred stock and half of the common stock. The remaining common stock could then be "frozen out." Moreover, in practice this pill is poisonous only to two-tier offers, which makes it the least restrictive of the five types we examine. Indeed, three of the four firms that used this pill to defend have been taken over. No such pill has been installed since 1983.

^{6/} This provision could be restrictive if a potential acquirer had purchased shares shortly before a large price decline in the target firm.

^{7/} This provision was the cornerstone of the 1983 Lenox plan. If the preferred were not purchased by the acquirer, Brown Forman, then holders of Lenox could have received shares of Brown Forman that would have diluted the Brown family control over the firm. Brown Forman eventually raised its offer and Lenox was acquired.

B. Flip-over Rights Plans

Flip-over rights plans generally issue a right to shareholders to acquire a fixed dollar amount of the common stock of an acquirer at an exercise price far below market value in the event of a merger.^{8/} The rights are evidenced by the stock certificates of the firm. Typically, the rights can be redeemed at a trivial cost by the target's board of directors until 20 percent of the firm is acquired by an outside party, or until an outside party makes a tender offer for at least 30 percent of the firm's shares. These are the triggering events, after which the rights trade separately from the stock and are no longer redeemable by the board of directors.^{9/}

If subsequently a merger or substantial sale of assets should occur, then the rights holder can purchase from the acquiring party a fixed dollar amount of the securities of the acquiring

^{8/} Under normal circumstances, the exercise price of the rights is well above the market value of the stock. Consequently, these rights will not be exercised. In the event of a merger, however, the exercise terms of the rights change and become very valuable.

^{9/} Some recent pills have incorporated a back-door redemption clause that allows the rights to be redeemed if a super-majority (e.g. 80 percent) of continuing directors deem it necessary. This is meant to facilitate potential "white knight" mergers that may be otherwise blocked by the existence of non-redeemable rights.

firm at a price far below (usually half) their market value.^{10/}
The rights may also be exercised on favorable terms if a large shareholder engages in "self dealing," as defined in the rights agreement.^{11/} The rights in this case are honored by the target firm. Also, the acquirer's rights become void in this event, imposing substantial dilution to his or her investment.

The Rights Plan of Household International, which was the subject of a lawsuit by John Moran, provides an illuminating example. Household's 60 million shares of common stock was trading around \$30 per share before any significant takeover speculation. An acquirer willing to pay (say) \$45 per share for any or all outstanding common shares (or \$2.7 billion in total), which it seems reasonable to assume is a sufficient premium to gain control under ordinary circumstances, would face grave difficulties gaining control once Household's rights were unredeemable and trading separately. These particular rights promise holders \$200 worth of the acquiring firm's common stock in exchange for \$100 cash, in the event of a second-stage merger. Therefore, to accomplish

^{10/} A few plans have very weak restrictions on asset sales by "an acquiring person." One such plan is the Crown Zellerbach flip-over pill. Its weak restrictions allowed Sir James Goldsmith to sell off the majority of Crown's assets once he took control of the firm.

^{11/} Self dealing is generally defined as receiving compensation from the corporation in excess of a particular sum, selling divisions to related entities, and other transactions of this nature.

a merger, the acquirer must purchase as many rights as possible as well as a controlling block of common stock. But, the existence of the rights creates a disincentive for target shareholders to tender their rights.

To illustrate, suppose the acquirer offers \$45 for a combination of a share of common plus a right, in an attempt to gain control and eliminate the rights blocking the second-stage merger. Assuming temporarily that 90 percent of the common stock and rights are tendered to this offer, the remaining 10 percent of the rights increases the acquirer's total purchase price by 22.2 percent over the original total cost of \$2.7 billion, an increase of \$600 million. If this offer attracts only 80 percent of shares and rights, then the total acquisition cost rises by \$1.2 billion to \$3.9 billion, which is 44 percent higher than the original total of \$2.7 billion, and a 116 percent premium over the pre-offer market value of Household International.

But, the acquirer may still be unsuccessful even if he decides to pay this large premium. The arithmetic of the flip-in poison pill means that tendering shareholders receive far less compensation than do those who refuse to tender. This is because hold-outs receive the back-end value afforded to them by the rights. Thus, each shareholder would rationally wish to hold, hoping that others tender in sufficient number to exchange control and make the second-stage transaction materialize.

This "free-rider" problem, as it is sometimes called, implies that the initial offer for a combination of a share plus a right must be attractive enough to discourage hold-outs.^{12/} Since holding promises \$145 value per combination, an initial offer of \$145.01 would guarantee success. This would be a total cost of \$8.7 billion, or a premium of 383 percent over pre-offer market value. At best, the acquirer could lower the tender price to \$30 per share for the common, providing a combined \$130 for each package of common and right. This strategy, if successful, still costs \$7.8 billion, yielding target shareholders a premium of 333 percent over the pre-offer market value.

This example, which was detailed by Professor Michael Jensen in his testimony in the Moran case, defines clearly the exquisite nature of the poison pill's deterrence. The acquirer pays more in the second stage the more rights he must honor. Yet, to get the rights off the market before the second stage, he must offer exorbitant prices because of their very high potential value in the second-stage transaction. This is why commentators describe poison pills as complex securities that make mergers prohibitively expensive.

The Achilles Heel of the flip-over was exposed by Sir James Goldsmith, who acquired control of Crown Zellerbach in 1985 by

^{12/} For an economic analysis of the free-rider problem in tender offers, refer to Bradley (1980) and Grossman and Hart (1980). Also, see OCE (1985) on two-tier takeovers and Comment and Jarrell, forthcoming (1987).

simply purchasing a majority of common shares in the open market. Because he did not contemplate a formal second-stage merger, he effectively ignored the unredeemable rights. Moreover, the rights, triggered when Goldsmith crossed the 20 percent threshold, prevented Crown Zellerbach from negotiating a friendly merger with another party. More recently, Harold Simmons obtained control of NL Industries using open market purchases to end-run that target's flip-over poison pill triggered only by a tender offer.

Although Goldsmith's strategy of creeping, partial acquisition is not a perfect substitute to formal merger in all cases, this strategy is partly responsible for the development of the modern back-end and flip-in plans, which deter even creeping acquisitions.

C. Back-end Plans

Back-end plans are operationally equivalent to lucrative self-tender offers with pre-set terms that are triggered automatically by the (hostile) acquirer's crossing a specified ownership threshold, generally 30 to 50 percent of the outstanding common. These pills deter because they exclude the acquiring person (or group) from the self-tender offer, thereby causing a significant depreciation in the market value of their holdings in the target. This lost value to the acquirer is effectively transferred to other tendering shareholders, on a pro rata basis, when the pill is triggered. The automatic trigger also deters creeping acquisitions, unlike the previously described flip-over pills.

Back-end plans typically give shareholders a right that can be redeemed at a trivial cost by the board of directors. If an "acquiring person" accumulates enough shares to exceed a specified shareholding limit, shareholders may attach each right to their common stock and tender it for a package of cash and securities having value usually well in excess of the current market value of the stock.

Variations of these plans stipulate that holders need not tender their shares. Instead they can present their rights and receive the difference between the stipulated back-end price and the average price paid by the acquiring person in accumulating his holdings. For our sample of plans, the back-end price exceeded the current market value for the stock by a range of eight to 92 percent.^{13/}

Back-end plans deter potential acquirers by excluding the acquiring person from participating in this self-tender offer.^{14/} Thus, the acquirer faces substantial dilution of his holdings as soon as he exceeds the shareholding limit, regardless of the method of purchase.

^{13/} This number is calculated by dividing the back-end price by the market price at adoption and subtracting one.

^{14/} The Cluett Peabody back end plan differed from these plans in the important aspect that their self-tender offer was not discriminatory. An acquiror could have purchased 25 percent of Cluett stock on the open market and tendered his shares as well, thus avoiding a dilution of his holdings. (This dilution would take place if the shareholding limit was crossed with a tender offer, because then the plan became in practice discriminatory). See Cluett Peabody, SEC filing form 8-A.

Back-end plans also hinder formal tender offers by confronting acquirers with the same free-rider problems as that created by the flip-over plans. If a tender offer is made for less than the back-end price, and if other shareholders believe it will attract enough shares to exceed the shareholding limit, then they will not tender their shares in hopes of attaining the higher back-end price. Thus, a hostile attempt to acquire the firm at significantly less than the back-end price faces a grave hold-out problem. In this way the back-end plans set a minimum takeover price for the firm. Because the discriminatory provisions of back-end pills preclude open-market purchases for voting control, they make it more difficult to oust incumbent management via the proxy mechanism. This feature makes back-end pills more restrictive than the older, flip-over pills.

D. Flip-in Plans

The flip-in plan accomplishes the same kind of wealth transfers as does the back-end plan, but flip-ins use an automatic new issue of stock instead of an automatic self-tender offer. The flip-in plan, when triggered, works by issuing a large amount of common stock at steep discounts to all shareholders (pro rata) except the acquiring shareholder. This new issue occurs automatically when the acquirer crosses a specified ownership threshold, usually 30 to 50 percent of outstanding common. In this event the shares accumulated by the excluded acquirer lose significant value,

which is effectively transferred on a pro rata basis to other shareholders. Like back-end pills, the flip-in prevents creeping acquisitions and renders the proxy mechanism a less effective device for ousting incumbent management.

E. Voting Plans

Voting plans generally begin with the issuance of a pro rata dividend of preferred stock with superior voting rights to holders of common stock. If a substantial shareholder should cross a specified ownership level, the votes associated with his preferred holdings are considerably lower vis-a-vis the votes of other shareholders. Since votes are required in proxy contests and merger approvals, voting plans are a potent defensive weapon. They are also rare, and so far unpopular with the court. Two of the three voting plans introduced have been ruled illegal.

III. How Should Poison Pills Affect Stock Prices?

Fiduciary duty dictates that corporate managements should seek to maximize the value of shareholders' equity. Indeed, managements adopting poison pills usually claim this to be their goal. Critics of pills contend that managements adopt them principally as a means to advance managerial interests, to the detriment of shareholders.

In principle, the efficient market hypothesis implies that stock returns, carefully measured, can be used to judge the actual net benefits of poison pills to shareholders of adopting firms.

Sophisticated traders will react to a pill's imposition by causing the firm's market value to be adjusted quickly and accurately to reflect the likely economic effects of the pill. In particular, the price adjustment will reflect the market's best judgment about which view of poison pills is closer to reality.

In practice, several complications arise, such as selecting the proper time period over which to measure stock returns, and dealing with "confounding events" and takeover speculation. This section will present a simple model explaining how poison pills will affect target stock prices in an efficient capital market. The practical difficulties with this approach and our solutions will be addressed in course.

A. Model of Firm Equity Value

We assume that the current market value of a share of equity is an average of two components, weighted by the probabilities of their occurrence over a single period of time. The first component is the stock's value if there is no takeover, with incumbent management maintaining present business plans (V_I). The second is the stock's price in the event of a takeover (V_T). If P_T is the probability ex ante of receiving a bid during the period, then (1) gives the formula for the current market value of the stock.

$$(1) V_0 = (1 - P_T) V_I + P_T V_T$$

If a bid is received, then the takeover offer (V_T) is determined by the degree of competitive bidding. To model this, we assume that V_T is simply a weighted average of two offers--the relatively attractive "auction" price (V_A) and the lower, no-auction price (V_N), with P_A being the probability ex ante of an auction given that there is a takeover. Equation (2) shows how the expected value V_T is determined.

$$(2) \quad V_T = P_A V_A + (1 - P_A) V_N$$

B. How Pills Can Depress Stock Prices.

The opponents of poison pills focus on the potential abuse of pills by incumbent management. They stress that incumbents can block valuable takeovers and entrench themselves in office using this powerful defense, essentially driving P_T to zero. This argument implies that the announcement of poison pills, if unexpected by the market, should cause an immediate decline in the stock price of the initiating firm. Equation (3) shows that the magnitude of this decline (ΔV) is larger (i) the higher was the probability of a takeover before the pill announcement and (ii) the greater was the prospective takeover premium.

$$(3) \quad \Delta V = -P_T (V_T - V_0) < 0$$

Intuitively, pills that deter completely can have no effect on the target's value only if there was no chance before adoption of a valuable takeover. This point also instructs us that the best cases for measuring the pill's actual effects on stock

prices are those firms involved in takeover battles or subject to significant takeover speculation.

C. How Pills Can Boost Stock Prices.

Proponents of poison pills argue that there are two distinct ways in which pills can enable target management to benefit their shareholders. The first leaves the target independent, but substitutes some other value-enhancing activity or plan for the lower-valued, hostile takeover offer.^{15/} According to this argument, the pill prevents the hostile bidder from stampeding target shareholders into accepting the lower-valued offer, buying time for management to formulate alternative strategies for creating shareholder value without a takeover. This incumbent management plan, which could involve the sale of major assets and a premium self-tender offer for a substantial fraction of outside shares, is assumed here to be valued at V_R . Equation (4) shows how the target's stock price is adjusted in an efficient capital market under this hypothesis.

$$(4) \Delta V = (V_R - V_0) - P_T (V_T - V_0)$$

The first term $(V_R - V_0)$ is the per-share increase created by the incumbent's plan over the no-takeover stock value. This benefit is offset by the second term, which is the opportunity

^{15/} The substitutes to third-party takeovers could include a major recapitalization with stock buy-back, or it could simply be a strategy by incumbent management aimed at curing undervaluation of current business plans by the capital market.

cost of losing the valuable takeover. Note that if the value of the incumbent's plan (V_R) just equals the actual takeover offer ($V_T = V_R$, $P_T = 1$), then the pill does not affect the wealth of target shareholders. If the value of the incumbent's plan exceeds the hostile bid "on the table," then the pill's announcement causes an increase of $V_R - V_0$ in the target's stock price.

The second way poison pills benefit target shareholders does not avoid takeover. Rather, proponents contend that pills allow target management the time and leverage to conduct an auction for the target. In terms of our model, the pill raises the probability of an auction ($\Delta P_A > 0$). Equation (5) shows how this would increase the target's stock price.

$$(5) \Delta V = P_T \Delta P_A (V_A - V_N) > 0$$

The announcement of the pill, under these conditions, will increase the target's stock price more (i) the greater is the probability of a control contest before the pill is announced, (ii) the greater the pill-induced increase in the probability of an auction, and (iii) the more rewarding to target owners are auction-style over single-bid takeovers.

E. Other Considerations

This simple model is adequate to show how the polar positions in the debate generate testable implications about changes in stock prices. Moreover, it instructs us to pay special attention to firms that are targets, or that are subject to takeover speculation, when they adopt pills. But, it also can illustrate several difficulties that complicate the empirical tests.

One potential complication is that the announcement of a poison pill may "signal" information that causes stock price changes independent of the hypotheses just described. For example, the pill's announcement may cause the market to now consider the target to be a more likely takeover target, raising the probability of a takeover. Therefore, even if the pill's true causal influence is to harm shareholders, it is possible that this signalling effect can dominate and cause stock prices to increase on announcement.

Another worry is that the pill's announcement, particularly during a hostile control battle, might signal to the market that target management is encountering greater than expected difficulty in "shopping" the target. In terms of our model, this particular signal will reduce the probability of auction perceived by the market and thus lower stock prices, conceivably even if the pill's true causal influence is to benefit target shareholders by facilitating the auction process.

There is little we can do about these possible signalling influences. A third difficulty, "confounding events," has a potential solution. Confounding events occur when other important news about the target occurs simultaneously with the pill's announcement. A common example is when target management deliberately releases good news when it announces the pill defense, perhaps to directly counter any negative effects that the pill

may have on share value. Confounding events include news that higher, competing bids have been made, or an announcement that the target management has begun to actively seek out bidding. In our empirical tests, we identify confounding events and separate these cases from the "clean" ones to check for different stock price changes.

Finally, the model serves to emphasize that all empirical tests of poison pills must treat as comparable cases what are in reality a mixture of apparently unique situations, rich in case-specific details. Although most empirical studies in economics confront this problem, it is especially important here to remember that our tests are designed to find any common threads that might be woven through these seemingly uncommon cases. If there are no common threads significant enough to overcome the diversity of experiences across these cases, then our empirical tests will fail to afford any basis for simple conclusions--such as "pills are bad" or "pills are good." This, of course, is as it should be.

IV. Empirical Results

The goal is to assess how poison pills have affected the wealth of target shareholders. This study covers all 245 poison pills adopted by U.S. publicly-traded firms before July 4, 1986, collected from Corporate Control Alert publications and SEC sources. Using information from news articles and filings with

the SEC by pill adopters, we classified all pills according to the five types described in Section II.

To simplify the tests, we distinguish between two broad classes of pills--flip-overs and discriminatory plans. The latter class includes ownership flip-in plans, voting plans, and back-end plans that exclude an acquiring person from participating in a firm's self-tender offer. As discussed earlier, discriminatory plans appear to have the greater potential to deter hostile acquirers. If this difference in restrictiveness is not offset by other factors, the reaction of stock prices will be more pronounced for discriminatory pills.

Table 1 shows how many pills were adopted each year, for the five types of pills. Three points are noteworthy. First, pills have surged in popularity since their introduction in 1983, growing by 32 a month since the November, 1985 Household decision by the Delaware Supreme Court. Second, pills are split roughly evenly between the flip-overs and the discriminatory types, which include flip-ins and back-end plans. Third, since the Household decision, about 87 percent of the adopters were not at the time being threatened by takeover, whereas only 32 percent before Household were not threatened.^{16/}

^{16/} See "The Economics of Poison Pills," OCE (March 5, 1986).

We take two approaches to measuring the effects of poison pills. The first focuses on the outcomes of the 30 cases of hostile contests that feature a poison pill defense. By comparing the number of defeated attempts against the number of auction-style takeovers, and measuring the wealth consequences of these different outcomes, we attempt to judge empirically how target shareholders have fared when the pill is present.

The obvious strength of this approach is that it provides direct evidence on what actually happened to target shareholders when pills were used to defend. If the outcomes are in some degree causally related to the pill's presence, then weighing good outcomes against bad should allow one to judge the pill's effects on shareholders.

The weakness of this approach is that it must be confined to actual control contests, which account for only about 15 percent of the firms having poison pills. It makes no sense to attempt to measure the long- or medium-term effects (even over 3 months) of pills on shareholder value for cases not involving a control contest. The natural volatility of stock returns, resulting from the constant stream of economy-wide and firm-specific news affecting firm value, makes it virtually impossible to use stock returns measured over extended time periods to draw statistically legitimate inferences about the independent effects of poison pills (or any

other defensive tactic). Focusing on actual contests, which have limited durations between the pill's adoption and the contest's resolution, may provide reliable empirical results if there are large enough stock returns.

The second approach relies heavily on the ability of the stock market to make, at the time the pill is first announced, unbiased assessments about how pills will influence future corporate affairs. This "efficient market" approach works best when the market has experience with the particular defensive tactic.

To implement this approach one must isolate for each case a short, precise time frame within which the market first learns that the pill will be adopted. The ideal test uses a very short time period, which is just long enough to allow an efficient market to adjust firm value in light of news about pill adoption, but not long enough to allow other information to influence firm value significantly. It is very common in such studies to use a one or two-day "event window," reflecting the optimal trade-off of these conflicting methodological concerns.

A. Poison Pills and Hostile Control Contests

Tables 2 through 4 summarize the outcomes of the 30 hostile control contests that featured poison pill defenses. Table 2 shows that 14 (46 percent) of the 30 targets defeated the hostile takeover attempt and remained independent. It is interesting

that two-thirds of the 14 discriminatory cases resulted in total defeat, compared with only one-third of the 13 flip-over plans.

This defeat rate of nearly one-half for poison pills appears to be very high compared with other defenses against hostile takeover attempts. A study by Jarrell (1985) of litigious defenses by 89 NYSE and AMEX targets shows that only 23.5 percent defeated the takeover attempt. Another comparison is provided by a Goldman Sachs survey of 94 hostile cash tender offers from 1976 to 1984, which shows that only 18 percent of the target companies remained independent.^{17/}

Total defeat has harmful effects on shareholder wealth, a finding that is shared with all of the academic studies of takeovers defeated by target management's efforts.^{18/} For these 14 defeats involving poison pills, Table 3 shows that the average net-of-market stock return is negative 17 percent, calculated over the six-month period beginning shortly after the bid is announced.^{19/}

^{17/} This defeat rate figure is found in the decision by the Court of Chancery of the State of Delaware, Moran v. Household International, 490 A.2d 1059 (1985), at 1078.

^{18/} See Easterbrook and Jarrell (1984), Bradley, Desai, and Kim (1983), and Jarrell (1985).

^{19/} Specifically, the returns are measured over a period beginning two days before the pill announcement if a bid has been made, or on the day of the offer if a pill has already been adopted. The end of the measurement period is six months after the beginning date or until August 11, 1986, whichever duration is shorter. At the time of our research, no data were available beyond August 11, 1986.

Eleven of the 14 cases show losses; nine of these have losses exceeding 10 percent. The range of losses is negative seven percent for Panhandle Eastern to negative 70 percent for Gearhart Industries.

The more fortunate outcomes for target shareholders include the 13 auction-style takeovers, and the three cases where the acquirer (e.g. Sir James Goldsmith) succeeded in purchasing control on the open market. Auctions are defined to be higher bids by the original hostile bidder, or by competing bidders, that materialize after the pill is adopted.

Table 4 presents the net-of-market stock returns for the 13 auction cases over the six months just after the opening bid. These returns are meant to measure the maximum additional value actually obtained by target shareholders that could be credited to the poison pill defensive strategy. Of course, it is possible in many cases that similar benefits could have been obtained without the presence of the pill defense.

Ten out of these 13 auction-style contests show positive six-month returns, net of general market movements. The average net-of-market return is 14 percent, which is statistically significant. Most gains are large; they range from 4.5 percent for Midcon to 56 percent for Westchester Financial.

It is surely incorrect to assume that poison pills defeated all 14 cases listed in Table 3 and caused all 13 bidding contests listed in Table 4. But, if these assumptions are even distantly related to reality, then it is useful to compute the weighted

average outcome over these 27 cases. After all, an efficient market would use this kind of real-world information to make unbiased adjustments to the stock prices of firms when they first adopt poison pills. These facts are important whether or not the adopters are targets at that time.

The stock returns of Tables 3 and 4 imply that the negative wealth effects of the bad outcomes (defeats) outweigh the positive effects of the bidding contests. The weighted average net-of-market return over six-months is negative two percent. This information from actual contests implies that, although they may help generate auctions in some cases, poison pills will be viewed as harmful on net to target shareholders when they are adopted.

B. Poison Pills and Stock Prices

We measure net-of-market changes in stock prices for all 245 poison pills over a short announcement period. This announcement period--the "event window" --is determined for each case to be the day before the first public news of the pill's adoption plus the following day.^{20/} This yields a two-day event window, with a few exceptions.^{21/} Net-of-market stock returns equal the gross

^{20/} The sources for dates of pill adoptions are Corporate Control Alert and the Dow Jones News Service.

^{21/} Corporate Control Alert (CCA) lists the "announcement date" for the firms in our sample. This date is deemed to be the first possible date the market reacted to the announcement because it always proceeds any news wire or Wall St. Journal Story. Therefore, our event window uses the closing price from the day before the CCA date as a beginning price. The latest of (a) the Wall

percentage change in the stock price over the event window minus the percentage change in the S&P 500 index over the identical period.

Table 5 presents the net-of-market stock returns to all poison pills, without correcting for confounding events or considering takeover speculation. The overall average net-of-market return is negative .22 percent, and this result is not statistically significant. Although the returns for discriminatory pills are more negative than for flip-overs, the magnitudes of both averages are statistically indistinguishable from zero.

Table 6 repeats this exercise on a reduced sample of 62 pills, which includes only firms that were subject to takeover speculation or to an actual takeover attempt at the time of the pill's adoption. Although the average stock returns are more negative for these cases, with discriminatory pills still being more negative than flip-overs, again these returns are quite close to zero. As we shall see next, the preponderance of confounding events--news that is released simultaneously with the pill's announcement--masks the pure effects on stock prices of poison pills.

Table 7 presents average net-of-market returns after excluding from the sample all cases having confounding events. This test does not distinguish cases on the basis of takeover speculation.

Footnote 21/ continued from previous page.

Street Journal Story, (b) the day after a news wire story or (c) the day after the CCA date is used as the date from which we obtain a final event window closing price. Thus, generally we have a two-day event window.

Confounding events include public announcements of earnings, sales updates, dividend changes, self-tender offers, 13-D filings, competing takeover bids, or other defensive measures. If these events occur within the pre-determined event window for the poison pill, then we note these cases in Appendix C and exclude them from the computations behind Table 7.

Tables 8 and 9 simply break down the sample of Table 7 into cases having no takeover speculation (Table 8) and those having takeover speculation (Table 9). These tables should provide the most reliable indicators of the capital market's reaction to the news that a pill will be adopted, independent of these other news events.

The important results are that, overall, poison pill announcements show an average net-of-market return of negative .66 percent, which is statistically significant. If we focus on cases subject to takeover speculation, the average return is negative 1.74 percent (Table 9). Over 70 percent of the 37 cases subject to takeover speculation show negative stock-price reactions to pill adoptions.

Equally interesting is the result that the more restrictive discriminatory pills are more harmful to shareholders than are flip-over pills. In fact, flip-overs bring no stock price reaction unless they are adopted by firms subject to significant takeover speculation. (Compare Tables 8 and 9 for "flip-overs.") For firms subject to takeover speculation, the announcement of a flip-over

induces an average decline in stock prices of 1.21 percent, net of general market movements, which is not statistically significant.

Discriminatory pills, on the other hand, cause statistically significant declines in stock prices, even averaged over firms not subject to takeover speculation (see Table 8). Specifically, over the 69 discriminatory pills adopted by firms not subject to takeover speculation, the average net-of-market decline is .82 percent (which is statistically significant). About 64 percent of these individual cases show price declines upon adoption. For the 15 discriminatory pills adopted by firms subject to takeover speculation (see Table 9), the average net-of-market return is negative 2.21 percent, which again is statistically significant. Seventy-three percent of these individual cases show price declines upon adoption.

This evidence suggests that flip-overs and discriminatory plans are viewed somewhat differently by the capital markets. It also suggests that discriminatory plans, unlike flip-overs, can have a negative, statistically significant impact on stock prices even when the adopting firm is not subject to takeover speculation. One possible interpretation is that discriminatory plans are a greater deterrent to initial investments in firms because they limit the flexibility of large blockholders to exert influence on a company. Thus, these firms have a lower future probability of

becoming takeover candidates. Only time can tell whether or not this conjecture is correct.

Our earlier analysis also implied that firms with classified boards may be more immune from hostile control changes than firms without such boards. Proxy contests have been used to gain control when pills have otherwise blocked hostile acquirers. Classified boards can hinder this manner of end-running poison pill defenses.

Evidence in Table 9 provides tentative support for this contention, although it is inconclusive. Over the firms subject to takeover speculation, net-of-market returns average negative 2.24 percent for the 23 firms with classified boards, while they average negative 0.93 percent for the 14 firms with no such board provisions. The difference between these two averages is not statistically significant. There is virtually no difference in the returns for firms with and without classified boards for firms not subject to takeover speculation.

Table 9 also breaks down the 37 cases subject to takeover speculation into firms that did and did not already have fair price (or supermajority) amendments when they adopted poison pills. As a practical matter, this fair price distinction is highly correlated with the previously discussed classified-board distinction. Thus, it is not surprising to find that pill adopters that had fair price provisions show more negative returns (-2.13 percent) than pill adopters without fair price provisions (-1.02 percent). It is not

obvious how to interpret this, unless it simply reflects the effects of classified boards. Perhaps the market reasons that managements of firms with fair price amendments are more likely to abuse the pill defense, since the popular excuse that pills are needed to protect against two-tier offers does not apply as strongly to fair-price firms. Although one can speculate about these average returns, the differences are not statistically significant.

C. Does the Hostile Threat Justify the Defense?

In general, Delaware and other state courts have held that adopting poison pills is within the power of the board of directors. Delaware has said specifically in Moran that Household's flip-over poison pill was, "a legitimate exercise of business judgment by Household."^{22/} Normally the business judgment rule means that the court will not interfere with business decisions unless the decision involved bad faith, fraud or self dealing. It presumes good faith and lack of self interest, and the plaintiff has the burden of showing bad faith or self interest.

The Delaware courts, however, have not written target management a, "blank check endorsed with the business judgment rule."^{23/} Specifically, there is a shifting of the usual burdens

^{22/} Moran v. Household International, 500 A.2d 1346 (Del. 1985), at 1346.

^{23/} Dynamics Corporation of America v. CTS Corporation, Fed. Sec. L.Rep. (CCH) § 92,768, at 93,759 (7th Cir., June 9, 1986.

of proof in cases involving the business judgment rule as applied to defensive tactics. Because of the potential conflict of interest between directors and shareholders in takeover attempts, directors in adopting defenses have the burden of showing that they had reasonable grounds for "believing there was a danger to corporate policy and effectiveness, a burden satisfied by a showing of good faith and reasonable investigation."^{24/}

There has evolved from these court decisions the notion that the poison pill, although strong medicine, is a legitimate response if it is "necessary to protect the corporation from a perceived threat to corporate policy and effectiveness."^{25/} Judge Walsh's opinion in Moran made special reference to the coercive nature of partial offers and two-tier takeovers, implying that these bidder tactics help justify special defenses such as poison pills.

Therefore, it is important to ask whether in fact poison pills have been used to defend against two-tier or partial tender

^{24/} Moran 500 A.2d at 1356 (citing Unocal Corp. v. Mesa Petroleum Co., 493 A.2d 946 (Del. 1985) at 955.).

^{25/} Moran v. Household International, 490 A.2d 1059 (1985) at 1076 (citing Cheff v. Mathes, 199 A.2d 548 (1964) at 555.).

offers.^{26/} Our sample contains 22 cases where the pill was introduced in direct response to a hostile tender offer. Fifteen of these 22 offers, or nearly 70 percent, were for any-or-all shares outstanding. Only four offers were two-tier, and three were partial. This shows that the poison pill defense has been used mostly to defend against any-or-all tender offers, rather than to meet the special threat of the more coercive types of hostile tender offers.

It is also interesting to see if the outcomes of the thirty control contests involving poison pills differ according to the type of hostile offer that initiated the contest. Table 10 shows that nine of the 24 cases that were initiated by any-or-all offers ended in total defeat of the bidder. Thirteen of the remaining 15 targets were taken over in auction-style contests, with the other two being non-auction takeovers. In fact, all auctions involving pill defenses follow any-or-all initiating offers. All of the three two-tier and two out of three of the partial tender offers were defeated. The shareholder losses from these five defeats average 18.6 percent, over the six months following the initial bid.

^{26/} Although most experts agree that two-tier and partial offers are more coercive than any-or-all offers, there is no evidence that shareholders have received different premiums by type of offer, on average, by type of offers over all successful tender offers between 1981-1985. See OCE (1985) and Comment and Jarrell, forthcoming (1987).

The upshot is that the conventional wisdom -- targets use poison pills mainly to protect shareholders against two-tier and partial tender offers -- is more myth than reality. In actual takeover contests, pills are used against any-or-all offers more than twice as frequently as against two-tier or partial offers. Moreover, most of the takeover attempts defeated by poison pill defenses were any-or-all offers. If the pill has benefited target shareholders in actual contests, it has done so by generating auctions for targets faced with hostile, any-or-all offers.

D. Insider and Institutional Shareholdings of Firms Adopting Pills.

Table 11 presents average stockholdings of insiders and of institutional stockholders for firms adopting poison pills. These stockholdings are measured relative to total outstanding shares, and are taken at the available time closest to the date of pill adoption. Table 11 shows that insiders held about five percent, while institutions owned about 45 percent of outstanding common stock.

Insider holdings for these pill adopters appears quite low compared with normal levels. Although a scientifically proper control group is not available, we can compare this five percent average with that of the 624 firms that passed antitakeover amendments since 1980, which show average insider stockholdings of 13.6

percent.^{27/} (Most of these cases are after 1982.) Also, Professor Bradley of the University of Michigan reports average insider holdings of 15.9 percent, over 192 merger targets and 112 tender offer targets between 1969 and 1980.

Institutional holdings average 45.1 percent for these pill-adopting firms, which appears to be above normal. The overall average institutional stockholding for all industries reported as of June 30, 1986 is 40.2 percent; it is 39.1 percent as of December 31, 1985, and 35.9 percent one year earlier.^{28/} Roughly weighting these overall averages by the total pill adoptions by year provides a hypothetical "normal" figure of 39 percent, which is appreciably below the 45 percent for pill adopters.

Also, we can compare institutional holdings for pill adopters with the average of 27.6 percent over 599 firms that passed antitakeover amendments since 1980.^{29/} This figure is below normal levels, and considerably below the average for pill adopters.

^{27/} See OCE, "Shark Repellents and Stock Prices: The Effects of Antitakeover Amendments Since 1980," July 24, 1985. See Table 3 for average insider stockholdings.

^{28/} See Computer Directions Advisors, Inc., Spectrum 3: 13(f) Institutional Stock Holdings Survey, 6/30/86, 12/31/85, and 12/31/84.

^{29/} See OCE, "Shark Repellents and Stock Prices: The Effects of Antitakeover Amendments Since 1980," July 24, 1985. See Table 3 for average institutional stockholdings.

In OCE's 1985 study of antitakeover amendments, which unlike poison pills require voting approval by shareholders, we observed that institutional stockholdings were lower, and insider holdings were higher, for the more harmful types of antitakeover amendments. This suggests that it is less difficult to get voting approval of harmful amendments when insiders have large holdings and institutions have low holdings.

It is interesting that the poison pill results appear to fit well with this interpretation. Specifically, firms that bypass shareholder voting altogether, by adopting poison pills, have very low insider holdings and above-average institutional holdings. These conditions normally make it more difficult to get voting approval by shareholders of devices that restrict hostile tender offers, among which the poison pill is probably the most restrictive.^{30/} This explanation implies that a requirement for voting approval would have prevented many of the firms in our sample from adopting poison pills.

V. Conclusion

Poison pill defenses are designed to force would-be acquirers to obtain approval from the target's board of directors before their

^{30/} Institutional shareholders are generally hostile towards poison pill defenses. A "Shareholder Bill of Rights" recently adopted by the Council of Institutional Investors, whose members manage over \$160 billion in assets, proclaims that "shareholders have a right to vote on ... poison pills." See Vise, "'Bill of Rights' Seeks to Boost Power of Shareholders," Washington Post (April 13, 1986).

offer can be made to shareholders. Thus, these devices thrust target management squarely between hostile acquirers and target shareholders, making unapproved offers very difficult to mount. Despite their undisputed potential for blocking hostile acquisitions, the Delaware Supreme Court ruled in November 1985 that poison pills do not require voting approval by target shareholders. Since then, publicly-traded firms have adopted poison pills at the rate of over 30 a month, an alarming trend to many experts who worry about growing managerial entrenchment.

But, the state courts have not given a free hand to pill-protected boards of directors. Indeed, the Delaware Supreme Court spells out the threatening circumstances that might warrant pill defenses and warns managers not to use this protection to harm shareholders. These strict legal standards and the threat of detailed judicial second-guessing have made poison pill defenses a mixed blessing to opponents of hostile takeovers. They complain that, despite its tremendous potential for deterrence, the courts have sanctioned only narrow uses of the pill, mainly insofar as it facilitates competitive bidding.

The Securities and Exchange Commission has become concerned about potential abuses of poison pill defenses. Recently, the Commission, in Release No. 34-23486, requested public comment on whether Federal regulators should require shareholder voting

approval of poison pills. The SEC earlier supported requiring shareholder approval in its amicus brief in the Moran case. Members of Congress have expressed similar concern over the effects of poison pills.^{31/} The proposal to acquire voting approval is critical in light of this study's statistics on the ownership characteristics of the 245 firms that already have adopted pills. Their low insider and high institutional stockholdings indicate that many of these firms would have been unable to obtain voting approval by shareholders.

This public debate features two sharply divergent views. Opponents believe that the inherent conflict of interest between target shareholders and incumbent management in corporate control contests makes poison pills especially prone to abuse. Proponents of pills claim that providing target management with veto power over hostile offers benefits target shareholders, by stopping harmful (two-tier and partial) offers or by allowing target management to obtain better deals.

This study examines the 245 poison pills that were adopted between 1983 and July 4, 1986. We attempt to determine how pills have affected the welfare of target shareholders. We take two approaches. The first focuses on the longer-term (six months, usually) changes in stock prices for the 30 cases

^{31/} See H.R. 5693, 98th Cong., 2d Sess. (1984).

involving actual control contests. The second approach measures changes in stock prices for all 245 cases over the two-day period during which pill adoptions were publicly announced.

The most striking result from examining the 30 control contests is that nearly half of the targets defeated the takeover attempt. This rate of defeat for pills appears to be much higher than for other defensive tactics, which creates the strong presumption that without the pill many of these survivors would not have remained independent. Target shareholders of these 14 surviving targets suffered an average capital loss of 17 percent, measured over the six-months following defeat, and nearly 80 percent of these cases show declines in stock prices.

The other targets were taken over, with 13 receiving improved bids. These outcomes benefited target shareholders, providing added gains of about 14 percent. These benefits, however, do not balance out the losses from defeats. Moreover, unlike the defeated takeovers, it is more difficult to credit the pill defense exclusively with the bulk of this auction activity.

The evidence from the 30 control contests sharply contradicts the popular pill rationale - that they protect shareholders against "coercive" bidder tactics, such as two-tier and partial offers. These front-end loaded offers can in theory stampede unorganized shareholders into accepting offers below full value. The evidence, however, shows that poison pill defenses have been

employed by target boards against any-or-all offers more than twice as often as against two-tier or partial offers. Further, when pills have been used against two-tier or partial offers, the outcomes for target shareholders have been quite unfavorable. In five out of these six cases, the takeover attempt was totally defeated. Target shareholders in these five cases lost, on average, 18.6 percent (net-of-market) over the six months following defeat.

The other important statistical tests use the entire sample of 245 poison pills. We take considerable precautions to weed out confounding events that can mask the capital market's pure reaction to poison pills. We also account for takeover speculation on the belief that the pill's effects (good or bad) should be more pronounced for adopting firms that are subject to such speculation.

After these refinements, the results are that poison pill adoptions reduce stock prices about 1.7 percent net-of-market, on average over the two-day announcement period. Flip-overs have the mildest effects, reducing stock prices an average of 1.2 percent if takeover speculation is present, and having no effect for cases with no takeover speculation.

Discriminatory pills have more harmful effects, reducing stock prices an average of 2.2 percent if there is takeover speculation. Even for the cases with no takeover speculation, discriminatory

pills reduce stock prices nearly one percent on average, which is statistically significant.

These empirical tests, taken together, show that poison pills are harmful to target shareholders, on net. Although these losses are not large in percentage terms, they have sufficient statistical power to reject the general theory that pills benefit target shareholders. Despite what many consider to be the vigilant attitude of the state courts towards the intentions and actions of pill-protected boards, we find no statistical evidence that pills have systematically benefited target shareholders.

Table 1: Number of Poison Pills, by Type and Year, from 1983 to July 4, 1986.

	1983	1984	1985	thru 7/4 1986	1983 to 7/4/86
All	4	7	42	192	245
Original	4	0	0	0	4
Flip-over	0	6	23	89	118
Back-end	0	1	8**	2	11**
Flip-in	0	0	8	101	109
Voting	0	0	3	0	3
Control Cases as % of All	100.0	85.7*	42.8	13.0	25.7*

* Includes Household International which is not in takeover speculation subsample because John Moran's potential bid for Household was not yet public upon announcement date.

** Includes Cluett Peabody's non-discriminatory poison pill.

Table 2

Outcomes of Control Contests that Involve Poison Pill
Defenses, by Type of Pill, from 1983 to July 4, 1986

Type of Poison Pill	Number of Cases	OUTCOMES					
		Total Defeat Number (Percent)		Auction Takeover Number (Percent)		Creeping Takeover Number Percent	
All	30	14	(46)	13	(44)	3	(10)
Discriminatory	14	9	(64)	4	(29)	1	(7)
Flip-over	13	4	(31)	7	(54)	2	(15)
Others	3	0	(0)	2	(100)	0	(0)

Note: Outcomes are based on events until August 6, 1986.

TABLE 3

STOCK PRICE CHANGES OF DEFEATED TAKEOVERS WITH
POISON PILLS IN EFFECT

<u>Target Firm</u>	<u>Bid Active Date</u> 1/	6 Month Net-of-Market Revaluation after Bid Date 2/
Carson Pirie Scott	860331	1.86%
CTS (IST Pill)	860325	-31.73
Gearhart Industries	840430	-69.68
Mayflower Group 3/	860522	-29.62
Michigan National	850709	-10.05
U.S. Homes	860718	-15.39
Phillips Petroleum	850205	2.40
Tesoro Petroleum	860404	-48.10
Union Carbide	851214	26.91
Panhandle Eastern	860701	- 7.07
Talley Industries	860625	-12.84
Unocal	850415	-19.80
Viacom International 4/	860516	-15.97
Enstar 5/	840613	- 8.87
<hr/>		
Average Revaluation		-16.99%

- 1/ Bid Active date is two trading days before adoption of the pill when an offer for the firm is made or the day of a bid when made if the firm already had a poison pill plan in effect.
- 2/ Calculated by taking percentage change in firm's stock price 6 months after Bid Date (or August 11, 1986) if 6 months has not passed) and subtracting percentage change in S&P 500. For Phillips Petroleum and Unocal, it was assumed that proceeds from the firm's self-tender offers were invested in the S&P 500.
- 3/ Mayflower Group shares also have a note that separated from the common stock as part of the pill plan. At last report this note was trading at a negligible value. The note's value is not included in this calculation.
- 4/ As of the date of this writing, Viacom International is attempting to arrange financing for a leveraged buy-out.
- 5/ Enstar return calculated by assuming proceeds of first tier tender offer was reinvested in S&P 500 Index. Other component of return calculated until stock's delisting.

TABLE 4

STOCK PRICE CHANGES OF AUCTIONS WITH
POISON PILLS IN EFFECT

<u>Target Firm</u>	<u>Bid Active Date</u> <u>1/</u>	<u>Net-of-Market Revaluation From Auction</u> <u>2/</u>
Associated Dry Goods	860630	-0.79%
Cluett Peabody	850813	1.33
Great Lakes International	851011	2.57
Healthcare USA	860625	14.74
Lenox	830614	6.47
Midcon	851219	14.40
Safeway	850709	21.56
Sea Land	851210	-2.18
Warnaco	860321	11.95
Revlon	850820	21.56
Westchester Finl.	860225	50.39
Victory Markets	860602	25.75
Conna	860423	13.16
<hr/>		
Average Revaluation		13.91%

1/ Bid Active date is two trading days before adoption of the pill when an offer for the firm is made or the day of a bid when made if the firm already had a poison pill plan in effect.

2/ Calculated by taking percentage change in firm's stock price from bid date through date that final bid accepted and all third parties out of bidding. This percentage change in the S&P 500 Index is subtracted from this number to yield the net-of-market revaluation. Note that auctions can yield negative returns if market averages increase by a greater percentage than stock.

Table 5: Net-of-Market Returns for Poison Pill Announcements, All Cases between 1983 and July 4, 1986, by Type.

Pill Type	Number of Firms	Average Net-of-Market Returns	(t-stat) Level of Statistical Significance	Percentage of Cases With Negative Returns
All	245	-0.22	-0.95	54.3
Flip-over	118	-0.19	-0.61	53.4
Discriminatory	122	-0.27	-0.79	55.7

Table 6: Net-of-Market Returns for Poison Pill Announcements, Excluding Cases not Subject to Takeover Speculation, by Type, 1983 to July 4, 1986.

Pill Type	Number of Firms	Average Net-of-Market Returns	(t-stat) Level of Statistical Significance	Percentage of Cases With Negative Returns
All	62	-0.41	-0.38	54.8
Flip-over	27	-0.19	-0.56	53.4
Discriminatory	30	-0.70	-0.94	54.9

Note: Firms are classified as subject to takeover speculation if one of the following requirements are satisfied:

(A) A formal or informal bid or request for sale of the firm has been publicly noted in the past year.

(B) A Schedule 13-D has been filed in the past year by an investor who maintains this holding and declares a potential control-oriented intent.

(C) Published takeover rumors are accompanied by a 10 percent net-of-market return two months prior to pill adoption. See Appendix B for firm classifications.

Table 7: Net-of-Market Returns for Poison Pill Announcements, Excluding Cases with Confounding Events, by Type, 1983 to July 4, 1986.

Pill Type	Number of Firms	Average Net-of-Market Returns	(t-stat) Level of Statistical Significance	Percentage of Cases With Negative Returns
All	179	-0.65	-2.96*	59.8**
Flip-over	91	-0.21	-0.64	53.8
Discriminatory	84	-1.07	-3.68*	65.5**

Table 8: Net-of-Market Returns for Poison Pill Announcements, Excluding Cases subject to Takeover Speculation and Confounding Events, by Type, 1983 to July 4, 1986.

Pill Type	Number of Firms	Average Net-of-Market Returns	(t-stat) Level of Statistical Significance	Percentage of Cases With Negative Returns
All	142	-0.38	-1.54	57.0
Flip-over	73	-0.03	-0.09	50.7
Discriminatory	69	-0.82	-2.67*	63.8**

* Significant at the 1 percent confidence level.

** Significant at the 5 percent confidence level.

Table 9: Net-of-Market Returns for Poison Pill Announcements, for Cases Subject to Takeover Speculation, excluding Confounding Events, by Type of Pill and by Presence of Classified Boards and Fair-Price Provisions, 1983 to July 4, 1986.

Pill Type	Number of Firms	Average Net-of-Market Returns	(t-stat) Level of Statistical Significance	Percentage of Cases With Negative Returns
All	37	-1.74	-3.62*	70.3**
Flip-over	18	-1.21	-1.83	66.7
Discriminatory	15	-2.21	-2.93**	73.3
Classified Boards	23	-2.24	-3.82**	78.3**
No Classified Boards	14	-0.93	-1.15	57.1
Fair Price	24	-2.13	-4.17**	83.3*
No Fair Price	13	-1.02	-1.06	46.1

* Significant at the 1 percent confidence level.

** Significant at the 5 percent confidence level.

Table 10: Outcome of 30 Control Contests Involving Poison Pills, By Type of Initiating Offer.

Outcome of Contest	Type of Initiating Tender Offer		
	Any-or-All	Two-Tier	Partial
Defeats	9	3	2
Auctions	13	0	0
Single-Bid	2	0	1
All Outcomes	24	3	3

Table 11: Stockholdings by Insiders and Institutional Stockholders, for Firms Adopting Poison Pills during 1983 to July 4, 1986, by Type of Pill and by Fair-Price and No Fair-Price Firms.

Type of Firms	Number of Firms	Fraction of Common Stock Held By	
		Management Insiders <u>1/</u>	Institutional Stockholders <u>2/</u>
All Poison Pills ^{3/}	239	4.9	45.1
Flip-Overs	117	5.2	44.6
Discriminatory	122	4.6	45.6
Fair Price <u>4/</u>	193	5.1	45.0
No Fair Price	36	4.0	45.4

1. Insider stockholdings are obtained from proxy statements (DEF 14A's).
2. Institutional Stockholdings are obtained from Computer Directions Advisors, Inc., Spectrum 3: 13(f) Institutional Stock Holdings Survey 1979-1985.
3. Excludes Original Plans and Cluett Peabody's non-discriminatory plan.
4. Fair Price group includes all cases that have antitakeover amendments that received voting approval by shareholders. So it includes all pill-adoptions that already had classified boards, pure supermajority requirements, or fair price requirements. We failed to determine these facts for ten cases, which have been excluded.

APPENDIX A - FIRMS ADOPTING POISON PILLS BETWEEN 1983 AND JULY 4, 1986

NAME	DATE1	DATE2	TYPE	REF
ADAMS RUSSELL	860617	860619	2	CCA
ALLEGHENY INTERNATIONAL	860305	860307	3	CCA
ALLIED SIGNAL	860529	860602	2	CCA
ALUMINUM CO. OF AMERICA	860306	860310	3	CCA
AMERICAN BRANDS	860609	860611	2	CCA
AMERICAN CYANAMID	860307	860311	3	CCA
AMERICAN PRESIDENT	860325	860327	3	CCA
AMF	860508	860510	4	CCA
AMR CORP	860212	860214	2	CCA
AMSTED	860529	860531	2	CCA
ANDERSON GREENWOOD	860314	860318	3	CCA
ANHEUSER BUSCH	861217	861219	3	CCA
ANTHONY INDUSTRIES	860226	860303	2	CCA
APACHE	860109	860113	2	CCA
ARNCO	860626	860630	3	CCA
ARMSTRONG WORLD INDUSTRIES	860310	860312	3	CCA
ARVIN INDUSTRIES	860602	860605	2	CCA
ASARCO	860404	860409	5	CCA
ASHLAND OIL	860514	860516	3	CCA
ASSOC DRY GOODS	860630	860702	3	CCA
ATLANTIC RICHFIELD	860526	860528	2	CCA
AVERY INTERNATIONAL	860129	860131	2	CCA
BAKER INTERNATIONAL	860629	860602	3	CCA
BANK OF NEW YORK	861209	861211	2	CCA
BARD, C.R.	861008	861010	2	CCA
BARRY WRIGHT	860326	860331	3	CCA
BECTION DICKINSON	860410	860414	3	CCA
BELL & HOWELL	830714	830718	1	SEC
BELO A.H.	860307	860311	2	CCA
BLACK & DECKER	860416	860418	3	CCA
BOISE CASCADE	860103	860107	3	CCA
BORDEN	860128	860130	2	CCA
BORG WARNER	860224	860226	3	CCA
BOWATER	860421	860423	3	CCA
BRADLEY REAL ESTATE	860410	860414	4	CCA
BROWN GROUP	860305	860307	3	CCA
BRUNSWICK	860313	860317	2	CCA
BURNDY	860110	860114	2	CCA
BURROUGHS	860306	860310	2	CCA
C.P. REHAB	860609	860611	3	CCA
CALLAHAN MINING	860618	860620	3	CCA
CARPENTER TECHNOLOGY	860611	860613	2	CCA
CARSON PIRIE SCOTT	860327	860331	2	CCA
CBI	860303	860305	2	CCA
CHAMPION INTL	860318	860320	3	CCA
CITADEL HOLDINGS	860414	860416	3	CCA
CITYFED FINANCIAL	860718	860722	5	CCA
CLARK, J.L.	860411	860415	3	CCA
CLUETT PEABODY	860813	860816	6	CCA
COLGATE PALMOLIVE	841011	841015	2	CCA
CONNA	860317	860319	2	CCA
CORNING GLASS WORKS	860701	860703	2	CCA

CRANE	860516	860520	2	CCA
CROWN ZELLERBACH	840718	840720	2	CCA
CRYSTAL BRANDS	860521	860523	3	CCA
CSX CORP	860428	860430	2	CCA
CTS I	860321	860325	3	CCA
CYPRUS MINERALS	860508	860512	2	CCA
DART & KRAFT	850904	850906	2	CCA
DAYCO	860528	860530	2	CCA
DENNISON MFG	860422	860424	2	CCA
DICOMED	860514	860516	2	CCA
DONALDSON	860220	860224	3	CCA
DRAVO CO	860404	860408	3	CCA
DRESSER INDUSTRIES	860416	860418	3	CCA
DYNAMICS CORP OF AMERICA	860129	860131	2	CCA
EASTERN AIRLINES	860130	860203	3	CCA
EATON CORP	850926	850930	2	CCA
ECONOMICS LABORATORY	860214	860218	3	CCA
EMERY AIR FREIGHT	860610	860612	3	CCA
EMHART	860226	860303	3	CCA
ENSERCH CORP	860414	860416	3	CCA
ENSTAR	830812	830816	1	SEC
EX-CELLO	860521	860523	3	CCA
FEDERATED DEPARTMENT STORES	860122	860124	3	CCA
FERRO	860320	860324	3	CCA
FIRST MISSISSIPPI CORP	860509	860514	3	CCA
FLEMING COMPANIES	860623	860625	3	CCA
FLOW GENERAL	851125	851127	2	CCA
FMC	860220	860224	2	CCA
FOOTE CONE & BELDING	860225	860227	2	CCA
FPL GROUP	860623	860625	2	CCA
GATX	860514	860516	3	CCA
GEARHART INDUSTRIES	840420	840430	7	SEC
GELCO	850505	860507	3	CCA
GENERAL HOST	850219	850221	2	CCA
GENERAL MILLS	860221	860225	3	CCA
GENERAL SIGNAL	860306	860310	3	CCA
GERBER PRODUCTS	860317	860315	3	CCA
GILLETTE CORP	851227	851231	3	CCA
GOODYEAR TIRE	860701	860703	3	CCA
GREAT LAKES INTL	850522	850524	4	CCA
GREAT NORTHERN NEKOSIA	860304	860306	2	CCA
GREAT WESTERN FINANCIAL	860623	860625	3	CCA
GREEN TREE ACCEPTANCE	851009	851011	2	CCA
GREYHOUND	860331	860402	2	CCA
HARTMARK	860115	860117	3	CCA
HAYES ALBION	860321	860325	3	CCA
HEALTHCARE USA	850709	850715	2	CCA
HECLA MINING	860508	860512	2	CCA
HELMERICH & PAYNE	860109	860113	3	CCA
HOME GROUP	860129	860131	2	CCA
HONEYWELL	860214	860219	3	CCA
HOSPITAL CORP OF AMERICA	860213	860218	3	CCA
HOUSEHOLD INTERNATIONAL	840813	840815	2	CCA
HUGHES TOOL	860121	860123	2	CCA
INSILCO	860115	860117	2	CCA
INSTRUMENT SYSTEMS	860401	860403	3	CCA

INTERCO	850923	850925	2	CCA
INTERLAKE	860625	860627	2	CCA
INTL MINING & CHEMICAL	860318	860320	2	CCA
INTL PAPER	851219	851223	3	CCA
IPCO	860128	860131	2	CCA
JERRICO	851017	851022	4	CCA
JOHNSON CONTROLS	841116	841120	2	CCA
JOY MFG	860519	860521	3	CCA
KANSAS CITY SOUTHERN	860415	860417	2	CCA
KELLWOOD	860528	860530	3	CCA
KENNER PARKER TOYS	860421	860423	3	CCA
KNIGHT RIDDER	860626	860630	2	CCA
KOPPERS	860224	860226	3	CCA
KROGER	860227	860303	2	CCA
KYSOR INDUSTRIAL	860425	860429	3	CCA
LACLEDE GAS	860326	860331	3	CCA
LAMAUR	860219	860221	2	CCA
LEAR SIEGLER	860407	860409	3	CCA
LENIX	830614	830616	1	SEC
LIBBEY-OWENS FORD	860428	860430	2	CCA
LOUISIANA LAND	860523	860528	3	CCA
MAPCO INC	860611	860613	3	CCA
MARK CONTROLS	860430	860502	2	CCA
MATERIAL SCIENCES	860616	860618	2	CCA
MAY DEPARTMENT STORES	860220	860224	3	CCA
MAYFLOWER GROUP	860522	860527	4	CCA
MCDERMOTT INTL	851217	851219	3	CCA
MCDONALD'S	850912	850916	2	CCA
MCGRAW HILL	860128	860130	2	CCA
MCKESSON	860507	860509	3	CCA
MCNEIL CORP	860627	360702	2	CCA
MEDTRONIC	860422	860424	3	CCA
MELVILLE CORP	860407	860409	2	CCA
MICHIGAN NATIONAL	850709	850711	3	CCA
MIDCON	851219	851223	2	CCA
MIDWEST FINANCIAL GRP	860617	860619	2	CCA
MOBIL CORP	860424	860428	2	CCA
MOHASCO	860218	860220	2	CCA
MONSANTO	860123	860127	2	CCA
MOORE MCCORMACK RESOURCES	860509	860513	3	CCA
MORRISON KNUDSEN	860611	860613	3	CCA
MORTON THIOKOL	850327	850329	2	CCA
MOSINEE PAPER	860625	860627	2	CCA
NASH-FINCH	860321	860326	3	CCA
NATIONAL CONVENIENCE STORES	860604	860606	2	CCA
NATIONAL DISTILLERS & CHEMICAL	860225	860228	3	CCA
NATIONAL INTERGROUP	860228	860304	2	CCA
NICOLET INSTRUMENTS	860425	860429	3	CCA
NL INDUSTRIES	860422	860424	2	CCA
NORTEK INC	860327	860402	2	CCA
NORTON CO	860625	860627	2	CCA
OLIN CORP	860227	860303	3	CCA
OUTBOARD MARINE	860611	860613	3	CCA
OWENS CORNING	860618	860620	2	CCA
OWENS ILLINOIS	840907	840912	2	CCA
PANCHOS MEXICAN BUFFET	860306	860310	2	CCA

PANHANDLE EASTERN	860310	860312	2	CCA
PENNEY JC	860127	860129	3	CCA
PHH GROUP	860314	860318	2	CCA
PHILLIPS PETROLEUM	850205	850208	4	CCA
PHILLIPS VAN HEUSEN	860609	860611	2	CCA
PILLSBURY	860108	860110	3	CCA
PITNEY BOWES	860207	860211	2	CCA
PLANNING RESEARCH	860403	860407	2	CCA
PPG INDUSTRIES	851218	851220	2	CCA
PRODUCTION OPERATORS	860408	860410	2	CCA
PSA INC	860627	860702	2	CCA
PUROLATOR COURIER	860128	860130	3	CCA
QUESTAR	860313	860317	3	CCA
RALSTON PURINA	860116	860120	3	CCA
RAYMOND ENGINEERING	860110	860114	2	CCA
RAYTHEON	860624	860626	3	CCA
RCA	850906	850910	2	CCA
REPUBLIC GYPSUM	860505	860607	3	CCA
RESEARCH-COTTRELL	860411	860416	3	CCA
REVLON	850816	850820	4	CCA
REXHAM	860325	860327	3	CCA
REXNORD	860430	860502	3	CCA
RICHARDSONVICKS	850916	850918	5	CCA
RORER GROUP	850206	850208	2	CCA
ROSPATCH CORP	860428	860430	3	CCA
RTE	860623	860625	3	CCA
RUBBERMAID	860624	860626	2	CCA
RYAN HOMES	860630	860702	3	CCA
RYDER SYSTEMS	860227	860303	2	CCA
SAFeway STORES	860211	860213	2	CCA
SANTA FE SOUTHERN	860127	860129	3	CCA
SCHERING PLOUGH	851108	851112	2	CCA
SEA LD CORP	851210	851212	3	CCA
SEALED POWER	860624	860626	3	CCA
SONAT	860122	860124	2	CCA
SOUTHWEST FOREST	841019	841023	2	CCA
SQUARE D CORP	860106	860108	2	CCA
STALEY CONTINENTAL	860407	860409	3	CCA
STANLEY WORKS	860225	860227	3	CCA
SUN ELECTRIC	860310	860312	3	CCA
SUNDSTRAND	860416	860418	2	CCA
SUPERIOR OIL	831122	831125	1	SEC
SUPERMARKETS GENERAL	860224	860226	2	CCA
SYSCO	860513	860516	3	CCA
TALLEY INDUSTRIES	860428	860501	2	CCA
TAMBRANDS	851217	851219	2	CCA
TANDEM COMPUTERS	850516	850520	2	CCA
TELECREDIT	860626	860630	3	CCA
TESORO PETROLEUM	851126	851129	2	CCA
TEXACO	851209	851211	2	CCA
TEXAS EASTERN	860227	860303	2	CCA
TEXTRON	860307	860310	3	CCA
TIME INC	860428	860430	3	CCA
TORO CO	860407	860409	2	CCA
TRANSCO ENERGY	860107	860109	2	CCA
TRANSWORLD CORP	860422	860424	2	CCA

TRE	860522	860527	3	CCA
TRIBUNE	860214	860219	2	CCA
TRUS JOIST	860507	860509	3	CCA
TRW	851210	851210	2	CCA
U.S. SHOE	860325	860331	3	CCA
UGI CORP	860428	860430	3	CCA
UMC RESOURCES	851024	851030	3	CCA
UNION CAMP	860225	860227	3	CCA
UNION CARBIDE	851212	851216	4	CCA
UNITED TECHNOLOGIES	851213	851217	2	CCA
UNOCAL	850415	850417	4	SEC
UPJOHN	860616	860618	2	CCA
US AIR GROUP	860114	860116	2	CCA
US HOME	860626	860630	3	CCA
USQ	860319	860321	2	CCA
VALERO ENERGY	851115	851119	2	CCA
VIACOM INTL	860122	860124	3	CCA
VICTORY MARKETS	860602	860605	2	CCA
WAINCO OIL	850220	850222	2	CCA
WARNACO	860321	860325	2	CCA
WESTCHESTER FINANCIAL	860225	860227	2	CCA
WILLIAM WRIGHT	850920	850924	3	CCA
WILLIAMS CO	860124	860128	3	CCA
WOODHEAD INDUSTRIES	860516	860520	3	CCA
ZURN INDUSTRIES	860516	860521	3	CCA

1 = ORIGINAL PLAN
2 = FLIP-OVER PLAN
3 = OWNERSHIP FLIP-IN PLAN
4 = BACK-END PLAN
5 = VOTING PLAN
6 = NON-DISCRIMINATORY BACK-END PLAN
7 = VARIANT ON BACK-END PLAN INVOLVING WARRANTS

CCA = CORPORATE CONTROL ALERT

ALL PLANS REPRESENT FIRST PLANS INTRODUCED BY FIRMS.
REVISED OR NEW PLANS NOT INCLUDED.

Appendix B

FIRMS UNDER TAKEOVER SPECULATION

1. Adams Russell: 13D Filing
2. AMF: Tender Offer
3. Amsted: 13d filing
4. Anderson Greenwood: Had merger agreement
5. ASARCO: 13d filing
6. Ashland Oil
7. Associated Dry Goods: Tender Offer
8. Bell & Howell: 4.9% Holder interested in firm or subsidiaries
9. C.P. Rehab: 13d filing
10. Carson Pirie Scott: Acquisition Offer
11. Citadel Holding: Tender Offer
12. Cityfed Financial: 13d filing
13. Cluett Peabody: Acquisition Offers
14. Colgate Palmolive: Rumors accompanied by price run up
15. Conna: 13d filing
16. CTS Partial Tender Offer and Proxy Contest
17. Eastern Air Lines: 13d filing by Union: May seek control
18. Enstar: 13d filing
19. FMC: Rumors accompanied by price run up
20. Foote, Cone Belding: 13d filing
21. GATX: Cancelled acquisition offer in last 6 months
22. Gearhart Industries: Partial Tender Offer
23. Great Lakes Intl: 13D filing
24. Green Tree Acceptance: 13D filing
25. Interlake: 13D filing
26. Jerrico: Separate 4.9% Investors Approached Firm
27. Johnson Co.: 13D filing
28. Kansas City Southern: 13D filing
29. Lenox: Tender Offer
30. Mayflower Group: Tender Offer
31. McNeil Corp.: 13D filing
32. Michigan National: Acquisition Offer
33. Midcon: Tender Offer
34. Mohasco: Spurned Acquisition Offer from Investment Group
past year
35. Nash-Finch: 13D filing
36. National Convenience Stores: 13D filing
37. National Intergroup: Spurned Acquisition Offer in past year
38. NL Industries: 13D filing, offer withdrawn previous month
39. Nortek: 13D filing and proxy contest previous 6 months
40. Owens Illinois: Rumors accompanied by price run up
41. Phillips Petroleum: Icahn offer
42. Phillips Van Heusen: 13D filing

Appendix B (cont'd)

43. Production Operators: 13D filing
44. Raymond Engineering: 13D filing
45. Revlon: Tender offer
46. Richardson Vicks: Tender offer
47. Sea Land Corp.: 13D filing
48. Southwest Forests: 13D filing, offer cancelled previous year
49. Sun Electric: 13D filing
50. Superior Oil: 20% holder may seek sale of firm
51. TRE: 13D filing
52. UNC Resources: 13D filing
53. VS Home: 13D filing
54. Union Carbide: Tender offer
55. Unocal: Tender offer
56. Viacom Intl.: 13D filing
57. Victory Markets: Tender offer
58. Wainoco Oil: Discounts call for sale of firm
59. WARNACO: Tender offer
60. Westchester Financial: Tender offer
61. William Wright: 13D filing, pending offer
62. Woodhead Industries: 13D filing

Appendix C

Firms With Confounding Events

Takeover Speculation Group

1. Adams Russell: Announced spin off of unit
2. Ashland Oil: Dividend increase and recovery of excess pension funds announced
3. Anderson Greenwood: Initial bid
4. Bell & Howell: Initial presence of 4.9% holder
5. Carson Pirie Scott: Initial offer
6. Citadel Holdings: Earnings announcement
7. Cityfed Financial: 13D Investor Increased holdings Substantially
8. Eastern Air Lines: Initial Union 13D filing
9. FMC: Announcement of recapitalization plan, self tender
10. GATX: Self tender offer, dividend increases, restructuring plans
11. Gearhart Industries: Partial tender offer initiated
12. Jerrico: Initial presence of 4.9% holders
13. Michigan National: Other defensive tactics: Sale of shares to ESOP and third party.
14. MIDCON: Other defensive tactic: Self tender offer
15. Mohasco: Earnings announcement
16. NL Industries: Earnings announcement
17. Nortek: Firm offers to acquire Universal Rundle
18. Revlon: Initial bid, self tender offer
19. Richardson Vicks: Bid increased (previous to pill plan)
20. Southwest Forests: Earnings announcement
21. U.S. Home: Announced restructuring plans
22. Union Carbide: Bid increased (previous to pill plan)
23. Viacom Intl.: Purchases stake in Orion pictures
24. Warnaco: Announced recapitalization plan same day.
25. William Wright: Tender offer initiated

No Takeover Speculation Group (Appendix C cont'd.)

1. Allegheny Intl: Earnings announcement, restructuring plans and dividend omission
2. Anthony Industries: Earnings announcement
3. Black & Decker: Earnings announcement
4. Borg Warner: Special dividend announcement
5. Bradley Real Estate: Earnings announcement
6. Crane: Dividend increase
7. Donaldson: Earnings announcement
8. Enserch Co.: Announced possible dividend omission
9. General Mills: Dividend increase
10. Gerber Products: Announce sales drop
11. Great Western Financial: Debt upgraded
12. Hartmarx: Dividend increase, stock split
13. Hecla Mining: Dividend omission and executive changes
14. Home Group: Earnings announcement
15. Honeywell: Announced intent to repurchase 5 million shares
16. Hospital Corp. of America: Dividend increase earnings announcement
17. Household Intl.: Dividend increase
18. Insilco: Earnings announcement
19. Kellwood: Major acquisition announcement
20. Kysor Industrial: Earnings announcement
21. Material Sciences: Earnings announcement
22. McGraw Hill: Dividend increase, earnings announcement
23. Melville: Earnings announcement
24. Pitney Bowles: Dividend increase
25. Purolator Courier: Earnings announcement
26. Ralston Purina: Dividend increase, earnings announcement
27. Raytheon: Dividend increase
28. Republic Gypsum: Dividend increase
29. Ryder Systems: Dividend increase, stock split
30. Sealed Power: Dividend increase
31. Sonat: Earnings announcement
32. Telecredit: Earnings announcement
33. Texaco: Lost Pennzoil decision
34. Time Inc.: Announcement of restructuring plan
35. Transco Energy: Dividend increase
36. Transworld: Stock split and dividend increase
37. Tribune Co.: To repurchase 1 million shares
38. Trus Joist: Expects record profits
39. U.S. Shoe: Stock split
40. UGI: Adopt other anti-takeover measures
41. United Technologies: Purchased \$43 million stake in another firm
42. UpJohn: Unfavorable FDA letter and dividend change

Appendix D

FIRMS NO LONGER INDEPENDENT*

1. AMF: Acquired by minstar after poison pill plan was ruled illegal. No auction.
2. Amsted: Leveraged Buyout Involving Management. No competing bids.
3. Anderson Greenwood: Pill adopted after friendly merger agreement with Keystone International. No auction.
4. Associated Dry Goods: Agreed to merger with original suitor May Dept. Stores. Auction generated. (May increased exchange ratio though it had lower market value than at time of original bid.)
5. Cluett Peabody: Acquired by West Point Pepperell. Auction generated. Original Suitor: Paul Bileerian.
6. Conna: To be acquired by Dairy Mart Foods. Auction generated. Original suitor: Convenience Food Mart.
7. Crown Zellerbach: Goldsmith acquired control with creeping acquisition. Sold most of firm's assets to James River. No auction.
8. Eastern Airlines: Friendly Acquisition by Texas Air. No auction.
9. Enstar: Acquired by Allied Corp. and Unimar in two tiered friendly bid. Blended premium lower than competing hostile bid. No auction.
10. Great Lakes International: Itel (original suitor) acquired firm by meeting back end price of \$63. Auction generated.
11. Healthcare USA: Acquired by original suitor, maxicare, after original bid was increased. Auction generated.
12. Lenox: Brown Forman acquired after sweetening original offer. Auction generated.
13. McNeil Corp: Acquired by Pentair. No auction.
14. Midcon: Acquired by Occidental Petroleum. Original suitor was Wagner Brothers. Auction generated.
15. NL Industries: Amalgamated sugar acquired 50 percent of common stock open market after board rejected tender offer. Took control of board of directors in settlement with management.
16. Revlon: Acquired after auction by original suitor, Pantry Pride.
17. Richardson Vicks: Acquired after pill declared illegal. Acquiror was Procter Gamble. Original suitor was Unilever. Auction generated.

*As of August 15, 1986.

Appendix D (cont'd)

18. Safeway Stores: Entered into leveraged buyout agreement with Kohlberg Kravis. Original suitor was Dart Drugs. Auction generated.
19. Sea Land Corp: Acquired by CSX Corp. Original Suitor was Harold Simmons. Auction was generated.
20. Superior Oil: Pill had been withdrawn for some time when firm entered into friendly deal with Mobil. No auction.
Victory Markets: Acquired by original suitor after original bid was increased. Auction generated.
21. Warnaco: Leveraged buyout after lengthy bidding was with third party. Pill adopted after rival bid emerged and auction was generated.
22. Westchester Financial: Acquired by Marine Midlands bank. Original suitor was Northeast Savings. Auction was generated.
23. William Wright: Newell (original suitor) crossed shareholding limit of backend pill but was able to oust board and redeem pills due to loophole in pill plan. No auction generated.

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