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# Termination fees in mergers and acquisitions<sup>☆</sup>

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## Abstract

The paper provides evidence on the effects of including a target termination fee in a merger contract. I test the implications of the hypothesis that termination fees are used by self-interested target managers to deter competing bids and protect “sweetheart” deals with white knight bidders, presumably resulting in lower premiums for target shareholders. An alternative hypothesis is that target managers use termination fees to encourage bidder participation by ensuring that the bidder is compensated for the revelation of valuable private information released during merger negotiations. My empirical evidence demonstrates that merger deals with target termination fees involve significantly higher premiums and success rates than deals without such clauses. Furthermore, only weak support is found for the contention that termination fees deter competing bids. Overall, the evidence suggests that termination fee use is at least not harmful, and is likely beneficial, to target shareholders.

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SDL would have to pay JDS Uniphase \$1 billion if it decides to abandon the merger plan and become part of another company, giving new meaning to the phrase ‘breaking up is hard to do – CNNFn, July 10, 2000.

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## 1. Introduction

Almost two-thirds of the merger agreements announced between 1997 and 1999 included a target termination fee clause. A target termination, or breakup, fee clause requires that the target pay the bidder a fixed cash fee if the target does not consummate the proposed merger. Termination fees are of current interest in the area of mergers and acquisitions in light of the large termination fee recently paid by Pfizer/Warner-Lambert to American Home Products (AHP), following Warner-Lambert's decision to cancel its merger with AHP in favor of a union with Pfizer. Natural questions stem from the publicity surrounding this fee (see, for example, *The Wall Street Journal*, February 7, 2000, p. A3), such as what target managers hope to gain by agreeing to pay a termination fee to the bidder, and in particular whether the use of a termination fee benefits or harms target stockholders on average.

This empirical setting has the potential to contribute to the extensive literature devoted to ascertaining, usually from the stock market reaction, whether decisions made by corporate managers appear to be motivated by “managerial entrenchment” or “shareholder interest.” One particularly fertile area for studying entrenchment versus efficiency is mergers and acquisitions, as the act of selling a firm typically entails the selling managers losing their jobs, or at least sacrificing some degree of control. Evidence of behavior indicative of managerial entrenchment or shareholder interests in mergers and acquisitions is mixed. On the one hand, [Hadlock et al. \(1999\)](#) interpret high rates of management turnover following bank acquisitions as evidence that target managers actively oppose takeover attempts, and [Chang \(1990\)](#) finds that firms adopting ESOPs as takeover defenses suffer significant stock price declines, supporting the entrenchment hypothesis. Furthermore, [Harford \(1999\)](#) finds that cash-rich firms are more likely to make diversifying, value-destroying acquisitions with poor post-acquisition performance.

On the other hand, [Mulherin and Boone \(2000\)](#) report evidence of positive wealth effects associated with acquisitions and divestitures, inconsistent with managerial entrenchment. Moreover, [Schwert \(2000\)](#) concludes that target managerial “hostility” towards potential acquirers is associated with outcomes that are most consistent with “strategic bargaining” on the part of target managers, and that this bargaining strategy is beneficial to target shareholders on average. [Comment and Schwert \(1995\)](#) reach a similar conclusion about the adoption of poison pill anti-takeover provisions.

As a target termination fee agreement could be considered prima facie evidence that target managers have distorted the acquisition process to the detriment of their shareholders, the incidence of termination fee use has the potential to provide further evidence on the entrenchment and efficiency hypotheses. In this context, the entrenchment hypothesis presumes that termination fees are effective deterrents to competing bids for the target firm, and therefore allow entrenched target managers to selectively deal with one particular bidder in return for some benefit (for example, job security). The agency cost to target shareholders is the assumed loss of takeover premium resulting from the curtailment of a full auction for the target firm.

The alternative “shareholder interests” hypothesis is that target termination fees serve a less exploitative role as contractual devices that efficiently solve contracting problems between the bidder and target. For example, a bidder could be reluctant to reveal valuable private information about its post-merger plans for the target’s assets if another bidder is able to free ride on such information and submit a more valuable proposal, or reluctant to commit to pre-merger integration with the target without a tangible commitment that the merger will proceed. Target termination fees can protect these deal-related investments made by the bidder and increase the willingness of the bidder to make such investments, potentially to the benefit of target shareholders.

My evidence suggests that, on average, target termination fee use is not detrimental to target shareholders’ interests. Specifically, target termination fee use is associated with approximately 4% higher takeover premiums after controlling for correlated deal characteristics. Furthermore, target termination fees increase the likelihood that the deal is successfully completed by almost 20% on average. Hence target shareholders receive the premium more often when a target termination fee is included in the merger terms. There is some evidence that the average incidence of competing bids is lower (by 3%, compared to a full sample average competition rate of 5%) following merger bids including a termination fee. However, several factors diminish the importance of competing bid deterrence of this magnitude. First, this effect appears to be largely driven by correlated deal and bidder characteristics (namely the fact that termination fees are more likely to appear in friendly deals) rather than the nature of the fees per se. Second, the economic impact on the value of the target’s shares (from a 3% lower probability of receiving a competing offer) is small when second bid jumps only average around 14% of the target’s market value of equity (Betton and Eckbo, 2000).

Two extant papers, Burch (2001) and Coates and Subramanian (2000), empirically examine the role of lockup options and termination fees in merger bids. Stock or asset lockup options (generically referred to as “lockups”) are similar to target termination fees. The difference between the two is that in a lockup the incumbent bidder is granted a call option on either the common shares or some important asset of the target firm, exercisable only if the target initiates termination to pursue a merger with another bidder. Coates and Subramanian show that the median stock lockup is priced slightly in-the-money, with the bulk of the distribution priced at-the-money and few lockups priced out-of-the-money. Furthermore, the median stock lockup represents an option on 19.9% of the target’s equity, because most major exchanges require a stockholder vote on contractual provisions affecting more than 20% of the firm’s equity capital.

While Burch (2001) does not specifically examine termination fees, his study of lockups is relevant to this paper. Burch finds that deals including a stock lockup result in higher abnormal announcement returns for target shareholders than those that do not, consistent with the shareholder interests hypothesis. Furthermore, the target abnormal return results are robust to controlling for other factors that could be correlated with lockup use, such as the size of the target and target managerial attitude towards the bid. Burch also examines one hundred randomly selected

merger agreements from 1988 and 1989 for evidence of “abusive” (i.e., detrimental to target shareholders) use of lockup options. He reports that secretly negotiated lockup deals containing evidence of such abuse (for example, guaranteeing target managers employment in the merged firm) are actually associated with higher average target returns than comparable deals with a lockup. Burch concludes that while lockups can be employed to benefit managers in a way that harms shareholders, lockups are not systematically used by target managers in this exploitative fashion. This evidence supports the contention that lockups are employed to improve the bargaining position of the target.

In a theoretical corporate law paper, [Fraidin and Hanson \(1994\)](#) appeal to the Coase Theorem to argue that a termination fee will not deter a higher-valuing bidder from competing to acquire the target (i.e., termination fees will not affect allocative efficiency) as long as the transaction costs of arranging a deal with an incumbent lower-valuing bidder are not prohibitively high. [Coates and Subramanian \(2000\)](#) test this hypothesis against several “buy side” distortions. They claim that these distortions diminish the incentive for low-valuing bidders protected by a termination fee to cede control of the target, even if such an action would increase the low-valuing bidder’s profit from bidding. One example of a buy side distortion is *bidder* agency costs, where managers at an incumbent publicly held bidder accept a lower payoff from the bidding process simply because winning control of the target increases the size of the enterprise under their control.

Coates and Subramanian’s (largely univariate) results demonstrate that both lockups and, particularly, termination fees are significantly associated with increases in the probability that the incumbent bidder acquires the target firm, but not with bid competition. They also examine the determinants of lockup and termination fee use and find that target termination fees are more likely to be used in pooling-of-interests deals, mergers involving large targets, and deals in which a tender offer was one of the modes of acquisition used by the bidder.

My focus is solely on termination fees, partly because [Coates and Subramanian \(2000\)](#) report that lockups are used approximately half as often as cash termination fees in merger agreements. This paper is one of the first to provide direct evidence on the effect of these devices on the target premium. This is also the first paper to provide multivariate evidence on the effect of termination fee use on the incidence of competing bids and offer success.<sup>1</sup> Evidence on premiums, competition, and offer outcome is important in determining whether, on average, the use of target termination fees is detrimental or beneficial to target shareholders. Furthermore, evidence on each of these outcomes individually has the potential to significantly increase our understanding of the merger negotiation process compared to the inferences from an examination of abnormal returns (as in [Burch, 2001](#)).

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<sup>1</sup>In contemporaneous work unknown to the current author through much of the submission process, [Bates and Lemmon \(2003\)](#) examine similar issues as those covered in the current paper. They find, as I do, that target shareholders in termination fee deals benefit from higher completion rates and premiums, and interpret this as consistent with termination fees serving as efficient contracting devices.

I also attempt to control for the endogeneity problems that are largely ignored in prior literature. Endogeneity is a concern in this setting because the bid premium and the contractual clauses included in the merger agreement are both decided during merger negotiations between the bidder and target. Therefore, neither is truly exogenous, and simple OLS regression coefficients could be biased and inconsistent. Specifically, while a positive association between bid premiums and termination fee use will show up in a regression with either as the dependent variable, considerable care must be taken when inferring causality from such models. I use a simultaneous equations system to demonstrate the robustness of the directional relation between termination fee use and premiums, namely that target managers appear to be able to improve their bargaining position and extract higher premiums from bidders through the use of a target termination fee.

The paper proceeds as follows. Section 2 describes the contractual structure and legal ramifications of termination fees. My principal hypotheses are discussed in Section 3. Section 4 describes my sample and provides descriptive statistics while the main results are discussed in Section 5. Section 6 discusses some endogeneity issues, and Section 7 concludes the paper.

## **2. The contractual structure and legal ramifications of termination fees**

Appendix A contains an excerpt from the merger agreement signed by the boards of directors of Compaq Computer (the bidder) and Digital Equipment (the target) in January 1998. The salient terms of the target termination fee agreement require Digital to pay Compaq a \$240 million fee (approximately 3.5% of Digital's market value of equity) if Digital's board rescinds or adversely alters its support for the combination for any reason, or if Digital's shareholders reject the proposed merger in favor of another acquisition proposal. In the latter case, half the termination fee is payable upon termination of the current agreement, with the balance owed once the alternate merger is consummated. A perusal of many recent merger agreements suggests that, while the language varies from contract to contract, the economic content of the Compaq/Digital termination agreement is reasonably common in large business combinations.

However, even the economic content of termination fee clauses included in merger agreements is not completely homogenous. For example, Appendix B contains the target termination clause from the merger agreement signed by the boards of COMSAT and Radiation Systems (RSI) in January 1994. This clause differs in an important way from that included in the Compaq/Digital merger agreement. Specifically, the termination clause stipulates that RSI agrees to pay COMSAT a \$5 million fee (about 4.5% of RSI's market value of equity) if RSI agrees to be acquired by another bidder within the following 12 months. Notably, the COMSAT/RSI target termination fee arrangement does not allow for a punitive financial penalty if RSI's managers simply change their mind about the benefits of the proposed merger in favor of staying independent. It is also important to note that neither termination

fee clause in the appendices penalizes the target when its shareholders reject the merger proposal in the absence of a concurrent alternate merger proposal.

Termination fees can be considered “punitive” because almost all merger agreements have separate clauses requiring compensation for the spurned party’s actual documented costs associated with the failed merger proposal (up to \$2.5 million in the COMSAT/RSI deal and up to \$25 million for Compaq/Digital). Therefore, target termination fees typically provide the bidder with compensation from a failed bid process in excess of compensation for out-of-pocket costs. One notable exception I have encountered is the target termination fee included in the 1996 merger agreement between Healthsouth Corp. and Professional Sports Care Management, Inc. (PSCM). That termination clause specified a termination fee of 5% of the “aggregate merger consideration,” payable by PSCM to Healthsouth if PSCM is subject to a third party acquisition attempt at any point within one year following PSCM’s termination of the merger agreement. The termination clause claims that the 5% fee “...represents the parties’ best estimates of the out-of-pocket costs incurred by Healthsouth and the value of management time, overhead, opportunity costs and other unallocated costs of Healthsouth incurred ... in connection with this plan of merger.”

Merger agreements sometimes also require the bidder to pay the target a fee if the bidder initiates termination. However, bidder termination fees are not nearly as common in practice as the target termination fees that are the focus of this paper.<sup>2</sup> Furthermore, bids including a bidder termination fee have a significantly lower ratio of bidder market capitalization to target market capitalization, suggesting that bidder termination fees appear principally in merger-of-equals deals. Bidder termination fees, therefore, are perhaps best thought of as one half of a reciprocal agreement in a class of merger bids where the titles “bidder” and “target” are almost meaningless.

Delaware courts have been suspicious of termination fees (and lockups) because of the possibility that targets could employ these contractual devices to favor one bidder over others, in return for some benefit provided to target managers. The obvious example of such a side payment is job security. In fact, [Dhaya and Powell \(1998\)](#) report that top managerial turnover is dramatically lower in a sample of friendly takeovers than in hostile acquisitions. Termination fees can considerably increase the cost of acquiring the target to a second (possibly hostile) bidder. It is therefore conceivable that target termination fees deter competing bids, thereby protecting a sweetheart deal made between a “white knight” bidder and the target. However, a termination fee did not deter Pfizer from making an initially hostile bid for Warner-Lambert.<sup>3</sup>

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<sup>2</sup> [Bates and Lemmon \(2003\)](#) examine bidder termination fees in greater detail than that afforded here.

<sup>3</sup> However, Pfizer’s bid for Warner-Lambert was conditional on the voiding of a lockup that would have allowed AHP to purchase 14.9% of Warner-Lambert’s stock. Lockups are frequently contested because the issue of stock under the lockup would prevent the winning bidder from using the pooling method of merger accounting.

The judicial response to such concerns has generally been to enforce only those auction-ending termination fee agreements that are offered in exchange for a substantial bid increase. The opinion of the Delaware court is summarized in its final ruling in the *Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc.* (1986). The court noted that termination fee agreements “...are permitted under Delaware law where their adoption is untainted by director interest or other breaches of fiduciary duty.”

Coates and Subramanian (2000) argue that target termination fee use has responded to the tone of two judicial decisions concerning the use of such devices. In particular, Coates and Subramanian contend that the 1994 decision in *Paramount Communications, Inc. v. QVC Network, Inc.* is weakly supportive of the validity of termination fees (while especially critical of stock lockups), and that the 1997 decision in *Brazen v. Bell Atlantic* strongly endorses termination fee use (conditional on the size of the fee).

### 3. Hypotheses and empirical predictions

I present evidence related to two hypotheses about *why* target termination fees are included in merger contracts. The first hypothesis assumes that target managers act in their own interests and use target termination fees to secure their tenure at the merged firm at the expense of their shareholders.<sup>4</sup> The second hypothesis presumes that target managers act in their shareholders’ interests, and use target termination fees to efficiently solve a contracting problem between the bidder and target.

#### *H1: Agency costs and target managers*

The agency problems inherent in the relationship between shareholders and their professional managers have received considerable attention in the finance and corporate law literature (for example, Jensen and Meckling, 1976; Jensen, 1986; Fraidin and Hanson, 1994). Target managers acting in their own interests, but forced for some reason to sell their firm, could select an acquirer who is most likely to offer them job security (a white knight). In return for continued tenure, the target managers could offer the white knight bidder the bid protection afforded by a target termination fee. Such a fee increases the bid costs of potential competing acquirers, thus circumventing a potential auction for the target firm that would have presumably resulted in a higher premium for target shareholders.

The agency cost to target stockholders under this hypothesis is the loss of takeover premium resulting from the deterrence of potential competing bids. Fraidin and Hanson’s (1994) theoretical objection to this agency cost hypothesis (noted above) focuses principally on the effect such agency problems might have on allocative

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<sup>4</sup>Any other type of side payment from an initial bidder to the target managers would also fit into this hypothesis, but would be more blatantly contrary to the manager’s fiduciary duty than a side payment of job security.

efficiency. However, even if we accept the notion that termination fees will not prevent the highest-valuing bidder from acquiring the target, it is unlikely that target shareholders will earn as high a premium as would be the case if a target termination fee did not deter competing bidders from participating in the auction. At the very least, some of the rents that could have been earned by target shareholders are paid to the initial bidder in the form of the termination fee.

The role played by outside directors should help to mitigate this agency problem. The duty of care owed to target shareholders requires that outside directors hire their own legal and financial counsel in the process of negotiating a merger if insiders on the board face obvious conflicts of interest.<sup>5</sup> Indeed, [Hartzell et al. \(2000\)](#) present evidence that, on average, there is only a very weak negative relation between the target premium and the value of pecuniary benefits negotiated by target CEOs who intend to remain employed in the merged entity.

## *H2: Termination fees as an efficient solution to a contracting problem*

An alternative hypothesis is that target managers act in their shareholders best interests and use target termination fees to help solve a contracting problem between bidder and target.<sup>6</sup> Specifically, after agreeing to merge, the bidder and target must wait for regulatory and shareholder approval before consummating the union, a process that takes almost six months at the median (see [Officer, 2003](#)). In the intervening time period, competing bidders can free-ride on the information released by the announced bid, including the sources of synergies between the bidder and target and the bidder's post-merger plans for the target's assets.

A target termination fee must generally only be paid by a winning bidder with a superior acquisition proposal submitted after an initial bidder has already revealed its plans, and the payment of this fee effectively internalizes the public good created by the initial bidder's efforts. I hypothesize that the "price" provided by a target termination fee acts as deterrent to this kind of free riding, thereby encouraging the bidder to reveal valuable private information to convince target shareholders of the benefits of the merger. The revelation of private information, such as the bidder's post-merger strategy for the target's assets, is potentially important to target shareholders contemplating the benefits of a proposed merger, especially when the bidder plans to pay for the target's shares using stock in the combined firm.

The arguments offered here are closely related to those in [Jarrell and Bradley \(1980\)](#). Jarrell and Bradley argue that the notice-and-pause provisions of the 1968 Williams Act impose a "tax" on mergers and acquisitions activity by allowing competitors to free ride on the information gathering and processing activities of initial bidders. For agreed mergers the same arguments apply to the shareholder approval process and the regulatory provisions of the Hart-Scott-Rodino Antitrust Improvements Act of 1976.<sup>7</sup> An unprotected initial bidder is unable to fully

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<sup>5</sup> See, for example, [Lederman and Bryer \(1989\)](#).

<sup>6</sup> I thank Espen Eckbo (the referee) for substantial help in refining this hypothesis.

<sup>7</sup> 15 U.S.C. Section 18a.

internalize the benefits of the public good created by the bid (the sources and magnitude of economic gains with the proposed target resulting from the acquirer's plans). Hence, target termination fees can be viewed as devices that help reduce the tax on acquisition-related investments.<sup>8</sup>

As noted in Section 2, the economic content of target termination fees varies across observed contracts. The principal difference amongst the observed fees is whether the fee is payable if target managers simply change their mind about the benefits of the proposed merger before recommending the deal to their shareholders, in the absence of a competing bid. The fact that some termination fees are payable under these circumstances (such as the Compaq fee) significantly undermines the agency-cost hypothesis that termination fees are designed to protect sweetheart deals between target managers and white knight bidders. If this hypothesis were true, why would the punitive fee still be payable if target managers decided it was now in their best interests to remain independent? Conversely, this fee structure is compatible with the logic of the contracting hypothesis. Target managers (as well as other bidders) are able to free ride on any private information revealed by the bidder during merger negotiations if they decide to cancel the proposed deal in favor of remaining independent.

Neither of the hypotheses is easily testable in a large sample, as the available empirical proxies for the mind-set of target managers do not typically work well in practice. For example, Burch (2001) employs target free cash flow and institutional ownership as proxies for agency costs and reports inconsistent evidence. While, as expected under an agency-cost hypothesis, free-cash-flow is positively associated with lockup use in some specifications, free cash flow is also highly correlated with operating profitability. Profitability is not a choice variable in the same way that free cash flow is hypothesized to be, and is likely correlated with the number of potential bidders for the target. This confounds our conclusions about the association between agency costs and lockup use. Furthermore, institutional ownership of the target firm is positively associated with lockup option use, not negatively associated as would be expected if institutional monitoring reduces agency costs.

I avoid these problems by reporting evidence on the outcomes of acquisition proposals (premiums offered, the incidence of competition, and success rates). This evidence will be suggestive of the sample average motivation for the use of termination fees in merger contracts. Consider the relation between termination fee use and target premiums. If agency problems are the primary reason termination fees are included in merger agreements, I would expect to see lower premiums paid by acquirers when a target termination fee is included in the merger contract.

However, if target termination fees are principally used to solve a contracting problem between the bidder and target, premiums in termination fee deals should be no lower than in the rest of the sample. In fact, premiums should be higher if the target possesses the bargaining power to obtain a share of the rents created by the revelation of the bidder's private information. If the target believes that a

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<sup>8</sup> Also see Berkovitch and Khanna (1990).

termination fee will deter competing bidders from making higher-valued offers (i.e., the target is unable to exploit its knowledge of the source of takeover gains, as in Eckbo and Langohr, 1989), the target board could bargain for a higher premium than otherwise would have been received from the bidder. A higher premium under these circumstances can be viewed as compensation paid by the bidder to the target for the loss of potential competing bids, and could be necessary for the target board to justify the merger terms to their shareholders.

The hypothesis that information revelation creates valuable rents that can be shared by target stockholders is consistent with the findings in Eckbo and Langohr (1989). Eckbo and Langohr report that an increase in disclosure requirements surrounding tender offers in France (without an increase in the minimum tender offer time period) significantly increased observed takeover premiums. The cross-sectional relation between termination fee use and target premiums depends, however, on the composition of the sample of deals without a termination fee. Bids in the sample of non-fee merger deals are likely to fall into one of two categories: (1) those where the exploitation of potential takeover gains requires resources controlled exclusively by the incumbent bidder; and (2) those where the bidder has no valuable information to protect. Targets of the first type of bid are likely to have low bargaining power and hence expect low premiums. However, if the source of takeover gains is not valuable private information (e.g., a change of management), targets could exploit (implicit) competition amongst bidders to extract for their own shareholders a large share of the value increase created by the merger.

Of course, target managers faced with a bidder proposing to extract gains by firing the incumbent managers could defend themselves by deterring a deal completely, or by agreeing to be acquired by a white knight. In the case of a white knight bidder, a bid could potentially end up with both low premium (as a result of the agency costs noted in H1) and a termination fee. As this discussion illustrates, the relation between termination fee use and observable outcomes (such as the premium) is complicated by the fact that the two motivations for termination fee use (entrenchment and efficiency) are not mutually exclusive in the cross-section, and the lack of a termination fee can be reasonably associated with a variety of predictions. However, a large sample study such as this is able to shed light on the motivation that dominates the sample average premiums, and competition and completion rates. Furthermore, by carefully selecting relevant sub-samples and control variables, my evidence should provide some clarity about the effect of certain bidder and target characteristics (e.g. white knight bidders) on offer outcomes.

#### **4. Data and descriptive statistics**

My sample of bids is taken from the Securities Data Corporation (SDC) Mergers and Acquisitions database for the 1988 to 2000 period. The first target termination fee reported by Dow Jones News Retrieval (DJNR) in an announced merger or acquisition is in the 1983 acquisition of Financial Corp. of Santa Barbara by

Vagabond Hotels, Inc.<sup>9</sup> However, there are no target termination fees recorded on SDC for deals announced prior to 1988.<sup>10</sup> Therefore, to avoid a potential sample-selection bias because of time variation in premiums and bid competition, I only consider bids announced after 1988. Each bidder is required to be seeking to own at least 50% of the target firm. I also eliminate bids if both the bidder and target are not in the CRSP and Compustat databases for the announcement year of the bid.

My final sample contains 2,511 merger and tender offer bids, and the distribution of these bids across years (Panel A) and industries (Panel B) is shown in Table 1. There is a marked increase over time in the number of deals in which the target agrees to pay a termination fee to the bidder. The years 1994 and 1997 are highlighted in Table 1, Panel A, because Coates and Subramanian (2000) identifies two crucial judicial decisions (*Paramount* in 1994 and *Brazen* in 1997) in favor of termination fee use in those years. As can be seen, the fraction of deals employing target termination fees roughly doubles at each of these important break points.

The use of bidder termination fees has also increased over the sample period, but in every sample year there are considerably fewer bidder termination fees than target termination fees, and the fraction of deals including a bidder termination fee is correspondingly lower. Interestingly, the use of bidder termination fees increases markedly in 1994, most likely in response to the *Paramount* decision, but is unresponsive to the *Brazen* decision in 1997.

Table 1, Panel B shows that target firms in my sample are concentrated in the machinery and equipment, financial, and recreation and entertainment industries, although all industries are reasonably well represented. More importantly, the use of target termination fees is relatively constant across the industry groups, except for the unusually low use rate in the financial industry.

Table 2 contains descriptive statistics for bidder and target termination fees. Target termination fees average \$35.24 million, although the distribution is highly skewed. The median target termination fee is just \$8 million. However, the *relative* size of a target termination fee is more interesting than its dollar value. The distribution of target termination fee amounts scaled by the market value of equity of the target 43 days prior to bid announcement has a mean of 5.87% and a median of 4.95%. Target termination fees as a percentage of total deal value (the total of the cash and securities offered to target shareholders) average 3.80%. On average, therefore, targets agreeing to a termination fee commit to paying bidders almost 6% of their stand-alone market value, or almost 4% of the deal value, if the target terminates the merger agreement (typically by the acceptance of another bidder's offer).<sup>11</sup> Bidder termination fees are equal to \$10 million at the median, and when scaled by deal values are of similar magnitude to the termination fees payable by the target.

<sup>9</sup> It is not surprising that the use of target termination fees post-dates the passing of the Williams Act in 1968, for reasons discussed in Section 3. It is somewhat surprising, however, that this contracting technology does not appear to have evolved earlier.

<sup>10</sup> An SDC representative claims that the data is back-filled, but only as far as 1988.

<sup>11</sup> Interestingly, the *Financial Times* notes that the Takeover Code in the United Kingdom explicitly limits the size of termination fees to 1% of the target market value of equity (February 4, 2002).

Table 1

## Merger and tender offer bid sample

The sample consists of 2,511 successful and unsuccessful merger and tender offer bids from 1988 to 2000 identified from the Securities Data Corporation (SDC) Mergers and Acquisitions Database. Bids are eliminated from the sample if either the target or bidder is not on both the CRSP and Compustat databases, or if the bidder is seeking to own less than 50% of the target firm. Bids are assigned to industries in Panel B using the target's primary SIC code from CRSP.

*Panel A. Distribution across years*

| Year        | No. of bids | No. (%) of bids including a target termination fee | No. (%) of bids including a bidder termination fee |
|-------------|-------------|--|--|
| 1988        | 101         | 1 (0.99%)  | 0 (0.00%)  |
| 1989        | 93          | 2 (2.15%)  | 1 (1.08%)  |
| 1990        | 64          | 4 (6.25%)  | 1 (1.56%)  |
| 1991        | 61          | 13 (21.31%)  | 1 (1.64%)  |
| 1992        | 55          | 12 (21.82%)  | 3 (5.45%)  |
| 1993        | 123         | 22 (17.89%)  | 4 (3.25%)  |
| <b>1994</b> | <b>191</b>  | <b>68 (35.60%)</b>                                 | <b>22 (11.52%)</b>                                 |
| 1995        | 231         | 88 (38.10%)  | 25 (10.82%)  |
| 1996        | 249         | 85 (34.14%)  | 40 (16.06%)  |
| <b>1997</b> | <b>348</b>  | <b>213 (61.21%)</b>                                | <b>53 (15.23%)</b>                                 |
| 1998        | 345         | 214 (62.03%)                                       | 46 (13.33%)  |
| 1999        | 371         | 221 (59.57%)                                       | 44 (11.86%)  |
| 2000        | 279         | 115 (41.22%)                                       | 34 (12.19%)  |
| Total       | 2,511       | 1,058 (42.13%)                                     | 274 (10.91%)                                       |

*Panel B. Distribution across industries*

| Target industry  | No. of bids | No. of bids including a target termination fee | % of bids including a target termination fee |
|--|-------------|--|--|
| Agriculture, Forestry, Fishing, and Mining             | 107         | 44   | 41.12  |
| Construction and Basic Materials                       | 113         | 52   | 46.02  |
| Food and Tobacco                                       | 35          | 17   | 48.57  |
| Textiles, Clothing, and Consumer Products              | 50          | 19   | 38.00  |
| Logging, Paper, Printing, and Publishing               | 51          | 25   | 49.02  |
| Chemicals  | 116         | 59   | 50.86  |
| Petroleum  | 4           | 1  | 25.00  |
| Machinery and Equipment Supply (incl. Computers)       | 437         | 204  | 46.68  |
| Transportation   | 77          | 27   | 35.06  |
| Utilities and Telecommunications                       | 169         | 66   | 39.05  |
| Wholesale Distributors and Retail                      | 196         | 93   | 47.45  |
| Financial Services                                     | 679         | 193  | 28.42  |
| Recreation, Entertainment, Services, and Conglomerates | 469         | 256  | 54.58  |
| Other  | 8           | 2  | 25.00  |
| Total  | 2,511       | 1,058  | 42.13  |

Table 2

## Descriptive statistics for termination fees

This table contains descriptive statistics for bidder and target termination fees in a sample of 2,511 successful and unsuccessful acquisition bids from 1988 to 2000. The termination fee amounts are in \$ millions as recorded in the SDC Mergers and Acquisitions database. The market value of the bidder and target firms' equity is measured 43 days prior to the bid announcement date. Deal value is value of the cash and securities offered to the target shareholders, computed using data from SDC.

| Variable   | No. of obs. | Mean<br>(Std. error) | Median | 5%    | 95%    |
|--|-------------|----------------------|--------|-------|--------|
| Target termination fee amount (\$m)                          | 1,052       | 35.24<br>(4.66)      | 8.00   | 0.75  | 135.00 |
| Bidder termination fee amount (\$m)                          | 264         | 70.61<br>(22.44)     | 10.00  | 0.50  | 225.00 |
| Target termination fee as % of target market value of equity | 1,051       | 5.87%<br>(0.15%)     | 4.95%  | 1.63% | 12.52% |
| Target termination fee as % of deal value                    | 853         | 3.80%<br>(1.00%)     | 3.27%  | 1.20% | 7.55%  |
| Bidder termination fee as % of bidder market value of equity | 262         | 4.51%<br>(2.02%)     | 1.14%  | 0.06% | 5.90%  |
| Bidder termination fee as % of deal value                    | 221         | 3.64%<br>(0.24%)     | 3.10%  | 0.58% | 7.71%  |

Panel A in Table 3 contains descriptive statistics for the target premium. SDC offers several different data sources for a premium computation. The first is what I call “component” data, where the aggregate amount of each form of payment offered to target shareholders (cash, equity, debt, etc.) is individually recorded in the SDC database. The second is “price” data, where SDC reports a valuation of both the initial and final price per share of target stock offered by the bidder without noting the method of payment (or how the price is calculated). I compute premium measures using both component and price estimates of the offer made by the bidder, and the bid value is then compared to the target's market value of equity 43 days prior to the bid announcement to compute the premium.

Ideally, use of these different data definitions from SDC would result in consistent premium estimates, but the results in Panel A of Table 3 suggest that they do not. The component-based premiums in the first row are consistently higher than the premium estimates generated from price data in the second and third rows, especially in the extremes of the distribution (as reflected in the means). In fact, the sample correlation between the component and final (initial) price premium measures is just 0.22 (0.57). All premium measures also result in troubling outliers, with a substantial fraction of each distribution lying below zero (an economically meaningful bound) and above two (an arbitrary bound).

Therefore, I compute a composite premium estimate that I call the combined premium. This measure integrates the component and price premium measures in a way that eliminates the extremes of both distributions. Specifically, the combined premium is equal to the premium from the component data if that number is

Table 3

Descriptive statistics for premiums offered to target shareholders

This table contains means and medians (in parentheses) for various measures of the premium offered to target shareholders (Panel A), and the premium in competition-based sub-samples (Panel B), for 2,511 successful and unsuccessful acquisition bids from 1988 to 2000. The statistics in the first column in both panels employ the full sample, while the final two columns use sub-samples of bids divided by target termination fee use. The different premium measures included in Panel A are all based on SDC data. The target premium is defined as  $\{(\text{Bidder's offer}/\text{Target's pre-bid market value of equity}) - 1\}$ . Three different methods are used for computing the value of the bidder's offer. The first uses component data, where SDC records individually the aggregate value of cash, stock, and other securities offered by the bidder to target shareholders. The second and third methods use price data. SDC reports both "initial" and "final" offer prices per target share, and the second premium measure uses the final offer price. The third measure uses the initial price data only (where available). The denominator for all premium measures is the target's market value of equity 43 days prior to bid announcement. As these premium measures result in extreme positive and negative outliers, a fourth measure, combined premium, is computed. Combined premium is based on the component data if that data results in a value between 0 and 2, and if not relies on initial price data (or final price if initial price data is missing) if that data provides a value between 0 and 2. If neither condition is met, the combined premium is left as a missing observation. This combined premium measure is used in the remaining analysis in this paper and is denoted PREMIUM. Pre-bid (post-bid) competition is determined by the incidence of a competing offer for the target in the six months before (after) the current bid. The number of observations in each cell is in brackets. <sup>a</sup> indicates that the Target termination fee mean or median premium is significantly different from the No target termination fee statistic in the same row at the 5% level. In Panel B, \* indicates that a competition sub-sample mean or median premium is significantly different from the No competition statistic in the same column at the 5% level.

*Panel A: Premiums*

| Premium definition                         | Full sample                   | No target termination fee     | Target termination fee                                   |
|--|-------------------------------|-------------------------------|--|
| Premium based on <i>component</i> data     | 63.41%<br>(45.05%)<br>[1,890] | 57.98%<br>(40.76%)<br>[1,036] | 70.00%<br>(49.69% <sup>a</sup> )<br>[854]                |
| Premium based <i>final price</i> data      | 48.65%<br>(41.96%)<br>[2,396] | 46.19%<br>(39.03%)<br>[1,361] | 51.89% <sup>a</sup><br>(44.69% <sup>a</sup> )<br>[1,035] |
| Premium based on <i>initial price</i> data | 47.83%<br>(40.49%)<br>[1,342] | 41.59%<br>(37.22%)<br>[661]   | 53.90% <sup>a</sup><br>(44.68% <sup>a</sup> )<br>[681]   |
| Combined premium (PREMIUM)                 | 55.10%<br>(47.46%)<br>[2,212] | 52.21%<br>(44.82%)<br>[1,240] | 58.78% <sup>a</sup><br>(51.04% <sup>a</sup> )<br>[972]   |

*Panel B: Average PREMIUM in competition-based sub samples*

| Bid competition | Full sample                   | No target termination fee     | Target termination fee                                 |
|-----------------|-------------------------------|-------------------------------|--|
| No competition  | 54.87%<br>(47.10%)<br>[2,004] | 51.45%<br>(44.27%)<br>[1,090] | 58.94% <sup>a</sup><br>(51.13% <sup>a</sup> )<br>[914] |

Table 3 (Continued)

| Bid competition                    | Full sample                 | No target termination fee    | Target termination fee                 |
|------------------------------------|-----------------------------|------------------------------|--|
| Pre-bid competition only           | 61.11%<br>(53.91%)<br>[97]  | 62.79%*<br>(58.50%*)<br>[69] | 56.97%<br>(48.98%)<br>[28]             |
| Post-bid competition only          | 54.89%<br>(46.27%)<br>[100] | 55.40%<br>(45.35%)<br>[74]   | 53.41%<br>(48.78%)<br>[26]             |
| Both pre- and post-bid competition | 46.11%<br>(54.46%)<br>[11]  | 33.38%<br>(43.46%)<br>[7]    | 68.38% <sup>a</sup><br>(67.58%)<br>[4] |

between zero and two. If it is not, the combined premium is equal to the initial price data premium (or final price data premium if the initial price is missing) if that provides a number between zero and two. If neither condition is met, the combined premium is left as a missing observation.<sup>12</sup>

Using this combined premium measure, the median set of target shareholders in the full sample is offered a 47% premium by the bidder. Bidders in deals with a target termination fee as part of the merger terms offer a 51% premium over the pre-bid market value of the target at the median, while in deals without a target termination fee the median set of target shareholders only receive a 45% premium. The median premium difference between the termination fee sub-samples (51% vs. 45%) is statistically significantly different from zero, as is the difference in mean premiums (59% vs. 52%).

These results are the first evidence that the use of a target termination fee in a merger agreement is, at least on average, not detrimental to target shareholders. Rather than generating agency costs from the perspective of target shareholders, as the entrenchment hypothesis suggests, termination fees appear to be associated with higher takeover premiums. Of course, the higher premiums in the target termination fee sub-sample may simply reflect correlated variables that influence both the use of target termination fees and the premium offered (e.g., bidder toeholds). Multivariate regressions that have the potential to address this concern are discussed in Section 5.

Panel B in Table 3 shows descriptive statistics for the premium offered by the bidder for sub-samples based on bid competition. Pre-bid (post-bid) competition is defined as the incidence of a competing bid for the target in the six months before

<sup>12</sup>While this premium measure is used throughout the rest of this paper, inferences about the determinants of the bid premium are qualitatively insensitive to the choice between the various premium measures represented in Panel A of Table 3. Inferences about the effect of termination fees on premiums are also unchanged if a measure of the premium based on target abnormal returns over the bid period is used (as in Schwert, 2000, amongst others).

(after) the current bid. The evidence in Panel B of Table 3 has the potential to address the issue of whether white knight bidders with termination fee agreements in place offer significantly lower premiums to target shareholders (as in H1 above).

The evidence does not suggest that second (and final, i.e., white knight) bidders with termination fees pay significantly lower premiums relative to either other bidders in merger agreements with target termination fees or other second (and final) bidders. However, it appears that target shareholders do not receive the extra premium that a competing bid generates if their managers have agreed to a termination fee with the second bidder. In the sub-sample of bids without a target termination fee, the competition caused by the fact that another bid has already been observed for the target results in significantly higher premiums for target shareholders (63% vs. 51%). The same cannot be said for bids in the target termination fee sub-sample. In deals with a target termination fee, the fact that the target has already received a competing offer from another bidder is associated with slightly lower (but not significantly different) mean premium (57% vs. 59%).

However, termination fees do appear to elicit higher bids from bidders in highly competitive bargaining situations. When both pre- and post-bid competing offers are observed, termination fee use is associated with significantly higher average bid premiums (68% vs. 33%). One interpretation of this result is that target termination fee use is beneficial to target shareholders in contested auctions for the target. This is consistent with H2, as the contracting hypothesis predicts that the rents created via the information protection afforded by a termination fee are increasing in the potential for other bidders to free ride on private information released by the current bidder. However, the small sample size somewhat limits the interpretation of this result.

Table 4 contains abnormal announcement returns for both bidder and target. Abnormal returns are measured over a seven trading-day interval centered on bid announcement, and relative to expectations from a market model estimated using 200 trading-days of returns ending 53 days prior to bid announcement. The inclusion of a target termination fee in the merger terms is associated with significantly more positive target abnormal returns at the mean and median and significantly more negative average bidder abnormal returns. It is conceivable that these abnormal return results largely reflect the significant premium differences noted in Table 3, but again the veracity of this hypothesis can only be established through the use of multivariate regressions.

Table 5 contains descriptive statistics for other bidder, target, and deal characteristics that are likely correlated with termination fee use and will be controlled for in the multivariate regressions presented in the next section. These control variables are taken from many prior papers explaining takeover premiums, including Huang and Walkling (1987), Bradley et al. (1988), Comment and Schwert (1995), Betton and Eckbo (2000), and Schwert (2000), amongst others. Specifically, this literature finds that takeover premiums are higher when competing bidders also attempt to acquire the target, the target has a poison pill in place, the method of payment is cash, target managers are hostile towards proposed acquirers, and the bid takes the form of a tender offer. Premiums are significantly lower when the bidder

Table 4

Descriptive statistics for bidder and target abnormal announcement returns

This table contains means and medians (in parentheses) for bidder and target abnormal announcement returns in 2,511 successful and unsuccessful acquisition bids from 1988 to 2000. The statistics in the first column employ the full sample, while the final two columns use sub-samples of bids divided by target termination fee use. The bidder and target abnormal return measures are cumulative abnormal returns over the period from event day  $-3$  to event day  $+3$ , where event day 0 is the bid announcement date. The abnormal returns are measured relative to a market model estimated for the bidder and target individually over a 200-day period ending 53 days prior to bid announcement. The number of observations in each cell is in brackets. <sup>a</sup> indicates that the Target termination fee mean or median abnormal return is significantly different from the No target termination fee statistic in the same row at the 5% level. \*\*\*, \*\*, \* indicate that the particular mean or median is significantly different from zero at the 1%, 5%, or 10% level, respectively.

| Variable  | Full sample   | No target termination fee                                   | Target termination fee  |
|---|---|---|---|
| 7-day bidder abnormal announcement returns ( $-3, +3$ ) | -1.16% <sup>***</sup><br>(-1.24%) <sup>***</sup><br>[2,458] | -0.83% <sup>***</sup><br>(-1.12%) <sup>***</sup><br>[1,423] | -1.62% <sup>a,***</sup><br>(-1.35%) <sup>***</sup><br>[1,035]   |
| 7-day target abnormal announcement returns ( $-3, +3$ ) | 22.16% <sup>***</sup><br>(17.99%) <sup>***</sup><br>[2,487] | 20.90% <sup>***</sup><br>(16.90%) <sup>***</sup><br>[1,441] | 23.88% <sup>a,***</sup><br>(19.74%) <sup>a,***</sup><br>[1,046] |

holds a substantial toehold in the target firm, the target has high market-capitalization, and the target has a high market-to-book ratio.

Virtually none of the deals including a target termination fee are hostile (as recorded by SDC) or affected by the use of a poison pill, as termination fees are included as part of agreed merger contracts. Somewhat surprisingly, however, the use of tender offers is more common in deals that include a termination fee (24%) than in acquisitions that do not (16%). SDC codes a deal as involving a tender offer if any of the target shares are acquired in this manner, including two tier offers and aborted unsolicited acquisition attempts. Therefore, many deals coded as “tender offers” in this study also involve definitive merger agreements between the bidder and target (often follow-on stock swaps).

There are almost no cleanup offers in the termination fee sub-sample, where a cleanup offer is defined as a bid by a bidder already holding more than 50% of the target’s stock. In fact, it appears that target termination fees and bidder toeholds are substitutable. Only 3% of the bidders in the termination fee sub-sample possess a toehold greater than 5% of the target’s outstanding shares at bid announcement, while 13% of bidders announcing unprotected deals hold a stake of more than 5%. This is an intuitive result under the contracting hypothesis discussed above, as both termination fees and toeholds allow the incumbent bidder to capture a return on acquisition-related investments should another suitor free-ride on valuable private information released by the initial bidder as part of the merger process.

Table 5 also demonstrates that deals including a target termination fee are significantly more likely to be successful, and bidders in such deals experience

Table 5

Descriptive statistics for bidder, target, and deal characteristics

This table contains means and medians, and associated test statistics, for bidder, target, and deal characteristics in a sample of 2,511 successful and unsuccessful acquisition bids from 1988 to 2000. The dummy variable SUCCESS is equal to one if the bidder successfully acquires the target and zero otherwise. HOSTILE is equal to one if the bid is recorded by SDC as “hostile” or “unsolicited” and zero otherwise. PRECOMP (POSTCOMP) is a dummy variable equal to one if another bid by a different bidder is recorded by SDC in the six months before (after) the current bid and zero otherwise. TENDER and CASH are dummy variables equal to one if the bid involved a tender offer or a payment of cash (even if mixed with other securities) to target shareholders and zero otherwise. SIND is equal to one if the bidder is from the same industry as the target (where industry definitions are taken from Fama and French, 1997) and zero otherwise. POISON is a dummy variable equal to one if a poison pill affects the bidder’s acquisition attempt and zero otherwise. PHELD is the fraction of the target’s common stock owned by the bidder on the bid announcement date. TOEHOLD is a dummy variable equal to one if PHELD is greater than 5% and zero otherwise. CLEANUP is a dummy variable equal to one if PHELD is greater than 50% and zero otherwise. BMVE (TMVE) is the market value of the bidder (target) firm (in \$000’s) on event day  $-1$ , or the closest trading day prior to day  $-1$  for which the bidder (target) market value can be computed from CRSP. BM2B (TM2B) is the ratio of market to book value of stockholders equity for the bidder (target) computed using data from COMPUSTAT from the year of the bid. The Tests column contains test statistics for the null hypothesis of zero difference in mean (median) between the two sub-samples. Medians are only reported where appropriate. \*\*\*, \*\*, \* indicate significance at the 1%, 5%, or 10% level, respectively, using a two-tailed test.

|          | Full<br>sample Mean<br>[Median] | No target<br>termination fee<br>Mean [Median] | Target<br>termination fee<br>Mean [Median] | Tests <i>t</i> -test<br>[Wilcoxon test] |
|----------|---------------------------------|---|--|---|
| HOSTILE  | 0.08                            | 0.13  | 0.01                                       | 10.88***                                |
| TENDER   | 0.20                            | 0.16  | 0.24                                       | 5.34***                                 |
| CASH     | 0.35                            | 0.37  | 0.31                                       | 2.90***                                 |
| SIND     | 0.52                            | 0.52  | 0.53                                       | 0.90                                    |
| POISON   | 0.02                            | 0.02  | 0.00                                       | 4.08***                                 |
| CLEANUP  | 0.04                            | 0.07  | 0.00                                       | 8.14***                                 |
| TOEHOLD  | 0.09                            | 0.13  | 0.03                                       | 9.12***                                 |
| PHELD    | 0.04                            | 0.06  | 0.01                                       | 8.89***                                 |
|          | [0.00]                          | [0.00]  | [0.00]                                     |   |
| BMVE     | 8,071,221.18<br>[1,217,495.50]  | 4,766,675.47<br>[814,886.31]                  | 12,609,505.61<br>[1,985,434.78]            | 6.90***<br>[10.92]***                   |
| TMVE     | 711,254.26<br>[124,333.75]      | 512,864.59<br>[91,658.69]                     | 983,711.90<br>[193,777.78]                 | 3.48***<br>[11.27]***                   |
| BM2B     | 3.52<br>[2.32]                  | 2.76<br>[2.05]                                | 4.56<br>[2.84]                             | 3.47***<br>[9.48]***                    |
| TM2B     | 3.81<br>[1.69]                  | 3.94<br>[1.58]                                | 3.64<br>[1.89]                             | 0.16<br>[6.79]***                       |
| SUCCESS  | 0.83                            | 0.75  | 0.94                                       | 13.31***                                |
| PRECOMP  | 0.05                            | 0.06  | 0.03                                       | 2.92***                                 |
| POSTCOMP | 0.05                            | 0.06  | 0.03                                       | 3.59***                                 |

significantly less post-bid competition (defined as another bid for the target by a different bidder in the six months following the current bid). This is potentially evidence of bid deterrence, but the targets in deals including termination fees are also

less likely to have received a bid in the six months prior to contracting with the current bidder. It seems likely, therefore, that the targets in termination fee deals are simply less attractive acquisition candidates.

Table 6 contains a correlation matrix for the principal variables in my analysis. There is a significant, albeit small, sample correlation between the bid premium and the use of target termination fees, as noted in Table 3. As might be expected, bid success is positively correlated with the premium, and, consistent with previous results, also with the use of termination fees. Premiums are significantly higher in cash deals, potentially because of the tax-related consequences of cash bids (Huang and Walkling, 1987), and significantly lower if the bidder owns a substantial stake in the target firm at bid announcement. The latter result is consistent with Betton and Eckbo's (2000) finding that bidder toeholds have a negative impact on target premiums.

Bidders appear to acquire significantly greater toeholds in hostile deals, including those influenced by a poison pill, and when post-bid competition is anticipated. The positive correlation between the use of cash and bid competition confirms the intuition that the existence of multiple competing suitors for the same target makes it more likely that a bidder offers cash to target shareholders (Fishman, 1989).

## 5. The effect of target termination fee agreements

### 5.1. The relation between target termination fees and premiums

Table 7 contains the results of regressions of target premiums on bidder, target, and deal characteristics. Only *prima facie* “exogenous” explanatory variables are chosen as regressors in Table 7. For example, deal success is not included as a right-hand side variable (as it is in Burch, 2001). However, the regressions in Table 7 arguably suffer from several endogeneity issues, some of which are addressed in Section 6.

The only explanatory variables in the first regression in Table 7 are a dummy variable indicating whether the particular merger agreement contained a target termination fee and the logs of the market capitalizations of the bidder and target. The coefficient on the target termination fee dummy variable is consistent with the results in Table 3, with targets in termination fee deals earning 7% higher bid premiums. This coefficient is statistically significant at the 1% level. The market values of the bidder and target also appear to affect the bid premium, with large bidders paying higher premiums and large targets earning lower premiums.

Termination fee deals may involve higher target premiums even in the absence of the fee because of correlated omitted variables, which are controlled for in Models 2 and 3. The magnitude of the effect of target termination fee inclusion on the bid premium is roughly halved when these control variables are included in the regression, and statistically indistinguishable from zero in Model 3. Bidder



Table 7

## The determinants of target premiums

The regressions are based on a sample of 2,511 successful and unsuccessful merger and tender offer bids between 1988 and 2000. The dependent variable is PREMIUM. BTERMF is a dummy variable equal to one if the bid resulted in a merger agreement containing a termination fee payable by the bidder to the target and zero otherwise. FINSERV is a dummy variable equal to one if both the bidder and target are in the financial services industry (as defined in Table 1). All other independent variables are defined in previous tables. Heteroskedasticity-consistent standard errors are in parentheses. \*\*\*, \*\*, \* indicate that the parameter estimate is significantly different from zero at the 1%, 5%, or 10% level, respectively.

| Independent variable    | Model 1                        | Model 2                        | Model 3                        |
|-------------------------|--------------------------------|--------------------------------|--------------------------------|
| Intercept               | 0.56 <sup>***</sup><br>(0.07)  | 0.54 <sup>***</sup><br>(0.07)  | 0.61 <sup>***</sup><br>(0.07)  |
| TTERMF                  | 0.07 <sup>***</sup><br>(0.02)  | 0.04 <sup>**</sup><br>(0.02)   | 0.03<br>(0.02)                 |
| BTERMF                  |                                | -0.01<br>(0.03)                | -0.00<br>(0.03)                |
| PRECOMP                 |                                | 0.05<br>(0.04)                 | 0.06<br>(0.04)                 |
| POISON                  |                                | 0.06<br>(0.06)                 | 0.09<br>(0.06)                 |
| CASH                    |                                | 0.02<br>(0.02)                 | 0.03<br>(0.02)                 |
| SIND                    |                                | 0.03 <sup>**</sup><br>(0.02)   | 0.02<br>(0.02)                 |
| HOSTILE                 |                                | 0.02<br>(0.03)                 | 0.02<br>(0.03)                 |
| TENDER                  |                                | 0.10 <sup>***</sup><br>(0.03)  | 0.10 <sup>***</sup><br>(0.03)  |
| TOEHOLD                 |                                | -0.14 <sup>***</sup><br>(0.03) | -0.11 <sup>***</sup><br>(0.03) |
| CLEANUP                 |                                | -0.13 <sup>***</sup><br>(0.04) | -0.13 <sup>***</sup><br>(0.04) |
| FINSERV                 |                                | -0.07 <sup>***</sup><br>(0.02) | -0.05 <sup>**</sup><br>(0.02)  |
| Log(BMVE)               | 0.04 <sup>***</sup><br>(0.01)  | 0.04 <sup>***</sup><br>(0.01)  | 0.03 <sup>***</sup><br>(0.01)  |
| Log(TMVE)               | -0.05 <sup>***</sup><br>(0.01) | -0.05 <sup>***</sup><br>(0.01) | -0.05 <sup>***</sup><br>(0.01) |
| Log(BM2B)               |                                |                                | 0.08 <sup>***</sup><br>(0.01)  |
| Log(TM2B)               |                                |                                | -0.01<br>(0.02)                |
| Number of observations  | 2,204                          | 2,204                          | 1,972                          |
| Adjusted R <sup>2</sup> | 0.04                           | 0.09                           | 0.10                           |

termination fee agreements do not seem to have any significant effect on premiums, although the lack of significance could be driven by the fact that bidder and target termination fee use is highly correlated (Table 11).

This evidence is not supportive of an agency-cost explanation for termination fee use. At worst, target premiums are unaffected by target termination fee inclusion (Model 3), and at best they are significantly higher if the bidder's investment in the deal process is protected by a punitive fee. This conclusion is, however, consistent with termination fees being used to solve one of the contracting problems between the bidder and target, as described in H2 above. The higher premium earned by the target is likely to be motivated by perceived deterrence of competing bids as a result of putting a price (the termination fee) on the free riding activities of potential bidders. Interestingly, however, results discussed later suggest that termination fees only weakly deter competing bids, if at all.

Many of the control variables in Models 2 and 3 are significant in explaining premiums. Premiums are higher in intra-industry mergers than in inter-industry deals, except in the financial services industry. In fact, bank mergers appear to involve significantly lower premiums than deals in other industry sectors. Premiums are higher if the bidder uses a tender offer during the acquisition process, but significantly lower when the bidder has a toehold of more than 5% of the target's outstanding equity.<sup>13</sup> As might be expected, cleanup offers involve premiums that are significantly lower than premiums in other deals. Bidders with ample growth opportunities (high market-to-book, see [Smith and Watts, 1992](#)) agree to pay significantly higher premiums.

## *5.2. The relation between target termination fees and abnormal announcement returns*

[Table 8](#) provides multivariate evidence on the abnormal returns associated with bid announcements. Cumulative abnormal stock returns are measured over a seven-day window centered on bid announcement. The results are largely consistent with the premium evidence offered in [Table 7](#). The first column in [Table 8](#) indicates that the target's abnormal announcement return is significantly more positive when a target termination fee is included in the deal terms, with the point estimate of a 3% higher abnormal announcement return.

However, the coefficient on the termination fee dummy becomes insignificantly different from zero once the control variables (including the bid premium) are included in the model (second column). Bidder abnormal stock returns do not appear to be at all related to target termination fee use, and neither abnormal announcement return is significantly associated with a dummy variable indicating bidder termination fee inclusion. Therefore, the effect of target termination fee use on target stockholder wealth is at worst neutral and potentially positive. This suggests that the market does not believe, at least on average, that termination fees are used to the detriment of target shareholders.

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<sup>13</sup> [Betton and Eckbo \(2000\)](#) also report a significantly negative relation between toeholds and target premiums, but use a very different (simultaneous-equations) estimation technique.

Table 8

The determinants of the market reaction to merger and tender offer bids

The regressions are based on a sample of 2,511 successful and unsuccessful merger and tender offer bids between 1988 and 2000. The dependent variables are the cumulative abnormal returns for the target and bidder over the seven trading-day period centered on bid announcement. All independent variables are defined in previous tables. Heteroskedasticity-consistent standard errors are in parentheses. \*\*\*, \*\*, \* indicate that the parameter estimate is significantly different from zero at the 1%, 5%, or 10% level, respectively.

| Independent variable    | Target 7-day abnormal return |                    | Bidder 7-day abnormal return |                    |
|-------------------------|------------------------------|--------------------|------------------------------|--------------------|
|                         |                              |                    |                              |                    |
| Intercept               | 0.21***<br>(0.04)            | 0.04<br>(0.04)     | 0.09***<br>(0.02)            | 0.04**<br>(0.02)   |
| TTERM                   | 0.03***<br>(0.01)            | -0.00<br>(0.01)    | -0.00<br>(0.01)              | -0.00<br>(0.01)    |
| BTERM                   |                              | -0.01<br>(0.01)    |                              | -0.00<br>(0.01)    |
| PREMIUM                 |                              | 0.25***<br>(0.02)  |                              | 0.00<br>(0.01)     |
| PRECOMP                 |                              | -0.09***<br>(0.02) |                              | 0.00<br>(0.01)     |
| POISON                  |                              | 0.02<br>(0.04)     |                              | -0.02<br>(0.01)    |
| CASH                    |                              | 0.03**<br>(0.01)   |                              | 0.01*<br>(0.00)    |
| SIND                    |                              | 0.01<br>(0.01)     |                              | -0.00<br>(0.00)    |
| HOSTILE                 |                              | 0.02<br>(0.02)     |                              | -0.01<br>(0.01)    |
| TENDER                  |                              | 0.05***<br>(0.01)  |                              | 0.02***<br>(0.01)  |
| TOEHOLD                 |                              | 0.02<br>(0.02)     |                              | 0.01<br>(0.01)     |
| CLEANUP                 |                              | -0.04<br>(0.03)    |                              | 0.02<br>(0.01)     |
| FINSERV                 |                              | -0.03***<br>(0.01) |                              | -0.01<br>(0.00)    |
| Log(BMVE)               | 0.03***<br>(0.00)            | 0.02***<br>(0.00)  | -0.00<br>(0.00)              | 0.00<br>(0.00)     |
| Log(TMVE)               | -0.04***<br>(0.00)           | -0.02***<br>(0.00) | -0.01***<br>(0.00)           | -0.01***<br>(0.00) |
| Log(BM2B)               |                              | -0.00<br>(0.01)    |                              | -0.01**<br>(0.00)  |
| Log(TM2B)               |                              | -0.01**<br>(0.01)  |                              | -0.00<br>(0.00)    |
| Number of observations  | 2,476                        | 1,968              | 2,450                        | 1,958              |
| Adjusted R <sup>2</sup> | 0.05                         | 0.25               | 0.02                         | 0.05               |

Some of the control variables have notable coefficients. The target's abnormal return is significantly positively associated with the bid premium, as would be expected in a reasonably specified model. However, the point estimate of the

coefficient is just 0.25.<sup>14</sup> The dummy variable PRECOMP indicates whether the target received any bids from different bidders in the preceding six-month period. This dummy variable is significantly negatively associated with the target's abnormal return, most likely because prior bids reduce the surprise associated with the current bid. Interestingly, the prior competition dummy is not associated with the bidder's abnormal announcement return, as might be expected if bidders in multiple bidder auctions fare substantially worse than uncontested bidders do (Bradley et al., 1988).

### 5.3. The relation between target termination fees and competition

Table 9 presents the determinants of post-bid competition. The probit models directly address the ability of target termination fee to deter competing bidders. The marginal effects in brackets are computed by first calculating the probability of post-bid competition using the sample means for all continuous independent variables and zeroes for all dummy independent variables (the base predicted probability). The probability of competition is then re-computed by changing each independent variable (in turn) by adding one standard deviation to the mean of continuous variables (or using a one for each dummy variable). The marginal effects reported in the tables are the differences between the new and base probability and represent the change in the probability of post-bid competition resulting from a one-standard-deviation change in each continuous independent variable or a change from zero to one for each dummy independent variable. The same technique is used to compute marginal effects for all probit models in this paper.

The first column in Table 9 suggests that target termination fees do curb competing bids, with the termination fee dummy variable having a significantly negative coefficient. The marginal economic impact of termination fee use is a 3% reduction in the probability that an alternate offer emerges. This is quite a substantial effect when compared to the 6% base predicted probability of competition without a termination fee. However, the product of a 3% reduction in the probability of a competing bid and the expected incremental premium from such a bid is unlikely to be economically significant.

Furthermore, the statistical significance of the deterrence effect diminishes once the control variables are introduced. In particular, hostile bids are 12% more likely to attract competitors, and the friendly nature of termination fee deals seems to explain much of the lower incidence of competition in that sub-sample. As noted in Schwert (2000), however, conjectures about the causality between hostility and competition are treacherous, as perceived competition could induce target managers to play "hard to get."

The point estimates in the first two columns of Table 9 must be interpreted with caution. Comment and Schwert (1995) examine the bid deterrence effect of poison pills and argue that it will appear as if poison pills actually attract merger bids if pills

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<sup>14</sup>This coefficient should equal the cross-sectional average rate of bid success if none of the independent variables are measured with error, there is no pre-bid information leakage, and the market does not anticipate higher-premium competing offers. See Officer (2003).

Table 9

The determinants of post-bid competition

The probit regressions are based on a sample of 2,511 successful and unsuccessful merger and tender offer bids between 1988 and 2000. The dependent variable in all columns is POSTCOMP, a dummy variable equal to one if another bidder bids for the target in the six-month period following the current bid. The first two columns use all bids in the sample with sufficient data, while the third column only includes bids that have a target termination fee as part of the merger agreement. TTERMFPCT is the target termination fee as a percentage of the target's market value of equity, as in Table 2. All other independent variables are defined in previous tables. The marginal effects of a change from the sample means of continuous independent variables, and from zero for dummy independent variables, are in brackets. Base pred. prob. of comp is the base case predicted probability of post-bid competition. Quasi-ML robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate that the parameter estimate is significantly different from zero at the 1%, 5%, or 10% level, respectively.

| Independent variable     | All bids                       |                                | Bids including a target termination fee only |                                |
|--------------------------|--------------------------------|--------------------------------|--|--------------------------------|
| Intercept                | -1.60 <sup>***</sup><br>(0.31) | -1.50 <sup>***</sup><br>(0.37) | -1.49 <sup>**</sup><br>(0.68)                |                                |
| TTERMF                   | -0.34 <sup>***</sup><br>(0.10) | [-0.03]                        | -0.19<br>(0.12)                              | [-0.01]                        |
| TTERMFPCT                |                                |                                | -0.93<br>(2.87)                              | [-0.00]                        |
| BTERMF                   |                                |                                | -0.07<br>(0.17)                              | 0.11<br>(0.19)                 |
| PREMIUM                  |                                |                                | -0.02<br>(0.13)                              | -0.09<br>(0.25)                |
| PRECOMP                  |                                |                                | 0.11<br>(0.20)                               | 0.60 <sup>**</sup><br>(0.28)   |
| POISON                   |                                |                                | 0.10<br>(0.27)                               | 0.66<br>(0.72)                 |
| CASH                     |                                |                                | 0.13<br>(0.12)                               | 0.06<br>(0.25)                 |
| SIND                     |                                |                                | -0.00<br>(0.10)                              | 0.08<br>(0.17)                 |
| HOSTILE                  |                                |                                | 0.71 <sup>***</sup><br>(0.15)                | 0.70<br>(0.50)                 |
| TENDER                   |                                |                                | -0.05<br>(0.14)                              | 0.03<br>(0.26)                 |
| TOEHOLD                  |                                |                                | 0.29<br>(0.19)                               | 0.52<br>(0.40)                 |
| CLEANUP                  |                                |                                | -0.70 <sup>*</sup><br>(0.37)                 | -6.56 <sup>***</sup><br>(0.41) |
| FINSERV                  |                                |                                | -0.24 <sup>*</sup><br>(0.12)                 | -0.19<br>(0.26)                |
| Log(BMVE)                | -0.14 <sup>***</sup><br>(0.03) | [-0.03]                        | -0.10 <sup>***</sup><br>(0.03)               | -0.09 <sup>**</sup><br>(0.04)  |
| Log(TMVE)                | 0.16 <sup>***</sup><br>(0.03)  | [0.04]                         | 0.10 <sup>***</sup><br>(0.03)                | 0.07<br>(0.06)                 |
| Number of observations   | 2,499                          |                                | 2,204  | 957                            |
| Base pred. prob. of comp | 0.06                           |                                | 0.04   | 0.02                           |
| McFadden R <sup>2</sup>  | 0.04                           |                                | 0.11   | 0.06                           |

are adopted when the potential target suspects a bid will be forthcoming. The same is true of target termination fees. If target termination fees are included in merger agreements when the bidder and target suspect a competing bidder will make an offer, and that offer eventuates despite the fee, it will appear as if termination fees attract, rather than deter, competing bidders. Hence the coefficients in the first two columns of [Table 9](#) could be biased upward (i.e., biased against a finding of bid deterrence). However, applying the self-selection adjustments from either [Comment and Schwert \(1995\)](#) or [Heckman \(1979\)](#) does not alter the inferences from the regressions in the first two columns of [Table 9](#).

Therefore, the last column in [Table 9](#) attempts to measure the deterrence effect in another way. If termination fees do deter competing bids, then the deterrence effect should be increasing in the size of the termination fee payable to the incumbent bidder.<sup>15</sup> Termination fee size as a percentage of the target's market value of equity, as in [Table 2](#), is included as an explanatory variable in a probit regression using deals that included a target termination fee. While the coefficient on fee size in the post-bid competition regression is negative, implying that bigger fees are more of a deterrent to competing bids, the coefficient is not significantly different from zero. Interestingly, in this sample of termination fee deals, bid competition exhibits "serial correlation." Specifically, the probability of another bidder making an offer for the target is 5% higher if a bid was received by the target in the six months prior to the current deal being announced.

The evidence in [Table 9](#) is also not supportive of the agency-cost hypothesis for target termination fee use. Deterrence of competition is a key assumption in the agency-cost rationale for including a termination fee in a merger agreement, as this is the supposed benefit offered to white knight bidders in return for potential job security for target managers.

#### *5.4. The relation between target termination fees and bid success*

[Table 10](#) contains results from probit regressions explaining the likelihood that a merger bid or tender offer results in a completed transaction. The inclusion of a target termination fee in the deal terms is associated with a significantly higher probability that the bidder is successful in acquiring the target. Even when the control variables are included, the point estimate of the effect of a target termination fee is an 11% increase in the predicted success rate (from a base of 84%). Both target termination fee coefficients in [Table 10](#) are significant at the 1% level. The bid premium also has a significantly positive impact on the probability of success, while competing bids and hostility towards the bidder reduce the likelihood that the current bid is successful. Deals involving large target firms are less likely to be successful, all else equal, while large bidders are more likely to complete proposed transactions.

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<sup>15</sup>Of course, bidders anticipating greater competition could self-select larger termination fees, leading again to difficulties in interpreting the reported coefficients.

Table 10

The determinants of bid success

The probit regressions are based on a sample of 2,511 successful and unsuccessful merger and tender offer bids between 1988 and 2000. The dependent variable is SUCCESS, a dummy variable equal to one if the merger or tender offer bid results in a successful acquisition and zero otherwise. All independent variables are defined in previous tables. The marginal effects of a change from the sample means of continuous independent variables, and from zero for dummy independent variables, are in brackets. Base pred. prob. of success is the base case predicted probability of success. Quasi-ML robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate that the parameter estimate is significantly different from zero at the 1%, 5%, or 10% level, respectively.

| Independent variable        |          |         |          |         |
|-----------------------------|----------|---------|----------|---------|
| Intercept                   | -0.39    |         | -0.59*   |         |
|                             | (0.25)   |         | (0.35)   |         |
| TTERM                       | 0.90***  |         | 0.67***  |         |
|                             | (0.08)   | [0.17]  | (0.10)   | [0.11]  |
| BTERM                       |          |         | -0.04    |         |
|                             |          |         | (0.15)   | [-0.01] |
| PREMIUM                     |          |         | 0.20*    |         |
|                             |          |         | (0.12)   | [0.02]  |
| PRECOMP                     |          |         | -0.55*** |         |
|                             |          |         | (0.16)   | [-0.17] |
| POSTCOMP                    |          |         | -1.37*** |         |
|                             |          |         | (0.18)   | [-0.49] |
| POISON                      |          |         | -0.02    |         |
|                             |          |         | (0.30)   | [-0.00] |
| CASH                        |          |         | -0.05    |         |
|                             |          |         | (0.10)   | [-0.01] |
| SIND                        |          |         | -0.07    |         |
|                             |          |         | (0.08)   | [-0.02] |
| HOSTILE                     |          |         | -1.82*** |         |
|                             |          |         | (0.15)   | [-0.64] |
| TENDER                      |          |         | 0.96***  |         |
|                             |          |         | (0.17)   | [0.13]  |
| TOEHOLD                     |          |         | 0.18     |         |
|                             |          |         | (0.17)   | [0.04]  |
| CLEANUP                     |          |         | 0.64**   |         |
|                             |          |         | (0.32)   | [0.11]  |
| FINSERV                     |          |         | 0.49***  |         |
|                             |          |         | (0.10)   | [0.09]  |
| Log(BMVE)                   | 0.27***  |         | 0.20***  |         |
|                             | (0.02)   | [0.13]  | (0.03)   | [0.08]  |
| Log(TMVE)                   | -0.22*** |         | -0.11*** |         |
|                             | (0.03)   | [-0.13] | (0.03)   | [-0.05] |
| Number of observations      | 2,499    |         | 2,204    |         |
| Base pred. prob. of success | 0.78     |         | 0.84     |         |
| McFadden $R^2$              | 0.15     |         | 0.36     |         |

The evidence suggests that the most striking effect of target termination fee use is an increase in probability that the bidder successfully acquires the target. The significantly higher success rates in termination fee deals are potentially the result of

bidders making more substantial investments in the bid process, including the release of non-public information about post-bid strategies for the target's assets, because such investments are protected with a termination fee from free riding by other bidders. The bidder's plans for the target's assets are conceivably important to target shareholders deciding whether to vote in favor of the proposed union, especially when the bidder plans to pay for their shares using stock in the combined firm.

## 6. Endogeneity and the determinants of target termination fee agreements

The prior sections contain evidence on the *effect* of target termination fees on premiums, returns, competition, and success rates, in an effort to discern the underlying motivation for termination fee use and whether this motivation is detrimental to target shareholders. More direct evidence on the determinants of target termination fee use is presented in Table 11. The dependent variable in the probit regressions is a dummy variable indicating whether a bid resulted in a merger agreement containing a target termination fee.

The results demonstrate the strong correlation between bidder and target termination fee use. Target termination fees are more than twice as likely to be found in a merger agreement if that agreement also contains a bidder termination fee. This evidence reinforces the interpretation of bidder termination fees as half of a reciprocal termination agreement between the bidder and target in merger-of-equals deals. The size of each individual firm also matters: target termination fees are significantly more likely to be used when the bidder or target has high market capitalization. In this context size potentially proxies for the opportunity cost of managerial time (making protection of bid specific investments more important), or the availability of sophisticated financial and legal advisors.

The results in Table 11 also confirm many of the univariate conclusions from Table 5. Target termination fees are significantly more likely to be found in deals that include a tender offer component, and each of the landmark case-law decisions concerning termination fees increase the probability of target termination fee use. The 1994 *Paramount* ruling appears to be especially important in determining termination fee use, as merger agreements signed during or after 1994 are 28% more likely than those announced prior to 1994 to include a target termination fee. Target termination fees are also considerably less likely to be found in mergers involving financial service firms, potentially because of the effect that the payment of a cash breakup fee would have on the target bank's compliance with regulatory capital requirements.<sup>16</sup>

Table 11 also suggests that target termination fees and toeholds are substitutable. This evidence is, however, consistent with both the contracting and entrenchment hypotheses. Under the contracting (or shareholder interests) hypothesis, termination

<sup>16</sup>See Coates and Subramanian (2000, p. 394).

Table 11

The determinants of target termination fee agreements

The probit regressions are based on a sample of 2,511 successful and unsuccessful merger and tender offer bids between 1988 and 2000. The dependent variable is TTERMF, a dummy variable equal to one if the merger agreement contains a termination fee payable by the target to the bidder and zero otherwise. D94 and D97 are dummy variables equal to one if the bid is announced in or following 1994 or 1997, respectively, and zero otherwise. All other independent variables are defined in previous tables. The marginal effects of a change from the sample means of continuous independent variables, and from zero for dummy independent variables, are in brackets. Base pred. prob. of TTERMF is the base case predicted probability that the merger agreement contains a target termination fee. Quasi-ML robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate that the parameter estimate is significantly different from zero at the 1%, 5%, or 10% level, respectively.

| Independent variable       |                    |        |                    |         |
|----------------------------|--------------------|--------|--------------------|---------|
| Intercept                  | −2.87***<br>(0.21) |        | −3.04***<br>(0.28) |         |
| BTERMF                     | 1.67***<br>(0.11)  | [0.55] | 1.51***<br>(0.14)  | [0.54]  |
| PREMIUM                    |                    |        | 0.18**<br>(0.09)   | [0.02]  |
| PRECOMP                    |                    |        | −0.03<br>(0.16)    | [−0.01] |
| POISON                     |                    |        | 0.14<br>(0.34)     | [0.04]  |
| CASH                       |                    |        | −0.23***<br>(0.09) | [−0.05] |
| SIND                       |                    |        | 0.04<br>(0.06)     | [0.01]  |
| HOSTILE                    |                    |        | −1.72***<br>(0.20) | [−0.16] |
| TENDER                     |                    |        | 0.62***<br>(0.10)  | [0.19]  |
| TOEHOLD                    |                    |        | −0.36**<br>(0.17)  | [−0.07] |
| CLEANUP                    |                    |        | −1.79***<br>(0.38) | [−0.16] |
| FINSERV                    |                    |        | −0.65***<br>(0.08) | [−0.11] |
| D94                        |                    |        | 0.85***<br>(0.11)  | [0.28]  |
| D97                        |                    |        | 0.42***<br>(0.07)  | [0.12]  |
| Log(BMVE)                  | 0.13***<br>(0.02)  | [0.10] | 0.05***<br>(0.02)  | [0.03]  |
| Log(TMVE)                  | 0.06***<br>(0.02)  | [0.04] | 0.10***<br>(0.03)  | [0.04]  |
| Number of observations     | 2,499              |        | 2,204              |         |
| Base pred. prob. of TTERMF | 0.36               |        | 0.16               |         |
| McFadden $R^2$             | 0.14               |        | 0.31               |         |

fees are used to protect the bid-specific investments made by a bidder from free riding by competing bidders. A substantial toehold offers an alternate means of capturing value created for others bidders by the revelation of the current bidder's plans for the target's assets. However, initial bidder toeholds deter competing bids and lower the probability of target managerial resistance (Betton and Eckbo, 2000). The finding of substitutability would therefore also be consistent with termination fees being used as target-management entrenchment devices.

The coefficient on the premium variable is statistically significant and positive. However, termination fee use and the premium are almost certainly endogenous, as both are determined during merger negotiations between the bidder and target. Coates and Subramanian (2000) also use the bid premium as an explanatory variable for target termination fees. They interpret the positive correlation as implying that "...the bidder often pays for deal protection with a higher deal premium" (p. 325). But given that both are determined simultaneously during negotiations between the bidder and target, it is tenuous to conclude that bidders offer higher premiums in return for deal protection (a causal statement). The most we can infer from this coefficient is that, as noted earlier, premiums and termination fee use are positively associated (without inferring causality). The essential issue here is that stand-alone probit or logit regressions provide biased coefficient estimates when dependent and independent variables are endogenous.

Therefore, I estimate a simultaneous-equations system with the bid premium and a dummy variable indicating target termination fee use as the two endogenous variables. The estimation of this system is complicated by the fact that the bid premium is continuous,<sup>17</sup> while target termination fee use is dichotomous, making standard linear approaches to estimating systems of equations inappropriate. I employ the estimation technique for observed/dichotomous systems outlined in Maddala (1983, p. 245). Several independent variables are omitted from each equation to ensure that the system is identified.

The results from the system estimation are contained in Table 12. The positive association between premiums and target termination fees is principally driven by termination fee use resulting in higher premiums for target shareholders. The robustness of this result, first shown in Table 7, suggests that target shareholders can expect a 4% higher premium on average when the merger agreement with the bidder includes a target termination fee. This evidence further supports the contention that agency problems at the target firm are not the average motivation for termination fee use. My evidence is more consistent with the contracting hypothesis and substantiates the conclusion that target termination fees are not harmful to target shareholders on average.

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<sup>17</sup>The premium earned by target shareholders is theoretically and empirically truncated at zero (see Roll, 1986). While such truncation is not entirely consistent with the estimation method employed here (which assumes that the premium is continuous), I am unaware of a practical way of resolving this issue. See Maddala (1983, p. 246) for a discussion of the complexities of a censored/dichotomous model.

Table 12

The robustness of determinants of target premiums and target termination fee agreements

The regressions are based on a sample of 2,511 successful and unsuccessful merger and tender offer bids between 1988 and 2000. The TTERMF instrument in the first column is the fitted value from a first-stage probit regression with TTERMF as the dependent variable, and all other variables listed in this table as independent variables (omitted for brevity). The PREMIUM instrument in the second column is the fitted value from a first-stage OLS regression with PREMIUM as the dependent variable, and all variables listed in this table as independent variables (omitted for brevity). Standard errors (in parentheses) in both columns are adjusted for the fact that both instruments are generated regressors, as described in Maddala (1983). All independent variables are defined in previous tables. The marginal effects of a change from the sample means of continuous independent variables, and from zero for dummy independent variables, are in brackets. Base pred. prob. of TTERMF is the base case predicted probability that the merger agreement contains a target termination fee. \*\*\*, \*\*, \* indicate that the parameter estimate is significantly different from zero at the 1%, 5%, or 10% level, respectively.

| Independent variable         | Second-stage regressions  |                             |
|------------------------------|---------------------------|-----------------------------|
|                              | Dep. var. = PREMIUM (OLS) | Dep. var. = TTERMF (Probit) |
| Intercept                    | 0.57***<br>(0.08)         | -3.78***<br>(1.26)          |
| PREMIUM or TTERMF Instrument | 0.04***<br>(0.01)         | 1.49<br>(2.11)              |
| BTERMF                       |                           | 1.49***<br>(0.13)           |
| PRECOMP                      | 0.05<br>(0.04)            | -0.09<br>(0.20)             |
| POISON                       | 0.07<br>(0.06)            |                             |
| CASH                         | 0.02<br>(0.02)            | -0.24**<br>(0.10)           |
| SIND                         | 0.03*<br>(0.02)           |                             |
| HOSTILE                      |                           | -1.73***<br>(0.19)          |
| TENDER                       | 0.10***<br>(0.02)         | 0.48*<br>(0.24)             |
| TOEHOLD                      | -0.14***<br>(0.04)        | -0.16<br>(0.35)             |
| CLEANUP                      | -0.13**<br>(0.06)         | -1.61***<br>(0.50)          |
| FINSERV                      | -0.07***<br>(0.02)        | -0.56***<br>(0.17)          |
| D94                          | -0.08***<br>(0.03)        | 0.95***<br>(0.19)           |
| D97                          | 0.04**<br>(0.02)          | 0.36***<br>(0.13)           |
| Log(BMVE)                    | 0.04***<br>(0.00)         | 0.00<br>(0.09)              |
| Log(TMVE)                    | -0.05***<br>(0.01)        | 0.16<br>(0.10)              |
| Number of observations       | 2,204                     | 2,204                       |
| Base pred. prob. of TTERMF   | -                         | 0.15                        |
| Adjusted R <sup>2</sup>      | 0.09                      | -                           |

## 7. Conclusion

I provide empirical evidence on effects of, and motivations for, the inclusion of target termination fees in merger agreements. The conventional wisdom is that target termination fees can be used by self-serving target managers to ensure that the target is acquired by a selected bidder offering target managers continued employment. The assumed cost to target shareholders under this hypothesis is the loss of takeover premium because the imposition of a termination fee deters potential competing bidders resulting in a lower price paid for the target's shares.

However, target termination fees can also serve a less exploitative role by enabling the target to commit to a particular bidder in order to induce that bidder to invest fully in the acquisition process. In particular, a termination fee can be used to encourage the bidder to reveal valuable private information in bilateral negotiations with the target. Bidders would be reluctant to reveal, for example, post-takeover plans for the target's assets if other bidders could free ride on such information and submit a more valuable competing bid. Termination fees internalize the public good component of a takeover bid by forcing competing bidders to pay for the information revealed by an incumbent bidder.

The evidence presented in this paper is supportive of the more benign explanation for target termination fee use. Controlling for deal, bidder, and target characteristics that could influence the cross-sectional distribution of premiums, I find that takeover premiums are not lower when a target termination fee is included in the merger terms and are potentially as much as 7% higher. However, univariate averages do suggest that bidders do not offer target shareholders a competition premium when a merger agreement with a target termination fee (potentially a white knight bid) is announced subsequent to an existing bid for the target firm.

The evidence that termination fees deter bid competition is surprisingly weak. While deterrence is evident in univariate results, termination fee deals do not involve significantly lower rates of post-bid competition once I control for the publicly revealed attitude of target managers towards the bidder (see [Schwert, 2000](#)). Furthermore, conditional on the inclusion of a target termination fee in a merger agreement, the size of the fee does not appear to deter competing acquirers.

Weighing the implications of the point estimates presented in this paper suggests that termination fees offer a net benefit to target shareholders. Specifically, [Betton and Eckbo \(2000\)](#) report that the average competing second-bid jump is a 31% increase in the premium from an initial premium of roughly 45%. Back-of-the-envelope calculations suggest that the average premium gain from termination fee use (approximately 4%) is an order of magnitude higher than the average expected loss of premium resulting from the diminished probability of an auction (roughly 0.4%).<sup>18</sup>

Overall, therefore, my evidence on the effects of termination fee use on deal outcomes suggests that target termination fees are not detrimental to target

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<sup>18</sup>The 0.4% figure is computed by multiplying a 3% decline in the probability of an auction by an expected incremental premium from the auction of 14% ( $0.31 * 0.45$ ).

stockholders. This conclusion is consistent with the hypothesis that target termination fees are used to induce the bidder to make investments in a deal with the target the public benefit of which cannot be fully internalized. From a policy perspective, while specific instances of abuse may occur, on average target shareholders (and by extension the courts) have little to fear from the inclusion of a target termination fee in a merger contract per se.

### **Appendix A. Excerpt from Compaq/Digital merger agreement**

This appendix contains an excerpt from the merger agreement between Compaq Computer Corporation (the “Parent”) and Digital Equipment Corporation (the “Company”), signed January 25, 1998.

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*ARTICLE 9  
TERMINATION*

SECTION 9.1. Termination. Notwithstanding anything contained in this Agreement to the contrary, this Agreement may be terminated and the Merger may be abandoned at any time prior to the Effective Time (notwithstanding any approval of this Agreement by the Board of Directors of the Company or Parent or the stockholders of the Company):

- (a) by mutual written agreement of the Company and Parent;
- (b) by either the Company or Parent, if

- (i) the Merger has not been consummated on or before November 1, 1998; provided that the right to terminate this Agreement pursuant to this clause 9.01(b)(i) shall not be available to any party whose breach of any provision of this Agreement results in the failure of the Merger to be consummated by such time;
- (ii) there shall be any law or regulation that makes consummation of the Merger illegal or otherwise prohibited or if any judgment, injunction, order or decree enjoining any party from consummating the Merger is entered and such judgment, injunction, order or decree shall have become final and non-appealable; provided, that the party seeking to terminate this Agreement pursuant to this clause 9.01(b)(ii) shall have used its reasonable best efforts to remove such injunction, order or decree; or
- (iii) the Common Stockholder Approval shall not have been obtained by reason of the failure to obtain the required vote at a duly held meeting of stockholders or any adjournment thereof; or

(c) by Parent, if (x) the Board of Directors of the Company shall have withdrawn or modified in a manner adverse to Parent its approval or recommendation of the Merger or (y) there shall have been any material breach of any provision of Section 5.02(a) or 5.03.

The party desiring to terminate this Agreement pursuant to this Section 9.01 (other than pursuant to Section 9.01 (a)) shall give notice of such termination to the other party.

SECTION 9.2. Effect of Termination. If this Agreement is terminated pursuant to Section 9.01, this Agreement shall become void and of no effect with no liability on the part of any party hereto, except that (i) the agreements contained in Sections 7.07(b), 10.04, 10.05, 10.06, 10.07 and 10.08 shall survive the termination hereof and (ii) no such termination shall release any party of any liabilities or damages resulting from any willful or grossly negligent breach by that party of any provision of this Agreement.

*ARTICLE 10  
MISCELLANEOUS*

SECTION 10.4. Expenses. (a) Except as otherwise provided in this Section, and except for all transfer taxes which shall be paid by the Company, all costs and expenses incurred in connection with this Agreement shall be paid by the party incurring such cost or expense.

(b) The Company agrees to pay Parent in immediately available funds by wire transfer an amount equal to \$240 million (the “TERMINATION FEE”) if:

- (i) this Agreement is terminated by Parent pursuant to Section 9.01(c);
- (ii) (A) prior to the termination of this Agreement, a bona fide Acquisition Proposal is commenced, publicly proposed or publicly disclosed and (B) this Agreement is terminated by the Company pursuant to Section 9.01(b)(i) or by the Company or Parent pursuant to Section 9.01(b)(iii); or
- (iii) (A) this Agreement is terminated by Parent pursuant to Section 9.01(b)(i), (B) the Company Stockholder Meeting shall not have been held prior to the date of such termination, and (C) the Company shall have delayed the holding of the Company Stockholder Meeting pursuant to the final sentence of Section 5.02.

The Company shall pay the Termination Fee promptly, but in no event later than two business days, after the termination of this Agreement pursuant to clause (i), (ii) or (iii) above. Notwithstanding the previous sentence, in the event of a termination of the Agreement by Parent pursuant to clause (ii) or (iii) above, 50% of the Termination Fee shall be payable at the time set forth in the immediately preceding sentence and 50% of the Termination Fee shall be payable concurrently with the consummation of a Significant Acquisition Proposal within 12 months of the termination of this Agreement. “SIGNIFICANT ACQUISITION PROPOSAL” means an Acquisition Proposal involving the acquisition of at least 50% of the Company Common Stock or at least 50% of the assets of the Company.

(c) The Company agrees to pay Parent in immediately available funds by wire transfer an amount equal to Parent’s reasonable expenses incurred in connection with this transaction (but not to exceed \$25 million) if (x) this Agreement shall have

been terminated pursuant to Section 9.01(b)(i), (y) any representation or warranty made by the Company in this Agreement shall not have been true and correct as of the date hereof, and (z) the condition in Section 8.02 relating to representations and warranties shall not have been satisfied; provided, however, that in no event shall any payment be due pursuant to this subsection (c) in the event that a Termination Fee is payable pursuant to subsection (b) above. Such payment shall be made promptly, and in no event later than two business days, after such termination.

(d) Parent agrees to pay the Company in immediately available funds by wire transfer an amount equal to the Company's reasonable expenses incurred in connection with this transaction (but not to exceed \$25 million) if (x) this Agreement shall have been terminated pursuant to Section 9.01(b)(i), (y) any representation or warranty made by Parent in this Agreement shall not have been true and correct as of the date hereof, and (z) the condition in Section 8.03 relating to representations and warranties shall not have been satisfied. Such payment shall be made promptly, and in no event later than two business days, after such termination.

#### **Appendix B. Excerpt from COMSAT/radiation systems merger agreement**

This appendix contains an excerpt from the merger agreement between COMSAT Corporation and Radiation Systems, Inc, signed January 30, 1994.

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#### *ARTICLE VIII TERMINATION*

Section 8.1 Termination Events. Subject to the provisions of Section 8.2, this Agreement may, by written notice given at or prior to the Closing (in the manner provided by Section 9.9 herein) be terminated and abandoned only as follows:

8.1.1 Breach. By either COMSAT or RSI upon written notice if a material default or breach shall be made by the other, with respect to the due and timely performance of any of the other party's respective covenants and agreements contained herein, or with respect to the due compliance with any of the other party's respective representations and warranties contained in Article III or IV herein, as applicable, and such default cannot be cured prior to Closing and has not been waived;

8.1.2 Mutual Consent. By mutual written consent of the parties hereto; or

8.1.3 Failure of Conditions to Close. By either COMSAT or RSI, if by reason of failure of their respective conditions to close contained in Article VI or VII herein, as applicable, and such conditions have not been satisfied or waived by December 31, 1994, or such later date as may be agreed upon by the parties hereto, provided that the right to terminate this Agreement under this Subsection 8.1.3 shall not be available to a party whose failure to fulfill any obligation or perform any

covenant under this Agreement has been the cause of or resulted in the failure of any of the conditions to close of the other party hereto by such date.

**Section 8.2 Effect of Termination.** In the event this Agreement is terminated pursuant to Section 8.1 herein, all further rights and obligations of the parties hereunder shall terminate, provided that if RSI at any time prior to 31 December, 1994 is acquired by, merges, effectuates a business combination with, or sells substantially all of its assets to any person or entity not controlled by COMSAT, or agrees to do any of the foregoing, RSI shall immediately upon such action or agreement pay to COMSAT Five Million Dollars (\$5,000,000), plus all of COMSAT's costs, fees and expenses incurred in connection with this Agreement and the Merger as contemplated hereby, including fees and expenses of its accountants, investment advisers and counsel, and provided further that the total payment RSI shall pay to COMSAT immediately upon such action or agreement shall not in any event exceed Seven Million, Five Hundred Thousand Dollars (\$7,500,000).

**Section 8.3 Fees and Expenses; Damages.** Except as otherwise provided in Section 8.2 herein, in the event this Agreement is terminated for any reason and the Merger is not consummated each party shall be responsible for its own costs, fees and expenses, including fees and expenses of its accountants, investment advisers and counsel, provided, however, that if the termination is caused by the breach of COMSAT and CTS on the one hand, or the breach of RSI on the other hand, the breaching party(ies) shall pay to the non-breaching party(ies) as liquidated damages (and as its sole and exclusive remedy) the actual costs and expenses of the non-breaching party(ies), including the fees and expenses of its accountants, investment advisers and counsel, not to exceed Two Million Five Hundred Thousand Dollars (\$2,500,000).

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