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Abstract

Material-Adverse-Change clauses (MACs) are present in over 90% of acquisition agreements. These clauses are the outcome of extensive negotiation and exhibit substantial cross-sectional variation in the number and types of events that are excluded from being 'material adverse events' (MAEs). MAEs are the underlying cause of more than 50% of acquisition terminations and 60% of acquisition renegotiations. Moreover, these renegotiations lead to substantial changes in the price offered to target shareholders (13-15%). We find that acquisitions with fewer MAE exclusions are characterized by wider arbitrage spreads (i.e., the difference between the price offered to target shareholders and the current market price of the target's shares) during the acquisition period and are associated with higher offer premiums. We conclude that material adverse change clauses have an economically important impact on the dynamics of corporate acquisitions and stock prices during the acquisition period.

1. Introduction

A large prior literature documents that acquisitions significantly impact the wealth of both target and acquiring firm shareholders.[1] At the time of the initial announcement, however, the ultimate impact on shareholder wealth is uncertain. Because of the relatively long period between the announcement and the completion of the acquisition (4.5 months, on average in our sample), the probability of adverse events that can alter the expected wealth gains from the acquisition is nontrivial. As a result, terminated and renegotiated acquisitions are not uncommon. Merger agreements thus often contain contractual mechanisms that allocate the risks between the target and acquirer over the time period between the first announcement and the completion of the acquisition.

We analyze the impact of one such mechanism, *Material-Adverse-Change* clauses (MACs), on the dynamics of corporate acquisitions. A MAC clause functions as an abandonment option in that it gives either party the right to walk away from the acquisition, without penalty, if a material adverse event (MAE) occurs between the announcement and the completion of the acquisition. Examples of MAEs are economic or industry shocks, financial misreporting, or regulatory changes. The strength of this abandonment option can be limited, however, by specifying particular events (or classes of events) that are excluded from being material adverse events.

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[1] See, among others, Andrade, Mitchell and Stafford (2001), Holmstrom and Kaplan (2001), and Moeller, Schlingemann and Stulz (2005)
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Our sample consists of 844 acquisitions announced between 1998 and 2005. Over 90% of the sample acquisitions employ a MAC clause. This makes MACs far more common than other contractual mechanisms for allocating risk between target and acquiring firm shareholders such as termination fees, lockup options, collars, and earnouts.[2] Despite this uniformity in use, however, we observe substantial cross-sectional variation in the number and type of MAE exclusions. On average, MACs contain nearly four MAE exclusions ranging from fairly general, market wide events (i.e. 'Global economic conditions') to firm-specific events (i.e. 'Failure to meet projections'), and over two-thirds of the sample MACs contain at least one MAE exclusion.

Our analysis indicates that MAEs are common and have a large impact on the dynamics of the acquisition process. Over 10% of the sample acquisitions experience a MAE between the initial announcement of the acquisition and the completion of the acquisition period. MAEs are the underlying cause for over half of the terminated acquisitions and nearly 60% of the renegotiated acquisitions. Moreover, the material adverse events ultimately lead to large changes in the price offered to target shareholders. On average, acquirers negotiate a 15% reduction in offer price when the target experiences a MAE. Similarly, targets are able to negotiate a 13% increase in the offer price when the acquirer experiences a MAE. Finally, acquisitions that are renegotiated following a MAE have a 25% higher probability of completion than do acquisitions that are renegotiated for other reasons.

We also find that the structure of MAC clauses is associated with acquisition outcomes. Specifically, we find that the probability of an acquisition being completed is positively related

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[2] See Coates and Subramanian (2000), Burch (2001), Houston and Ryngaert (1997), Officer (2004), Bates and Lemmon (2003), Officer (2003), Cain, Denis and Denis (2009), and Boone and Mulherin (2007a).

to the number of MAE exclusions. Ceteris paribus, a one-standard-deviation increase in the number of MAE exclusions is associated with an increase of 3% in the probability of acquisition completion (relative to an unconditional probability of 87%). By contrast, the probability of an acquisition being renegotiated is negatively related to the number of MAE exclusions. Increasing the number of MAE exclusions by one is associated with a decrease in the probability of renegotiation of 2% (ceteris paribus) relative to the unconditional probability of renegotiation of 11%. These results are robust to controls for other potential determinants of acquisition outcomes and controls for potential self-selection bias.

Having established the association between MACs and acquisition dynamics, we then test whether the apparent impact of MACs on these dynamics is 'priced' by investors and by the parties to the acquisition. First, we analyze arbitrage spreads - i.e., the difference between the price offered to target shareholders and the current market price of the target's shares. Previous studies (i.e., Brown and Raymond (1986); Mitchell, Pulvino, and Stafford (2004)) use arbitrage spreads as a proxy for the expected probability of acquisition completion. Thus, if MACs with more MAE exclusions decrease the likelihood of termination, we expect a negative association between the number of MAE exclusions and arbitrage spreads. Consistent with this view, we find that acquisitions with an above-median number of MAE exclusions exhibit median arbitrage spreads of 5.2% on the day following the announcement of the acquisition. This spread is significantly lower (at the 0.01 level) than the median spread of 8.5% for acquisitions with a below-median number of MAE exclusions. These findings are robust to controls for other determinants of the arbitrage spread and persist over the 20-day period following the initial announcement of the acquisition. Thus, we conclude that the structure of MACs represents an

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important channel through which information about the likelihood of acquisition completion is incorporated into market prices.

Second, we analyze the association between MAC structure and the premium offered by the acquiring firm. We hypothesize that acquirers with a stronger abandonment option (i.e. fewer MAE exclusions) will be willing to offer a higher *ex ante* premium for the target firm. Consistent with this prediction, we find a significant negative relation between the acquisition premium and the number of MAE exclusions. A one standard deviation increase in the number of exclusions decreases the predicted offer premium from a baseline value of 43% to 40%. We note, however, that the structure of the MAC clause and the offer premium are jointly negotiated as part of the acquisition agreement. Thus, it is possible that both are affected by some unobserved factor. Although we cannot completely rule out this possibility, we conduct a battery of additional tests and find that the basic negative association between offer premium and MAE exclusions is robust.

The remainder of the paper is organized as follows. Section 2 provides background information material adverse change clauses and the acquisition process. Section 3 describes our sample selection process and presents descriptive statistics for the sample acquisitions. Section 4 reports our evidence on the impact of MAC clauses on acquisition dynamics. Section 5 analyzes the impact of MACs on arbitrage spreads and offer premiums. Section 6 concludes.

2.   Background on Material-Adverse-Change Clauses

Figure 1 presents a schematic that divides the acquisition process into separate pre-announcement and post-announcement sub-periods. Prior to the announcement, the parties to the

acquisition initially engage in due diligence activities, and then begin the process of drafting the merger agreement. During this period, the parties negotiate an offer price and any contractual mechanisms (e.g. MAC clauses, earnouts, collars, termination fees, lockups) that will affect the *ex post* payoffs to the parties. Between the initial announcement of the merger agreement and completion (or termination) of the merger (a period of 4.5 months, on average, in our sample), a variety of events can occur that potentially alter the wealth gains to each party from the acquisition. During this period, merger terms can be renegotiated and the merger is either completed or terminated.

Material-Adverse-Change (MAC) clauses in the merger agreement define the conditions under which each party can 'walk away' from the merger (without penalty) in the event of a *Material-Adverse-Event* (MAE). MAEs can be of a market-wide or a firm-specific nature. Typical market-wide MAEs are changes in economic, market, industry, or regulatory conditions. Typical firm-specific MAEs are the loss of key customers, employees, inventory; the accidental death of the CEO; or drastic changes in the stock price or volume. As such, firm-specific MAEs can be either exogenous (e.g., the accidental death of the CEO) or endogenous (e.g., earnings restatements or the loss of a large customer due to lack of effort after the announcement of the acquisition).

Although MACs can provide either the target or the acquirer with the right to terminate the acquisition, our discussions with practitioners indicate that MACs are primarily geared towards providing walk-away rights to acquiring firms. The strength of this right is determined primarily by the number of events that are excluded from being considered material adverse events. Target firms negotiate these 'MAE exclusions' as a means of constraining the acquirer's ability to

terminate the transaction. That is, if an excluded MAE occurs, the acquirer cannot walk away from the original merger agreement. In this sense, the acquirer's abandonment option is weakened as more MAE's are excluded.[3]

Legal practitioners claim that MACs are highly negotiated elements of merger agreements.[4] Moreover, recent anecdotal evidence of acquisitions that have been terminated following alleged material adverse events implies that MACs have had an important impact on acquisition dynamics in these cases.[5] Nonetheless, we are not aware of any systematic evidence of the economic impact of MACs on acquisitions. Prior academic studies of MACs have been limited to descriptions of MAC structure, with emphasis on legal issues [Davidoff and Baiardi (2008)], their evolution through time [Gilson and Schwartz (2005)] and their cross-sectional variation [Macias (2008)]. We complement and extend this literature by analyzing how (if at all) MACs affect the dynamics of the acquisition process. Specifically, we first provide detailed evidence on the structure of MACs, the frequency of material adverse events, the link between material adverse events and acquisition outcomes, and the association between MAC structure and acquisition outcomes. We then test whether the impact of MACs on acquisition dynamics is priced by analyzing arbitrage spreads and offer premiums.

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[3] Appendix I provides excerpts from the merger agreement between Arrow Electronics and Richey Electronics (filed with the SEC on 12/04/1998) to illustrate how the target and acquirer define the MAC and the MAE exclusions.

[4] See, for example, Klein and Cooper (2007); Alexander (2005); and Adams (2004).

[5] See: The Economist (Sep2001, Dec2001, Nov2005), Knowledge@Wharton (2006), Skadden's Wolff and Moore (2007), among several other articles in the Wall Street Journal and New York Times

3.   Sample Selection and Data Description

Our sample begins with the universe of 2,045 acquisitions (both completed and terminated) of public targets in the United States (U.S.) announced by U.S. public acquirers between 1998 and 2005 and reported in the Securities Data Corporation (SDC) Mergers and Acquisitions database. We require the market value of the target's equity to be at least 1% of the acquirer's value and that the sample firms are covered on the CRSP and Compustat databases. In addition, to document the structure of MACs, we require that the relevant SEC filings (i.e., 8k, 425, S4, PREM14, DEF14A or SC 13D files) exist for the acquisition. Because these filings are required only for those acquisitions in which the acquirer seeks at least 50% ownership of the target's shares, this requirement limits our sample to acquisitions in which the acquirer seeks majority ownership of the target. After imposing these requirements, our final sample consists of 844 announced acquisitions.

Panel A of Table 1 reports a time profile of the sample and the frequency of MACs. Of the 844 acquisitions, 771 (91.4%) contain a material adverse change clause. This frequency increases slightly over time from a low of 88.6% in 1999 to a high of 95.9% in 2004. To put this frequency in perspective, we note that prior studies of other contractual mechanisms in acquisitions report much lower frequencies. For example, Officer (2003, 2004) reports frequencies of 42% and 18% for termination fees and collars, respectively. Boone and Mulherin (2007) report that 29% of their sample acquisitions have a lockup option, while Cain, Denis, and Denis (2010) report that only 4% of completed acquisitions on SDC have an earnout provision. We conclude, therefore, that MACs are the most pervasive among the set of contractual mechanisms that allocate risks between the target and acquiring firm shareholders.

Panel A also reports data on the number of material adverse event (MAE) exclusions. On average, the sample MACs contain nearly four exclusions and more than two-thirds of the sample MACs contain at least one exclusion. There is also substantial variation in the number and type of exclusions across acquisitions. We categorize MAE exclusions based on the definitions of MAEs contained in the merger agreements.[6] As shown in Panel B of Table 1, the most frequent exclusions are for general economic conditions (54%), industry conditions (51%), and changes in firm prospects due to an agreement or a transaction announcement (50%). Finally, the data in Table 1 indicates that the average number of exclusions has increased significantly over the sample period from 2.4 in 1998 to 6.5 in 2005.

In Table 2 we present descriptive statistics for characteristics of the sample acquisitions. Targets are approximately one-third the size of the acquirer, on average. Approximately 11% of the acquisitions are either 'unsolicited' or 'hostile' or 'unsolicited,' as defined in SDC, SEC filings, or on Factiva, and 21% are tender offers. The main industry of the acquirer and target differs in almost 22% of the acquisitions. The consideration paid in the acquisition is exclusively cash in 31% of the acquisitions, exclusively stock in 48% of the acquisitions, and a mix of cash and stock in the remainder. On average, cash comprises 40% of the total consideration paid. These characteristics are similar to those in other studies of acquisitions over a similar time period.[7]

Table 2 also compares acquisition characteristics for firms with an above-median and a below-median number of MAE exclusions. These data indicate that in acquisitions with a

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[6] See the American Bar Association (2006) study and the Nixon-Peabody (2007) survey for more detailed explanations of the categories of MAE exclusions.

[7] See, for example, Boone and Mulherin (2007b), Officer (2003), and Fuller (2003).

below-median number of exclusions, the target is larger relative to the acquirer, the acquisition is more likely to be hostile, to be a tender offer, and to involve a target operating in a different primary industry. In addition, the proportion of payment in cash tends to be higher. We later control for these systematic differences in our tests of the association between MAC structure and acquisition dynamics.

4. MACs and Acquisition Dynamics

In this section, we analyze how, if at all, MACs affect the dynamics of the acquisition process. Because MACs give the acquirer the right to abandon the acquisition in the presence of a material adverse event, they can also provide a greater incentive to the acquisition parties to renegotiate the terms of the acquisition in a way that reflects the revised market conditions. We first document the extent to which acquisition dynamics are affected by material adverse events, and then analyze the association between the structure of MACs and acquisition outcomes.

Panel A of Table 3 provides a frequency distribution of acquisition outcomes. Of the 844 sample acquisitions, 737 (87.3%) are completed and 107 (12.7%) are terminated. In 92 (10.9%) acquisitions, the terms of the acquisition are renegotiated following the initial merger agreement. Of these, 65 are eventually completed under revised terms and 27 are ultimately terminated.

In Panel B, we analyze the link between material adverse events and acquisition outcomes. For each acquisition that is either terminated or that reports a change in any of the negotiated terms of the deal, we examine each proxy statement filed between the initial announcement of the acquisition and the outcome of the acquisition contest. We then identify the stated reasons

for the termination or renegotiation from the proxy statements and confirm this information in news reports on Factiva. We find that MAEs occur in 89 (10.5%) of the sample acquisitions. Of the 92 sample acquisitions that are renegotiated, 50 are renegotiated as a direct result of a material adverse event. Similarly, of the 107 acquisitions that are terminated, 50 are terminated as a direct result of a MAE, while another 11 are terminated following a renegotiation of deal terms that was initiated by a MAE. Thus, material adverse events are the underlying cause of over half of the terminated acquisitions in the sample and nearly 60% of the renegotiated acquisitions.[8]

Finally, Panel C of Table 3 shows that the occurrence of a material adverse event results in an economically large revision in the terms of the acquisition. We classify MAEs into those that refer to market-wide events and those that refer to firm-specific events. Additionally, we specify whether the MAE is experienced by the target or by the acquirer – i.e., whether the event primarily reduced the value of the target or the acquiring company. As shown in Panel C, conditional on an acquisition being renegotiated in response to a material adverse event, the offer price is revised by 12.3%, on average. (This value is obtained by computing the weighted average of the absolute values if the price changes in Panel C.) The largest change is associated with firm-specific material adverse events experienced by targets; these events are associated with a 15% reduction in the offer price, on average. Similarly, firm-specific material adverse events experienced by the acquiring firm are associated with an average change in the offer price

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[8] If anything, we expect this process to understate the link between material adverse events and termination/renegotiation decisions since public documents will not necessarily draw a direct link between the material adverse change clause and the termination/renegotiation decision.

of 13%. We conclude, therefore, that material adverse events are relatively common and have a large impact on acquisition dynamics through the MAC clause.

We further examine whether cross-sectional variation in the structure of MACs is associated with variation in acquisition outcomes. If a greater number of MAE exclusions weakens the acquirer's option to abandon the acquisition, we expect the number of MAE exclusions to be positively associated with the probability that the acquisition is completed. Moreover, to the extent that a stronger abandonment option provides acquiring firm managers with greater leverage to renegotiate the terms of the acquisition following a MAE, we expect a negative association between the probability of renegotiation and the number of MAE exclusions.

To test these predictions, we estimate separate logit models in which the dependent variable is equal to one if the acquisition is completed (renegotiated) and zero otherwise. The models control for other acquisition characteristics as well as characteristics of the target and acquiring firm. We report standardized odds ratio coefficients as well as the marginal effects for each variable. The results are reported in Table 4 and depicted in Figures 2 and 3. Consistent with our prediction, the first two columns of Table 4 indicate that the likelihood that an acquisition is completed is positively associated with the number of MAE exclusions. A one-standard deviation change in the number of MAE exclusions results in a 3% change in the probability of completion. This compares with an unconditional probability of completion of 87%. The likelihood of completion is also positively related to whether the terms of the acquisition are renegotiated, the size of the premium offered, and the size of the acquirer. Consistent with Bates and Lemmon (2003) and Officer (2004), the likelihood of completion is negatively related to

whether the acquisition is hostile, whether the contest contains multiple bidders, and the size of the target firm.

Similarly, columns (3) and (4) of Table 4 show that the likelihood of renegotiation is negatively associated with the number of MAE exclusions. As also depicted in Figure 3, a one-standard deviation increase in the number of MAE exclusions reduces the probability of renegotiation by 3%, as compared with the unconditional probability of 11%. The likelihood of renegotiation is also positively related to the hostility of the acquisition bid, the presence of multiple bidders, and the riskiness of the target (as measured by the standard deviation of target returns.) In untabulated results, we find similar results using a duration analysis of the time to completion or renegotiation rather than simple logit specifications.

Of course, these associations may simply reflect self-selection and/or simultaneity biases. For example, acquirers of targets with a lower *ex ante* probability of completion and higher probability of renegotiation might negotiate fewer MAE exclusions. To address these potential biases, we estimate both two-stage treatment effects models and three-stage least squares (3SLS) models that control for self-selection and simultaneity effects. These results (available upon request) indicate that the negative association between the probability of completion and the number of MAE exclusions and the positive association between the likelihood of renegotiation and the number of MAE exclusions are robust to these endogeneity controls. We conclude, therefore, that the structure of MACs has an important impact on the dynamics of corporate acquisitions.

5.   The Impact of MACs on Arbitrage Spreads and Offer Premiums

In this section, we analyze whether the impact of MACs on acquisition dynamics is 'priced' by investors and by the parties to the acquisition. Specifically, we first analyze arbitrage spreads as a measure of the market's assessment of the likelihood of acquisition completion. Second, we analyze the initial premiums offered by acquirers for evidence that having fewer MAE exclusions is associated with acquirers offering higher premiums.

5.1. Arbitrage Spreads

Following the announcement of an acquisition, the target company's shares typically trade at a discount to the price that is being offered by the acquiring company. This difference between the market price and the offer price is known as the arbitrage spread. Prior studies by Brown and Raymond (1986) and Mitchell and Pulvino (2001) report evidence consistent with the view that arbitrage spreads capture the probability that the acquisition will be completed. That is, arbitrage spreads are much wider for acquisitions that are ultimately abandoned than for those that are ultimately completed.

If the structure of MACs affects the dynamics of acquisition outcomes, this should be reflected in the arbitrage spread. Specifically, if a greater number of MAE exclusions constrains the acquirer's ability to walk away from the proposed acquisition, we expect a negative relationship between the arbitrage spread and the number of MAE exclusions. To explore this hypothesis, we calculate arbitrage spreads over Days 1 through 20 relative to the initial announcement of the acquisition. On each day, we calculate the arbitrage spread as the difference between the stated offer price and the current market price of the target, scaled by the

current market price. As indicated in Panel A of Table 5, median arbitrage spreads are 6.2% on the day after initial announcement and 4.2% on Day 20 relative to the initial announcement. These spreads are significantly higher for acquisitions that have a below-median number of MAE exclusions than for those with an above-median number of MAE exclusions. On Day 1 (Day 20), median arbitrage spreads are 8.5% (7.4%) for acquisitions with a below-median number of exclusions and 5.2% (3.1%) for acquisitions with an above-median number of exclusions. The paired differences are statistically significant at the 0.01 level using a medians test.

We provide further evidence on this issue by estimating cross-sectional regressions of arbitrage spreads at Day 1 and Day 20 on the number of MAE exclusions and other potential determinants of the arbitrage spread such as the existence of a termination fee, the form of payment, whether the acquisition was in response to another bid, the size of the target, the relative size of the target, whether the acquisition was hostile, and whether there were multiple bidders. The results, reported in columns (1) and (4) of Panel B of Table 5 indicate that arbitrage spreads are negatively associated with the number of MAE exclusions. The coefficient on the number of exclusions is significant at the 0.10 level on day 1, but not statistically significant at conventional levels on day 20 (p-value = 0.12). Apart from the relative size of the acquisition, none of the other independent variables are statistically significant.

Although the negative association between arbitrage spreads and the number of MAE exclusions is consistent with the view that fewer MAE exclusions decreases the probability of deal completion, it is possible that arbitrage spreads and the number of exclusions are both driven by the same underlying (but unobserved) phenomenon. For example, perhaps target and

acquiring firms choose to have fewer MAE exclusions in acquisitions that have a higher risk of failure. Arbitrageurs may then react to this same perceived risk by setting higher spreads.

To address this issue, we note that arbitrageurs can only assess the impact of different MAC structures on the likelihood of acquisition completion if they have access to the details of the MAC structure in the merger agreement. In our sample, more than 50% of the merger agreements are filed with the SEC more than five days after the initial announcement of the acquisition. Thus, if the negative association between arbitrage spreads and the number of MAE exclusions is due to arbitrageurs inferring information about the likelihood of acquisitions completion from the structure of the MAC, we expect to observe the negative association only in those transactions in which the merger agreement has been filed by the date on which the arbitrage spreads are measured. By contrast, if arbitrage spreads and number of MAE exclusions are both driven by an unobserved factor, we do not expect the date on which the merger agreement is filed to affect the negative association between spreads and the number of exclusions.

As shown in Models (2) and (3), as of Day 1 following the initial acquisition announcement, the merger agreement has been filed in only 343 of the 811 acquisitions with available data. For these 343, there is a strong negative association between arbitrage spreads and the number of MAE exclusions. The coefficient on MAE exclusions implies that adding each MAE exclusion reduces the predicted arbitrage spread by 0.9%. This effect is economically large relative to the unconditional median arbitrage spread of 6.2% on Day 1. By contrast, for the 468 acquisitions in which the merger agreement has not yet been filed as of Day 1, there is no association between arbitrage spreads and the number of MAE exclusions.

We find similar results at Day 20 after the initial announcement (Models (5) and (6)). As of Day 20, 667 of the 811 merger agreements have been filed. For these targets, there is a significant association between the arbitrage spread on that day and the number of MAE exclusions in the MAC clause of the merger agreement. Again the effect is economically important; the addition of each MAE exclusion is associated with a reduction in the arbitrage spread of 1.5%. This compares with an unconditional median arbitrage spread of 4.2% on Day 20. For the remaining 144 cases in which the merger agreement has not been filed, there is no association between arbitrage spreads and the number of MAE exclusions.

These findings are robust to alternative definitions of the MAE exclusions variable, to alternative estimation techniques, and to various controls for outliers. Specifically, rather than simply counting the number of MAE exclusions, we also estimate the models in Table 5 using a binary variable equal to one if the acquisition has at least one MAE exclusion and a binary variable equal to one if the acquisition has an above-median number of MAE exclusions. We also estimate the models as part of a three-stage least squares (3SLS) in which we use the predicted number of MAE exclusions as an instrument for the actual number of exclusions. Finally, we winsorize all variables at the 1st and 99th percentiles and use bootstrapped standard errors. Although, for the sake of brevity, we do not report these robustness tests in a table, our qualitative conclusions are unchanged. Arbitrage spreads are negatively associated with the number of MAE exclusions in the MAC structure.

Taken together, these findings are consistent with the joint hypothesis that (i) the structure of MACs materially affects the likelihood of acquisition completion, and (ii) this likelihood is reflected in market prices when publicly disclosed. More generally our findings imply that the

structure of MACs represents one channel through which information about the likelihood of acquisition completion is embedded in stock prices.

5.2. Offer Premiums

At the time of an acquisition, the target and acquiring firms negotiate both the premium to be offered to the target and the structure of the MAC clause. Thus, if the structure of MACs influences the subsequent dynamics of the acquisition, it is plausible that the parties to the acquisition trade off the offer premium with the number of MAE exclusions. Specifically, if a greater number of MAE exclusions limits the acquirer's ability to 'walk away' from the acquisition, we hypothesize that, all else equal, the acquirer will offer a lower premium in such cases. Thus, we expect a negative association between offer premiums and the number of MAE exclusions.

To explore this hypothesis, we first estimate the offer premium by comparing the reported offer price with the target's share price four weeks prior to the initial public announcement of the acquisition. We verify consistency of the data across the various data sources that we use in the study. In those cases in which we have data from multiple sources, but for which there is a discrepancy, we use the following order of priority: (i) SEC filings, (ii) LivEdgar M&A database, (iii) SDC's M&A database.

We find that, on average, acquiring firms offer a price for the target that is 43% above the target's price four weeks earlier. This premium is larger for firms with a below-median number of MAE exclusions (average = 47%) than those with an above-median number of exclusions

(average = 41%). The difference is statistically significant at the 0.01 level using either a t-test for means or a medians test. (These data are not reported in a table).

In Table 6, we estimate cross-sectional regressions of the offer premium (expressed as a percentage) on the number of MAE exclusions and a series of control variables. Prior studies [e.g. Bates and Lemmon (2003), Officer (2003), and Boone and Mulherin (2008)] find that offer premiums are associated with the size of the target and acquiring firms, the Tobin's Q of the target, the method of payment, whether or not the acquisition bid is hostile or unsolicited, the existence of a prior bid for the target, and whether or not the acquisition includes a termination fee. To facilitate comparison with the prior literature, we first present ordinary least squares (OLS) regressions in Columns (1) and (2). Statistical significance is measured using Eicker-Huber-White-Sandwich heteroskedastic-robust standard errors clustered by target industry.

Consistent with prior studies, the results in Column (1) indicate that offer premiums are positively related to the size of the acquiring firm and negatively related to the size of the target firm. Controlling for these firm characteristics, we find that offer premiums are significantly negatively related to the number of MAE exclusions contained in the MAC clause. The coefficient on number of MAE exclusions is significant at the 0.005 level and indicates that, at the margin, each additional MAE exclusion is associated with a reduction of 1 percentage point in the offer premium. We find similar results in Column (2) when we add additional variables that control for characteristics of the acquisition (e.g. method of payment, whether the bid was hostile or unsolicited, existence of a prior bid, and whether or not there is a termination fee).[9]

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[9] The results are also robust to winsorizing all variables at the 1st and 99th percentiles as well as at the 5th and 95th percentiles.

Although the results in Columns (1) and (2) imply a statistical association between MAC structure and offer premiums, it is difficult to interpret this association as causal since the number of MAE exclusions and the premium are both negotiated as part of the merger agreement. That is, they are jointly determined. To address this issue, we estimate a simultaneous equations system with the number of MAE exclusions and the offer premium treated as the two endogenous variables. To ensure that the system is identified, we include several variables in each equation that are not included in the other equation. Specifically, we exclude from the MAE exclusions equation the standard deviation of target returns over the prior year, a dummy variable denoting whether there was a prior bid for the target, and the dummy variable denoting whether there was termination fee by the target. In unreported correlation analysis, we find that these variables are correlated with the offer premium, but not with the number of MAE exclusions. Similarly, from the offer premium regression, we exclude the log of the number of days of due diligence by the acquirer and whether the target and the acquirer are from different industries. We also find in unreported analysis that these variables are correlated with the number of MAE exclusions, but not with the offer premium. In addition, we conduct a battery of specification tests that support the validity of our instruments. (These tests are not reported in the paper, but are available from the authors upon request.)

The results of the simultaneous equations estimation are reported in Columns (3) and (4) of Table 6. These findings indicate that the negative association between the offer premium and the number of MAE exclusions is driven primarily by greater MAE exclusions leading to lower

offer premiums.[10] This finding is consistent with the interpretation that target shareholders are able to obtain a higher premium in acquisitions for which the MAC structure contains fewer exclusions. Nonetheless, we acknowledge that establishing this relation as causal is difficult even with the simultaneous equations models that we employ. It is possible, for example, that there is still some unknown omitted factor that is affecting both the premium and the contractual features of the MAC. Having said that, the fact that our prior findings indicate a causal relation between MAEs and acquisition outcomes suggests that it is plausible that the association between MAE exclusions and offer premiums is also causal. That is, if material adverse events lead to economically meaningful differences in acquisition outcomes, it seems likely that targets can extract higher premiums from acquirers when the acquirer holds a stronger abandonment option through the MAC clause. Conversely, targets might be willing to accept a lower premium if a greater number of MAE exclusions increases the probability of completion.

6.   Conclusions

Material adverse change clauses are a ubiquitous and intensely negotiated feature of merger agreements. Our analysis shows that MAEs are the underlying cause for the majority of acquisition terminations and renegotiations. These renegotiations result in economically large changes in merger premiums. Moreover, cross-sectional differences in MAC structure are associated with differences in acquisition outcomes. Specifically, MACs with a greater number of exclusions are associated with fewer terminations and fewer renegotiations. We conclude,

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[10] These results are robust to the inclusion of other contractual mechanisms (i.e., termination fees by the acquirer, collars, and lockup options) and year effect dummy variables based on the announcement date of the acquisition.

therefore, that MACs have an economically important impact on the dynamics of the acquisition process.

This impact on acquisition dynamics is reflected in target share prices. Arbitrage spreads are significantly larger in acquisitions for which the MAC clause contains fewer MAE exclusions – i.e., those that contain a stronger abandonment option for the acquiring firm. In this sense, our findings contribute to the prior literature on arbitrage spreads in that they provide evidence of one important channel through which information about the likelihood of acquisition completion is embedded in market prices.

Finally, we report evidence that target firms receive higher offer premiums when the MAC structure contains fewer MAE exclusions. Although it is difficult to establish causation due to the fact that MAE exclusions and offer premiums are jointly negotiated, this finding is consistent with the view that acquirers are willing to offer a higher *ex ante* premium when they have a stronger option to abandon the acquisition *ex post*.

Our findings add to a growing body of literature that analyzes contractual features of merger agreements. These features include lockup provisions, termination fees, collars, and earnouts.[11] To some degree, these features all allocate risks between the target and acquiring firms during and following the acquisition period. Our study shows that MAC clauses are the most common among these contractual mechanisms , they are highly customized, and they have a substantial impact on acquisition dynamics. An important extension to our study would be an analysis of the determinants of MAC structure. Although most of our tests require only that the

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[11] See the studies referenced in footnote #2.

structure of MACs is predetermined, it is noteworthy that there is considerable cross-sectional variation in the number of MAE exclusions contained in the sample agreements. Because our understanding of the determinants of this variation is limited, we are unable to say whether this variation reflects differences in negotiating power between targets and acquirers or whether this variation reflects efficient contracting between target and acquiring firms.

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Appendix I. Example of MACs Structure and Negotiation in Merger Agreements.

Richey Electronics (the Target) filed this DEF14A on 12/04/98
Agreement and Plan of Merger, dated as of September 30, 1998, by and among Arrow Electronics, Inc., a New York corporation ("Arrow"), Lear Acquisition Corp., a Delaware corporation ("Acquisition Corp.") and Richey Electronics

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A1.1. Conditions to Completion of the Merger
A1.2 Definition of Material-Adverse-Effect (MAE exclusions)
A1.3 Extracts of Negotiation paths: MACs vs. Price (Background of the merger)

A1.1 Conditions to Completion of the Merger

The obligations of Parent and Sub to effect the Merger are subject to the satisfaction of the following conditions, unless waived by Parent and Sub:

(a) REPRESENTATIONS AND WARRANTIES; PERFORMANCE OF OBLIGATIONS. Except as otherwise contemplated or permitted by this Agreement,
(i) the representations and warranties of the Company contained in this Agreement or in any certificate or document delivered to Parent pursuant hereto shall as of the Closing Date, (x) to the extent qualified by Company **Material Adverse Effect**, be true in all respects
…
  (e) **MATERIAL ADVERSE CHANGE**. Since the date hereof, there shall not have been any events, changes or occurrences which have had, or are reasonably likely to have, individually or in the aggregate, a Company **Material Adverse Effect**.

A1.2 Definition of Material-Adverse-Effect (2 MAE exclusions)[12]

For the purposes of this Agreement, "Company **Material Adverse Effect**" shall mean a **Material Adverse Effect** on the financial condition, assets, liabilities (contingent or otherwise), results of operation, business or business prospects of the Company and its Subsidiaries, if any, taken as a whole. For purposes of this Agreement, a Company **Material Adverse Effect** shall not include a **Material Adverse Effect** on the financial condition, assets, liabilities (contingent or otherwise), results of operation, business or business prospects of the Company as a result of

(i)   [1-*Economic changes*]: changes in the conditions or prospects of the Company and its Subsidiaries taken as a whole which are consistent with general economic conditions or

(ii)   [2- *Industry changes*]: general changes affecting the electronic component distribution or electronics assembly industries,

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[12] In brackets and italics I show the classification used to count the number of MAE exclusions recorded for this example.

A1.3 Extracts of Negotiation: MACs vs. Price (Background of the merger)

On December 25, 1997, … Mr. Rosenbaum and Mr. Warnock discussed business conditions in the electronics distribution industry and the continuing trend toward consolidation among distributors.
…
On September 11, Milbank, Tweed, Hadley & McCloy LLP ("Milbank"), Arrow's outside counsel, distributed a draft purchase agreement to the parties. After consultation with Mr. Rosenbaum and Mr. Blumenthal, Dewey Ballantine marked up the Milbank draft and returned it to Milbank on September 15. During the next several days, Mr. Rosenbaum expressed to Mr. Klatell certain reservations Richey had concerning the Milbank draft, particularly those provisions related to a post-closing purchase price adjustment based upon a physical inventory and the proposed definition of a **Material Adverse Change** and related closing conditions.
Mr. Rosenbaum urged Mr. Klatell to take whatever time was needed to complete due diligence and then sign an agreement, rather than ask Richey to sign such an open ended document as had been proposed.
…
On September 22, representatives of Richey and Arrow met at the offices of Milbank in New York. When Richey representatives again stated their concerns regarding a potential purchase price adjustment and the definition of **Material Adverse Effect** as it related to closing conditions, Mr. Klatell agreed to have Ms. Morris meet with Mr. Berger later in the week to resolve all outstanding due diligence issues. ... Mr. Blumenthal, Mr. Rosenbaum and Mr. Klatell then agreed upon a framework for addressing the **Material Adverse Change** issue in the agreement.
…
   On September 28, Mr. Klatell and Mr. Rosenbaum spoke by telephone several times in an attempt to reach agreement on the transaction. As a result, Arrow agreed to pay $10.50 in cash per share of Richey Common Stock and also agreed in concept to a definition of **Material Adverse Change** that would allow Arrow not to close the transaction. Throughout the day of September 29, revised drafts of the agreement were negotiated and exchanged.
   Late in the day on September 29, Mr. Cacciatore convened a special meeting of Richey's Board of Directors via telephone conference. Also participating in the meeting were Mr. Berger, representatives of Jefferies, Dewey Ballantine and McGladrey & Pullen LLP. Mr. Rosenbaum reported to Richey's Board of Directors that, since the last meeting of September 25**, three issues had been isolated with respect to the Arrow transaction: arriving at a final price, a fair definition of what constitutes a Material Adverse Change and agreeing upon a fee which would be paid to Arrow in the event another bidder emerged for Richey and Richey's Board of Directors agreed to accept such other bid**. Mr. Rosenbaum informed Richey's Board of Directors that a price of $10.50 per share had been agreed to, Richey's definition of **Material Adverse Change** had been accepted, and a breakup fee of $5.5 million plus $1.5 million for expenses had been set.
   Representatives from Jefferies then presented to Richey's Board of Directors an analysis that concluded that the price of $10.50 per share in cash was fair, from a financial point of view, to Richey's Stockholders. Richey's Board of Directors … passed a formal resolution authorizing the execution of **the definitive purchase agreement** with Arrow, …. Final adjustments were made to the documents during the day of September 30 and the merger agreement was executed after sundown on that day.

Appendix II. Definitions of the main variables used in this study.

Variable	Description	Source
Contractual mechanisms		
MACs contractual mechanisms		
MAC	Material-Adverse-Change clause for Target	SEC filings
MAE	Material-Adverse-Event	SEC filings
MAE exclusions	Number of MAE exclusions in MAC	SEC filings
Walk-away right for acquirer (MACs in merger agreement)	Dummy for "Acquirer can terminate the acquisition in case of a MAE". 1=Yes, 0=No	SEC filings
MAE exclusions	Number of MAE exclusions	SEC filings
Market-Wide MAE exclusions	Number of Market-Wide exclusions	SEC filings
Firm-Specific MAE exclusions	Number of Firm-Specific MAE exclusions	SEC filings
Above-median # MAE exclusions	Dummy for "Above-median # MAE exclusions". 1=Yes, 0=No	SEC filings
Structure of MACs known at Announcement Date? ("sametime")	Binary variable. 1= merger agreement is filed at the same time the acquisition is announced. 0 = merger agreement is filed after the announcement date.	SEC filings, Factiva
Characteristics of the Takeover processes		
Due diligence by Acquirer	Dummy for the due diligence conducted by the acquirer according to what is reported in the "background of the merger" section in the merger agreement. 1=Yes, 0=No	SEC filings
Log(Days Due Diligence by Acquirer)	log of the days of due diligence conducted by the acquirer according to what is reported in the "background of the merger" section in the merger agreement. 1=Yes, 0=No	SEC filings
Arb-spreads	Following Mitchell and Pulvino (2001), the arbitrage spread is defined to be the offer price minus the target price divided by the target price.	CRSP, SEC filings, Factiva, SDC, LivEdgar M&A database

<u>Transaction attributes</u>

Premium offered	Offer premium compared to target's stock price 4 weeks before the announcement date	SEC file, SDC, LivEdgar M&A database, (Check prices with CRSP)
Auction	Binary variable. 1= Target mentions a formal auction process to sell the company. This process includes contacting many bidders and requesting bids submissions after the request of information memorandum	SEC filings
Hostile/Unsolicited	Binary variable. 1= Acquirer submits a hostile or unsolicited bid to the acquirer.	SEC filings, SDC, Factiva
Challenging	Binary variable. 1= Acquirer submits or starts an takeover process after a previous acquisition has already been announced or is in process.	SEC filings, Factiva, SDC, LivEdgar M&A database
Completed acquisition	Binary variable. 1= Acquisition is completed.	SEC filings, SDC, Factiva
Terminated acquisition	Binary variable. 1= Acquisition is terminated.	SEC filings, SDC, Factiva
Renegotiated acquisition	Binary variable. 1= Acquisition is renegotiated. A, acquisition is renegotiated if the original terms of the acquisition change after the first announcement date. In some cases, the price does not change, but only the method of payment changes. Acquisitions in which changes in exchange ratios occur within the negotiated range of an original collar provision are not labeled as renegotiated.	SEC filings, Factiva, LivEdgar M&A database
Cash-only payment	Offered price is 100% in cash	SEC filings, SDC, LivEdgar M&A database

<u>Characteristics of the target and the acquirer</u>

Log(MV Assets Target)	Log of market value of Target's assets Compustat data: Market Value of Assets = (book_value_assets -book_common_equity - Common Shares Outstanding*Price -- Fiscal Year -- Close) = data6 - data60 + data25*data199	Compustat
Log(MV Assets Acquirer)	Log of market value of Acquirer's assets Compustat data (Estimation: same as above for Target)	Compustat
Relative Size (MV Assets)	MVAssets Target / MVAssets Acquirer	Compustat
Diversified Acquisition	Different Industry, using all SIC4	SDC, Compustat
s.dev. TrgRet prior yr	Standard deviation of Target's stock return in year prior to announcement	CRSP

Table 1
Time Profile and Description of Material-Adverse-Events (MAE) exclusions

The sample includes 844 acquisitions of US public targets announced by US public acquirers between 1998 and 2005. Material adverse change (MAC) clauses are obtained directly from the merger agreements filed with the SEC. These merger agreements also describe the number and type of material-adverse-event (MAE) exclusions contained in the MAC clause. Panel A reports the frequency of MACs and the average number of MAE exclusions in each sample year. Panel B reports the percentage of sample firms with each type of MAE exclusion.

Panel A: Time Profile

	MACs		MAE Exclusions	
Year	# of acquisitions	% with MAC	Mean	% > 0
1998	183	89.1%	2.4	52.5%
1999	184	88.6%	2.4	54.3%
2000	133	91.0%	3.5	68.4%
2001	105	92.4%	4.2	80.0%
2002	48	97.9%	5.1	85.4%
2003	65	95.4%	5.0	87.7%
2004	74	95.9%	5.8	87.8%
2005	52	90.4%	6.5	88.5%
Total	844	91.4%	3.7	68.7%

Panel B: Types of MAE Exclusions

Market-Wide Exclusions		Firm-Specific Exclusions	
Any economic condition	54%	Changes due to agreement or transaction	50%
Target industry conditions	51%	"Disproportionate" economic condition.	33%
Change in law or regulation	26%	Stock price	17%
Change in accounting	25%	Miscellaneous	14%
Any capital market condition	22%	Loss of customers, suppliers, employees	10%
War/terrorism	9%	Failure to meet projections	7%
		Litigation/breach of fiduciary duty	5%

Table 2
Sample Description and Univariate Comparison

Descriptive statistics for the sample of 844 announced acquisitions of US public targets by US public acquirers between 1998 and 2005. Appendix II contains definitions and data sources for all variables. For each characteristic, we report the mean value for the full sample as well as for subsamples with above-median and below-median number of material adverse event (MAE) exclusions. ***, **, and * denote significance at the 0.01, 0.05, and 0.10 levels, respectively, of the difference between the average values for the 'above-median' and 'below-median' subsamples.

Characteristic	Full Sample	Above Median	Below Median	
Acquirer market capitalization ($millions)	$10,199	$12,426	$6,798	***
Target market capitalization ($millions)	$1,437	$1,580	$1,219	
Relative size (target mkt cap./acquirer mkt.cap.)	0.33	0.27	0.43	***
Percentage of 'hostile' bids	10.7%	2.0%	24.0%	***
Percentage of tender offers	20.7%	12.0%	34.1%	***
Percentage of 'diversified deal' bids	21.9%	25.4%	19.6%	***
Percentage of 'cash-only' bids	30.5%	27.0%	35.6%	***
Percentage of 'stock-only' bids	48.0%	49.0%	46.4%	
Percentage of payment in cash	40.0%	37.4%	44.6%	***
Percentage with target termination fees	79.6%	87.8%	67.1%	***
Percentage with acquirer termination fees	25.2%	29.6%	18.6%	***
Percentage with lockup agreement	21.4%	21.6%	21.3%	
Percentage with offer price collars	19.3%	18.6%	20.4%	

Table 3
Post-Announcement Acquisition Dynamics

Panel A reports the frequency distribution of acquisition outcomes. Panel B reports the frequency of material adverse events (MAEs) and the link between MAEs and acquisition outcomes. Panel C reports the magnitude of the revision in offer price for the subset of acquisitions whose terms are renegotiated following a MAE. Data are obtained are obtained from news and proxy files found in LivEdgar M&A database, 10kWizard, and Factiva News. Some acquisitions can be classified as having been renegotiated *and* terminated due to a MAE. The sample includes 844 announced acquisitions of US public targets by US public acquirers between 1998 and 2005.

Panel A: Frequency Distribution of Outcomes

	Number	% of sample
Acquisition is completed	737	87.3%
Acquisition is terminated	107	12.7%
Terms of acquisition are renegotiated	92	10.9%
Terms renegotiated – acquisition completed	65	7.7%
Terms renegotiated – acquisition terminated	27	3.2%

Panel B: Link Between Material Adverse Events and Acquisition Outcomes

	Number	% of sample
Acquisitions with MAE	89	10.5%
Terms renegotiated due to MAE	50	5.9%
Terms renegotiated – acquisition completed	39	4.6%
Terms renegotiated – acquisition terminated	11	1.3%
Acquisition terminated due to MAE	50	5.9%
Acquisition terminated following earlier renegotiation of terms due to MAE	16	1.9%

Panel C: Price renegotiations due to Material Adverse Events

	Number	Mean % change in offer price
Market-wide MAE reducing value of target	22	-7.6%
Firm-specific MAE reducing value of target	44	-14.8%
Market-wide MAE on acquirer	1	0.0%
Firm-specific MAE on acquirer	7	13.2%

Table 4

Association between MAC Structure and probability of completion and renegotiation.
Estimates from logit models of the probability of completion or renegotiation. Estimated coefficients from the logit are transformed to report the standardized odds-ratio [i.e., exp(b*SD of X) = change in odds for SD increase in X]. An odds-ratio larger than one denotes a positive relation between the independent and the dependent variables (i.e., an increase in the predicted probability). An odds-ratio smaller than one denotes a negative relation between the independent and the dependent variables (i.e., a decrease in the predicted probability). The marginal effects report the change in the probability for an infinitesimal change in each continuous independent variable and the discrete change in the probability for dummy independent variables. All logit models include year-dummy variables and intercepts but these coefficients are not reported in the tables. Logit regressions use Eicker-Huber-White-Sandwich heteroskedastic-robust standard errors clustered by industry. ***, **, * denotes significance at 1%, 5% and 10% levels, respectively. The initial sample consists of 844 announced acquisitions of US public targets and US public acquirers between 1998 and 2005. Appendix II contains variable definitions and data sources.

	Logit on Prob[Completion=1]			Logit on Prob[Renegotiation=1]		
	std odds ratio /(p)		Marginal Effects	std odds ratio /(p)		Marginal Effects
# of MAE exclusions	2.176	***	[0.013]	-0.191	***	[-0.014]
	(0.000)			(0.000)		
Renegotiated deal	0.942		[-0.011]			
	(0.592)					
Termination fee by Target	1.890	***	[0.087]	0.033		[0.002]
	(0.000)			(0.919)		
Only Cash Payment	0.886		[-0.014]	-0.103		[-0.007]
	(0.255)			(0.770)		
Challenging	0.822	*	[-0.054]	1.969	***	[0.141]
	(0.063)			(0.000)		
Log(MV Assets Target)	0.947		[-0.002]	0.084		[0.006]
	(0.750)			(0.313)		
Relative Size	0.510	***	[-0.053]	0.149		[0.011]
(MV Assets)	(0.006)			(0.221)		
Hostile/Unsolicited	0.868	*	[-0.040]	2.212	***	[0.158]
	(0.096)			(0.000)		
Auction	1.893	***	[0.080]	-0.345	*	[-0.025]
	0.000			(0.057)		
Dummy Year Variables	Yes			Yes		
McFadden's Adj R^2	0.323			0.197		
Prob > Likelihood Ratio:	0.000			0.000		
N	826			826		

Table 5

MAC Structure and Arbitrage Spreads

Panel A presents descriptive statistics and univariate comparison of arbitrage spreads on Day 1 and Day 20 relative to the acquisition announcement for the full sample and for subsamples with below median and above median number of MAE exclusions. Arbitrage spreads are defined as the percentage difference between the offer price and the stock price of the target on that day. Appendix II contains the definition and data sources for the remaining variables. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively. Panel B presents two sets of three regressions of arbitrage spreads on the number of MAE exclusions and a series of control variables. In models (1)-(3), the dependent variable is the arbitrage spread on Day 1, while in models (4)-(6), the dependent variable is the arbitrage spread on Day 20. Coefficient estimates are reported with p-values in parentheses below. P-values are estimated using Eicker-Huber-White-Sandwich heteroskedastic-robust standard errors clustered by target industry. The initial sample consists of 844 announced acquisitions of US public targets by US public acquirers between 1998 and 2005.

Panel A. Sample Description and Univariate Comparison

	Full Sample	Below Median	Above Median	
Median Arbitrage Spread on Day 1	6.2%	8.5%	5.2%	***
Median Arbitrage Spread on Day 20	4.2%	7.4%	3.1%	***

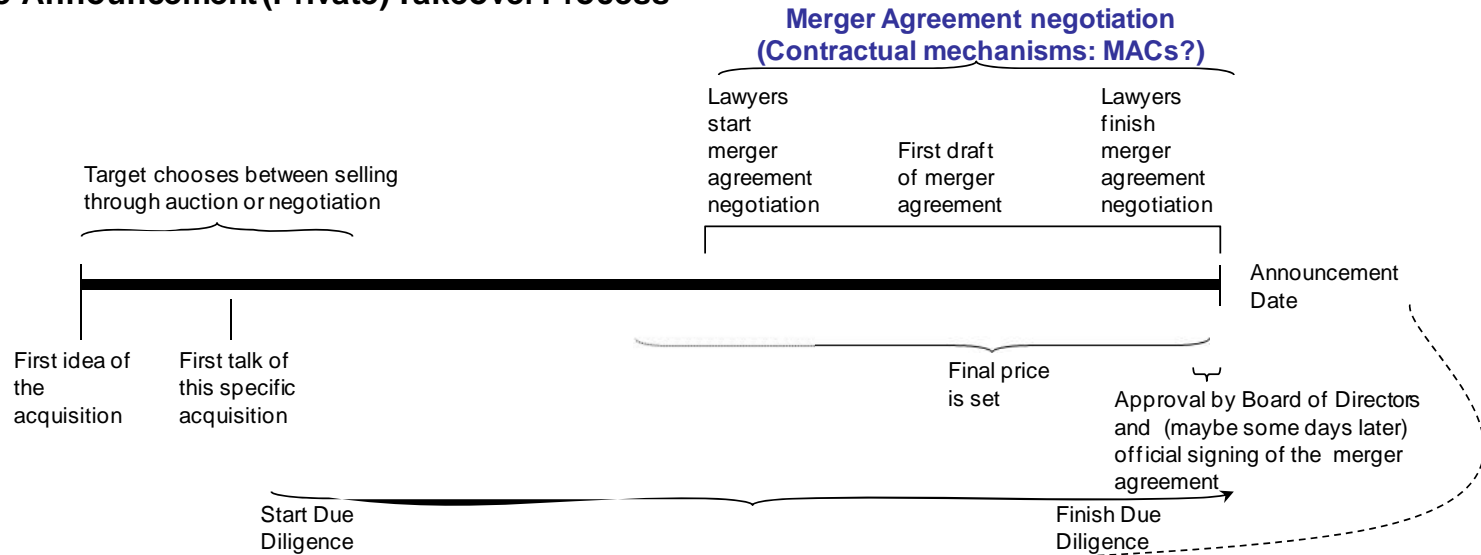*Panel B. Cross-Sectional Regressions of Arbitrage Spreads*

	(1)	(2)	(3)	(4)	(5)	(6)
	Day 1	Day 1	Day 1	Day 20	Day 20	Day 20
MAE exclusions	-0.482	-0.917	-0.176	-1.005	-1.483	0.800
	(0.071)	(0.037)	(0.329)	(0.117)	(0.098)	(0.288)
Termination fee by Target	-3.442	-3.314	-3.308	-18.137	-22.505	-9.427
	(0.353)	(0.678)	(0.217)	(0.341)	(0.386)	(0.056)
Only-Cash Payment	-3.603	-1.644	-5.075	6.608	8.958	-6.861
	(0.118)	(0.707)	(0.086)	(0.563)	(0.491)	(0.427)
Challenging	6.312	2.038	7.571	-1.853	-6.597	2.309
	(0.128)	(0.799)	(0.112)	(0.801)	(0.510)	(0.816)
Log(MV Assets Target)	-0.414	-0.086	-0.671	-0.476	0.640	-5.354
	(0.487)	(0.903)	(0.481)	(0.479)	(0.453)	(0.053)
Relative Size (MV Assets)	2.531	2.854	1.742	3.522	2.610	9.179
	(0.079)	(0.153)	(0.305)	(0.309)	(0.517)	(0.100)
Hostile/Unsolicited	6.047	0.755	9.586	-9.450	-19.628	16.172
	(0.153)	(0.915)	(0.075)	(0.504)	(0.335)	(0.079)
Auction	3.367	1.584	4.886	-0.150	-1.339	5.502
	(0.121)	(0.774)	(0.082)	(0.977)	(0.833)	(0.506)
Intercept	17.582	17.382	17.916	33.327	32.809	46.200
	(0.005)	(0.088)	(0.020)	(0.105)	(0.232)	(0.020)
R^2	0.020	0.023	0.030	0.011	0.013	0.123
N	811	343	468	811	667	144
Public disclosure of MAC?		Yes	No		Yes	No

Table 6

MAC Structure and Offer Premiums

Cross-sectional regressions of the offer premium on the number of MAE exclusions and a series of control variables. Models (1) and (2) report estimates from OLS regressions. Models (3) and (4) report estimates from a three stage least squares (3SLS) model using a simultaneous estimation process. Coefficient estimates are reported with p-values in parentheses below. P-values in the OLS regressions are measured using Eicker-Huber-White-Sandwich heteroskedastic-robust standard errors clustered by target industry. The initial sample includes 844 announced acquisitions of US targets by US acquirers between 1998 and 2005. Appendix II contains variable definition and data sources. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable:	OLS % Premium (1)		OLS % Premium (2)		3SLS % Premium (3)		3SLS # MAE exclusions (4)	
MAE exclusions+	-0.011	***	-0.012	***	-0.047	*		
(+ instrumented in 3SLS)	(0.005)		(0.003)		(0.060)			
Offer premium							2.582	
							(0.135)	
Log(MVAssets-target)	-0.055	***	-0.046	***	-0.04	***	0.338	**
	(0.001)		(0.003)		(0.004)		(0.034)	
Log(MVAssets -acquirer)	0.039	**	0.035	**	0.041	***	0.115	
	(0.015)		(0.017)		(0.000)		(0.260)	
Log(Tobins-q-target)	-0.03		-0.027		-0.022		0.376	*
	(0.344)		(0.399)		(0.417)		(0.058)	
Std.dev. of target return in prior year	0.036	***	0.037	***	0.04	***		
	(0.001)		(0.001)		(0.000)			
Only-cash payment			0.072	**	0.077	**	0.013	
			(0.036)		(0.021)		(0.961)	
Hostile/Unsolicited			-0.047		-0.142		-2.025	***
			(0.480)		(0.116)		(0.000)	
Challenging			0.045		0.067			
			(0.500)		(0.408)			
Termination fee by target			0.003		0.051			
			(0.888)		(0.297)			
Log(Days Due Diligence by Acquirer)							0.499	***
							(0.000)	
Diversified deal							-0.611	**
							(0.027)	
Intercept	0.39	***	0.342	***	0.333	***	-1.541	
	(0.000)		(0.001)		(0.000)		(0.222)	
Adjusted R^2	0.086		0.087		0.083		0.182	
N	792		792		792		792	

I. Pre-Announcement (Private) Takeover Process

Merger Agreement negotiation
(Contractual mechanisms: MACs?)

Lawyers start merger agreement negotiation

First draft of merger agreement

Lawyers finish merger agreement negotiation

Target chooses between selling through auction or negotiation

Announcement Date

First idea of the acquisition

First talk of this specific acquisition

Final price is set

Approval by Board of Directors and (maybe some days later) official signing of the merger agreement

Start Due Diligence

Finish Due Diligence

II. Post-Announcement (Public) Takeover Process

Re-negotiation?

Announcement Date

Completion Date

Filing of complete Merger Agreement

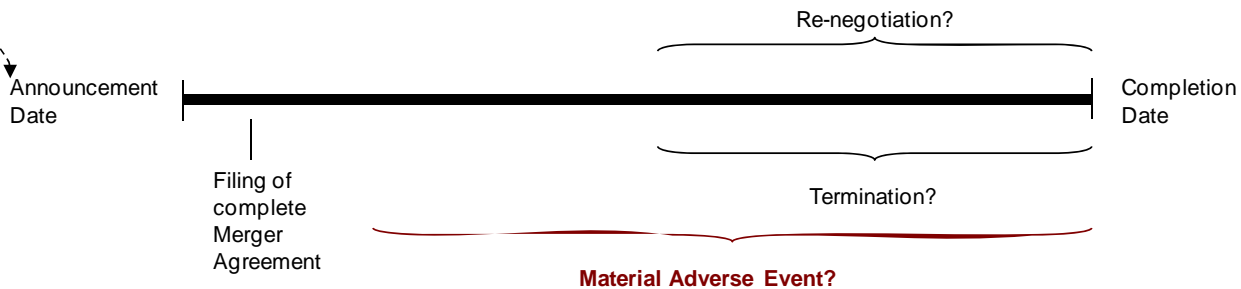Termination?

Material Adverse Event?

Figure 1. Timeline of the Takeover process

The announcement date divides the takeover process in the pre-announcement and the post-announcement takeover processes. Acquirers and targets report specific information about the pre-announcement takeover process in the SEC filings after the announcement date. Brackets, such as the one for the Due-Diligence, represent windows with large variation for each acquisition.
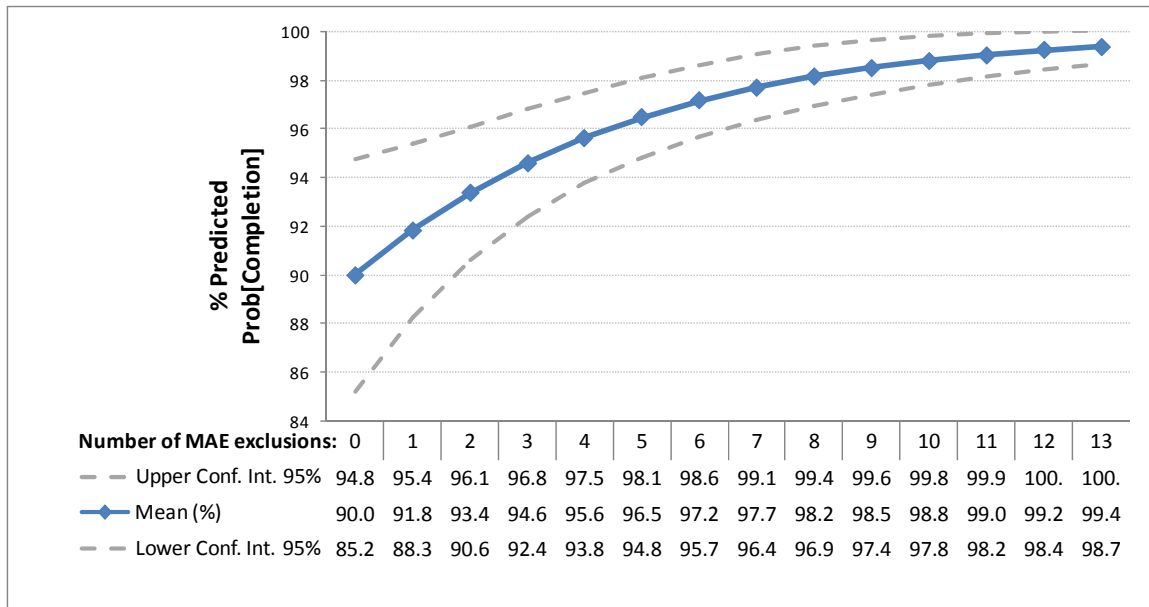
Figure 2. The structure of MACs and the predicted probability of Completion

Figure 2 presents the predicted probabilities of completion and based on the Logit model 2 in Panel A of Table V. Dotted lines depict the 95% confidence intervals. The baseline probability of termination is 0.87. Sample starts with 844 announced acquisitions of US public targets and US public acquirers (1998 to 2005)
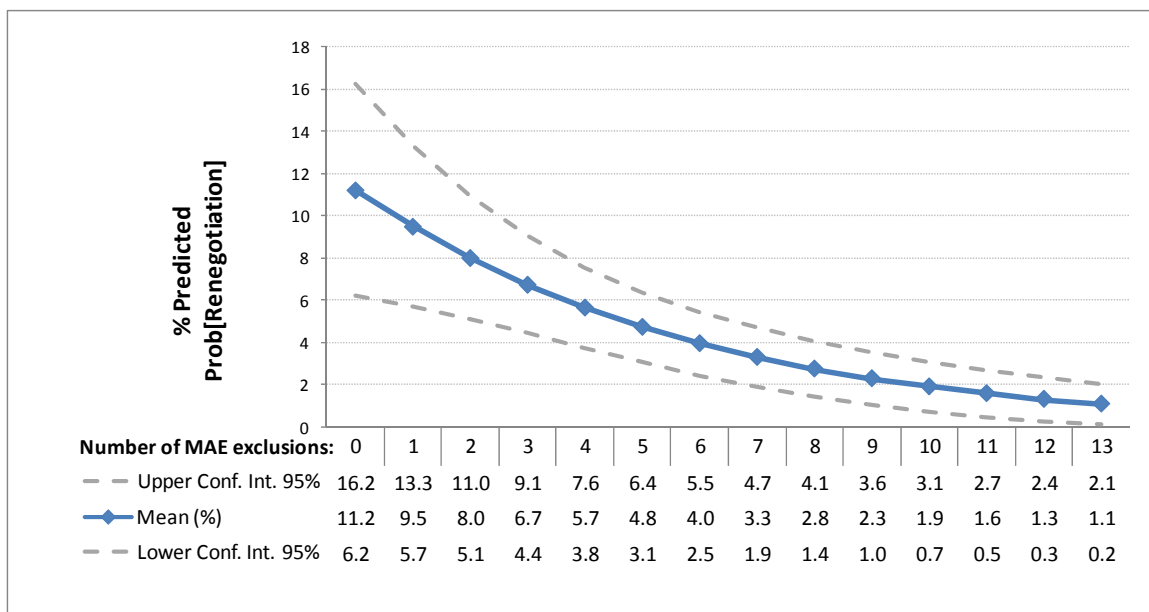

Figure 3. The structure of MACs and the predicted probability of Renegotiation

Figure 3 presents the predicted probabilities of renegotiation based on the Logit model 2 in Panel A of Table VI. Dotted lines depict the 95% confidence intervals. The baseline probability of renegotiation is 0.11. Sample starts with 844 announced acquisitions of US public targets and US public acquirers (1998 to 2005)