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How do Acquirers Choose between Mergers and Tender Offers?

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Abstract

We present a theoretical framework and supporting empirical evidence for the choice of acquisition method in takeovers. In our model, bidders have a preference for speedy execution in order to minimize competition for the target. Due to existing regulations, tender offers provide substantially lower completion times than mergers and, as a result, are the acquisition method of choice. However, a tender offer signals to the target good market opportunities for its shares which raises its reservation price. In equilibrium, bidders trade-off speed and costs: tenders are faster but have higher premiums. We show that deals in more competitive environments and deals with lesser external impediments on execution are more likely to be structured as tender offers. Furthermore, the rivals of the bidding firm exhibit significantly lower announcement returns in tender offers than in mergers.

JEL classification: G34, J50

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"Still, little is known about why we sometimes observe takeover by … tender offer and sometimes by merger." – *Harris and Raviv (1988)*

1. Introduction

In the United States, there are essentially two ways to acquire the cash flow rights to a publicly traded firm, either through a merger or through a tender offer.[1] In a merger, the acquirer and the target's board of directors agree on a price, and then the target's shareholders vote to approve the deal. In a tender offer, the acquirer proposes a per-share price to the target's shareholders, and then the shareholders have the choice to sell their shares at the offer price or keep them. Harris and Raviv were perplexed about how acquirers choose between these two acquisitions methods. Twenty five years later, there is still no well-established theory about the choice of takeover method.

In the interim, the nature of tender offers changed. Historically, a tender offer was a hostile takeover device, used to bypass an unwilling board of directors. The introduction of the Best Price Rule in the late 1980s by the Securities and Exchange Commission (SEC) made tender offers fairer, assuring that blockholders could not be bought out for a higher price than other investors.[2] Bertrand and Mullainathan (2003) show that the adoption of state antitakeover laws in the late 1980s and early 1990s almost eradicated hostile tender offers completely. Revisions to the Best Price Rule in 2006 opened the market for friendly tender offers like never before. Our data shows that tenders are now as friendly as mergers. Despite the end of hostility, tender offers are still a common acquisition method.

[1] A tender offer in which the acquirer offers shares of its stock as part or complete consideration in the deal is legally known as an exchange offer, but follows very similar rules to a tender offer. For our purposes, we lump tender offers and exchange offers into one unless we explicitly state otherwise.
[2] The Best Price Rule is also known as SEC Rule 14d-10.

In this paper, we propose a new theory for the choice of acquisition method which is generally supported by the data. The key difference between mergers and tender offer is in the completion speed. The regulations are designed to allow for faster completion of tender offers than mergers. Given that tender offers are quicker to complete, the speed must come at cost, otherwise all deals would be tenders. In our theory, acquirers trade-off speed and cost: tenders are faster, but come with a higher premium.

The first half of the paper develops a simple model which elaborates on the tradeoff outlined above. Our model predicts that an acquirer will prefer a tender offer as the acquisition method when there is high expected competition for the target, and may use a tender when there is no competition if the costs of waiting are sufficiently high. We also show that takeover premia will be higher in tender offers than in mergers.

In the second half of the paper, we present empirical evidence consistent with our theoretical predictions based on a unique dataset with hand-collected data on acquisitions announced between January 1, 2007 and December 31, 2010.[3] We show that the completion time of tender offers is from 35 to 65 days shorter than the completion time of mergers conditional on the model used. Next, we find that the probability for a bidder to structure the deal as a tender offer increases with measures of the competitiveness of the takeover market. In particular, a bidder is more likely to pursue the target via tender offer if there is an outstanding bid for the target from another firm. Bidders are also more likely to choose a tender when they have some prior relationship with the target because, in this case, losing the target to a competitor would be more costly. Next, we find that target-initiated deals are less likely to be structured as tender

[3] We focus on the post-2006 period since the revision of the Best Price Rule in 2006 relaxed significantly some of the regulatory constraints on tender offers (see Section 5).

offers. Finally, we show that the announcement returns of the bidder rivals are negative and significantly lower for tender offers than for mergers.

We also find that bidders are less likely to pursue a tender offer when the legal and financial costs of the tender are higher. Acquisition attempts that experience additional scrutiny from governmental agencies such as the Federal Trade Commission (FTC) and the Department of Justice (DOJ) take 114 days longer to complete. Such deals are rarely structured as tender offers. Given that the level of government scrutiny is relatively easy to predict, our theory suggests that a rational bidder would avoid incurring the extra costs of tender offers without getting the execution benefits. Next, we find that tender offers are less likely for bidders with higher leverage ratios and less cash; a result consistent with the idea that tender offers present less financial flexibility to the bidder than mergers. Finally, we show that controlling for the endogeneity of the deal structure, tenders are more expensive than mergers.

The existing literature identifies two key differences between mergers and tenders. First, Betton et al. (2008) indicate that tenders for publicly-traded firms are faster than mergers. Second, many articles have shown that the takeover premiums in tender offers are higher than in mergers (Schwert, 1996; Officer, 2003; Moeller et al. (2004)).[4] The major contribution of our paper is that it shows why these relationships exist and how they are tied together via the trade-off for the acquirer between speed and cost.

Our paper makes several other meaningful contributions. In particular, the insight that bidder competition for the target is a key factor in the choice of acquisition method leads us to the conclusion that the choice of method reveals new information about the two firms. For the target, the choice of method signals new information about its synergies with the acquirer and the

[4] However, other papers find no difference in the premiums between tenders and mergers (Huang and Walkling, 1987; Betton et al., 2008).

market for its shares. For the bidder, the choice of method also signals new information about its competitive interactions with other firms in the market, financial health, and likelihood for regulatory scrutiny.

We also contribute to a better understanding of the nature of tender offers. Currently, top M&A textbooks, including Bruner (2004) and DePamphilis (2011), do not explicitly address how firms choose the method of the deal. In many empirical studies, the authors use a tender offer dummy to proxy for the differences between tenders and mergers, without describing what those differences are. Historically, there has also been an assumption in the finance literature that tender offers are hostile.[5] As Andrade et al. (2001) document, hostile tender offers almost completely disappeared after the 1980s, yet tender offers did not disappear. Furthermore, Schwert (2000) argues that that most deals described as hostile in the press are not distinguishable from friendly deals in economic terms. In our sample time period, friendly tenders represent 99% of all tender offers. In all friendly cases, the tender offer price is negotiated with the target's board, in concert with its financial and legal advisors. Friendly tender offers are the norm now, not the exception. Our research gives more guidance to financial and legal scholars who wish to differentiate between the two methods of acquisitions.

In the next section, we offer a legal, regulatory, and empirical background on the choice between tender and merger. In Section 3, we construct a model that incorporates the trade-off between speed and cost; in Section 4, derive testable applications; in Section, 5 we discuss the sample; while in Section 6, we present the empirical analysis. We conclude in Section 7.

[5] There are some exceptions. For example, Comment and Jarrell (1987) note that tender offers can also involve prior pre-announcement negotiations.

2. Background

In this section we review the legal and regulatory environment of the acquisition market. We place special attention on the speed of execution from both regulatory and strategic perspective. At the end of the section, we review the existing academic literature on tender offers.

2.1 Acquisition method and the speed of execution

Our focus in this study is on the time from the announcement of the deal to the completion of the deal. Prior to the announcement, the bidder and target negotiate in private for weeks or months. These negotiations are unknown to market participants, including the bidder's rivals. At the announcement of the agreement, new information is released to the market about the value of the target. A bidding competitor has the opportunity to outbid its rival in the window of time from announcement to completion, so that is the time period that is valuable in our model.

There are three regulatory reasons that cash tender offers in the United States should be faster from announcement to completion than mergers. First, the SEC has different filing requirements for tenders and mergers. The only filing required to initiate a tender is the tender offer statement (SC-TO). The SC-TO is filed on the same day that the tender offer begins. Under SEC Rule 14d-1, the tender offer may end as soon as 20 calendar days after the initial filing. The target shareholders do not vote in a cash tender offer, but they do in a merger, and a shareholder vote takes time. In order to have a shareholder vote to approve a merger, SEC Rule 14d-6 requires the bidder to first file a preliminary proxy (PREM14a) with the SEC at least 10 days before distributing the definitive proxy to the shareholders (DEFM14a). Then, the target

firm must distribute the definitive proxy statement to its shareholders announcing the meeting at least 20 business days before the vote will occur. As a result, there is typically a two-month lead-up to a shareholder vote in a merger.

Another regulatory difference in the U.S. between tenders and mergers is in the antitrust review. The FTC and DOJ have 30 days to review a merger or exchange offer for antitrust concerns under the Hart-Scott-Rodino Act, but only have 15 days for a cash tender offer. If either agency requests additional information from the parties (known as a "second request"), the time to complete the deal increases. Kirchner (2009) finds that it takes 157 days to resolve the average second request. If the acquirer believes that a second request is likely, it will not rationally incur the additional costs of a tender offer.[6]

Finally, mergers and tenders differ in their financing requirements. SEC Rule 14e-1(c) requires the bidder to pay for tendered shares or return them to the shareholder within three days of the close of the tender offer.[7] SEC Rule 14e-8(c) deems a tender offer to be fraudulent if the bidder does not have a reasonable belief that it can purchase the securities sought.[8] Neither rule explicitly requires tenders to be fully financed, but an acquirer would be exposing itself to significant liability by commencing an offer without the means to pay for the shares. Practically speaking, tender offers must be fully financed in order to meet the three-day requirement. In contrast, merger agreements are often conditioned upon the acquirer securing financing. Depending on market conditions, financing a merger can take months. Furthermore, if the

[6] Once the second request is fulfilled, the agency will have an additional 30 day extension to complete its review for mergers, but only ten days for tenders.

[7] This rule, otherwise known as the "Prompt Payment Requirement," only requires payment to be made "promptly," but does not define promptly. However, the SEC staff has interpreted promptly to mean three days. See Lynn (2009).

[8] In Release No. 33-7760, the SEC notes that, "Although not required, a commitment letter or other evidence of financing ability (e.g., funds on hand or an existing credit facility) would in most cases be adequate to satisfy the rule's requirement that the bidder have a reasonable belief that it can purchase the securities sought." The SEC also comments that, "In most cases when the bidder expects to obtain funds from another source, financing is arranged in advance or immediately after announcing an offer."

acquirer is using a sizable amount of its own stock as consideration in the deal, then it may also be required to hold a time-consuming shareholder vote to approve the merger. Given these three regulatory differences, we expect that tender offers should be faster than mergers.

2.2 Speed of execution as a consideration in acquisitions

The evidence thus far suggests that tender offers have a substantially shorter completion time than mergers. Execution speed could be an important consideration in the acquisition market for a variety of reasons. Theory of decision making argues that early resolution of uncertainty generally allows for better allocation of resources. Mergers represent a dramatic shock to every organization, and the uncertainty surrounding the merger outcome could adversely affect all stakeholders associated with the firm, such as customers, suppliers, and employees, resulting in the erosion of value. For example, in response to the Oracle tender offer in June of 2003, PeopleSoft warns, "As a consequence of the uncertainty surrounding their roles and the companies' future, our key employees…may seek other employment opportunities."[9] Consistent with this idea, Hertzel et al. (2008) also find that firm uncertainty regarding financial distress exhibits adverse effect on its suppliers.

A major incentive for the timely completion of takeovers arises from bidder competition. Extensive research suggests that mergers could be an important factor in the creation and sustainability of competitive advantage (Trautwein, 1990). Some of the sources of competitive advantage in mergers are synergies, others – economies of scope and scale (Betton et al. 2008). Horizontal mergers could also strengthen market power, while vertical mergers could reduce 'hold-up' production costs (Grossman and Hart, 1986; Hart and Moore, 1988). Many authors

[9] PeopleSoft S-4, filed June 19, 2003.

have also emphasized the importance of complementarities at the level of organizational culture as a source of competitive advantage in acquisitions (Porter, 1987; Datta, 1991).

The merger market is highly competitive – in our sample, 39.7 percent of all deals are contested. First movers could gain a long-term competitive advantage in modern markets. As a result, the speedy execution of a merger could minimize the chance that a competitive bidder "steals" the target or raises its price. Many authors have also suggested that pressured by competition, firms often over-bid for a target, a phenomenon known as the "winner's curse" (Gilberto et al. 1989).

There is also anecdotal evidence that the different speed of execution across tender offers and mergers is well recognized and considered by the market. Several companies acknowledge in their SEC filings that the use of a tender offer will help the deal reach conclusion faster. For instance, in the 2007 tender offer for Biosite Inc. by Inverness Medical Innovations Inc., the background of the Offer to Purchase stated "Biosite's advisors indicated on multiple occasions Biosite's board of directors' strong preference for a two-step tender offer structure, which would take a shorter period of time to deliver the consideration to Biosite's shareholders that elected to tender in the tender offer than would a one-step merger structure."[10] Many well-publicized deals were also very likely structured as mergers rather than tender offers due to a perceived lack of competitiveness – for example, the AT&T/T-Mobile deal (Verizon was too big and Sprint was having financial difficulties) or the Delta/Northwest merger (United and Continental were busy with their own merger and American was too big).

In our subsequent analysis, we will test whether tenders are in fact faster than mergers and attempt to determine why some firms choose not to take advantage of that speed.

[10] See page 29 of Exhibit 99.(A)(1)(A) to the Schedule TO-T filed by Inverness with the SEC on 5/29/2007.

2.3 Related literature

To the best of our knowledge, there are only two theoretical studies that attempt to explain the choice of the takeover mechanism. Berkovitch and Khanna (1991) model mergers as a bargaining game between the acquiring and target firms and tender offers as an auction in which bidders arrive sequentially and compete for the target. A basic assumption of their model is that once mergers are announced, there is no possibility for competitive bids, which is increasingly violated in recent times. Schnitzer (1996) analyzes the choice between a hostile and a friendly takeover. Our study is different because it focuses on the choice between mergers and tender offers and explores a different trade-off in the market place.

The empirical work in this field has identified mathematical correlations, but does not rigorously explain why these correlations exist. The seminal work of Bradley et al. (1983) indicates that tenders create value by generating new information about the target in the takeover process. However, their methods and results are equally applicable to mergers, so their findings do not point acquirers to one particular takeover method. Betton et al. (2008) acknowledge that, "systematic empirical evidence on the choice of merger versus tender offer is only beginning to emerge."

That said, the empirical literature does identify some important differences between tender offers and mergers. First, Betton et al. (2008) find that the average tender offer for a publicly-traded target by a publicly-traded acquirer is completed about 36 days faster than a similar merger. The legal structure that we documented previously suggests that tenders should be faster, and the evidence in Betton et al. supports this notion. Second, Betton et al. (2009) find that tenders are more likely to be completed than mergers. If the primary cost of a merger over a

tender offer is the cost of losing the target, then their finding suggests that this cost is indeed lower in tenders.

Empirical research also suggests that tender offers are more expensive than mergers but the evidence is not robust. For example, Jensen and Ruback (1983) find that target shareholders earn higher premiums in tenders than in mergers. However, Huang and Walkling (1987) argue that after controlling for the payment method and the degree of resistance, the difference in abnormal returns between tender offers and mergers is insignificant. We note that the literature usually does not address the endogeneity of the acquisition form, which could significantly affect the inferences. However, predicting the choice of acquisition form requires a theoretical framework suggesting what the predictors might be.

3. A Simple Model

The background review in the previous section reveals that tender offers should be faster than mergers, but at a cost. Real option theory has for long recognized that waiting (or the speed of execution of an action) could have costs and benefits for the actor. Within the context of corporate acquisitions, if the costs of waiting outweigh the benefits, the deal will be structured as a tender offer and vice versa – if the costs of waiting are relatively small compared to the benefits, the deal will be structured as a merger.

The cost of waiting for the bidder that we are concerned with is the cost of failing to gain control of the target, through the acquisition of the target by another entity. In this case, the bidder bears a cost because it does not capture the synergy gains. Furthermore, the fact that the target is acquired by a competitor could result in loss of a competitive advantage.

Similarly, there are costs to the target in not waiting. The most obvious cost is the forgone option to shop for a better deal. In order to forgo this real option, the target must be compensated. The target is effectively selling its go-shop option to the bidder in exchange for a higher premium, which becomes the bidder's cost of not waiting. In our model that follows, we evaluate the trade-off between the costs of waiting and the costs of not waiting, with an eye on the empirical predictions that the model generates.

Suppose the value of the target shares for a potential bidder (acquirer) is v_B, while the value of the target shares for the target shareholders is v_s. As Grossman and Hart (1980) argue, the transaction will take place only when $v_B > v_s$. The value v_s could be interpreted as a reservation price for the target shareholders. As long as the offer-price exceeds that reservation value, the deal would be completed.

While the bidder is at an informational advantage in evaluating the synergies associated with the acquisition, the target is not. There are two possibilities for the target regarding a particular acquisition. On the one hand, the synergy created by the deal could be unique to the particular bidder. For example, it could reflect some unique complementarity of the asset structure of the bidder and the assets of the target. In this case, the assets of the target have no superior alternative use outside of the ownership of the bidder. On the other hand, the synergies that the target firm brings might not be that unique to the bidder and other firms could potentially be able to generate even higher surplus with the acquisition of the firm. The latter possibility raises the reservation price of the target firm. We can assume that the private valuation of the target firm for the value of its shares under alternative ownership could take two possible values v_s^L and v_s^H ($v_s^L < v_s^H$). The first valuation corresponds to the reservation price for the target shareholders in the case in which there is no other bidder in the market; the second valuation

corresponds to the existence of an alternative bidder with a higher private valuation of the target shares.

We consider the following timeline. At t = 0, the bidder (with a private valuation v_B) discovers the target and observes whether there is an alternative potential bidder with higher private valuation ($v^H > v_B$). At t = 1, the acquirer announces a takeover bid which could be structured either as a tender offer or a merger. The tender offer has a shorter expected completion time and assures that the competing firm would not be able to join the bidding contest and outbid the acquirer.[11] The merger has longer completion time, which results in an additional erosion of value for the bidder in the amount c (we describe some of these costs in Section 3). However, in the case of merger, if there is a competing bidder in the market place with higher valuation it enters the contest and the acquirer loses the target to the competing firm. The latter outcome results in some permanent loss of value for the bidder due to loss in competitive advantage or relative market share C. At t = 2, the target firm arrives at a private valuation of its reservation price and the deal takes place.

Assume that the acquirer receives *p* percent of the surplus created by the acquisition (such that $p > 0$), and the target receives the remaining *1 - p* percent of the surplus. Then the gain to the bidder under the different scenarios could be expressed as follows:

[11] In reality, a tender offer would only reduce the probability that the bidder could lose the target to a competitor and not necessarily completely eliminate this possibility. This simplifying assumption, however, does not affect significantly the major inferences in the paper.

	No competition	Competition
Tender offer	$p \cdot (v_B - v_S)$	$p \cdot (v_B - v_S)$
Merger	$p \cdot (v_B - v_S) - p \cdot c$	$-C$

From here, it becomes clear that in the presence of a competitive bidder the acquirer would never choose to structure the deal as a merger given that, in this case, it will suffer permanent loss in value. As a result, the announcement of a merger would automatically signal to the target poor market opportunities for its assets and the target would revise its reservation price to v_s^L. In this case, the gain for the bidder would be $p \cdot (v_B - v_S^L - c)$ and the gain for the target would be $(1-p) \cdot (v_B - v_S^L - c)$.

Let's consider the more interesting case of no competitive bidders in the market place. Although the acquirer might be able to evaluate this possibility reliably well, it is potentially very difficult to communicate this information reliably to the target. If the acquirer chooses to structure the deal as a tender offer, the target would update its reservation price to v_S^H; if the acquirer chooses to structure the deal as a merger, the target would update its reservation price to v_S^L. In the case of no competitive bidding, the deal would be structured as a tender offer only if

$$p \cdot (v_B - v_S^H) > p \cdot (v_B - v_S^L) - p \cdot c \qquad (1)$$

From here it follows that under no competition, the deal will be structured as a tender offer only when:

$$c > v_S^H - v_S^L \qquad (2)$$

The above result is intuitive. It says that under no competition, a deal would be structured as a tender offer only when the cost of waiting associated with a merger is relatively high compared to the value loss due to increase in the takeover premium. An important assumption in this line of reasoning is that the acquirer cannot signal reliably to the target the lack of alternative outside options for its assets in the market.

Note also that our model also generates the following relationship between the price of the target in a tender offer and the price in a merger:

$$P_{TO} = v_S^H + (1-p)\cdot(v_B - v_S^H) > v_S^L + (1-p)\cdot(v_B - v_S^L) - (1-p)\cdot c = P_M \qquad (3)$$

Regardless of whether there is competition, our model predicts that the premium will be always higher in a tender than in a merger.

Our model relies on the assumption that the acquirer loses a value *C* when the target is merged with a competitor. This corresponds to the loss that Bradley et al. (1983) observe when a tender offer bid is lost to a rival firm. As a result of the rival getting control of the target, the bidder not only loses the target, but they also lose the competitive advantage that the rival wins by gaining control of the rival's assets.

In summary, our model predicts that an acquirer will always use a tender offer as the acquisition method when there is competition for the target, and may use a tender when there is no competition if the costs of waiting are sufficiently high. Also, our model predicts that premiums will be higher in tender offers than in mergers. Finally, the model implies that returns to rival acquirers should be lower in tenders than in mergers. All of these predictions assume that the deal can legally or practically be structured as a tender offer.

4. Empirical Design

We argue that when choosing their acquisition method firms trade-off the strategic benefits of speed with the cost of a higher premium. The starting point of our analysis is the assumption that tender offers have shorter completion times than mergers. In the previous section, we presented legal and regulatory arguments for this assumption.[12] However, empirical evidence is necessary to confirm this conjecture. Thus, our first empirical test is on:

Hypothesis 1. Tender offers have shorter completion times than mergers.

Our major empirical prediction regarding the choice of acquisition method is outlined in the following:

Hypothesis 2. Firms with significant competitive threats and other costs of waiting choose tender offers.

We consider three proxies for competitiveness – indicators for a *competitive bidder, solicited deal, and prior relationship*. Evaluating the competitive environment of a bidder ex-ante is highly speculative. As a result, we construct an ex-post measure of competitiveness indicating whether there was a competitive bid for the target prior to the announcement.[13] Such a bid would generally decrease the amount of time the acquirer has to close the deal. In this case, the choice of a slower acquisition method would significantly reduce the chances of acquiring the target.

Next, we identify whether the bid was solicited by the target. Target-initiated deals are less likely to exhibit synergies that are strategically important to a large group of bidders.

[12] Completion time is the time from the first official announcement of the bid to the final approval of the deal. It does not include the time of any private negotiations between the two parties since such negotiations are not public information.

[13] We learn this information by reading the background of the deal in the DEFM14a for mergers and the SC TO-t or S-4 in tenders. Bids are classified as competitive if the acquirer had to raise its bid or make a counter-offer to beat another bidder. The identity of the other bidder is almost never disclosed in the filings.

Otherwise, these synergies would have been discovered by the market. Soliciting firms are seemingly rushing to sell themselves for some idiosyncratic reasons. Therefore, we expect solicited deals to be less likely to be structured as tender offers. Our indicator variable for solicited deals takes the value of one if the acquirer's bid was the result of a formal solicitation process, and zero otherwise (we obtain this information from SEC filings).

Our third measure of the competitive environment of the bidder is a variable indicating whether the bidder and the target disclose some prior relationship in their filings. That prior relationship may be a licensing agreement, joint venture, or a simple customer/supplier connection.[14] Joint history implies that very likely some relationship-specific investment has been made on the bidder-side. Such investment makes a competitive threat potentially more costly to the firm. As a result, we predict that deals involving firms with prior relationship are more likely to be tender offers.

We also consider a set of variables proxing for other (non-competitive) costs of waiting – a second request dummy, acquirer high debt dummy, cash offer dummy, and deal relative value. Our sample includes deals in which the FTC, DOJ, or other governmental agency created a delay in the closing via a second request or similar extended review.[15] The firms in an acquisition often hire specialized attorneys specifically to help clear the governmental hurdles, and these lawyers presumably know whether a deal is likely to be slowed by a second request.[16] Therefore, we hypothesize that firms will choose a merger over a tender if there is a high probability of a

[14] Disclosure in the proxy or offer statement of past transactions is required by Item 1005 of Regulation M-A. We also learn this information by reading the background of the deal in the SEC filings.

[15] We also find deals that experienced lengthy reviews by the Federal Aviation Adminsitration (FAA), Federal Communications Commission (FCC), Surface Transportation Board (STB), and various state agencies.

[16] For example, in the Background of the Merger between XM and Sirius, the parties note that, "SIRIUS and XM agreed to discuss with their respective counsel the likelihood of obtaining the required regulatory approvals for a combination." It goes on to identify two specific law firms that were competent in this area, one for the DOJ/FTC approval and another for the FCC approval. See page 20 of the DEFM14A filed by XM Satellite Holdings with the SEC on 10/9/2007.

second request. The acquirer high debt dummy, cash offer dummy and relative value proxy for the ability of the bidder to make a fully-financed offer. We expect that the greater the financing impediments to a takeover, the more likely it is that it will be organized as a merger.

A major prediction of our model is that the premium under tender offers would always exceed the premium under mergers (for the same companies). Unfortunately, we cannot observe a deal which is simultaneously structured as both – a tender offer and a merger. Companies always choose one (the optimal) option guided by a wide range of factors some of which could be correlated with the expected premium. The endogeneity of the deal structure makes it difficult to make direct empirical predictions about the association between the deal structure and the premium in the cross section. One way to address this problem is to identify instrumental variables that predict the acquisition method but not the expected premium and use these variables to isolate the exogenous variation in acquisition method choice. Hypothesis 2 suggests a large set of potential instruments. As a result, we predict the following:

Hypothesis 3. In the cross-section of deals, the instrumented tender offer-indicator is positively correlated with the acquisition premium.

Finally, if strategic considerations are an important motivation for bidders to demand execution speed we would expect tender offers to be associated with more strategically important acquisitions. As a result, we predict the following

Hypothesis 4. Tender offers are accompanied with lower announcement returns for the rivals of the bidding firm than mergers.

5. Data and Summary Statistics

This study focuses on the post-2006 period because the revision of the SEC's Best Price Rule in 2006 reduced the tremendous legal uncertainty in the tender offer market. The original Best Price Rule specified that all investors holding the same class of securities had to be paid the same consideration per share in a tender offer. However, the wording of the rule was not clear about whether executive compensation triggered by the tender offer was included in the definition of "consideration," so it was left to the courts to decide. A series of conflicting rulings by the 2nd, 7th, and 9th U.S. Circuit Courts of Appeals (during the 1995–2002 period) about the applicability of executive compensation to the definition of consideration created some additional uncertainty about the acquisition costs of tender offers. As a result, the Best Price Rule was amended effective December 8, 2006 to require that compensation payments be excluded from the definition of consideration. A more detailed history of the Best Price Rule is presented in Appendix 2. Figure 1 shows the significant drop-off in tender offers from 2002 to 2006, and the rebound after the revision of the Best Price Rule in 2006.

Therefore, we form a sample of U.S.-based targets taken over by U.S.-based acquirers in deals announced between January 1, 2007 and December 31, 2010 from the Thomson Financial SDC Platinum Mergers and Acquisitions database. We require all of the targets in our sample to be based in the United States so that U.S. takeover law applies to the deal. We require all acquirers to meet the same criteria to avoid complications arising from differing foreign tax and legal regimes. We require all deals to be completed so that we can accurately measure time to completion. The time-to-completion is measured from the day the deal is announced to the day the deal is effective.

Given that large part of the data is hand-collected, we limit our sample to deals in which the acquirer holds more than 90% of the target's equity. A tender offer is most beneficial to the acquirer when at least 90% of the target's existing common stock is tendered.[17] We also require all firms in our sample, targets and acquirers, to be listed on the NYSE, NASDAQ, or American Stock Exchange. Consistent with the literature, we also remove from our sample all deals in the heavily regulated financial and utilities industries. Our final sample consists of 213 mergers and 95 tender offers, for a total sample of 308 completed deals. In comparison, the sample in Hartzell et al. (2004) is 235 firms and Boone and Mulherin (2007) end up with 400 observations.

For each deal, we calculate the takeover premium as the offer price less the stock price four weeks prior to the announcement date, divided by the price four weeks prior. For robustness, we also calculate the premiums with two-month returns, rather than four-week returns. In Table 1, we present summary statistics for the sample of mergers and tender offers over the period from 2007-2010. We observe that tender offers are characterized with significantly higher premiums and shorter completion times. We also show that about 38% of tenders have competitive bidders, but only 14% of mergers. Parties with prior relationships are far more likely to structure the deal as a tender than a merger. Deals that will be delayed by a second request are also more likely to be structured as mergers. Collectively, these results suggest that the choice of method is likely to be tender offer when time is of the essence.

The SEC rule that the financing must be secured before the tender offer commences also seems to affect the choice of method in three ways. First, as also noted by Travlos (1987), tenders are far more likely to be financed with cash than with equity. Second, targets of tenders

[17] In 48 of the 50 states, if an acquirer ends up with at least 90% of the shares, they can complete the second step of the tender offer with a short-form merger, which does not require a shareholder vote. However, any tender offer can be completed if the bidder receives a voting majority, as defined in the target's articles of incorporation. Usually the voting majority is defined as either a simple majority or two-thirds majority.

are smaller than in mergers, relative to the acquirer. Smaller targets may require less complex financing arrangements or none at all. Third, the acquirer is more likely to choose a merger over a tender offer when its debt-to-assets ratio exceeds 0.5. In sum, the results in Table 1 suggest that the choice of method is driven in part by the legal structure and in part by competition for the target.

6. Results

6.1 Time to completion

Table 2 reports the coefficient estimates and robust P-values from OLS regressions of the number of days from the announcement of the deal to the effective date of the deal on a tender offer dummy and control variables. In column 1, we test the robustness of the correlation between tender offers and completion time. The coefficient on the tender dummy is -64.6 days and significant at the 1% level. In other words, in this parsimonious test, tenders reach completion about 65 days faster than mergers.

In column 2, we expand the model to include the groups of variables that explain the legal & financial constraints on the deal, as well as the competitive environment surrounding the deal. The results of the regression in the second column of Table 2 can be summarized as follows. First, controlling for all of these other factors, tenders are still about 35 days faster than mergers. Second, the legal and financial constraints on the deal do affect the time it takes to get the deal done. For instance, our model suggests that cash bids are completed about 29 days faster but a second request adds 114 days. Finally, the competitive environment for the bidder has no bearing on the time to completion, controlling for the choice of method. This result highlights

the fact that acquirers choose an acquisition method that is appropriate to the level of competition.

In column 3 of the table, we add industry and year fixed-effects. We observe that the economic and statistical significance of the tender offer variable is robust to the inclusion of these additional controls.

6.2 Choice of acquisition method

We presented strong empirical evidence that takeover deals are faster than mergers. The main premise of the paper is that the choice of acquisition method is determined by the tradeoff of execution speed versus execution cost. Given this fact, we should be able to predict with some accuracy whether a deal will be structured as a merger or a tender offer.

In Table 3, we estimate the probability for a takeover deal to be structured as a tender offer. In the first two models, we report the marginal effects from a probit model, while in the last two models, we report the coefficient estimates from a linear probability model. The explanatory variables include our proxies for competition for the target and costs of waiting discussed in Section 3. We also include a number of financial variables for the bidder and target as additional controls. The description of the construction of each variable is in Appendix 1. All of these values are calculated as of the end of the fiscal year immediately preceding the takeover announcement.

Each of the coefficients on the variables describing the level of competition for the target have the expected sign and are significant at the 5% level or better. In particular, we find that the presence of a competitive bidder increases the probability for a tender offer by around 18 percent. Bids for targets with a prior relationship with the bidder are also more likely to be

structured as tender offers. As noted, losing such firms to a competitor would be more costly to a bidder who has made some relationship-specific investments. Finally, we show that solicited bids are less likely to take the form of tender offers. Given that solicited bids are initiated by the target, they are also less likely to exhibit any strategically important complementarities for the bidder.

Next, we find that the probability for a tender offer decreases with the expected time to completion of the tender offer. Deals that receive a second request for information from regulators are less likely to be structured as tender offers. As described in Section 3, the additional delay caused by such requests effectively eliminates all execution speed benefits of tender offers. Acquirers with high debt levels are also less likely to pursue a tender offer, very likely due to decreased financing flexibility. Consistent with this idea, we also find that tender offers are more likely to be made in cash than mergers.

We also include in all models financial variables that Kohers et al. (2007) find are correlated with the choice of method. As an additional robustness test, we also estimate a linear probability-model with and without industry and year fixed effects and get very similar results. Our models also explain more than 31 percent of the variation in the choice of acquisition method.

6.3 Acquisition premium

In order to establish a causal relationship from the acquisition method towards the acquisition premium, a source of exogenous variation in the choice of method is necessary. Throughout the paper, we justify that the competitiveness of the bidder industry and other costs

of prolonging the deal would be the main determinants of the acquisition method choice. We also present empirical evidence consistent with this conjecture in Table 3.

In this section, we estimate a two-stage IV-regression model for the acquisition premium. If T_i denotes an indicator variable for a tender offer, $INST_i$ – the instruments, PRM_i - the acquisition premium, X_i – a set of control variables, and FE – industry- and year-fixed effects, the first-stage regression is:

$$T_i = \alpha + \beta \cdot INST_i + \gamma \cdot X_i + FE\,, \tag{4}$$

while the second-stage regression is:

$$PRM_i = \alpha^* + \beta^* \cdot \hat{T}_i + \gamma^* X_i + FE\,, \tag{5}$$

where $\hat{T}_i$ is the instrumented tender-offer variable at the first stage.

The two stages are estimated jointly in a two-stage least squares regression model. We use as exogenous instruments for the choice of acquisition method the following variables: indicators for solicited deals, prior bidder-target relationship, acquirer's high debt, and second information request, as well as the relative value ratio. As shown in Table 3, these variables are significant predictors of the tender offer choice. It is also very unlikely that they would predict the takeover premium directly (we intentionally exclude the competitive bidder and cash variables from the list of instrumental variables since they could be linked to the premium through other channels). The dependent variable at the second stage is the takeover premium.

Table 4 presents coefficient estimates and standard errors from the second stage of the two-stage least squares estimation. We find that tender offers are associated with higher acquisition premia than mergers. This result supports Hypothesis #3 and thereby lends additional support to our theoretical model. We also find that the premium increases with the size of the bidder and decreases with the size of the target. The minimum eigenvalue *F*-statistics indicate

that the instruments are sufficiently powerful according to the Staiger-Stock test (Staiger and Stock 1997).[18]

6.4 Rival reactions

To test our fourth hypothesis, we present a test for the link between competition and the choice of acquisition method. The basic idea is that strategically important acquisitions would be perceived as negative news by the bidder's competitors. Since competitive pressure creates an incentive for bidders to move fast and structure their deals as tenders, we would expect to observe a negative stock price reaction of the firm's competitors at the announcement of a tender offer. Importantly, we also predict that we will not observe such reactions in the case of mergers.

In Table 5, we compare announcement-period returns for the acquirer's rivals in mergers and tender offers. We use the market-model to calculate cumulative abnormal returns (CAR) with a value-weighted index over the windows from [-2,2] and [-1,1] centered around the announcement date. We define rivals as firms in the same four-digit SIC industry with a ratio of acquirer assets-to-rival assets in the range from 0.25 to 4.0.

Consistent with Hypothesis 4, we observe that both the mean and median stock price reactions of bidder competitors are consistently negative in the case of tender offers and consistently positive in the case of mergers. The return difference is also statistically and economically significant. For example, the first column in Panel A indicates rival returns are 1.23 percent lower in tender offers than in mergers.

[18] We obtain similarly significant results if we use a probit in the first stage rather than an OLS model.

7. Conclusion

Corporate takeovers include some of the largest business transactions in the modern economy and have strong consequences for shareholders, employees, and other firm stakeholders. Not surprisingly, takeovers have been the subject of active academic research in numerous fields – from sociology and labor economics to political science and game theory. Almost every facet of the acquisition market has been carefully analyzed by researchers as it relates to fundamental questions concerning the boundaries of the firm, the quality of corporate governance, and the scope of government regulation.

Historically, there have been two ways to acquire a publicly traded company – friendly and hostile. In the friendly case, the bidding entity submits a proposal to the target board of directors which is usually followed by a vote. In the hostile case, the bidder goes directly to the target shareholders with an offer to tender their shares at a specified price, hence the name "tender offer". Interestingly, the attitude of tender offers has gradually changed over time – they are friendly now – but the form of bidding has not disappeared. Why? The choice of acquisition method, while an important decision, remains relatively understudied in the academic literature.

In this paper, we highlight some important regulatory differences between tender offers and mergers, which could affect the acquisition method choice. Given that historically hostile tender offers have been viewed as an efficient corporate governance mechanism, government regulations were designed to help resolve tender offers quickly and efficiently. Friendly merger proposals, on the other hand, are given lower priority. As a result, bidders who prefer fast execution (due to bidder competition or other factors) would tend to structure the acquisition as a tender offer. However, tender offers also come with a cost because they signal to the target a higher value and encourage the target to raise its reservation price. Our theoretical prediction is

that, in equilibrium, bidders trade-off the execution speed benefits of tender offers with the lower premium benefits of mergers.

We also present empirical evidence consistent with the theoretical predictions. In particular, we show that tender offers are faster but more expensive than mergers. Tender offers are also more likely for strategically important acquisitions and acquisitions in more competitive environment than mergers. Finally, we show that rivals suffer lower returns in tender offers than mergers.

Appendix 1: Variable Definitions

Variable	Definition	Source
Deal outcomes		
Four-Week Premium	Acquisition premium calculated as the difference between the offer price and the stock price four weeks before the anouncement date.	CRSP, Eventus
Market-Model Premium	Acquisition premium calculated as in Schwert (1996) using the market model over the window [-63, min(close, 126)].	CRSP, Eventus
Days to Complete	Number of calendar days from the data announced to the effective date.	SDC
Deal Characteristics		
Relative Value	Value of the deal divided by the sum of the value of the deal and the market value of the acquirer's assets.	SDC, Compustat
Solicited Bid	A dummy variable that takes the value of one if the target creates a formal process to find a buyer for itself.	Edgar
Second Request	A dummy variable that takes the value of one if either party receives a second request for information from the Department of Justice or Federal Trade Commission under the Hart-Scott-Rodino Act.	Edgar, Lexis Nexis
Competitive Bidder	A dummy variable that takes the value of one if the acquirer had to make a counter-offer or raise its bid to beat another bidder.	Edgar
Prior Relationsip	A dummy variable that takes the value of one if the firms disclose prior business dealings in the SEC filings.	Edgar
All Cash Bid	A dummy variable that takes the value of one if 100% of the consideration offered for the target's shares is cash.	SDC
Deal Value (US$, millions)	"Total value of consideration paid by the acquiror, excluding fees and expenses," including the value of assumed liabilities.	SDC
Firm Characteristics		
Sales (US$, millions)	Sales (SALE) as of the end of the fiscal year immediately preceding the acquisition.	Compustat
Book Assets (US$, millions)	Assets (AT) as of the end of the fiscal year immediately preceding the acquisition.	Compustat
Market Value of Assets	Debt (DLTT+DLC) plus common stock (PRCCF*CSHO) plus preferred stock (PSTKL) minus deferred taxes (TXDC) and investment tax credits (ITCI).	Compustat
Debt/Assets	The ratio of long-term debt (DLTT) to the market value of assets (see above) as of the end of the fiscal year immediately preceding the acquisition.	Compustat
High Debt Dummy	A dummy variable that takes the value of one if the firm's Debt/Assets (see above) exceeds 0.5.	Compustat
EBITDA/Assets	Income (OIBDP) divided by the market value of assets (see above) as of the end of the fiscal year immediately preceding the acquisition.	Compustat
Market/Book	The market value of assets (see above) divided by the book value of assets (AT).	Compustat

Appendix 2: Brief History of the Best Price Rule (SEC Rule 14d-10)

The regulatory environment for tender offers has been in flux in the United States for many years. In 1986, the SEC adopted Rule 14d-10, otherwise known as the "Best Price Rule." This regulation specified that, "the consideration paid to any security holder pursuant to the tender offer is the highest consideration paid to any other security holder during such tender offer." In other words, all investors holding the same class of securities had to be paid the same amount per share in a tender offer. The wording of the rule was not clear about whether executive compensation triggered by the tender offer was included in the definition of "consideration," so it was left to the courts to decide. Beginning in 1995, the courts ruled that executive compensation contingent on the change-in-control could be part of the consideration paid to the executives for their shares.[19] From 1995 to 2002, the 2nd, 7th, and 9th U.S. Circuit Courts of Appeals made conflicting rulings about the applicability of executive compensation to the definition of consideration. Although tender offers did not disappear during this time, there was uncertainty as to whether a buyer might have to go back after completing the deal and pay the non-executive target shareholders additional compensation to make them whole.

The uncertainty about Rule 14d-10 peaked following the resolution of the case of Gerber v. Computer Associates International (CA) from the Second Circuit of the U.S. Court of Appeals.[20] In that case, a jury awarded shareholders an additional $5.7 million after finding that a $5 million non-compete payment to the CEO was consideration in the tender offer under Rule 14d-10. Given that CA paid $120 million for the target, the judgment added 4.75% to their costs, not including the costs of litigating the case for nearly 11 years.

[19] See, for example, Epstein v. MCA, Inc., 50 F.3d 644 (9th Cir. 1995)
[20] Gerber vs. Computer Assocs. Int'l, Inc., 303 F.3d 126 (2d Cir. 2002).

The September, 2002 decision in Gerber v. CA in particular made it extremely risky for a target firm to make payments to executives that were contingent upon a change in control. Based on this ruling, acquiring firms in tender offers were exposed to substantial liability if the target firm made payments to any executive via golden parachute, retention agreement, accelerated vesting, or consulting agreement, as all could be included as consideration in the tender offer. Motivated by this decision, the SEC chose to clarify that its intention with the best price rule was to exclude executive compensation. As a result, Rule 14d-10 was amended effective December 8, 2006 to require that, "the consideration paid to any security holder for securities tendered in the tender offer is the highest consideration paid to any other security holder for securities tendered in the tender offer." In other words, compensation payments are excluded from the new version of the best price rule.

There is anecdotal evidence that the court rulings from 1995 to 2002, and specifically in the Gerber v. CA case, skewed the takeover markets away from tender offers until the revision of Rule 14d-10 in 2006. In a joint letter submitted to the SEC in 2005 upon its request for comments on the proposed changes to the rule, seven top law firms noted that:

> Given the current disarray among courts with respect to the proper interpretation of Rule 14d-10 under the Securities Exchange Act of 1934 (the "Exchange Act") — and the significant litigation risks entailed in the tender offer process because of these court interpretations — most law firms are advising their clients not to commence tender offers if other acquisition structures are available that do not have the possible adverse consequences of the best-price rule — even if such other structures may be less economically efficient for companies and their shareholders.[21]

[21] Letter to the SEC regarding File No: S7-11-05; Release Nos. 34-52968; IC-27193 Amendments to the Tender Offer Best-Price Rule (the "Release"), sent February 21, 2006 by Cravath, Swaine & Moore LLP; Davis Polk &

Similar sentiment can be observed in newsletters that law firms sent to their clients after Rule 14d-10 was revised. For instance, in November, 2006, the law firm Morrison Foerster alerted its clients, "We anticipate that with the amendments (to Rule 14d-10) companies will use tender offers more frequently..."[22] Later, in guidance to clients of the law firm Skadden Arps Slate Meagher & Flom, Ward et al. (2011) note that, "This resurgence (in tender offers) is largely due to the U.S. Securities and Exchange Commission's 2006 clarification to the all holders/best price rule regarding the treatment of employee compensation in tender offers." Given that Offenberg and Officer (2012) find that most firms now have substantial change-in-control compensation contacts, there is reason to believe that acquiring firms were actively avoiding tenders from 2003 through 2006 so as to avoid the corresponding liability. As a result, there should have been an increase in tender offers after 2006.

Figure 1 shows the proportion of deals completed by tender offer in the United States from 1995 through 2010. Empirically, the impact of the Gerber decision appears obvious in Figure 1. Tender offers represent 14.2% of deals in 2002, but only 3.2% in 2006. The market for tender offers rebounds quickly after 2006, with 20% of deals executed as tenders in 2008 & 2009. Any empirical study on the choice of method must account for the legal ambiguity in the tender offer rules, particularly from 2002 through 2006. Given that the tender offer market was so skewed by the ambiguous interpretations of Rule 14d-10 and other legal changes, we focus our empirical analysis on deals initiated after 2006.

Wardwell; Latham & Watkins, LLP; Simpson Thacher & Bartlett LLP; Skadden, Arps, Slate, Meagher & Flom LLP; Sullivan & Cromwell LLP; and Sullivan & Cromwell LLP.

[22] Morrison Foerster Client Alert, "SEC Amends Tender Offer 'Best Price' Rule," 11/6/2006, retrieved from: http://www.mofo.com/pubs/xpqPublicationDetail.aspx%3fxpST%3dPubDetail%26pub%3d7260

References

Andrade, Gregor, Mark Mitchell, and Erik Stafford, 2001, New Evidence and Perspectives on Mergers, *Journal of Economic Perspectives* 15, 103-120.

Berkovitch, Elazar and Naveen Khanna, 1991, A theory of acquisition markets: Mergers versus tender offers and golden parachutes, *Review of Financial Studies* 4, 149-174.

Bertrand, Marianne and Sendhil Mullainathan, 2003, Enjoying the quiet life: Managerial behavior following anti-takeover legislation, *Journal of Political Economy* 111, 1043-1075.

Betton, Sandra, B. Espen Eckbo, Karin S. Thorburn, 2008, Corporate takeovers, in *Handbook of Corporate Finance: Empirical Corporate Finance, Volume 2*, North Holland: Amsterdam, pg. 316.

Boone, Audra L., and J. Harold Mulherin, 2007, How are firms sold? *Journal of Finance* 62, 847-875.

Bradley M., A. Desai, and E. Kim, 1983, The rationale behind interfirm tender offers: information or synergy? *Journal of Financial Economics* 11, 183–206.

Bradley M., A. Desai, and E. Kim, 1983, The rationale behind interfirm tender offers: information or synergy? *Journal of Financial Economics* 11, 183–206.

Bruner, Robert F., 2004, *Applied Mergers and Acquisitions,* Wiley, New Jersey.

Comment, Robert and Gregg A. Jarrell, 1987, Two-tier and negotiated tender offers: The imprisonment of the free-riding shareholder, *Journal of Financial Economics* 19, 283-310.

Datta, D. K., 1991, Organizational fit and acquisition performance: Effects of post-acquisition integration, *Strategic Management Journal* 12, 281-297.

DePamphilis, Donald, 2011, *Mergers, Acquisitions and Other Restructuring Activities*, 6th edition, Academic Press, California.

Giliberto, S. Michael and Nikhil P. Varaiya, 1989, The Winner's Curse and Bidder Competition in Acquisitions: Evidence from Failed Bank Auctions, *Journal of Finance* 44, 59-65.

Grossman, S. J. and Oliver D. Hart, 1980, Takeover Bids, the Free-Rider Problem, and the Theory of the Corporation, *Bell Journal of Economics* 11, 42-64.

Grossman, S. J. and Oliver D. Hart, 1986, The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration, *Journal of Political Economy* 94, 691-719.

Harris, Milton and Arthur Raviv, 1988, Corporate Control Contests and Capital Structure, *Journal of Financial Economics* 20, 55-86.

Hart, O.D. and J. Moore, 1988, Incomplete Contracts and Renegotiation, *Econometrica* 56, 755-785.

Hartzell, J.C., E. Ofek, and D. Yermack, 2004, What's in it for me? CEOs whose firms are acquired. *Review of Financial Studies* 17, 37-61.

Hertzel, M. G., M. S. Officer, Z. Li, and K. J. Rodgers, 2008, Inter-Firm Linkages and the Wealth Effects of Financial Distress Along the Supply Chain. *Journal of Financial Economics* 87, 374-387.

Huang, Y. and R. A. Walkling, 1987, Target abnormal returns associated with acquisition announcements: Payment, acquisition form and managerial resistance, *Journal of Financial Economics* 19, 329-349.

Jensen. Michael C. and Richard Ruback, 1983, The market for corporate control: The scientific evidence, *Journal of Financial Economics* 11, 5-50.

Kirchner, Thomas, 2009, *Merger Arbitrage: How to Profit from Event-Driven Arbitrage*, Wiley, New Jersey.

Kohers, N., G. Kohers, and T. Kohers, 2007, Glamour, Value, and the Form of Takeover, *Journal of Economics and Business* 59, 74-87.

Lynn, David M., 2009, Tender offer considerations for cash repurchases and exchange offers, Newsletter from the law firm of Morrison & Foerster LLP.

Moeller, S. B., F. P. Schlingemann, and R. M. Stulz, 2004, Firm size and the gains from acquisitions, *Journal of Financial Economics* 73, 201-228.

Officer, Micah S., 2003, Termination fees in mergers and acquisitions, *Journal of Financial Economics* 69, 431-467.

Porter, M. E., 1987, From competitive advantage to corporate strategy, Harvard Business Review 65, 43-59.

Schnitzer M., 1996, Hostile versus friendly takeovers, *Economica* 63, 37–55

Schwert, G. William, 1996, Markup pricing in mergers and acquisitions, *Journal of Financial Economics* 41, 153–192.

Schwert, G. William, 2000, Hostility in takeovers: in the eyes of the beholder? *Journal of Finance* 55, 2599–2640.

Staiger, Douglas, and James H. Stock, 1997, Instrumental Variables Regression with Weak Instruments, *Econometrica*, 65, 557–586.

Trautwein, F., 1990, Merger motives and merger prescriptions, *Strategic Management Journal* 11, 283-296.

Travlos, N. G., 1987, Corporate Takeover Bids, Methods of Payment, and Bidding Firms' Stock Returns, *Journal of Finance* 42, 943-963.

Table 1
Sample characteristics

The table reports the average four-week premium, calculated as the difference between the offer price and the stock price four weeks before the announcement date; the market model premium, defined as the cumulative abnormal return of the target over the window [-63, min(close, 126)]; the number of days to completion; and deal, acquirer, and target characteristics across mergers (first column) and tender offers (second column) for the period from 2007 through 2010. Relative value is the value of the deal divided by the sum of the value of the deal and the market value of the acquirer's assets; all cash bid is an indicator variable for 100% cash offers; second request is dummy variable that takes the value of one if either party receives a second request for information from the Department of Justice or Federal Trade Commission under the Hart-Scott-Rodino Act; solicited bid is dummy variable that takes the value of one if the target creates a formal process to find a buyer for itself; competitive bidder is an indicator for deals involving at least two different bidders; prior relationship is an indicator variable equal to 1 if the firms disclose prior business dealings in the SEC filings; a high debt dummy is a dummy variable that takes the value of one if the firm's debt-to-asset ratio exceeds the industry median. Detailed definition of all variables is outlined in Appendix 1. The last column presents the differences of the corresponding characteristics across mergers and tender offers. Acquirers in these deals are public firms that held less than 10% of the target before the acquisition and more than 90% after. The minimum deal size is US$1 million. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

Variable	Merger	Tender Offer	Difference
Deal outcomes			
Four-Week Premium	44.14%	58.40%	14.26% **
Two-Month Premium	42.69%	58.99%	16.30% ***
Days to Complete	134	58	-76 ***
Deal Characteristics			
Relative Value	16.48%	8.86%	-7.62% ***
All Cash Bid	42.25%	92.63%	50.38% ***
Second Request	14.49%	2.10%	-12.39% ***
Solicited Bid	38.16%	31.58%	-6.58%
Competitive Bidder	14.49%	37.89%	23.40% ***
Prior Relationship	8.21%	17.89%	9.68% ***
Deal Value (US$, millions)	2,305	1,079	-1,226 **
Acquirer Characteristics			
Sales (US$, millions)	14,994	20,166	5,172 *
Book Assets (US$, millions)	20,843	25,358	4,515
High Debt Dummy	11.27%	2.10%	-9.17% ***
EBITDA/Assets	6.27%	10.06%	3.79% ***
Market/Book	136%	158%	22% **
Target Characteristics			
Sales (US$, millions)	1,262	399	-863 ***
Book Assets (US$, millions)	2,034	466	-1,568 ***
Debt/Assets	19.22%	11.05%	-8.17% ***
EBITDA/Assets	1.60%	0.40%	-1.20%
Market/Book	158%	215%	57% ***
Observations	213	95	

Table 2
Completion time regressions
The table reports the coefficient estimates and robust P-values from OLS regressions of the number of days from the announcement of the deal to the effective date of the deal on a tender offer dummy; deal relative value; an indicator for a cash offer; an indicator for high-debt acquirers (debt-to-asset ratio exceeding the industry median); (log of) acquirer and target assets; and indicators for a second request for information on the deal from the Department of Justice or the Federal Trade Commission, solicited deals, contested offers, and prior relationship between the bidder and the target. The sample period is 2007-2010. The last two rows report the total number of observations and adjusted R-squared in each regression. Detailed definition of all variables is outlined in Appendix 1. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	(1)	(2)	(3)
Tender Offer dummy	-75.6	-35.3	-38.5
	(0.000)***	(0.000)***	(0.000)***
Legal/Financial Impediments to Tenders			
Relative Value		61.1	46.7
		(0.120)	(0.114)
All Cash Bid		-33.6	-21.6
		(0.000)***	(0.052)*
Acquirer's High Debt dummy		-14.7	-21.6
		(0.128)	(0.362)
Second Request dummy		118.8	115.1
		(0.000)***	(0.000)***
Competition for Target			
Solicited		-0.3	-6.5
		(0.973)	(0.547)
Competitive Bidder dummy		1.2	2.4
		(0.861)	(0.673)
Prior Relationship dummy		6.1	10.3
		(0.407)	(0.135)
Financials			
Acquirer Ln(Sales)		0.5	-1.5
		(0.817)	(0.481)
Target Ln(Sales)		2.3	2.2
		(0.362)	(0.185)
Intercept	133.8	61.9	71.3
	(0.000)***	(0.224)	(0.021)**
Industry Fixed-Effects	No	No	Yes
Year Fixed-Effects	No	No	Yes
Firms	308	295	295
Adjusted R-squared	0.177	0.468	0.504

Table 3
Choice of method regressions
The table reports the marginal effects from Probit- and the coefficient estimates from OLS-regressions of the probability for a takeover deal to be structured as a tender offer on indicators for solicited deals, contested deals, and prior relationship between the acquirer and the target; an indicator for high-debt acquirers (debt-to-asset ratio exceeding the industry median); and indicators for a second request for information on the deal from the Department of Justice or the Federal Trade Commission; deal relative value; an indicator for cash deals; and additional target and acquirer controls. Robust P-values are reported in parentheses. The sample period is 2007-2010. The last two rows report the total number of observations and adjusted R-squared in each regression. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Probit	Probit	OLS	OLS
Competition for Target				
Solicited	-0.198	-0.187	-0.143	-0.134
	(0.000)***	(0.000)***	(0.005)***	(0.014)**
Competitive Bidder dummy	0.178	0.168	0.174	0.176
	(0.003)***	(0.000)***	(0.009)***	(0.011)**
Prior Relationship dummy	0.115	0.117	0.134	0.137
	(0.121)	(0.064)*	(0.087)*	(0.083)*
Legal/Financial Impediments to Tenders				
Acquirer's High Debt dummy	-0.303	-0.3	-0.086	-0.057
	(0.006)***	(0.011)**	(0.229)	(0.491)
Second Request dummy	-0.342	-0.306	-0.184	-0.19
	(0.003)***	(0.001)***	(0.004)***	(0.006)***
Relative Value	0.195	0.144	0.067	0.002
	(0.362)	(0.252)	(0.666)	(0.992)
All Cash dummy	0.47	0.451	0.395	0.368
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Financials				
Acquirer EBITDA/Assets	1.022	0.798	0.43	0.522
	(0.061)*	(0.103)	(0.002)***	(0.000)***
Acquirer Market/Book	0.069	0.066	0.042	0.042
	(0.044)**	(0.108)	(0.205)	(0.234)
Target Ln(Sales)	-0.026	-0.014	-0.018	-0.006
	(0.137)	(0.333)	(0.228)	(0.712)
Target Debt/Assets	0.248	0.293	0.202	0.195
	(0.144)	(0.029)**	(0.089)*	(0.095)*
Target Market/Book	0.038	0.02	0.027	0.011
	(0.044)**	(0.077)*	(0.047)**	(0.428)
Constant	-0.25	-0.759	0.26	-0.127
	(0.435)	(0.013)**	(0.344)	(0.743)
Industry Fixed-Effects	No	Yes	No	Yes
Year Fixed-Effects	No	Yes	No	Yes
Observations	296	296	296	296
Adjusted/Pseudo R-squared	0.340	0.403	0.319	0.358

Table 4

Takeover premium and acquisition method

The table estimates a two-stage least squares regression of the effect of the acquisition method on the acquisition premium (four-week premium and market model premium). The endogenous variable is an indicator variable for a tender offer and is instrumented with dummies for Solicited Bid, Prior Relationship, Acquirer's High Debt, and Second Request, as well as the Relative Value ratio of the deal and target and bidder characteristics. The dependent variables at the second stage include the tender offer indicator (instrumented) and the target and bidder characteristics. The third and the fourth models also include industry- and year-fixed effects. The table presents coefficient estimates and standard errors from the second stage of the two-stage least squares estimation. The sample period is 2007-2010. The last three rows report the minimum eigenvalue F-statistic of the instruments at the first stage, the root MSE, and the number of observations used in estimation. (***), (**), and (*) indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

	Four-week premium	Two-month premium	Four-week premium	Two-month premium
Tender (Instrumented)	0.288	0.448	0.2	0.275
	(0.085)*	(0.033)**	(0.061)*	(0.053)*
Competitive Bidder dummy	0.054	0.13	0.075	0.155
	(0.357)	(0.044)**	(0.082)*	(0.000)***
All Cash dummy	-0.156	-0.173	-0.139	-0.107
	(0.022)**	(0.053)*	(0.011)**	(0.110)
Acquirer Ln(Sales)	0.055	0.038	0.055	0.032
	(0.000)***	(0.001)***	(0.000)***	(0.003)***
Acquirer EBITDA/Assets	0.517	0.566	0.735	1.016
	(0.213)	(0.304)	(0.054)*	(0.095)*
Acquirer Market/Book	0.009	0.034	0.005	0.035
	(0.770)	(0.391)	(0.816)	(0.306)
Target Ln(Sales)	-0.076	-0.043	-0.069	-0.03
	(0.000)***	(0.000)***	(0.000)***	(0.006)***
Target Debt/Assets	0.418	0.149	0.409	0.113
	(0.014)**	(0.367)	(0.003)***	(0.209)
Target Market/Book	-0.048	-0.055	-0.037	-0.037
	(0.004)***	(0.001)***	(0.007)***	(0.005)***
Target EBITDA/Assets	-0.066	-0.153	0.014	-0.078
	(0.661)	(0.128)	(0.938)	(0.573)
Constant	0.696	0.407	0.294	0.01
	(0.060)*	(0.047)**	(0.421)	(0.958)
Industry Fixed-Effects	No	No	Yes	Yes
Year Fixed-Effects	No	No	Yes	Yes
Observations	291	288	291	288
F-Stat of instrument @ 1st stage	6.42***	6.89***	6.37***	5.61***

Table 5
Returns to rival firms at acquisition announcements
The table compares announcement-period returns for the acquirer's rivals in mergers and tender offers in the SDC data for the period from 2007 through 2010. The market-model is used to calculate cumulative abnormal returns (CAR) with a value-weighted index over the windows from [-2,2] and [-1,1] centered around the announcement date. Rivals are defined as firms in the same four-digit SIC industry with a ratio of acquirer assets-to-rival assets in the range from 0.25 to 4.0.

Panel A: Comparison of Means

Deal Type	CAR [-2,2]	CAR [-1,1]	*n*
Merger	0.63%	0.59%	*167*
Tender Offer	-0.60%	-0.12%	*70*
Difference	-1.23%	-0.71%	
p-value for difference	*0.0155*	*0.0721*	

Panel B: Comparison of Medians

Deal Type	CAR [-2,2]	CAR [-1,1]	*n*
Merger	0.28%	0.21%	*167*
Tender Offer	-0.47%	-0.17%	*70*
Difference	-0.75%	-0.38%	
p-value for difference	*0.070*	*0.070*	

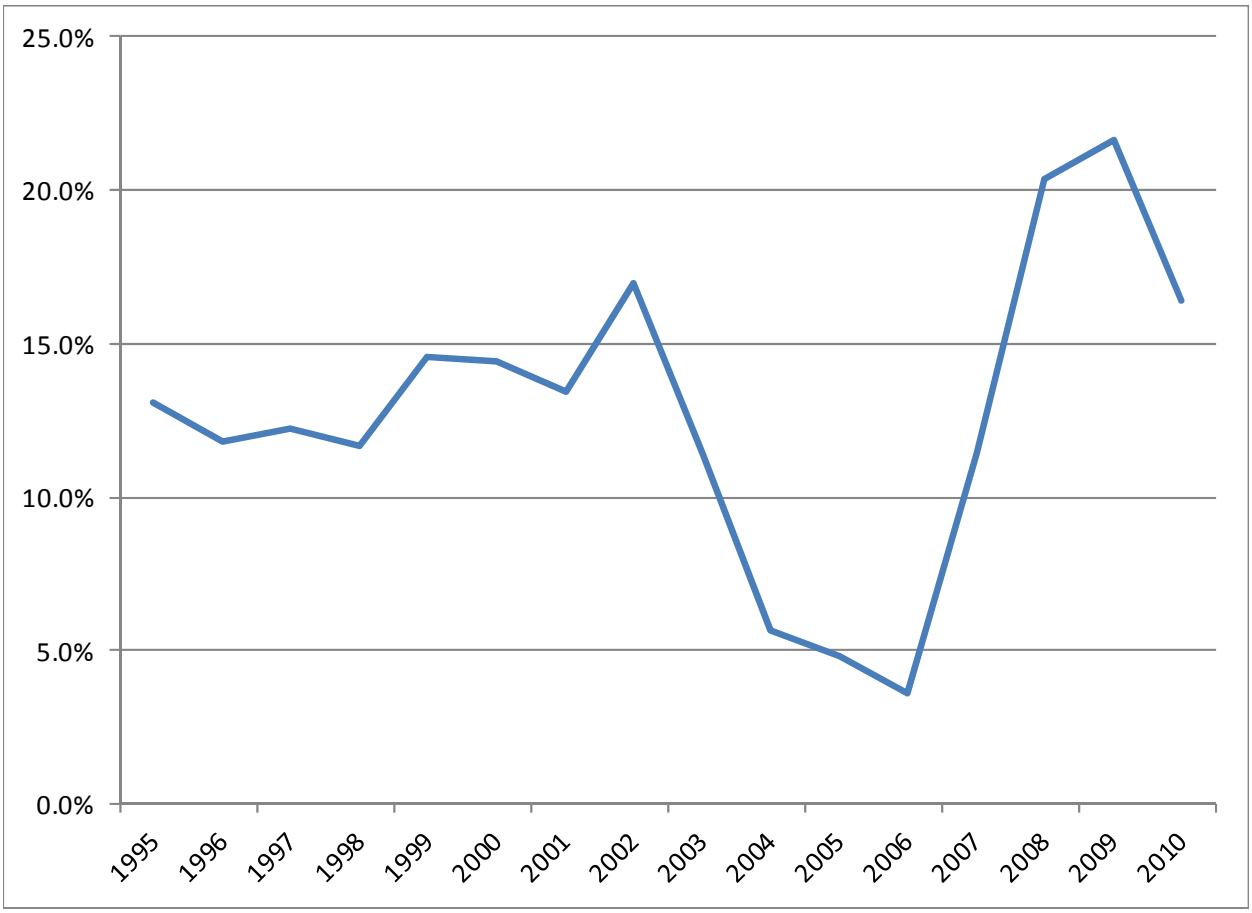

Figure 1 Proportion of tender offers by year
The table reports the total number deals, number of tender offers, and the proportion of tender offers relative to total number of deals for publicly-traded targets in the SDC data for each year over the 1995-2010 period. Acquirers in these deals are publicly-traded firms that held less than 10% of the target before the acquisition and more than 90% after. The minimum deal size is US$1 million.