Why Are Bidder Termination Provisions Included In Takeovers?

Internet Appendices B, C and D

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Abstract

This article contains appendices that accompany our paper "Why Are Bidder Termination Provisions Included In Takeovers?". Appendix B presents an example illustrating the intuition of the model in the paper, proofs of the model's propositions and derivations of the comparative statics. Appendix C presents extensions to the model in the paper. Appendix D presents additional empirical analysis.

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Internet Appendix B - Model Example, Proofs and Comparative Statics

This appendix presents an example illustrating the intuition of our model in Section 2 of our paper, proofs of the propositions and derivations of the comparative statics. We follow the notation used in the paper.

B.1 Model Simple Example

This section presents a simple example that illustrates the intuition of the model in Section 2 of our paper. A bidder and target agree today on a cash takeover that is to be completed after one period. A "good" and "bad" state of nature occur in the next period with equal probability. There is no discounting and both parties have equal bargaining power. The values of the target's assets under the bidder's control and under the target's existing management's control are as follows

Target firm value	Under bidder's control	Under existing management
Good state	100	70
Bad state	50	60

In practice, absent a bidder termination provision, a bidder is highly constrained in its ability to terminate a takeover. We assume therefore, that if the deal does not include a bidder termination provision the bidder cannot terminate it. Then, the total expected payoff of the target and bidder (i.e. the total expected value created by the takeover) is

$$Payoff(Total) = 0.5(100 - 70) + 0.5(50 - 60) = 10$$

We incorporate gain-sharing by letting this total payoff be shared by the bidder and target, who have equal bargaining power and thus each receive Payoff(Target) = Payoff(Bidder) = 5.

Next we consider the inclusion of a bidder termination provision. Let K denote the price paid upon completion of the deal and P denote the termination fee paid by the bidder if it terminates the deal. An optimal price and bidder termination fee ensure that the bidder's payoff from termination in the bad state, -P, exceeds its payoff from completion, 50 - K. Therefore, the optimal price and termination fee must satisfy the inequality 50 - K < -P or P < K - 50.

¹If there were infinitely many states, setting this constraint to an equality would yield a threshold state P = K - 50

Next, we consider the combined expected payoff with a bidder termination provision. If the bidder completes the deal in the good state and terminates it in the bad state, the payoffs are

Payoff(
$$Target$$
) = $0.5(K - 70) + 0.5P = 0.5(K + P) - 35$

Payoff(Bidder) =
$$0.5(100 - K) - 0.5P = 50 - 0.5(K + P)$$
.

The total expected payoff, Payoff(Total) = 15, is higher than the payoff without a bidder termination provision (10). As the bidder and target equally share the total expected payoff, they are each better off with inclusion the provision, with a payoff of 7.5, than without it with payoff 5. This illustrates that a bidder termination provision can create value — this value arises from variation in the value of the target firm's assets to the bidder and the target's existing management under different scenarios. It also illustrates the bidder termination fee must be set optimally in order for the provision to create value.

At first glance it may appear that inclusion of a bidder termination provision is always weakly sociallyoptimal but this is not the case. Unlike a social-planner, a bidder will not base its termination decision on
the total expected payoff. Instead, it evaluates termination by comparing its own payoff from completion
(the value of the target to it net of the offer price) to the cost of paying the termination fee. Therefore
the bidder may terminate even when the target is worth more to it than as a stand-alone firm. This
will decrease the total expected payoff ex-ante. The inclusion of a bidder termination provision therefore
creates a trade-off and it is not obvious if a bidder termination provision is ex-ante optimal. We illustrate
this below with a modification.

Suppose that the target's value to the bidder in the bad state were 70 instead of 50 (i.e. the target is now worth more under the bidder's control in the bad state), all else remaining the same. Absent a termination provision, the total expected payoff is Payoff(Total) = 0.5(100-70) + 0.5(70-60) = 20, with the target and bidder each receiving 10. With inclusion of a termination provision, total and individual payoffs remain unchanged at 15 and 7.5.² Now, including a termination provision does not create value. Even though the target is worth more under the bidder's control in the bad state (i.e. completion is optimal), the bidder will terminate in the bad state as it has a higher payoff from doing so. If the value of the target is always higher under the bidder's control than under the existing management's control as is the case here, then inclusion of the provision is never optimal.

where the bidder would terminate the deal in states where the completion payoff is below the threshold state payoff.

²This requires the price and termination fee to satisfy P < K - 70.

This example illustrates that inclusion of a bidder termination provision is not always optimal. Whether it is optimal depends ultimately on how likely it is for the target's value to the bidder to fall below the stand-alone value. The model in Section 2 of our paper analyses what factors determine the optimality of a bidder termination provision. The model proofs are presented in the next section.

B.2 Proof of Proposition 1

$$\begin{array}{lcl} \frac{dS_{B,t}}{S_{B,t}} & = & \mu_B dt + \sigma_B dW_{B,t} \\ \\ \frac{dS_{M,t}}{S_{M,t}} & = & \mu_M dt + \sigma_M dW_{M,t} \end{array}$$

where μ_B , μ_M , σ_B , σ_M are drifts and volatilities of the target's value to the bidder and the target's stand-alone value. $\{W_t, 0 \le t < \infty\}$ is the standard Wiener process.

Let $A \equiv \{S_{B,T} \geq K - P\}$ and $A^c \equiv \{S_{B,T} < K - P\}$. The target's and bidder's shares of the value created by the takeover can be written as follows:

$$G_{Target,0} = \int_{A} \int_{S_{M,T}} e^{-rT} (K - S_{M,T}) f_{S_{B,T}S_{M,T}} dS_{M,T} dS_{B,T}$$

$$+ \int_{A^{c}} \int_{S_{M,T}} P e^{-rT} f_{S_{B,T}S_{M,T}} dS_{M,T} dS_{B,T}$$

$$G_{Bidder,0} = E^{Q} [e^{-rT} \max (S_{B,T} - K, -P)]$$

$$= \int_{A} \int_{S_{M,T}} e^{-rT} (S_{B,T} - K) f_{S_{B,T}} f_{S_{M,T}} dS_{M,T} dS_{B,T}$$

$$- \int_{A^{c}} \int_{S_{M,T}} P e^{-rT} f_{S_{B,T}} f_{S_{M,T}} dS_{M,T} dS_{B,T}$$
(B.1)

Since $TS_P = G_{Taget} + G_{Bidder,0}$, $G_{Target,0} = 0.5TS$ and $G_{Bidder,0} = 0.5TS$, we can write:

$$TS_P = \int_A \int_{S_{M,T}} e^{-rT} (S_{B,T} - S_{M,T}) f_{S_{B,T} S_{M,T}} dS_{M,T} dS_{B,T}$$
(B.2)

where $f_{S_{B,T}S_{M,T}}$ is the joint PDF of $S_{B,T}$ and $S_{M,T}$.

Taking advantage of the log normality assumption, we can write:

$$\ln S_{M,T} \ln S_{B,T} \sim N \left(\ln S_{M,0} + (r - 0.5\sigma_M^2)T + \frac{\sigma_M}{\sigma_B} \rho (\ln S_{B,T} - \ln S_{B,0} - (r - 0.5\sigma_B^2)T), (1 - \rho^2)\sigma_M^2 T \right)$$

Therefore, we can write:

$$e^{-rT} \mathbf{E}_{S_{M,T}|S_{B,T}} \left[S_{M,T} | S_{B,T} \right] = S_{M,0} \left(\frac{S_{B,T}}{S_{B,0}} \right)^{\frac{\sigma_M}{\sigma_B} \rho} \times e^{\rho T [0.5\sigma_M \sigma_B - 0.5\rho \sigma_M^2 - \frac{\sigma_M}{\sigma_B} r]}$$

Thus, TS_P can be written as follows:

$$TS_{P} = E_{S_{M,T}}[e^{-rT}S_{B,T}1_{A}] - S_{M,0}e^{\rho T[0.5\sigma_{M}\sigma_{B} - 0.5\rho\sigma_{M}^{2} - \frac{\sigma_{M}}{\sigma_{B}}r]}E_{S_{B,T}}[(\frac{S_{B,T}}{S_{B,0}})^{\frac{\sigma_{M}}{\sigma_{B}}\rho}1_{A}]$$
(B.3)

Using the following property of lognormal distributions we can calculate the expectations and derive an expression for TS. If $X \sim log N(\mu, \sigma)$

$$\int_0^V X^n f(x) dx = e^{n\mu + 0.5n^2\sigma^2} \Phi\left(\frac{\ln V - \mu - n\sigma^2}{\sigma}\right)$$

$$TS_{P} = S_{B,0}\Phi\left(\frac{\ln S_{B,0} + (r - 0.5\sigma_{B}^{2})T + \sigma_{B}^{2}T - \ln(K - P)}{\sigma_{B}\sqrt{T}}\right)$$
$$-S_{M,0}\Phi\left(\frac{\ln S_{B,0} + (r - 0.5\sigma_{B}^{2})T + \frac{\sigma_{M}}{\sigma_{B}}\rho\sigma_{B}^{2}T - \ln(K - P)}{\sigma_{B}\sqrt{T}}\right)$$
(B.4)

In this model bargaining powers (0.5 for each party) are exogenously determined. Thus, the target and the bidder share the value created by the takeover ex-post based according their ex-ante bargaining powers. To determine K^* and P^* , the target maximizes his share of the total surplus, given the bidder's participation constraint holds. The endogenous choice variables are K and P:

$$\begin{array}{ll} \max & G_{Target,0} \\ & s.t. \\ & G_{Bidder,0} = 0.5 (TS_P) \end{array}$$

Substituting for $G_{Target,0}$, $G_{Bidder,0}$ and TS_P from (B.1) and (B.2), we can rewrite the optimization

problem as follows:

$$\max_{(P,K)} (0.5)S_{B,0}\Phi\left(\frac{\ln S_{B,0} + (r - 0.5\sigma_B^2)T + \sigma_B^2T - \ln(K - P)}{\sigma_B\sqrt{T}}\right) - (0.5)S_{M,0}\Phi\left(\frac{\ln S_{B,0} + (r - 0.5\sigma_B^2)T + \frac{\sigma_M}{\sigma_B}\rho\sigma_B^2T - \ln(K - P)}{\sigma_B\sqrt{T}}\right)$$
s.t.

$$\begin{split} & \int_{A} \int_{S_{M,T}} e^{-rT} (S_{B,T} - K) f_{S_{B,T} S_{M,T}} dS_{M,T} dS_{B,T} - \int_{A^{c}} \int_{S_{M,T}} P e^{-rT} f_{S_{B,T} S_{M,T}} dS_{M,T} dS_{B,T} \\ &= 0.5 S_{B,0} \Phi \left(\frac{\ln S_{B,0} + (r - 0.5 \sigma_{B}^{2}) T + \sigma_{B}^{2} T - \ln(K - P)}{\sigma_{B} \sqrt{T}} \right) \\ & - 0.5 S_{M,0} \Phi \left(\frac{\ln S_{B,0} + (r - 0.5 \sigma_{B}^{2}) T + \frac{\sigma_{M}}{\sigma_{B}} \rho \sigma_{B}^{2} T - \ln(K - P)}{\sigma_{B} \sqrt{T}} \right) \end{split}$$

From this maximization, we can determine a unique (K^*, P^*) for every set of model parameters. Noticing that TS_P is a function of K - P, we can treat K - P as one variable and maximize TS_P with respect to K - P. The first order condition of maximizing TS_P leads to

$$\frac{\partial TS_P}{\partial (K-P)} = 0$$

$$\Rightarrow \ln \left(\frac{S_{M,0}}{(S_{B,0})^{\frac{\sigma}{\sigma_B}\rho}} \right)^{\frac{1}{1-\frac{\sigma}{\sigma_B}\rho}} + rT + 0.5\rho\sigma_M\sigma_BT = \ln(K-P)$$

$$\Rightarrow K^* - P^* = S_{B,0} \left(\frac{S_{B,0}}{S_{M,0}} \right)^{-\frac{1}{1-\frac{\sigma}{\sigma_B}\rho}} e^{(r+0.5\rho\sigma_M\sigma_B)T} \tag{B.5}$$

Substituting for $K^* - P^*$, the optimal TS_P can be written as

$$TS_{P}^{*} = S_{B,0}\Phi \left(\frac{\frac{\ln S_{B,0} - \ln S_{M,0}}{1 - \frac{\sigma_{M}}{\sigma_{B}}\rho} + 0.5\sigma_{B}^{2}T - 0.5\rho\sigma_{M}\sigma_{B}T}{\sigma_{B}\sqrt{T}} \right) - S_{M,0}\Phi \left(\frac{\frac{\ln S_{B,0} - \ln S_{M,0}}{1 - \frac{\sigma_{M}}{\sigma_{B}}\rho} + 0.5\rho\sigma_{M}\sigma_{B}T - 0.5\sigma_{B}^{2}T}{\sigma_{B}\sqrt{T}} \right)$$
(B.6)

Substituting for TS_P^* and K^*-P^* into the binding constraint of the optimization problem:

$$G_{Bidder,0} = \mathbb{E}^{Q}[e^{-rT} \max(S_{B,T} - K, -P)] = 0.5(TS_{P}^{*}).$$

This yields:

$$P^* = e^{rT} S_{B,0} \left[N(d_1) - N(d_2) \left(\frac{S_{M,0}}{S_{B,0}} \right)^{\frac{1}{1 - \frac{\sigma_M}{\sigma_B} \rho}} e^{0.5\rho \sigma_M \sigma_B T} \right] - 0.5(e^{rT} T S_P^*)$$
 (B.7)

$$K^* = P^* + S_{B,0} \left(\frac{S_{B,0}}{S_{M,0}}\right)^{-\frac{1}{1 - \frac{\sigma_M}{\sigma_B}\rho}} e^{(r+0.5\rho\sigma_M\sigma_B)T}$$
(B.8)

$$TS_P^* = S_{B,0}N(d_1) - S_{M,0}N(d_3)$$
 (B.9)

where

$$d_{1} = \frac{\frac{\ln S_{B,0} - \ln S_{M,0}}{1 - \frac{\sigma_{M}}{\sigma_{B}} \rho} + 0.5\sigma_{B}^{2}T - 0.5\rho\sigma_{B}\sigma_{M}T}{\sigma_{B}\sqrt{T}}$$

$$d_{2} = \frac{\frac{\ln S_{B,0} - \ln S_{M,0}}{1 - \frac{\sigma_{M}}{\sigma_{B}} \rho} - 0.5\sigma_{B}^{2}T - 0.5\rho\sigma_{B}\sigma_{M}T}{\sigma_{B}\sqrt{T}}$$

$$d_{3} = \frac{\frac{\ln S_{B,0} - \ln S_{M,0}}{1 - \frac{\sigma_{M}}{\sigma_{B}} \rho} - 0.5\sigma_{B}^{2}T + 0.5\rho\sigma_{M}\sigma_{B}T}{\sigma_{B}\sqrt{T}}.$$

B.3 Proof of Proposition 2

Inclusion of bidder termination provision is optimal iff $TS_P \geq TS_{NP}$ (Optimality Constraint). The indifference condition is

$$TS_{P}^{*} = S_{B,0} - S_{M,0}$$

$$\Rightarrow S_{B,0}\Phi \left(\frac{\frac{\ln S_{B,0} - \ln S_{M,0}}{1 - \frac{\sigma_{M}}{\sigma_{B}}\rho} + 0.5\sigma_{B}^{2}T - 0.5\rho\sigma_{M}\sigma_{B}T}{\sigma_{B}\sqrt{T}} \right)$$

$$-S_{M,0}\Phi \left(\frac{\frac{\ln S_{B,0} - \ln S_{M,0}}{1 - \frac{\sigma_{M}}{\sigma_{B}}\rho} + 0.5\rho\sigma_{M}\sigma_{B}T - 0.5\sigma_{B}^{2}T}{\sigma_{B}\sqrt{T}} \right)$$

$$= S_{B,0} - S_{M,0}.$$

It is clear that when $\frac{\rho\sigma_M}{\sigma_B}=1$, the above equation holds. And we have $\hat{\sigma}_{BM}=\sigma_B^2$ or $\hat{\rho}=\frac{\sigma_B}{\sigma_M}$.

When $\sigma_{BM} > \sigma_B^2$, we have

$$TS_{P} = S_{B,0}\Phi\left(\frac{\ln S_{B,0} + (r - 0.5\sigma_{B}^{2})T + \sigma_{B}^{2}T - \ln(K - P)}{\sigma_{B}\sqrt{T}}\right)$$

$$-S_{M,0}\Phi\left(\frac{\ln S_{B,0} + (r - 0.5\sigma_{B}^{2})T + \sigma_{BM}T - \ln(K - P)}{\sigma_{B}\sqrt{T}}\right)$$

$$< (S_{B,0} - S_{M,0})\Phi\left(\frac{\ln S_{B,0} + (r - 0.5\sigma_{B}^{2})T + \sigma_{B}^{2}T - \ln(K - P)}{\sigma_{B}\sqrt{T}}\right) \leq (S_{B,0} - S_{M,0}).$$

Therefore, it is not optimal to include a bidder termination option when $\sigma_{BM} \geq \sigma_B^2$.

B.4 Comparative Statics

For every parameter of interest, we derive the comparative statics for both the bidder termination fee P^* and the bidder termination fee expressed as a percentage of the offer price $p^* \equiv \frac{P^*}{K^*}$. Comparative statics can be derived in closed form for the special case of $\rho = 0$. When $\rho = 0$ we can rewrite TS^* and P^* as:

$$TS^* = S_{B,0}N(d_1) - S_{M,0}N(d_2) \Rightarrow P^* = 0.5e^{rT}TS^*$$

We have

$$N'(d_2) = \frac{1}{\sqrt{2\pi}}e^{-0.5d_2^2} = \frac{1}{\sqrt{2\pi}}e^{-0.5d_1^2} \frac{S_{B,0}}{S_{M,0}} = N'(d_1) \frac{S_{B,0}}{S_{M,0}}$$

For any parameter x, we have

$$\frac{\partial TS^*}{\partial x} = S_{B,0}N'(d_1)\frac{\partial d_1}{\partial x} - S_{M,0}N'(d_2)\frac{\partial d_2}{\partial x}$$
$$= S_{B,0}N'(d_1)\left(\frac{\partial d_1}{\partial x} - \frac{\partial d_2}{\partial x}\right)$$

When $x \in \{\sigma, T\}$, we have

$$\frac{\partial d_1}{\partial \sigma} - \frac{\partial d_2}{\partial \sigma} = \sqrt{T}$$

$$\frac{\partial d_1}{\partial T} - \frac{\partial d_2}{\partial T} = \frac{\sigma}{2\sqrt{T}}$$

Therefore, we have

$$\frac{\partial P^*}{\partial \sigma} = 0.5 S_{B,0} e^{rT} N'(d_1) \sqrt{T} > 0$$

$$\frac{\partial P^*}{\partial T} = rP^* + 0.5 S_{B,0} e^{rT} N'(d_1) \frac{\sigma}{2\sqrt{T}} > 0$$

Note that equations (B.7) and (B.8), also imply that the comparative statics of K^* with respect to σ and T are directionally similar to those for P^* . Next we derive the comparative statics for the bidder termination fee expressed as a percentage of the offer price

$$p^* \equiv \frac{P^*}{K^*}$$

and it is straightforward to show that

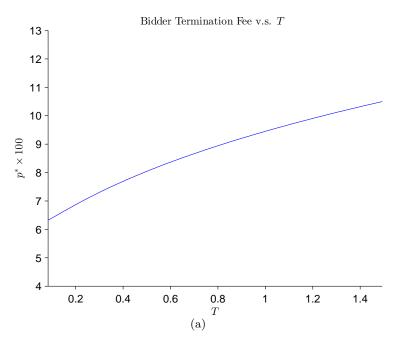
$$\frac{\partial p^*}{\partial \sigma} = 0.5 S_{B,0} e^{rT} N'(d_1) \sqrt{T} \times \frac{e^{rT} S_{M,0}}{(K^*)^2} > 0$$

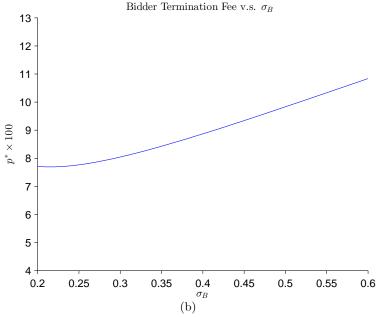
$$\frac{\partial p^*}{\partial T} = 0.5 S_{B,0} e^{rT} N'(d_1) \frac{\sigma}{2\sqrt{T}} \times \frac{e^{rT} S_{M,0}}{(K^*)^2} > 0.$$

To illustrate the comparative statics for the general case, which cannot be derived in closed form, in Figure B.1 we plot p^* as a function of T and σ_B . The base parameters for the plots are r = 0.04, $S_{M,0} = 100$, $S_{B,0} = 110$, $\sigma_M = 0.2$, $\sigma_B = 0.3$, $\alpha = 0.5$, T = 0.5, and $\rho = 0.2$. In each plot, one parameter varies while the others are fixed at their base values. The plots are consistent with the special case of $\rho = 0$. First, p^* increases monotonically with σ_B . This is the case when ρ is moderately positive or negative, which is characteristic our sample. For instance the correlation between the bidder and target, which may be viewed as a proxy for ρ , has a sample mean, median and 90^{th} percentile of 0.20, 0.15 and 0.51, respectively. Second, p^* increases monotonically with T.

Figure B.1: Variation in Bidder Termination Fees

This figure plots variation in the optimal bidder termination fee (expressed relative to offer price), p^* , as a function of completion time, T and volatility of the target's value to the bidder, σ_B . The base parameters for the graphs are r=0.04, $S_{M,0}=100$, $S_{B,0}=110$, $\sigma_M=0.2$, $\sigma_B=0.3$, T=0.5, and $\rho=0.2$. In each graph only one parameter changes, with the others fixed at their base values.





Internet Appendix C - Model Extensions

This appendix presents extensions to the model in Section 2 of our paper. We follow the notation used in the paper.

C.1 Target Termination Provisions

In this section we examine how a target's termination right in the presence of a competing bid by another bidder affects our predictions regarding bidder termination fees. The modification consists of allowing for the arrival of a second bidder between when the target signs the takeover contract with the incumbent bidder and expected completion. The target firm has the ability to terminate the deal with the incumbent bidder in favor of the deal with a second bidder that presents the better offer and pay a termination fee to the incumbent bidder.

The target receives K if the incumbent bidder completes the deal and it does not terminate the deal in favor of the offer from the second bidder. P is the termination fee paid by the incumbent bidder if it terminates the deal. We assume without loss of generality that there is a ψ probability that the second bidder arrives and makes an offer F to the target after the target has signed the takeover contract with the incumbent bidder. This offer is attractive for the target in the sense that it is greater than the expected value of the target firm under the control of its existing management (i.e., $F \geq \mathbb{E}^{\mathcal{Q}}[e^{-rT}(S_{M,T})]$). The target is required to pay a target termination fee of q if it chooses to terminate the deal with the incumbent bidder in the favor of the second bidder's offer.

In the absence of the rival bidder, if the deal succeeds at T, the target receives $G_{Target,T} = K - S_{M,T}$. If the bidder chooses to withdraw from the deal, then the target receives the bidder termination fee, and $G_{Target,T} = P$. In the presence of the rival bidder, the value of the targets expected payment is $F - \mathbb{E}^{\mathcal{Q}}[e^{-rT}(S_{M,T})] - q$. Therefore,

$$G_{Target,0} = (1 - \psi) E^{\mathcal{Q}} \left[e^{-rT} (K - S_{M,T}) \times \mathbb{1}_{\{S_{B,T} - K \ge -P\}} + P \times \mathbb{1}_{\{S_{B,T} - K < -P\}} \right]$$

$$+ \psi \left[F - E^{\mathcal{Q}} [e^{-rT} (S_{M,T})] - q \right]$$

$$= 0.5(TS_P).$$
(C.1)

The target receives half of the total surplus. The expected value of the bidder's claim can be expressed

as

$$G_{Bidder,0} = \psi q + (1 - \psi) \mathbf{E}^{\mathcal{Q}} [e^{-rT} \max(S_{B,T} - K, -P)]$$

= 0.5(TS_P). (C.2)

Similarly the bidder receives half of the total surplus.

The optimal offer price, bidder termination fee, and target termination fee must also satisfy the inequality $\mathbb{E}^{\mathcal{Q}}\left[e^{-rT}(K-S_{M,T})\times\mathbb{1}_{\{S_{B,T}-K\geq -P\}}+P\times\mathbb{1}_{\{S_{B,T}-K<-P\}}\right]<[F-\mathbb{E}^{\mathcal{Q}}[e^{-rT}(S_{M,T})]-q]$. This inequality ensures that it is rational for the target to terminate the incumbent offer in favor of the second bidder's offer.

Therefore, the target's optimization problem is to select a pair of an offer price and bidder termination fee (K and P) as well as a target termination fee to maximize his share of the total surplus subject to the bidder's participation constraint and the indifference condition for termination of the incumbent offer in favor of the second bidder's offer:

$$\begin{aligned} \max_{(P,K,q)} & & G_{Target,0} \\ & & s.t. \\ & & G_{Bidder,0} = 0.5(TS_P) \\ & & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ & &$$

Using the indifference condition for termination of the incumbent offer in favor of the second bidder's offer, we can rewrite $G_{Target,0} = \mathbb{E}^{\mathcal{Q}} \left[e^{-rT} (K - S_{M,T}) \times \mathbb{1}_{\{S_{B,T} - K \ge -P\}} + P \times \mathbb{1}_{\{S_{B,T} - K < -P\}} \right]$. This allows us to rewrite the target's optimization problem as follows:

$$\max_{(P,K,q)} \quad \mathbb{E}^{\mathcal{Q}} \left[e^{-rT} (K - S_{M,T}) \times \mathbb{1}_{\{S_{B,T} - K \ge -P\}} + P \times \mathbb{1}_{\{S_{B,T} - K < -P\}} \right]$$

$$s.t.$$

$$G_{Bidder,0} = 0.5(TS_P)$$
(C.3)

This is essentially the same optimization for the target described in the paper (i.e. without a second bidder

and a target termination provision). Therefore, the comparative statistics previously obtained for the cash offer without a target termination provision remain unchanged in the presence of a second bidder and a target termination provision. We can also solve for the target termination fee $q^* = F - S_{M,0} - 0.5(TSP^*)$.

Next, we allow the probability that the second bidder arrives and makes an offer to the target after the target has signed the takeover contract with the incumbent bidder, ψ , to be sensitive to the value of the target under bidder control. In particular, we consider the possibility that the second bid is more likely when the value of the target under the incumbent bidder's control is higher. We assume $S_{B,0}^* = S_{B,0}(1+x\psi)$.³ In this setting parameter x determines the extent that the likelihood of arrival of the new bidder is related to the value of the target under bidder management. In particular, $Cov(S_{B,0}^*, \psi) = xVar(\psi)$.⁴ We solve this alternative model numerically. We fix the model parameters as $\sigma_B = 0.3$, $\sigma_M = 0.2$, T = 0.5, $\rho = 0.2$, T = 0.04, F = 110, $S_{B,0} = 110$, and $S_{M,0} = 100$. Figure C.1 illustrates the comparative statics of the model regarding how the bidder termination fee changes with T and σ_B for different values of parameter x. Therefore, the comparative statistics previously obtained for the cash offer without a target termination provision remain directionally unchanged in the presence of a second bidder and a target termination provision when the probability of arrival of the second bidder is positively related to the value of the target under bidder control. The results are similar if we instead assume that the arrival of a second bid is more likely when the target's value under the existing management is higher — i.e. if $S_{M,0}^* = S_{M,0}(1+x\psi)$ (Figure C.2).

C.2 Bidder Stock as a Method of Payment

In this section we examine how the use of the bidder's stock as a method of payment affects our predictions regarding bidder termination fees. Suppose that at time 0, a bidder offers β shares in the merged firm to acquire a target firm, and that the transaction is expected to be completed in T periods. The value of the target when the deal is completed is unknown to the bidder at time 0. In some states, the value of the target may fall below the initial offer price that the bidder had agreed to pay. The bidder would like to have the ability to withdraw from the deal in such bad states. Under certain conditions (to be derived later), the target agrees to grant the bidder the option to abandon the acquisition in such states. In exchange, the bidder agrees to pay a termination fee P to the target if he withdraws from the deal.

³This is a simple way to parametrize the correlation. We expect qualitatively similar results if we used alternative ways to parametrize the correlation (e.g., if we instead assumed that ψ affects the volatility of the value process).

⁴Note that because we allow $S_{B,0}^*$ to be correlated with ψ unconditionally, $S_{B,T}^*$ is then also correlated with ψ as a result.

Let $S_{B,t}$ and $S_{M,t}$ denote the values of the target firm under the control of the bidder and the target's management respectively at time t. Suppose $S_{B,t}$ and $S_{M,t}$ follow geometric Brownian motions:

$$\frac{dS_{B,t}}{S_{B,t}} = \mu_B dt + \sigma_B dW_{B,t} \tag{C.4}$$

$$\frac{dS_{M,t}}{S_{M,t}} = \mu_M dt + \sigma_M dW_{M,t} \tag{C.5}$$

where μ_B , μ_M , σ_B , σ_M are the drifts and volatilities of the target firm under the bidder and existing management's control respectively. $\{W_t, 0 \le t < \infty\}$ is the standard Wiener process. We also assume $S_{B,0} > S_{M,0}$ so that ex-ante, the takeover creates value. We allow the Brownian motions to be correlated as follows,

$$\rho dt = \langle dW_{B,t}, dW_{M,t} \rangle; \quad \sigma_{BM} = \rho \sigma_M \sigma_B. \tag{C.6}$$

Let $S_{A,t}$ denote the value of the bidder firm at time t and it follows a geometric Brownian motion:

$$\frac{dS_{A,t}}{S_{A,t}} = \mu_A dt + \sigma_A dW_{A,t} \tag{C.7}$$

where μ_A and σ_A are the drift and volatility of the bidder firm. We further allow the Brownian motions to be correlated as follows,

$$\rho_1 dt = \langle dW_{A,t}, dW_{M,t} \rangle; \quad \sigma_{AM} = \rho_1 \sigma_M \sigma_A. \tag{C.8}$$

$$\rho_2 dt = \langle dW_{A,t}, dW_{B,t} \rangle; \quad \sigma_{AB} = \rho_2 \sigma_B \sigma_A. \tag{C.9}$$

We now consider a contract that includes a bidder termination provision. Let β denote the stock swap ratio and P denote the bidder termination fee under this contract. We will later illustrate the conditions under which the target would agree to include this option. Let $G_{Bidder,T}$ denote the net present value of the acquisition to the bidder at time T. If the deal succeeds at T, then $G_{Bidder,T} =$ $S_{B,T} - \beta(S_{A,T} + S_{B,T})$. If the bidder withdraws from the deal, then he pays the bidder termination fee to the target and $G_{Bidder,T} = -P$. The bidder withdraws from the deal whenever consummating the deal is more costly than paying the bidder termination fee, i.e., if $S_{B,T} - \beta(S_{A,T} + S_{B,T}) < -P$. Therefore

$$G_{Bidder,T} = \max(S_{B,T} - \beta(S_{A,T} + S_{B,T}), -P),$$
 (C.10)

and

$$G_{Bidder,0} = \mathbb{E}^{\mathcal{Q}}[e^{-rT}\max(S_{B,T} - \beta(S_{A,T} + S_{B,T}), -P)]$$

= 0.5(TS_P). (C.11)

If the deal succeeds at T, the target receives $G_{Target,T} = \beta(S_{A,T} + S_{B,T}) - S_{M,T}$. If the bidder withdraws from the deal, then the target receives the bidder termination fee, and $G_{Target,T} = P$. Therefore

$$G_{Target,T} = (\beta(S_{A,T} + S_{B,T}) - S_{M,T}) \times \mathbb{1}_{\{S_{B,T} - \beta(S_{A,T} + S_{B,T}) \ge -P\}} + P \times \mathbb{1}_{\{S_{B,T} - \beta(S_{A,T} + S_{B,T}) < -P\}}, (C.12)$$

and similarly, the target receives half of the total surplus:

$$G_{Target,0} = \mathbb{E}^{\mathcal{Q}} \left[e^{-rT} G_{Target,T} \right]$$

= 0.5(TS_P). (C.13)

The target's optimization problem is to select a pair of an offer price (in a stock offer this would be the stock swap ratio) and bidder termination fee (β and P) to maximize his share of the total surplus subject to the bidder's participation constraint:

$$G_{Target,0}$$
 $G_{Target,0}$ $S.t.$ $G_{Bidder,0} = 0.5(TS_P)$

We solve the model numerically. We fix the model parameters as $\sigma_B = 0.3$, $\sigma_M = 0.2$, $\sigma_A = 0.3$, T = 0.5, $\rho = 0.2$, $\rho_1 = 0.2$, $\rho_2 = 0.3$, r = 0.04, $S_{B,0} = 110$, $S_{M,0} = 100$, and $S_{A,0} = 100$. Figure C.3 illustrates the comparative statics of the model related to how bidder termination fee changes with T and σ_B for different values of ρ_2 . Therefore, the comparative statistics previously obtained for the cash offer without a target termination provision remain unchanged when the method of payment is stock. Furthermore, the size of the bidder termination fee is smaller in a stock offer compared to a cash offer.

Figure C.1: Variation in Bidder Termination Fees in the Presence of Target Termination Fees 1

This figure plots variation in the optimal bidder termination fee (expressed relative to offer price), p^* , as a function of T and σ_B , for x=0.35 and x=0.5. In this model, the arrival of a second bidder is more likely when the target's value under the incumbent bidder's control, S_B , is higher. The base parameters for the graphs are r=0.04, $S_{M,0}=100$, $S_{B,0}=110$, $\sigma_M=0.2$, $\sigma_B=0.3$, T=0.5, and $\rho=0.2$. In each graph only one parameter changes, with the others fixed at their base values

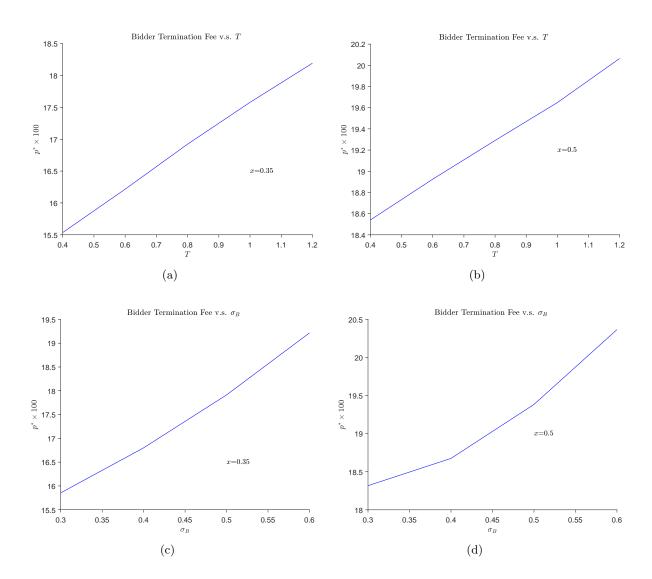


Figure C.2: Variation in Bidder Termination Fees in the Presence of Target Termination Fees 2 This figure plots variation in the optimal bidder termination fee (expressed relative to offer price), p^* , as a function of T and σ_B , for x=0.35 and x=0.5. In this model, the arrival of a second bidder is more likely when the target's value under existing management, S_M , is higher. The base parameters for the graphs are r=0.04, $S_{M,0}=100$, $S_{B,0}=110$, $\sigma_M=0.2$, $\sigma_B=0.3$, T=0.5, and $\rho=0.2$. In each graph only one parameter changes, with the others fixed at their base values.

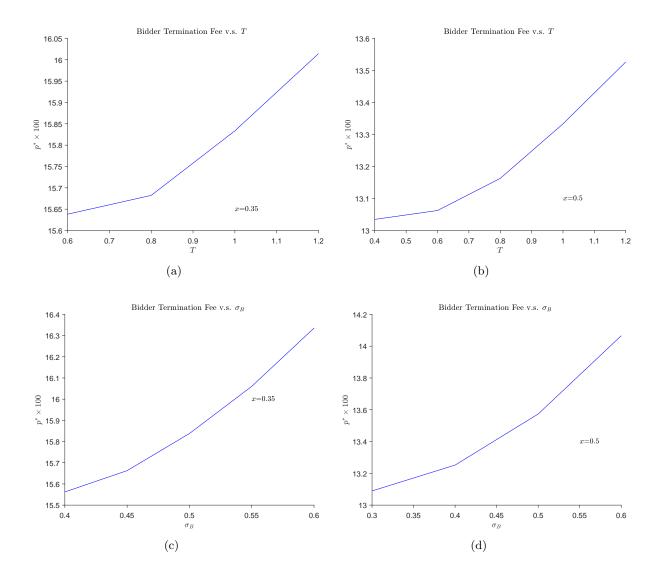
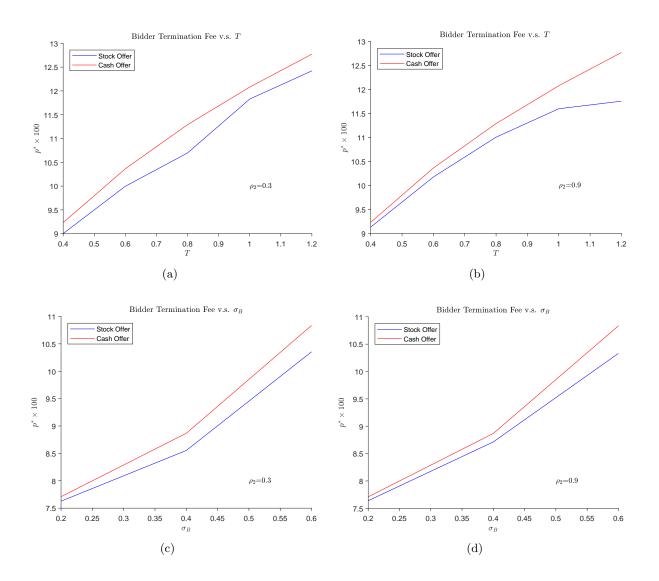


Figure C.3: Variation in Bidder Termination Fees in Cash vs. Stock Offers This figure plots variation in the optimal bidder termination fee (expressed relative to offer price), p^* , as a function of T

and σ_B , for $\rho_2 = 0.3$ and $\rho_2 = 0.9$. The base parameters for the graphs are r = 0.04, $S_{M,0} = 100$, $S_{B,0} = 110$, $\sigma_M = 0.2$, $\sigma_B = 0.3$, T = 0.5, and $\rho = 0.2$. In each graph only one parameter changes, with the others fixed at their base values.



Internet Appendix D - Supplementary Analysis and Robustness Checks

This appendix reports supplementary analysis and robustness checks that accompany our paper. All variables not defined in the table captions are defined in Table A.1 in the paper.

Table D.1:

Terminated Deals — Reasons for Termination

This table reports a summary of reasons deals in our sample are terminated. The sample consists of a subsample of 160 deals that were subsequently terminated from a sample of 2078 takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms. Data on termination provisions is from SDC and reasons for termination are coded by hand from reading SEC 8-K filings and press reports. Bids rejected by targets and unsuccessful bids withdrawn by bidders are excluded. Panel A reports the party responsible for termination (target, bidder or both), also splitting the deals into those that do not and do include a bidder termination provision (BTP). Panel B lists the reasons why bidders terminated deals — the sample consists of 29 deals from Panel A for which termination was attributed to the bidder. Deals are split into those that do not and do include a bidder termination provision. For deals with a bidder termination provision, the table indicates whether a bidder termination fee (BTF) was paid and whether the bidder and target contested whether the bidder termination fee was payable.

Panel A:						
Who Terminates	All Deals	% of All Deals	No BTP	% of terminated deals with no BTP	Includes BTP	% of terminated deals with BTP
Target	83	52%	72	58%	11	31%
Bidder	29	18%	13	10%	16	46%
Both	48	30%	40	32%	8	23%
Total	160	•	125	•	35	•

	No BTP		Includ	es BTP
	N	N	BTF Paid	BTF Contested
Bidder received takeover offer	0	1	1	0
Antitrust	1	1	0	1
Other regulatory Issue	2	1	1	0
Bidder failed to secure financing	0	3	3	0
Bidder shareholders disapproved	2	2	1	1
Adverse economic conditions for bidder	0	4	3	1
Target Material Adverse Change	3	1	0	0
Target breached agreement terms	5	0	0	0
Other/undisclosed	0	3	2	1

Table D.2: Price Revisions

This table reports estimates from logit regressions that examine price revisions in takeovers. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms. The dependent variable in (1) and (2) ((3) and (4)) [(5) and (6)] equals 1 if the final price reported in SDC is not equal to (less than) [greater than] the initial price. The explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	Final Price	\neq Initial Price	Final Price	< Initial Price	Final Price	> Initial Price
D						
Bidder Termination Provision	0.202	0.238	0.328	0.237	0.0688	0.212
	(1.19)	(1.35)	(1.39)	(0.98)	(0.30)	(0.88)
Target Termination Provision		-0.0423		0.584*		-0.471**
		(-0.22)		(1.89)		(-2.01)
Collar		0.648***		0.633**		0.610**
		(3.00)		(2.19)		(2.13)
Lockup Option		-0.134		-0.178		-0.0238
		(-0.59)		(-0.56)		(-0.08)
Stock Offer	0.840***	0.765***	1.920***	1.851***	0.148	0.0339
	(3.68)	(3.27)	(4.30)	(4.07)	(0.53)	(0.12)
Stock and Cash Offer	0.535**	0.461**	1.550***	1.436***	0.00931	-0.0342
	(2.57)	(2.17)	(3.64)	(3.28)	(0.04)	(-0.13)
Bidder Toehold	0.129	0.132	0.0253	0.0376	0.143	0.143
	(1.45)	(1.47)	(0.18)	(0.25)	(1.33)	(1.32)
Tender Offer	0.317	0.334	-0.625	-0.680	0.608**	0.672**
	(1.41)	(1.48)	(-1.25)	(-1.35)	(2.27)	(2.52)
Hostile Approach	2.029***	1.982***	-13.70***	-13.27***	2.158***	1.974***
	(4.70)	(4.47)	(-26.87)	(-23.47)	(4.92)	(4.40)
Same Industry	0.0938	0.0899	0.0860	0.0250	0.0796	0.105
	(0.66)	(0.62)	(0.42)	(0.12)	(0.44)	(0.57)
Completed Deal	-0.512**	-0.509**	-0.269	-0.423	-0.646**	-0.486*
	(-2.47)	(-2.30)	(-0.87)	(-1.32)	(-2.49)	(-1.71)
Log(Target Market Cap.)	0.172**	0.174**	0.0826	0.0763	0.222**	0.225**
	(2.31)	(2.31)	(0.77)	(0.71)	(2.25)	(2.27)
Target Market-to-Book Assets	-0.00568	-0.00327	-0.0214	-0.0241	0.00712	0.0175
	(-0.16)	(-0.09)	(-0.41)	(-0.44)	(0.15)	(0.39)
Log(Bidder Market Cap.)	-0.0971	-0.0934	-0.0783	-0.0689	-0.0908	-0.0906
	(-1.52)	(-1.46)	(-0.85)	(-0.76)	(-1.08)	(-1.06)
Bidder Market-to-Book Assets	-0.0433	-0.0449	-0.0407	-0.0444	-0.0404	-0.0425
	(-1.35)	(-1.36)	(-0.94)	(-0.95)	(-0.99)	(-1.04)
Target Market Cap./Bidder Market Cap.	-0.478*	-0.450*	-0.657	-0.541	-0.300	-0.302
	(-1.88)	(-1.81)	(-1.46)	(-1.32)	(-1.05)	(-1.05)
Constant	-2.572***	-2.664***	-3.617***	-3.913***	-3.472***	-3.460***
	(-3.74)	(-3.85)	(-3.69)	(-3.94)	(-3.94)	(-3.92)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2078	2078	2078	2078	2078	2078
Pseudo R-squared	0.075	0.080	0.100	0.111	0.116	0.122
•						

Inclusion of Bidder Termination Provisions — Controlling for Price Revisions

This table reports estimates from logit regressions that examine the inclusion of bidder termination provisions in takeover agreements. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms. The dependent variable equals 1 if the takeover agreement included a bidder termination provision. Final Price \neq Initial Price

Table D.3:

(Final Price < Initial Price) [Final Price > Initial Price] equals 1 if the final price reported in SDC is not equal to (less than) [greater than] the initial price. All other explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

(4)

(5)

(6)

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	=	1 if deal inc	eludes a Bide	der Termina	tion Provision	on
Bidder Asset Volatility	1.006**		1.011**		1.011**	
The state of the s	(2.33)		(2.34)		(2.35)	
Target Asset Volatility	(2.00)	0.883***	(2.01)	0.890***	(2.00)	0.893***
Target Asset Volatility						
Dill E + A + C	0.505*	(2.62)	0.770*	(2.64)	0.77.1*	(2.65)
Bidder-Target Asset Covariance	-2.785*	-2.589*	-2.773*	-2.584*	-2.774*	-2.594*
	(-1.88)	(-1.92)	(-1.87)	(-1.91)	(-1.87)	(-1.92)
Log(Time-to-Completion (Actual))	0.643***	0.657***	0.650***	0.663***	0.652***	0.663***
	(4.64)	(4.72)	(4.69)	(4.76)	(4.74)	(4.80)
Target Termination Provision	2.482***	2.484***	2.477***	2.481***	2.484***	2.486***
	(8.03)	(8.00)	(8.00)	(7.96)	(8.01)	(7.98)
Collar	-0.621***	-0.587**	-0.617***	-0.585**	-0.618***	-0.586**
Contai	(-2.66)	(-2.52)	(-2.65)	(-2.52)	(-2.65)	(-2.52)
Ladun Ontion	0.137	0.151	0.136	0.150	0.134	0.149
Lockup Option						
a. 1.0 <i>m</i>	(0.62)	(0.68)	(0.62)	(0.68)	(0.61)	(0.67)
Stock Offer	0.534***	0.555***	0.532***	0.555***	0.540***	0.559***
	(2.66)	(2.77)	(2.65)	(2.76)	(2.69)	(2.79)
Stock and Cash Offer	0.141	0.156	0.140	0.156	0.144	0.158
	(0.72)	(0.80)	(0.72)	(0.80)	(0.74)	(0.81)
Bidder Toehold	-0.533***	-0.539**	-0.527**	-0.535**	-0.534***	-0.541**
	(-2.60)	(-2.56)	(-2.55)	(-2.52)	(-2.61)	(-2.57)
Tender Offer	-0.182	-0.170	-0.172	-0.163	-0.178	-0.169
Tender Oner	(-0.75)	(-0.70)	(-0.71)	(-0.67)	(-0.74)	(-0.69)
Hastile Approach	-0.634	-0.648	-0.587	-0.613	-0.634	-0.654
Hostile Approach						
	(-1.17)	(-1.18)	(-1.09)	(-1.12)	(-1.16)	(-1.18)
Same Industry	-0.0557	-0.0430	-0.0551	-0.0423	-0.0538	-0.0419
	(-0.41)	(-0.32)	(-0.41)	(-0.32)	(-0.40)	(-0.31)
Final price \neq Initial price	0.106	0.0795				
	(0.60)	(0.45)				
Final price < Initial price			0.104	0.0635		
1			(0.43)	(0.27)		
Final price > Initial price			(0.10)	(0.21)	0.0893	0.0806
That price > Initial price					(0.37)	(0.33)
Lam/Tament Maulant Com	0.604***	0.638***	0.605***	0.639***	0.604***	0.638***
Log(Target Market Cap.)						
	(6.07)	(6.44)	(6.07)	(6.45)	(6.06)	(6.43)
Target Market-to-Book Assets	-0.0107	-0.0370	-0.0107	-0.0373	-0.0108	-0.0374
	(-0.29)	(-0.94)	(-0.29)	(-0.95)	(-0.29)	(-0.95)
Log(Bidder Market Cap.)	-0.508***	-0.539***	-0.508***	-0.539***	-0.507***	-0.538***
	(-5.44)	(-5.92)	(-5.43)	(-5.92)	(-5.44)	(-5.92)
Bidder Market-to-Book Assets	0.0178	0.0266	0.0175	0.0263	0.0172	0.0262
	(0.59)	(0.88)	(0.58)	(0.87)	(0.57)	(0.87)
Target Market Cap./Bidder Market Cap.	-0.0335	-0.0666	-0.0336	-0.0672	-0.0346	-0.0678
ranger marker cap., Bidder marker cap.	(-0.15)	(-0.31)	(-0.15)	(-0.31)	(-0.16)	(-0.32)
Constant						
Constant	-3.590***	-3.518***	-3.587***	-3.516***	-3.583***	-3.517***
	(-4.75)	(-4.81)	(-4.75)	(-4.80)	(-4.75)	(-4.81)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2078	2078	2078	2078	2078	2078
Pseudo R^2	0.217	0.217	0.217	0.217	0.217	0.217
	•	•	•	•	•	•

Table D.4:
Determinants of Bidder Termination Fees — Controlling for Price Revisions
This table reports estimates from OLS regressions that examine the size of bidder termination fees payable by a bidder upon terminating a takeover agreement. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms, that included a bidder termination provision in the takeover agreement. The dependent variable is the value of the hidder termination fee divided by the total value of the transaction. Final Price - Initial Pr

both publicly listed U.S. firms, that included a bidder termination provision in the takeover agreement. The dependent variable is the value of the bidder termination fee divided by the total value of the transaction. Final Price \neq Initial Price (Final Price < Initial Price) [Final Price > Initial Price] equals 1 if the final price reported in SDC is not equal to (less than) [greater than] the initial price. All other explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:		Bidder	Termination I	ee/Transacti	on Value	
Bidder Asset Volatility	0.0192**		0.0194***		0.0188**	
·	(2.55)		(2.60)		(2.45)	
Target Asset Volatility		0.00756		0.00815		0.00784
		(1.16)		(1.28)		(1.20)
Bidder-Target Asset Covariance	-0.0463**	-0.0271	-0.0462**	-0.0277	-0.0438*	-0.0263
	(-2.07)	(-1.17)	(-2.03)	(-1.21)	(-1.91)	(-1.13)
Log(Time-to-Completion (Actual))	0.0108**	0.0101**	0.0111**	0.0104**	0.0110**	0.0102**
	(2.22)	(2.13)	(2.30)	(2.22)	(2.31)	(2.23)
${\it Target \ Termination \ Fee/Transaction \ Value}$	0.299**	0.314**	0.295**	0.311**	0.298**	0.313**
	(2.33)	(2.52)	(2.32)	(2.50)	(2.34)	(2.54)
Collar	-0.00585*	-0.00456	-0.00603*	-0.00466	-0.00570*	-0.00440
	(-1.67)	(-1.33)	(-1.72)	(-1.35)	(-1.65)	(-1.30)
Lockup Option	0.00366	0.00307	0.00372	0.00314	0.00354	0.00299
	(0.89)	(0.74)	(0.90)	(0.76)	(0.85)	(0.72)
Stock Offer	-0.0124**	-0.0121**	-0.0121**	-0.0119**	-0.0120**	-0.0119**
	(-2.16)	(-2.09)	(-2.08)	(-2.02)	(-2.05)	(-2.00)
Stock and Cash Offer	-0.0161***	-0.0165***	-0.0160***	-0.0164***	-0.0161***	-0.0164***
	(-2.92)	(-2.90)	(-2.88)	(-2.87)	(-2.88)	(-2.87)
Bidder Toehold	0.0257**	0.0257**	0.0295***	0.0290***	0.0252**	0.0247**
	(2.43)	(2.45)	(3.06)	(3.04)	(2.29)	(2.28)
Tender Offer	-0.00432	-0.00404	-0.00385	-0.00362	-0.00436	-0.00415
	(-0.58)	(-0.55)	(-0.50)	(-0.47)	(-0.60)	(-0.57)
Hostile Approach	-0.0190	-0.0197	-0.0170	-0.0180	-0.0191	-0.0201
	(-1.09)	(-1.13)	(-1.00)	(-1.07)	(-1.05)	(-1.12)
Same Industry	0.000341	0.00113	0.000490	0.00127	0.000476	0.00119
	(0.10)	(0.32)	(0.15)	(0.36)	(0.14)	(0.34)
Final price \neq Initial price	0.00390	0.00342				
	(0.90)	(0.77)				
Final price < Initial price			0.00300	0.00199		
			(0.61)	(0.40)		
Final price > Initial price					0.00415	0.00426
					(0.68)	(0.69)
Log(Target Market Cap.)	-0.000896	-0.000607	-0.000951	-0.000611	-0.000854	-0.000536
	(-0.47)	(-0.29)	(-0.49)	(-0.30)	(-0.45)	(-0.26)
Target Market-to-Book Assets	0.0000787	-0.000221	0.0000993	-0.000221	0.0000514	-0.000253
_ ((0.16)	(-0.47)	(0.20)	(-0.47)	(0.10)	(-0.52)
Log(Bidder Market Cap.)	0.000727	0.000141	0.000755	0.000142	0.000692	0.000106
	(0.42)	(0.08)	(0.44)	(0.08)	(0.40)	(0.06)
Bidder Market-to-Book Assets	-0.0000214	0.000207	-0.0000350	0.000189	-0.0000500	0.000175
	(-0.08)	(0.81)	(-0.14)	(0.75)	(-0.19)	(0.69)
Target Market Cap./Bidder Market Cap.	-0.00567	-0.00618	-0.00561	-0.00618	-0.00582	-0.00634
-	(-0.90)	(-0.95)	(-0.88)	(-0.94)	(-0.93)	(-0.98)
Constant	0.0704**	0.0768**	0.0709**	0.0772**	0.0710**	0.0770**
	(2.06)	(2.14)	(2.10)	(2.16)	(2.11)	(2.15)
V DD	3.7	3.7	***	***	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	No	No
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	433	433	433	433	433	433
Adjusted R^2	0.190	0.182	0.189	0.180	0.189	0.181

Table D.5:
Inclusion of Bidder Termination Provisions — Controlling for Deal Completion Status
This table reports estimates from logit regressions that examine the inclusion of bidder termination provisions in takeover agreements.
The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S.

The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms. The dependent variable equals 1 if the takeover agreement included a bidder termination provision. All explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent Variable	=1 if deal	includes a H	Bidder Termi	nation Provision
	a oo askalada			
Bidder Asset Volatility	1.304***		1.025**	
	(3.39)	a a contrated	(2.39)	0.00=44444
Target Asset Volatility		1.143***		0.897***
		(3.58)		(2.67)
Bidder-Target Asset Covariance	-2.974**	-2.734**	-2.764*	-2.566*
T (T) (1)	(-2.09)	(-2.09)	(-1.87)	(-1.91)
Log(Time-to-Completion (Actual))	0.646***	0.657***	0.649***	0.660***
	(4.99)	(5.03)	(4.64)	(4.70)
Target Termination Provision			2.416***	2.423***
			(7.54)	(7.54)
Collar			-0.618***	-0.587**
			(-2.64)	(-2.51)
Lockup Option			0.131	0.145
			(0.59)	(0.66)
Stock Offer	0.455**	0.496***	0.547***	0.567***
	(2.38)	(2.59)	(2.71)	(2.82)
Stock and Cash Offer	0.240	0.270	0.150	0.164
	(1.32)	(1.48)	(0.76)	(0.83)
Bidder Toehold	-0.521**	-0.530**	-0.524**	-0.532**
	(-2.57)	(-2.53)	(-2.49)	(-2.46)
Tender Offer	-0.0675	-0.0497	-0.172	-0.163
	(-0.29)	(-0.21)	(-0.71)	(-0.67)
Hostile Approach	-1.298**	-1.336**	-0.512	-0.539
	(-2.17)	(-2.22)	(-0.92)	(-0.96)
Same Industry	0.00610	0.0222	-0.0587	-0.0459
	(0.05)	(0.17)	(-0.44)	(-0.34)
Completed Deal	0.896***	0.870***	0.284	0.273
	(3.85)	(3.76)	(1.12)	(1.08)
Log(Target Market Cap.)	0.646***	0.683***	0.609***	0.642***
	(6.68)	(7.12)	(6.09)	(6.46)
Target Market-to-Book Assets	0.0163	-0.0179	-0.00883	-0.0357
	(0.50)	(-0.50)	(-0.24)	(-0.91)
Log(Bidder Market Cap.)	-0.523***	-0.557***	-0.513***	-0.545***
	(-5.75)	(-6.24)	(-5.47)	(-5.95)
Bidder Market-to-Book Assets	0.0148	0.0256	0.0164	0.0255
	(0.57)	(1.00)	(0.54)	(0.85)
Target Market Cap./Bidder Market Cap.	-0.152	-0.178	-0.0294	-0.0631
	(-0.76)	(-0.88)	(-0.13)	(-0.29)
Constant	-2.907***	-2.805***	-3.791***	-3.714***
	(-4.11)	(-4.08)	(-4.93)	(-4.98)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	2078	2078	2078	2078
Pseudo R^2	0.161	0.161	0.217	0.218
	-	-	•	-
=				

Table D.6:Determinants of Bidder Termination Fees — Controlling for Deal Completion Status

This table reports estimates from OLS regressions that examine the size of bidder termination fees payable by a bidder upon terminating a takeover agreement. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms, that included a bidder termination provision in the takeover agreement. The dependent variable is the value of the bidder termination fee divided by the total value of the transaction. All explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent Variable:	()	()	Fee/Transacti	()
Bidder-Target Asset Covariance	-0.0493**	-0.0337	-0.0461**	-0.0281
D111 A X 1 . 221	(-2.11)	(-1.37)	(-2.00)	(-1.21)
Bidder Asset Volatility	0.0223***		0.0197***	
(T)	(3.05)	0.0111*	(2.61)	0.00004
Target Asset Volatility		0.0111*		0.00834
I (Ti t- C1-ti (A-t1))	0.0128***	(1.67) $0.0121***$	0.0115**	(1.31) $0.0107**$
Log(Time-to-Completion (Actual))	(2.86)	(2.76)	0.0115** (2.43)	(2.35)
Target Termination Fee/Transaction Value	(2.00)	(2.70)	0.303**	0.319***
rarget Termination Fee/ Transaction value			(2.40)	(2.60)
Collar			-0.00573*	-0.00438
Conai			(-1.66)	(-1.30)
Lockup Option			0.00385	0.00329
Боскир Орион			(0.94)	(0.80)
Stock Offer	-0.0116**	-0.0114*	-0.0120**	-0.0118**
Stock Offer	(-1.98)	(-1.93)	(-2.03)	(-1.97)
Stock and Cash Offer	-0.0164***	-0.0168***	-0.0158***	-0.0162***
	(-3.02)	(-3.02)	(-2.83)	(-2.83)
Bidder Toehold	0.0484***	0.0491***	0.0311***	0.0306***
	(6.19)	(6.28)	(3.18)	(3.16)
Tender Offer	-0.00285	-0.00242	-0.00418	-0.00394
	(-0.39)	(-0.33)	(-0.56)	(-0.53)
Hostile Approach	-0.0141	-0.0145	-0.0192	-0.0201
••	(-0.94)	(-0.96)	(-1.27)	(-1.33)
Same Industry	0.00134	0.00211	0.00125	0.00198
	(0.40)	(0.60)	(0.37)	(0.56)
Completed Deal	-0.0108*	-0.0104*	-0.0118*	-0.0115*
	(-1.76)	(-1.72)	(-1.91)	(-1.89)
Log(Target Market Cap.)	-0.00179	-0.00138	-0.000968	-0.000627
	(-1.01)	(-0.71)	(-0.50)	(-0.30)
Target Market-to-Book Assets	0.000119	-0.000254	0.000151	-0.000171
	(0.24)	(-0.51)	(0.30)	(-0.35)
Log(Bidder Market Cap.)	0.00104	0.000304	0.000778	0.000161
	(0.64)	(0.18)	(0.45)	(0.09)
Bidder Market-to-Book Assets	-0.0000753	0.000171	-0.0000292	0.000205
T	(-0.29)	(0.60)	(-0.11)	(0.81)
Target Market Cap./Bidder Market Cap.	-0.00563	-0.00625	-0.00660	-0.00712
	(-0.92)	(-0.99)	(-1.07)	(-1.13)
Constant	0.0992***	0.106***	0.0831**	0.0890**
	(3.19)	(3.25)	(2.39)	(2.42)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	433	433	433	433
Adjusted R^2	0.167	0.158	0.199	0.190
-				

Table D.7:
Inclusion of Bidder Termination Provisions — Excluding Early Terminations
This table reports estimates from logit regressions that examine the inclusion of bidder termination provisions in takeover agreements.

The sample consists of takeovers appropried between 1007 and 2013 involving bidders and targets that were both publicly listed U.S.

This table reports estimates from logit regressions that examine the inclusion of bidder termination provisions in takeover agreements. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms, excluding deals that were terminated early (offers that were rejected by the target or withdrawn by the bidder because they were unsuccessful). The dependent variable equals 1 if the takeover agreement included a bidder termination provision. All explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent Variable:	=1 if deal	includes a E	Bidder Termi	nation Provision
Didden A V-1-4:1:4	1 071***		1 022**	
Bidder Asset Volatility	1.271*** (3.29)		1.033** (2.41)	
Target Asset Volatility	(3.23)	1.132***	(2.41)	0.897***
		(3.50)		(2.67)
Bidder-Target Asset Covariance	-3.017**	-2.804**	-2.797*	-2.579*
	(-2.11)	(-2.13)	(-1.89)	(-1.92)
Log(Time-to-Completion (Actual))	0.628***	0.640***	0.626***	0.637***
Target Termination Provision	(4.91)	(4.94)	(4.42) $2.283***$	(4.49) $2.290***$
Target Termination Provision			(7.29)	(7.27)
Collar			-0.616***	-0.584**
			(-2.65)	(-2.51)
Lockup Option			0.125	0.139
			(0.57)	(0.63)
Stock Offer	0.389**	0.426**	0.522***	0.542***
Stock and Cash Offer	(2.03) 0.185	(2.22) 0.210	(2.58) 0.136	(2.69) 0.150
Stock and Cash Oller	(1.01)	(1.14)	(0.69)	(0.76)
Bidder Toehold	-0.467***	-0.475***	-0.488**	-0.498**
	(-2.69)	(-2.62)	(-2.43)	(-2.39)
Tender Offer	-0.107	-0.0932	-0.198	-0.190
	(-0.45)	(-0.39)	(-0.81)	(-0.77)
Hostile Approach	-0.999*	-1.010*	-0.268	-0.288
Same Industry	(-1.67) 0.0153	(-1.68) 0.0318	(-0.45) -0.0482	(-0.48) -0.0351
Same industry	(0.12)	(0.24)	(-0.36)	(-0.26)
Log(Target Market Cap.)	0.649***	0.686***	0.611***	0.644***
1,	(6.74)	(7.17)	(6.13)	(6.49)
Target Market-to-Book Assets	0.00572	-0.0276	-0.0113	-0.0380
- ((0.17)	(-0.76)	(-0.30)	(-0.97)
Log(Bidder Market Cap.)	-0.513***	-0.549***	-0.512***	-0.543***
Bidder Market-to-Book Assets	(-5.72) 0.0178	(-6.21) 0.0284	(-5.48) 0.0173	(-5.96) 0.0266
Didder Market-to-Dook Assets	(0.69)	(1.11)	(0.58)	(0.89)
Target Market Cap./Bidder Market Cap.	-0.164	-0.193	-0.0344	-0.0678
· · · · · · · · · · · · · · · · · · ·	(-0.83)	(-0.95)	(-0.16)	(-0.31)
Constant	-2.133***	-2.043***	-3.440***	-3.362***
	(-3.15)	(-3.10)	(-4.58)	(-4.62)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	1993	1993	1993	1993
Pseudo R^2	0.153	0.153	0.205	0.205

Table D.8: Bidder Termination Provisions and Deal Completion

This table reports estimates from logit regressions that examine the completion of takeovers. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms. The dependent variable equals 1 if the takeover takeover was successfully completed. The explanatory variables are defined in Table A.1. (1) includes all deals. (2) includes only deals with a bidder termination provision — the Bidder Toehold is excluded because it perfectly completes deal completion. Year fixed effects and target Fama-French 10 Industry fixed effects are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(4)	(2)
Dependent Veriable	(1) -1 if deal	(2) is Completed
Dependent Variable:	=1 ii deai	is Completed
Bidder Termination Provision	0.325	
Biddor Toriningsion Trovision	(1.28)	
Bidder Termination Fee/Transaction Value	(1120)	-18.54***
,		(-2.64)
Target Termination Provision	2.264***	, ,
	(10.98)	
Target Termination Fee/Transaction Value		36.61**
		(2.42)
Collar	-0.188	0.0636
	(-0.62)	(0.08)
Lockup Option	0.861**	0.367
	(2.37)	(0.38)
Stock Offer	0.187	-0.422
	(0.76)	(-0.51)
Stock and Cash Offer	0.000761	0.0842
D. 1	(0.00)	(0.10)
Bidder Toehold	-0.328***	
T 1 0 m	(-3.71)	0.040
Tender Offer	0.352	-0.640
TT (2) A 1	(1.14)	(-0.61)
Hostile Approach	-2.636***	-1.617
C . I l	(-5.94)	(-1.04)
Same Industry	-0.200	0.822*
I/Tt Mlt C)	(-1.09) -0.456***	(1.86)
Log(Target Market Cap.)		-0.131
Towart Monloot to Book Assets	(-4.13) -0.129***	(-0.51)
Target Market-to-Book Assets		0.0621
I/D: dd Mlt C)	(-2.64) 0.601***	(0.52) 0.146
Log(Bidder Market Cap.)		
Bidder Market-to-Book Assets	(5.80) -0.0198	(0.59) 0.403*
Didder Market-to-Dook Assets	(-0.91)	(1.70)
Target Market Cap./Bidder Market Cap.	0.123	-0.949
rarget market Cap./Bidder market Cap.	(0.45)	(-1.51)
Constant	-0.537	19.96***
Constant	(-0.65)	(5.72)
	(-0.00)	(0.12)
Year FE	Yes	Yes
Industry FE	Yes	Yes
Observations	2078	433
Pseudo R^2	0.304	0.195

Table D.9: Inclusion of Bidder Termination Provisions — Alternative Time Measures

This table reports estimates from logit regressions that examine the inclusion of bidder termination provisions in takeover agreements. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms. The dependent variable equals 1 if the takeover agreement included a bidder termination provision. All explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and **** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	(1)	(2)	(3) =1 if Deal In	(4) ncludes Bidd	(5) er Terminat	(6) ion Provisio	(7)	(8)
Bidder Asset Volatility	1.150*** (3.00)		0.964** (2.23)		1.208*** (3.16)		0.996** (2.31)	
Target Asset Volatility	(3.00)	1.080*** (3.40)	(2.23)	0.853** (2.54)	(3.10)	1.126*** (3.53)	(2.31)	0.883*** (2.63)
Bidder-Target Asset Covariance	-2.880** (-2.01)	-2.825** (-2.15)	-2.751* (-1.85)	-2.584* (-1.92)	-2.949** (-2.06)	-2.872** (-2.17)	-2.762* (-1.86)	-2.594* (-1.92)
Time-to-Completion (Actual)	1.568*** (4.93)	1.596*** (4.96)	1.513*** (4.36)	1.538*** (4.43)	(2.00)	(2.11)	(2.00)	(1102)
$\sqrt{\text{Time-to-Completion (Actual)}}$	(1.00)	(1.00)	(1.00)	(1.10)	2.261*** (5.54)	2.297*** (5.57)	2.089*** (4.56)	2.126*** (4.63)
Target Termination Provision			2.536*** (8.17)	2.537*** (8.14)	(0.0-)	(0.01)	2.510*** (8.10)	2.511*** (8.07)
Collar			-0.611*** (-2.63)	-0.581** (-2.50)			-0.612*** (-2.63)	-0.581** (-2.50)
Lockup Option			0.146 (0.66)	0.162 (0.73)			0.139 (0.63)	0.155 (0.70)
Stock Offer	0.523*** (2.79)	0.558*** (2.98)	0.594*** (2.99)	0.613*** (3.09)	0.486** (2.57)	0.522*** (2.77)	0.566*** (2.83)	0.585*** (2.93)
Stock and Cash Offer	0.321* (1.81)	0.346* (1.95)	0.200 (1.04)	0.213 (1.11)	0.283 (1.58)	0.309* (1.72)	0.171 (0.88)	0.184 (0.95)
Bidder Toehold	-0.578*** (-2.93)	-0.583*** (-2.89)	-0.537*** (-2.58)	-0.543** (-2.55)	-0.569*** (-2.90)	-0.575*** (-2.85)	-0.532** (-2.58)	-0.539** (-2.54)
Tender Offer	-0.140 (-0.62)	-0.129 (-0.56)	-0.297 (-1.26)	-0.290 (-1.22)	-0.0783 (-0.34)	-0.0659 (-0.29)	-0.238 (-1.00)	-0.231 (-0.96)
Hostile Approach	-1.754*** (-3.04)	-1.776*** (-3.06)	-0.562 (-1.05)	-0.585 (-1.08)	-1.761*** (-3.07)	-1.784*** (-3.09)	-0.575 (-1.07)	-0.599 (-1.11)
Same Industry	-0.00580 (-0.04)	0.00235 (0.02)	-0.0681 (-0.51)	-0.0575 (-0.43)	0.00613 (0.05)	0.0158 (0.12)	-0.0604 (-0.45)	-0.0492 (-0.37)
Log(Target Market Cap.)	0.633*** (6.66)	0.671*** (7.07)	0.611*** (6.17)	0.644*** (6.52)	0.629*** (6.62)	0.668**** (7.05)	0.608*** (6.12)	0.641*** (6.48)
Target Market-to-Book Assets	0.00848 (0.26)	-0.0232 (-0.65)	-0.0124 (-0.33)	-0.0377 (-0.96)	0.0101 (0.31)	-0.0228 (-0.64)	-0.0115 (-0.31)	-0.0377 (-0.96)
Log(Bidder Market Cap.)	-0.501*** (-5.64)	-0.536*** (-6.10)	-0.517*** (-5.58)	-0.547*** (-6.04)	-0.497*** (-5.59)	-0.533*** (-6.07)	-0.512*** (-5.51)	-0.543*** (-5.98)
Bidder Market-to-Book Assets	0.0185 (0.72)	0.0280 (1.11)	0.0178 (0.59)	0.0264 (0.88)	0.0179 (0.70)	0.0278 (1.10)	0.0174 (0.58)	0.0263 (0.87)
Target Market Cap./Bidder Market Cap.	-0.223 (-1.16)	-0.252 (-1.27)	-0.0539 (-0.25)	-0.0867 (-0.41)	-0.208 (-1.08)	-0.237 (-1.20)	-0.0463 (-0.22)	-0.0799 (-0.38)
Constant	-3.459*** (-5.21)	-3.446*** (-5.27)	-4.876*** (-6.56)	-4.832*** (-6.71)	-4.223*** (-6.08)	-4.214*** (-6.13)	-5.548*** (-7.16)	-5.517*** (-7.31)
Year FE	Yes							
Industry FE Observations	Yes 2078							
Pseudo R-squared	0.147	0.148	0.215	0.215	0.149	0.150	0.216	0.216

Table D.10: Determinants of Bidder Termination Fees — Alternative Time Measures

This table reports estimates from OLS regressions that examine the size of bidder termination fees payable by a bidder upon terminating a takeover agreement. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms, that included a bidder termination provision in the takeover agreement. The dependent variable is the value of the bidder termination fee divided by the total value of the transaction. All explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	(1)	(2)	(3) Bidder T	(4) Termination F	(5) ee/Transaction	(6) on Value	(7)	(8)
Bidder Asset Volatility	0.0208***		0.0182**		0.0211***		0.0186**	
Target Asset Volatility	(2.97)	0.00979 (1.57)	(2.51)	0.00752 (1.25)	(3.01)	0.0103 (1.65)	(2.55)	0.00795 (1.32)
Bidder-Target Asset Covariance	-0.0385** (-2.04)	-0.0256 (-1.26)	-0.0357* (-1.96)	-0.0216 (-1.17)	-0.0392** (-2.07)	-0.0267 (-1.32)	-0.0366** (-2.00)	-0.0228 (-1.23)
Time-to-Completion (Actual)	0.0320*** (2.81)	0.0303*** (2.73)	0.0286** (2.37)	0.0268** (2.30)	(=101)	()	(=:00)	()
$\sqrt{\text{Time-to-Completion (Actual)}}$	(- /	('''	()	(/	0.0435*** (2.90)	0.0413*** (2.81)	0.0390** (2.43)	0.0365** (2.36)
Target Termination Fee/Transaction Value			0.293** (2.33)	0.309** (2.52)	,	,	0.291** (2.31)	0.307** (2.50)
Collar			-0.00526 (-1.52)	-0.00407 (-1.19)			-0.00557 (-1.59)	-0.00433 (-1.25)
Lockup Option			0.00367 (0.90)	0.00312 (0.76)			0.00375 (0.91)	0.00321 (0.78)
Stock Offer	-0.0115* (-1.96)	-0.0113* (-1.91)	-0.0119** (-2.02)	-0.0117* (-1.96)	-0.0116** (-1.97)	-0.0113* (-1.92)	-0.0119** (-2.02)	-0.0117** (-1.97)
Stock and Cash Offer	-0.0167*** (-3.04)	-0.0170*** (-3.05)	-0.0161*** (-2.87)	-0.0165*** (-2.86)	-0.0167*** (-3.05)	-0.0170*** (-3.06)	-0.0161*** (-2.87)	-0.0165*** (-2.87)
Bidder Toehold	0.0415*** (4.70)	0.0425*** (4.83)	0.0250*** (2.60)	0.0248*** (2.59)	0.0431*** (5.12)	0.0440*** (5.25)	0.0267*** (2.79)	0.0264*** (2.78)
Tender Offer	-0.00451 (-0.61)	-0.00400 (-0.54)	-0.00559 (-0.75)	-0.00524 (-0.70)	-0.00342 (-0.46)	-0.00296 (-0.40)	-0.00459 (-0.61)	-0.00430 (-0.57)
Hostile Approach	-0.0135 (-0.74)	-0.0139 (-0.78)	-0.0182 (-0.97)	-0.0191 (-1.04)	-0.0134 (-0.77)	-0.0138 (-0.81)	-0.0180 (-1.01)	-0.0190 (-1.07)
Same Industry	0.000634 (0.19)	0.00142 (0.41)	0.000506 (0.16)	0.00123 (0.36)	0.000749 (0.23)	0.00153 (0.44)	0.000609 (0.19)	0.00132 (0.38)
Log(Target Market Cap.)	-0.00158 (-0.90)	-0.00121 (-0.64)	-0.000784 (-0.42)	-0.000474 (-0.24)	-0.00167 (-0.95)	-0.00127 (-0.67)	-0.000878 (-0.47)	-0.000534 (-0.27)
Target Market-to-Book Assets	-0.00000633 (-0.01)	-0.000332 (-0.66)	0.0000186 (0.04)	-0.000262 (-0.54)	0.0000202 (0.04)	-0.000321 (-0.64)	0.0000477 (0.10)	-0.000248 (-0.52)
Log(Bidder Market Cap.)	0.000743 (0.47)	0.0000625 (0.04)	0.000509 (0.30)	-0.0000609 (-0.04)	0.000847 (0.53)	0.000142 (0.09)	0.000606 (0.36)	0.00000925 (0.01)
Bidder Market-to-Book Assets	-0.0000759 (-0.29)	0.000159 (0.57)	-0.0000338 (-0.13)	0.000185 (0.74)	-0.0000876 (-0.34)	0.000150 (0.53)	-0.0000463 (-0.18)	0.000176 (0.70)
Target Market Cap./Bidder Market Cap.	-0.00541 (-0.89)	-0.00598 (-0.96)	-0.00622 (-1.02)	-0.00671 (-1.07)	-0.00535 (-0.88)	-0.00596 (-0.95)	-0.00616 (-1.00)	-0.00668 (-1.05)
Constant	0.0648** (2.54)	0.0734*** (2.70)	0.0507* (1.81)	0.0579* (1.92)	0.0501** (2.06)	0.0594** (2.29)	0.0376 (1.45)	0.0456 (1.62)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE Observations	Yes 433	Yes 433	Yes 433	Yes 433	Yes 433	Yes 433	Yes 433	Yes 433
Adjusted R-squared	0.165	0.156	0.194	0.186	0.165	0.156	0.194	0.186

Table D.11: Inclusion of Bidder Termination Provisions — Including Both Volatility Measures

This table reports estimates from logit regressions that examine the inclusion of bidder termination provisions in takeover agreements. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms. The dependent variable equals 1 if the takeover agreement included a bidder termination provision. All explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and **** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

D 1 . W . H	(1)	(2)
Dependent Variable:	=1 if Deal In	acludes Bidder Termination Provision
Bidder Asset Volatility	0.731	0.624
·	(1.61)	(1.23)
Target Asset Volatility	0.838**	0.637
	(2.21)	(1.60)
Bidder-Target Asset Covariance	-3.706**	-3.304**
	(-2.57)	(-2.22)
Log(Time-to-Completion (Actual))	0.757***	0.680***
	(6.31)	(4.93)
Target Termination Provision		2.470***
		(7.95)
Collar		-0.603***
		(-2.59)
Lockup Option		0.159
		(0.71)
Stock Offer	0.462**	0.541***
	(2.42)	(2.68)
Stock and Cash Offer	0.260	0.150
	(1.43)	(0.77)
Bidder Toehold	-0.565***	-0.531**
	(-2.84)	(-2.53)
Tender Offer	0.00116	-0.162
	(0.00)	(-0.67)
Hostile Approach	-1.783***	-0.613
	(-3.10)	(-1.13)
Same Industry	0.00642	-0.0585
T (T + 25 1 + C -)	(0.05)	(-0.44)
Log(Target Market Cap.)	0.659***	0.633***
T	(6.97)	(6.37)
Target Market-to-Book Assets	-0.0134	-0.0296
I. (P:11. M. 1.) (C.)	(-0.38)	(-0.74)
Log(Bidder Market Cap.)	-0.512***	-0.523***
Didden Menlest to Deels Assets	(-5.80)	(-5.66)
Bidder Market-to-Book Assets	0.0204	0.0196
Townst Monket Con /Didden Monket Con	(0.82) -0.213	(0.66) -0.0633
Target Market Cap./Bidder Market Cap.		
Constant	(-1.08) -2.262***	(-0.29) -3.707***
Constant	(-3.33)	(-4.91)
Year FE	Yes	Yes
Industry FE	Yes	Yes
Observations	2078	2078
Pseudo R-squared	0.155	0.218
1 Seudo 1t-squared	0.155	0.210

Table D.12:
Determinants of Bidder Termination Fees — Including Both Volatility Measures

This table reports estimates from OLS regressions that examine the size of bidder termination fees payable by a bidder upon terminating a takeover agreement. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms, that included a bidder termination provision in the takeover agreement. The dependent variable is the value of the bidder termination fee divided by the total value of the transaction. All explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and **** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

D 1 (W 1)	(1)	(2)
Dependent Variable:	Bidder Terminati	on Fee/Transaction Value
Bidder Asset Volatility	0.0204**	0.0188**
	(2.46)	(2.21)
Target Asset Volatility	0.00117	-0.000357
	(0.16)	(-0.05)
Bidder-Target Asset Covariance	-0.0411**	-0.0369*
	(-2.00)	(-1.89)
Log(Time-to-Completion (Actual))	0.0133***	0.0119**
	(2.95)	(2.46)
Target Termination Fee/Transaction Value		0.291**
		(2.30)
Collar		-0.00587
- 1 O		(-1.62)
Lockup Option		0.00376
G. 1 Off	0.0115**	(0.90)
Stock Offer	-0.0117**	-0.0120**
Stock and Cash Offer	(-1.98) -0.0167***	(-2.01) -0.0161***
Stock and Cash Offer		
Bidder Toehold	(-3.05) 0.0455***	(-2.86) 0.0288***
Bidder Toenoid	(5.70)	(3.02)
Tender Offer	-0.00236	-0.00366
Tender Oner	(-0.31)	(-0.48)
Hostile Approach	-0.0131	-0.0176
Hobbine Hipproden	(-0.78)	(-1.03)
Same Industry	0.000794	0.000669
	(0.24)	(0.20)
Log(Target Market Cap.)	-0.00163	-0.000935
1,	(-0.86)	(-0.46)
Target Market-to-Book Assets	-0.00000231	0.0000705
	(-0.00)	(0.13)
Log(Bidder Market Cap.)	0.000867	0.000680
	(0.52)	(0.39)
Bidder Market-to-Book Assets	-0.0000889	-0.0000505
	(-0.34)	(-0.20)
Target Market Cap./Bidder Market Cap.	-0.00538	-0.00609
	(-0.87)	(-0.97)
Constant	0.0895***	0.0733**
	(2.96)	(2.15)
Year FE	Yes	Yes
Industry FE	Yes	Yes
Observations	433	433
Adjusted R-squared	0.161	0.190

Table D.13:
Inclusion of Bidder Termination Provisions — Method of Payment Interactions
This table reports estimates from logit regressions that examine the inclusion of bidder termination provisions in takeover agreements.
The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S.

firms. The dependent variable equals 1 if the takeover agreement included a hidder termination provision. Coch Offer equals 1 if the

The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms. The dependent variable equals 1 if the takeover agreement included a bidder termination provision. Cash Offer equals 1 if the method of payment consisted entirely of cash. All other explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent Variable:	· /	()	()	nation Provision
D'11 A (X1) (!!)	1 105***		0.705*	
Bidder Asset Volatility	1.107*** (2.74)		0.795* (1.77)	
Target Asset Volatility	(2.14)	1.127***	(1.11)	0.798**
Target Tablet Volumely		(3.21)		(2.20)
Bidder-Target Asset Covariance	-2.906**	-3.085**	-2.604*	-2.723*
	(-1.98)	(-2.26)	(-1.71)	(-1.96)
Log(Time-to-Completion (Actual))	0.547***	0.567***	0.361**	0.386**
	(3.92)	(4.01)	(2.24)	(2.39)
Target Termination Provision			2.533***	2.527***
	0.400		(8.13)	(8.09)
Cash Offer \times Bidder Asset Volatility	0.499		0.918	
Cash Offer \times Target Asset Volatility	(0.58)	-0.202	(0.99)	0.0581
Cash Oner × Target Asset Volatility		(-0.29)		(0.08)
Cash Offer \times Bidder-Target Asset Covariance	2.423	3.956	3.242	5.062
Targot Tibot Coverance	(0.48)	(0.77)	(0.59)	(0.91)
Cash Offer × Log(Time-to-Completion (Actual))	0.544**	0.507**	0.836***	0.797***
1 (//	(2.25)	(2.09)	(3.08)	(2.92)
Collar	, ,	, ,	-0.621***	-0.595***
			(-2.71)	(-2.60)
Lockup Option			0.163	0.181
			(0.75)	(0.82)
Stock Offer	0.0135	-0.0742	-0.109	-0.224
a language	(0.04)	(-0.20)	(-0.27)	(-0.57)
Stock and Cash Offer	-0.193	-0.284	-0.502	-0.617
Bidder Toehold	(-0.53) -0.560***	(-0.79) -0.570***	(-1.28) -0.534***	(-1.60) -0.546***
bidder Toenoid	(-2.98)	(-2.97)	(-2.64)	(-2.64)
Tender Offer	0.0515	0.0919	-0.0728	-0.0230
Tolidor Olioi	(0.21)	(0.37)	(-0.28)	(-0.09)
Hostile Approach	-1.904***	-1.956***	-0.699	-0.768
••	(-3.13)	(-3.17)	(-1.25)	(-1.36)
Same Industry	0.00647	0.0148	-0.0762	-0.0646
	(0.05)	(0.11)	(-0.56)	(-0.48)
Log(Target Market Cap.)	0.621***	0.657***	0.600***	0.630***
	(6.55)	(6.95)	(5.95)	(6.28)
Target Market-to-Book Assets	0.0115	-0.0216	-0.0105	-0.0350
Log(Didden Menhet Con)	(0.35)	(-0.61)	(-0.28)	(-0.90)
Log(Bidder Market Cap.)	-0.497*** (-5.62)	-0.528*** (-6.06)	-0.514*** (-5.46)	-0.542*** (-5.92)
Bidder Market-to-Book Assets	0.0169	0.0270	0.0162	0.0248
Diddol William to Dook Moscus	(0.67)	(1.08)	(0.55)	(0.84)
Target Market Cap./Bidder Market Cap.	-0.183	-0.206	-0.0220	-0.0488
V	(-0.96)	(-1.05)	(-0.10)	(-0.22)
Constant	-1.696**	-1.565**	-3.079***	-2.897***
	(-2.38)	(-2.25)	(-3.91)	(-3.82)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	2078	2078	2078	2078
Pseudo R^2	0.155	0.156	0.222	0.222

Table D.14:
Determinants of Bidder Termination Fees — Method of Payment Interactions
This table reports estimates from OLS regressions that examine the size of bidder termination fees payable by a bidder upon terminating

This table reports estimates from OLS regressions that examine the size of bidder termination fees payable by a bidder upon terminating a takeover agreement. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms, that included a bidder termination provision in the takeover agreement. The dependent variable is the value of the bidder termination fee divided by the total value of the transaction. Cash Offer equals 1 if the method of payment consisted entirely of cash. All other explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent Variable:	` /	()	Fee/Transaction	` '
50.11 A			0.04.004444	
Bidder Asset Volatility	0.0167***		0.0139**	
Target Asset Volatility	(2.67)	0.0106	(2.26)	0.00741
Target Asset Volatility		(1.63)		(1.18)
Bidder-Target Asset Covariance	-0.0400*	-0.0370	-0.0380**	-0.0326
Didder Haget Haget Covariance	(-1.96)	(-1.64)	(-2.02)	(-1.58)
Log(Time-to-Completion (Actual))	0.00718**	0.00729**	0.00609*	0.00610*
1 (//	(2.21)	(2.22)	(1.95)	(1.95)
Target Termination Fee/Transaction Value	, ,	` /	0.291**	0.302**
			(2.22)	(2.35)
Cash Offer \times Bidder Asset Volatility	0.0305		0.0324	
	(0.90)		(0.97)	
Cash Offer \times Target Asset Volatility		-0.0167		-0.0145
		(-0.83)		(-0.69)
Cash Offer \times Bidder-Target Asset Covariance	-0.0594	0.101	-0.0379	0.122
	(-0.45)	(0.82)	(-0.28)	(0.96)
Cash Offer \times Log(Time-to-Completion (Actual))	0.0204*	0.0180*	0.0196*	0.0172
Collon	(1.84)	(1.72)	(1.71)	(1.60)
Collar			-0.00582*	-0.00498
Lockup Option			(-1.65) 0.00366	(-1.45) 0.00275
Lockup Option			(0.87)	(0.66)
Stock Offer	-0.0269*	-0.0337**	-0.0254*	-0.0320*
Stock Onei	(-1.95)	(-2.12)	(-1.78)	(-1.94)
Stock and Cash Offer	-0.0317**	-0.0387**	-0.0294**	-0.0362**
	(-2.34)	(-2.46)	(-2.07)	(-2.19)
Bidder Toehold	0.0346***	0.0330***	0.0187	0.0163
	(2.84)	(2.59)	(1.60)	(1.37)
Tender Offer	-0.00127	0.000794	-0.00306	-0.00107
	(-0.15)	(0.11)	(-0.35)	(-0.14)
Hostile Approach	-0.0122	-0.0160	-0.0163	-0.0206
	(-0.76)	(-1.08)	(-0.99)	(-1.39)
Same Industry	0.00000582	0.000795	-0.0000847	0.000721
- (-)	(0.00)	(0.24)	(-0.03)	(0.22)
Log(Target Market Cap.)	-0.00209	-0.00185	-0.00118	-0.00101
Transact Manhat to Dank	(-1.15)	(-0.92)	(-0.62)	(-0.48)
Target Market-to-Book Assets	0.0000177	-0.000309	0.0000606	-0.000207
Log(Bidder Market Cap.)	(0.04) 0.00131	(-0.64) 0.000817	(0.13) 0.000956	(-0.45) 0.000544
Log(Didder Market Cap.)	(0.76)	(0.45)	(0.55)	(0.29)
Bidder Market-to-Book Assets	-0.0000752	0.000148	-0.0000313	0.000185
Diddel Market to Dook Absens	(-0.28)	(0.52)	(-0.12)	(0.72)
Target Market Cap./Bidder Market Cap.	-0.00409	-0.00433	-0.00520	-0.00535
G. G	(-0.70)	(-0.71)	(-0.91)	(-0.89)
Constant	0.0975***	0.111***	0.0799**	0.0921**
	(3.04)	(3.06)	(2.18)	(2.22)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	433	433	433	433
Adjusted R^2	0.176	0.166	0.205	0.196
Adjusted K	0.176	0.166	U.2U5	0.196

Table D.15:

Inclusion of Bidder Termination Provisions — New Shares Issued >20% Interaction

This table reports estimates from logit regressions that examine the inclusion of bidder termination provisions in takeover agreements. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms. The dependent variable equals 1 if the takeover agreement included a bidder termination provision. All explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and **** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) (2)		
Dependent Variable:	=1 if Deal In	ncludes Bidder Termination Provision	
Bidder Asset Volatility	2.216***		
Target Asset Volatility	(4.03)	1.252***	
Bidder-Target Asset Covariance	-6.726***	(3.18) -4.566**	
$\operatorname{Log}(\operatorname{Time-to-Completion}\ (\operatorname{Actual}))$	(-2.80) 0.801***	(-2.00) 0.766***	
Bidder New Shares Issued $> 20\%$	(4.66) 1.319***	(4.44) 1.088***	
Bidder Asset Volatility \times Bidder New Shares Issued>20%	(4.20) -2.876*** (-4.19)	(3.57)	
Target Asset Volatility \times Bidder New Shares Issued>20%	(-4.19)	-1.231** (-2.14)	
Bidder-Target Asset Covariance \times Bidder New Shares Issued>20%	8.805*** (2.84)	4.792 (1.60)	
${\rm Log(Time\text{-}to\text{-}Completion~(Actual))} \times {\rm Bidder~New~Shares~Issued}{>}20\%$	-0.402 (-1.50)	-0.278 (-1.01)	
Target Termination Provision	2.545*** (7.95)	2.506*** (7.86)	
Collar	-0.425* (-1.77)	-0.384 (-1.57)	
Lockup Option	0.0645 (0.28)	0.0924 (0.40)	
Stock Offer	0.0706 (0.31)	0.102 (0.46)	
Stock and Cash Offer	-0.208 (-0.97)	-0.141 (-0.67)	
Bidder Toehold	-0.477** (-2.34)	-0.495** (-2.31)	
Tender Offer	-0.0644 (-0.26)	-0.0369 (-0.15)	
Hostile Approach	-0.438 (-0.80)	-0.480 (-0.86)	
Same Industry	-0.0371 (-0.27)	-0.00587 (-0.04)	
Log(Target Market Cap.)	0.406*** (4.30)	0.450*** (4.77)	
Target Market-to-Book Assets	-0.0138 (-0.34)	-0.0398 (-0.97)	
Log(Bidder Market Cap.)	-0.308*** (-3.54)	-0.360*** (-4.20)	
Bidder Market-to-Book Assets	0.0246 (0.61)	0.0382 (0.97)	
Target Market Cap./Bidder Market Cap.	-0.0340 (-0.19)	-0.0919 (-0.51)	
Constant	-4.045*** (-5.15)	-3.763*** (-4.98)	
Year FE	Yes	Yes	
Industry FE Observations	Yes 2078	Yes 2078	
Pseudo R-squared	0.246	0.240	

Table D.16: Determinants of Bidder Termination Fees — New Shares Issued >20%

This table reports estimates from logit regressions that examine the inclusion of bidder termination provisions in takeover agreements. The sample consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms. The dependent variable equals 1 if the takeover agreement included a bidder termination provision. All explanatory variables are defined in Table A.1. Year fixed effects and industry fixed effects at the target's Fama-French 10-industry level are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, ***, and **** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent Variable:	(1) Bidder T	(2) Termination I	Fee/Transacti	(4) on Value
D. 11. A V. 1	0.0100**		0.0040**	
Bidder Asset Volatility	0.0186** (2.56)		0.0248** (2.20)	
Target Asset Volatility	(2.00)	0.00817	(2.20)	0.00820
		(1.36)		(1.00)
Bidder-Target Asset Covariance	-0.0372**	-0.0238	-0.0704	-0.0402
Log(Time-to-Completion (Actual))	(-2.03) 0.0119**	(-1.29) 0.0111**	(-1.61) 0.0184**	(-0.97) 0.0170**
Log(Time-10-Completion (Metaal))	(2.46)	(2.40)	(2.54)	(2.46)
Bidder New Shares Issued>20%	-0.0000348	-0.000180	-0.0129*	-0.0145**
Dill A Milette Dill M. Cl. I 1 2007	(-0.01)	(-0.06)	(-1.91)	(-2.04)
Bidder Asset Volatility \times Bidder New Shares Issued>20%			-0.0118 (-1.06)	
Target Asset Volatility × Bidder New Shares Issued>20%			(-1.00)	-0.00111
				(-0.13)
Bidder-Target Asset Covariance \times Bidder New Shares Issued>20%			0.0411	0.0163
Log(Time-to-Completion (Actual)) × Bidder New Shares Issued>20%			(0.90)	(0.37) -0.0150**
Log(1 ime-to-Completion (Actual)) × bidder New Shares issued>20%			-0.0163** (-2.21)	(-2.10)
Target Termination Fee/Transaction Value	0.291**	0.307**	0.281**	0.301**
,	(2.29)	(2.48)	(2.17)	(2.42)
Collar	-0.00585*	-0.00462	-0.00578	-0.00421
Lockup Option	(-1.65)	(-1.32)	(-1.61)	(-1.23)
Lockup Option	0.00377 (0.91)	0.00325 (0.78)	0.00378 (0.90)	0.00328 (0.77)
Stock Offer	-0.0120**	-0.0117**	-0.0116**	-0.0112*
	(-2.02)	(-1.97)	(-1.98)	(-1.90)
Stock and Cash Offer	-0.0161***	-0.0164***	-0.0151***	-0.0150***
Bidder Toehold	(-2.79) 0.0288***	(-2.79) 0.0284***	(-2.65) 0.0262***	(-2.62) 0.0257***
Bidder Toolloid	(2.93)	(2.91)	(2.68)	(2.66)
Tender Offer	-0.00366	-0.00347	0.000480	0.000655
	(-0.48)	(-0.45)	(0.06)	(0.08)
Hostile Approach	-0.0176 (-1.03)	-0.0186	-0.0228	-0.0239
Same Industry	0.000665	(-1.09) 0.00137	(-1.39) 0.000881	(-1.48) 0.00179
	(0.20)	(0.40)	(0.27)	(0.51)
Log(Target Market Cap.)	-0.000908	-0.000530	-0.00145	-0.00111
Toward Monkey to Dools Assets	(-0.46)	(-0.25)	(-0.71) 0.0000415	(-0.50)
Target Market-to-Book Assets	0.0000602 (0.12)	-0.000243 (-0.50)	(0.09)	-0.000239 (-0.49)
Log(Bidder Market Cap.)	0.000662	0.0000413	0.00125	0.000596
	(0.38)	(0.02)	(0.68)	(0.32)
Bidder Market-to-Book Assets	-0.0000503	0.000169	0.0000648	0.000290
Target Market Cap./Bidder Market Cap.	(-0.20) -0.00611	(0.67) -0.00662	(0.23) -0.00548	(1.02) -0.00585
raiget mainet Cap./ Didder mainet Cap.	(-0.95)	(-1.01)	(-0.90)	(-0.92)
Constant	0.0732**	0.0788**	0.0751**	0.0815**
	(2.17)	(2.21)	(2.22)	(2.25)
Vara DE	W.	W	V	V
Year FE Industry FE	Yes Yes	Yes Yes	Yes Yes	Yes Yes
Observations	433	433	433	433
Pseudo R-squared	0.190	0.182	0.198	0.188

Table D.17:Bidder Termination Provisions and Wealth Gains from Takeovers - Extended CAR Windows

This table reports estimates from OLS regressions that examine the wealth gains in takeovers. The sample in (1)-(4) consists of takeovers announced between 1997 and 2013 involving bidders and targets that were both publicly listed U.S. firms. The dependent variables in (1)-(2) and (3)-(4), are the combined gains of the bidder and target around the takeover announcement, computed as the sum of the bidder and target's cumulative dollar abnormal returns around the takeover announcement in the (-10,+1) and (-20,+1) windows, divided by the sum of the bidder's and target's market capitalizations measured 50 trading days before the takeover announcement. BTP with Bidder $Fee \neq Target$ Fee equals 1 if both a bidder and target termination provision are included with the bidder termination fee not equal to the target termination fee or if there is a bidder termination provision and no target termination provision, and equals 0 otherwise. BTP with Bidder Fee = Target Fee equals 1 if both a bidder and target termination provision are included with the bidder termination fee equal to the target termination fee, and equals 0 otherwise. The other explanatory variables are defined in Table A.1. Year fixed effects and target Fama-French 10 Industry fixed effects are included. t-statistics are computed using heteroscedasticity-consistent standard errors. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	
Dependent Variable:	()	CAR(-10,+1)		(/	
Dependent variable.	01110(10, (1)	CAR(-20,+1)		
BTP with Bidder Fee \neq Target Fee	0.0152*	0.0159*	0.0146	0.0145	
D11 with bidder ree ≠ 1arger ree	(1.81)	(1.89)	(1.54)	(1.53)	
BTP with Bidder Fee $=$ Target Fee	0.000979	0.00247	-0.00234	-0.00268	
DIT with bidder ree = Target ree	(0.13)	(0.33)	(-0.24)	(-0.27)	
Target Termination Provision	(0.13)	-0.00271	(-0.24)	0.00264	
rarget Termination Frovision		(-0.43)		(0.36)	
Collar		0.0137**		0.00977	
Conar					
Il Oti		(1.98)		(1.08)	
Lockup Option		0.00645		0.000812	
Stock Offer	-0.0291***	(0.86) -0.0319***	-0.0244***	(0.08) -0.0257***	
Stock Offer					
Ctl l Cl- Off	(-5.24) -0.0139***	(-5.50) -0.0153***	(-3.39)	(-3.44)	
Stock and Cash Offer			-0.00710	-0.00834	
Bidder Toehold	(-2.74)	(-2.91)	(-1.08)	(-1.24)	
Bidder Toenoid	0.000530	0.000580	0.00287	0.00302	
Tender Offer	(0.33) 0.00390	(0.36)	(0.70) 0.00381	(0.73)	
Tender Oner		0.00448		0.00363	
TT - +:1- A	(0.67)	(0.77)	(0.50)	(0.48)	
Hostile Approach	-0.000381	-0.00187	0.00742	0.00868	
C I 1	(-0.04)	(-0.18)	(0.44)	(0.49)	
Same Industry	0.00344	0.00394	0.00512	0.00499	
I (T	(0.76)	(0.86)	(0.88)	(0.86)	
Log(Target Market Cap.)	0.00200	0.00190	0.00344	0.00337	
T	(1.10)	(1.05)	(1.33)	(1.31)	
Target Market-to-Book Assets	0.000293	0.000400	-0.000209	-0.000190	
T (D:11 M 1 (C)	(0.20)	(0.27)	(-0.10)	(-0.09)	
Log(Bidder Market Cap.)	-0.00602***	-0.00601***	-0.00794***	-0.00793***	
D'11 M 1 () D 1 A ((-4.02)	(-3.99)	(-3.89)	(-3.87)	
Bidder Market-to-Book Assets	-0.00283**	-0.00287**	-0.00447*	-0.00451*	
T	(-2.33)	(-2.34)	(-1.94)	(-1.95)	
Target Market Cap./Bidder Market Cap.	0.00437	0.00464	-0.00241	-0.00187	
	(0.66)	(0.71)	(-0.30)	(-0.24)	
Constant	0.116***	0.117***	0.125***	0.123***	
W DD	(5.54)	(5.53)	(4.56)	(4.49)	
Year FE	Yes	Yes	Yes	Yes	
Industry FE	Yes	Yes	Yes	Yes	
Observations	2078	2078	2078	2078	
Adjusted R-squared	0.049	0.050	0.050	0.049	