Internet Appendix for
"Rethinking measures of M&A deal premiums"

Abstract

This online appendix provides a description of our data collection process, examples of the sale process for two target-initiated deals, and results for robustness tests described in "Rethinking measures of M&A deal premiums"

Appendix IA.1: Our data collection process

To capture the detailed negotiation process prior to the public merger announcement, we manually collect the date on which the deal was initiated, the party who initiated the deal, the number of participants in contact with the target firm during the private sales process, the number of participants who signed confidentiality agreement with the target firm, and the number of participants who submitted indications of interest to the target firm.

We obtain merger documents from the Securities and Exchange Commission's (SEC's) EDGAR website. The SEC requires that firms publicly listed on US stock exchanges disclose all material information when they issue proxy statements soliciting shareholder votes. Since almost all mergers require a shareholder vote from target shareholders, we are able to collect the relevant information for our analysis. For tender offers (where the target shareholders do not vote), the target firm is still required to file form SC14D1/SC14D9 and to make a recommendation statement to their shareholders with respect to the tender offer, which is pursuant to Section 14(d)(4) of the 1934 Securities Exchange Act.

SEC filings we use to obtain the detailed information on the sale process include S-4 and S-4/A, mainly for stock offers; DEFM 14 and DEFM 14/A, mainly for cash offers; and SC14D1 and SC14D9 for tender offers. We also notice that occasionally the merger filings are in the forms of DEF 14A and DEFS 14A, PRES14A, SC 13E3, and PRER14A. Most of the time, detailed information on private negotiation is available in the section titled "Background of the Merger." Occasionally, it also appears in the section titled "Board Deliberations."

We classify a deal as "target initiated" if the sale process is initiated by the target firm. We classify a deal as "bidder initiated" if the target is approached by the bidder. We classify a deal as "mutually initiated" if the background information says that representatives from each firm meet on a certain date and discuss a possibility of business combination without specifying which party took the initiative in the sale process. We classify a deal as "third-party initiated" if it is initiated by a third party (i.e., an unsuccessful bidder).[1] After identifying the initiating party, we group all deals into two groups: target-initiated deals and non-target initiated deals.

In target-initiated deals, we define deal initiation dates as the days on which the target board (or CEO) contacts their investment banker to initiate a sale of the firm. Appendix IA. 2 and IA.3 provide two examples. As illustrated in Appendix IA.2, "on February 24, 1998 the Company retained Salomon Smith Barney to render financial advisory and investment banking services to the Company in connection with the sale of the Company. The Company instructed Salomon Smith Barney to initiate a process to explore the sale of the entire equity interest in the Company through an auction process." In this example, we classify that the deal is initiated by the target firm, and the initiation date is February 24, 1998.[2]

Occasionally, we notice that there is no specific date mentioned when the target board of directors first hired a financial advisor and decided to initiate a sale process. For example, sometimes, the background information says "in late October, 2000…" In this case, we use October 25, 2000 as our initiation date. If it says "in mid-October, 2000…" we use October 15, 2000 as our initiation date. If it says "in early October, 2000…" we use October 5, 2000 as our initiation date. Sometimes, a merger process is discontinued for various reasons and then resumed after a considerable amount of time has passed. Our deal initiation classification and initiation dates are based on the most recent merger process.

[1] Occasionally, a deal is initiated by an investment bank or an activist.

[2] Target firms sometimes first have a board meeting and decide to pursue a sale of the firm and later formally hire a financial advisor. In those cases, we use the date of the board meeting as the deal initiation date (assuming that such date is included in the SEC filing).

For non-target-initiated deals, we use the first reported date on which a bidder approached a target firm and initiated merger discussions. For example, in the merger between Extended Stay America Inc (target) and Blackstone Group LP (bidder), the Background section states, “On Friday, January 23, 2004, Mr. Jonathan D. Gray, Senior Managing Director of The Blackstone Group (bidder), called Mr. George D. Johnson, Jr., Chief Executive Officer of the Company (target), to inquire about the Company’s interest in considering a possible acquisition of the Company by Blackstone.” We classify this deal as a bidder-initiated deal and the initiation date is January 23, 2004.[3]

[3] The full merger document is available at: https://www.sec.gov/Archives/edgar/data/1002579/000104746904011431/a2133112zdefm14a.htm

Appendix IA.2: The sales process of a target-initiated deal

Target: Plenum Publishing Corp
Acquirer: Wolters Kluwer NV
SEC filings: SC14D9[4]
Background of the merger (Simplified)
…

Over the past decade the Company has sought possible collaborations or acquisitions but found no reasonably available substantial acquisition. During this period no serious effort was made to sell the Company. The Company has used the cash generated from its business to pay dividends and to repurchase its Shares as market opportunities arose. As a result of (i) consolidation developments in the publishing industry as a whole and the scientific, technical and medical publishing industry specifically, (ii) the potential changes in the industry by reason of the development of the internet and (iii) the decrease in the Company's dependence on its Russian translation activities, management considered it advisable to review a range of strategic alternatives to enhance stockholder value and initiated a dialogue with investment bankers in December 1997. The strategic alternatives considered included, among others, possible acquisitions and the potential sale of the Company, whether to management or to others.

On February 24, 1998 the Company retained Salomon Smith Barney to render financial advisory and investment banking services to the Company in connection with the sale of the Company. A press release announcing such retention was issued immediately. The Company instructed Salomon Smith Barney to initiate a process to explore the sale of the entire equity interest in the Company through an auction process (the "Auction Process").

At a Board Meeting on March 12, 1998, the Salomon Smith Barney engagement was ratified and Salomon Smith Barney presented a list of leading candidates that might be expected to have an interest in potentially purchasing the Company, outlined a description of the Auction Process and presented a preliminary timetable for a potential transaction.

Throughout March and April, 1998, Salomon Smith Barney contacted 53 potential buyers and together with the Company and the Company's legal counsel, Salomon Smith Barney negotiated and executed confidentiality agreements with 35 parties that expressed an interest in participating in the Auction Process.

Salomon Smith Barney prepared a "Confidential Offering Memorandum" based on information provided by the Company. This Confidential Offering Memorandum was provided to the parties with whom confidentiality agreements had been executed to assist such parties in evaluating an acquisition of the Company. The Confidential Offering Memorandum contained, among other things, a history of the Company, an overview of the Company's business and financial information, including the Company's Form 10-K for calendar year 1997. Parties receiving the Confidential Offering Memorandum were instructed to submit a preliminary indication of interest to Salomon Smith Barney by May 5, 1998. The preliminary indication of interest was to include, among other things, a non-binding indication of the amount and form of consideration the submitting party would be prepared to pay for the common equity of the Company and the source of financing of the potential transaction.

On May 5, 1998, Salomon Smith Barney on behalf of the Company received five preliminary indications of interest. After consulting with Salomon Smith Barney, the Company's management selected three of the parties submitting preliminary indications of interest to continue in the Auction Process.

[4] The full document is available at https://www.sec.gov/Archives/edgar/data/79166/0001047469-98-024319.txt

On May 11, 1998 Salomon Smith Barney on behalf of the Company sent to the three potentially interested parties a letter (the "Bid Procedures Letter") setting forth further procedures for the Auction Process and a form of the Merger Agreement which had been prepared by the Company. The parties were invited to submit a firm written offer by May 29, 1998 to acquire the Company (a "Proposal"). Each party was asked to mark changes in the form of the Merger Agreement and to include in the Proposal a statement that such party would be prepared to execute the Agreement and Plan of Merger (with any proposed modifications) in the form submitted. Pursuant to the Bid Procedures Letter, submission of a Proposal constituted an agreement to be bound by the terms set forth therein.

Thereafter, between May 14 and May 22, 1998, each of the three parties invited to participate in the second stage of the Auction Process made trips to New York to conduct a due diligence review of the Company, which included presentations by, and discussions with, the management of the Company and a detailed review of the Company's legal, regulatory and financial documents.

…

On June 3, 1998, Salomon Smith Barney discussed the Wolters Kluwer Proposal with Parent's financial advisor. On the evening of June 3, 1998, the Company and the Company's legal counsel discussed the merits of the Wolters Kluwer Proposal. At the conclusion of this discussion, the Company determined to enter into exclusive negotiations with Parent through their respective financial and legal advisors. On June 4, 1998, the Company's legal counsel and legal counsel for Parent negotiated provisions of the Merger Agreement and Stock Option Agreement and agreement was reached on all substantive matters subject to final approval and completion of legal documentation. On that date the parties executed an Exclusivity Agreement pursuant to which the Parent agreed to keep its offer open until June 24, 1998, and in exchange the Company agreed to deal only with Parent.

On June 9, 1998 the Supervisory Board of Directors of Wolters Kluwer approved the transaction. On June 10, 1998, the Company Board met to consider the Wolters Kluwer Proposal and the Merger Agreement. The Company Board reviewed and discussed alternatives to the Wolters Kluwer Proposal. Salomon Smith Barney made a presentation to the Company Board outlining the results of the Auction Process and discussing the Wolters Kluwer Proposal. Thereafter, the Company Board unanimously approved the Offer, the Merger, the Merger Agreement, the Stock Option Agreement and the consummation of the transactions set forth in such agreements. One director was absent from the meeting.

On June 10, 1998, the Company, Parent and Purchaser entered into the Merger Agreement and Stock Option Agreement. Purchaser and the Stockholders entered into the Stock Purchase Agreements.

On June 10, 1998 the Company and Wolters Kluwer issued a joint press release announcing the execution of the Merger Agreement.

Deal rationale

In approving the Offer, the Merger, the Merger Agreement and the other transactions contemplated thereby and recommending that all holders of Shares accept the Offer and tender their Shares pursuant to the Offer, the Company Board considered a number of factors, including:

1. The presentations and views expressed by management of the Company (at the meeting of the Company Board held on June 10, 1998, and at previous meetings of the Company Board) regarding, among other things: (a) the financial condition, results of operations, cash flows, business and prospects of the Company; including the prospects of the Company if it remained independent; (b) the strategic alternatives available to the Company; (c) the fact that in view of the discussions held with various parties, as well as

the Auction Process conducted, it appeared to be unlikely that any other party would propose an acquisition or strategic business combination that would be more favorable to the Company and its stockholders than the Offer and the Merger; and (d) the recommendation of the Merger by the management of the Company and the willingness of certain officers of the Company to enter into binding commitments to sell the stock owned by them.

2. The opinion of Salomon Smith Barney, expressed orally at the June 10, 1998 Board meeting (and subsequently confirmed in writing), to the effect that, as of June 10, 1998, the consideration to be received by the Company's stockholders pursuant to the Merger Agreement is fair, from a financial point of view, to the Company's stockholders. The full text of the opinion of Salomon Smith Barney, dated June 10, 1998, which sets forth the assumptions made, matters considered and limitations on the review undertaken by Salomon Smith Barney, is attached hereto as EXHIBIT 12. Stockholders are urged to read the opinion of Salomon Smith Barney carefully in its entirety for information concerning the assumptions made, matters considered and the limits of the review undertaken by Salomon Smith Barney.

3. **The historical market prices**, the recent limited trading activity of the Shares and the fact that the **Offer Price represents a premium of approximately 58% over the reported closing price of the Shares on the National Association of Securities Dealers Automatic Quotation system on the last full trading day preceding the public announcement of the retention of Salomon Smith Barney**.

4. The results of the inquiries made by the Company's management and financial advisor in the Auction Process regarding a possible sale of the Company and the public nature of the Auction Process itself.

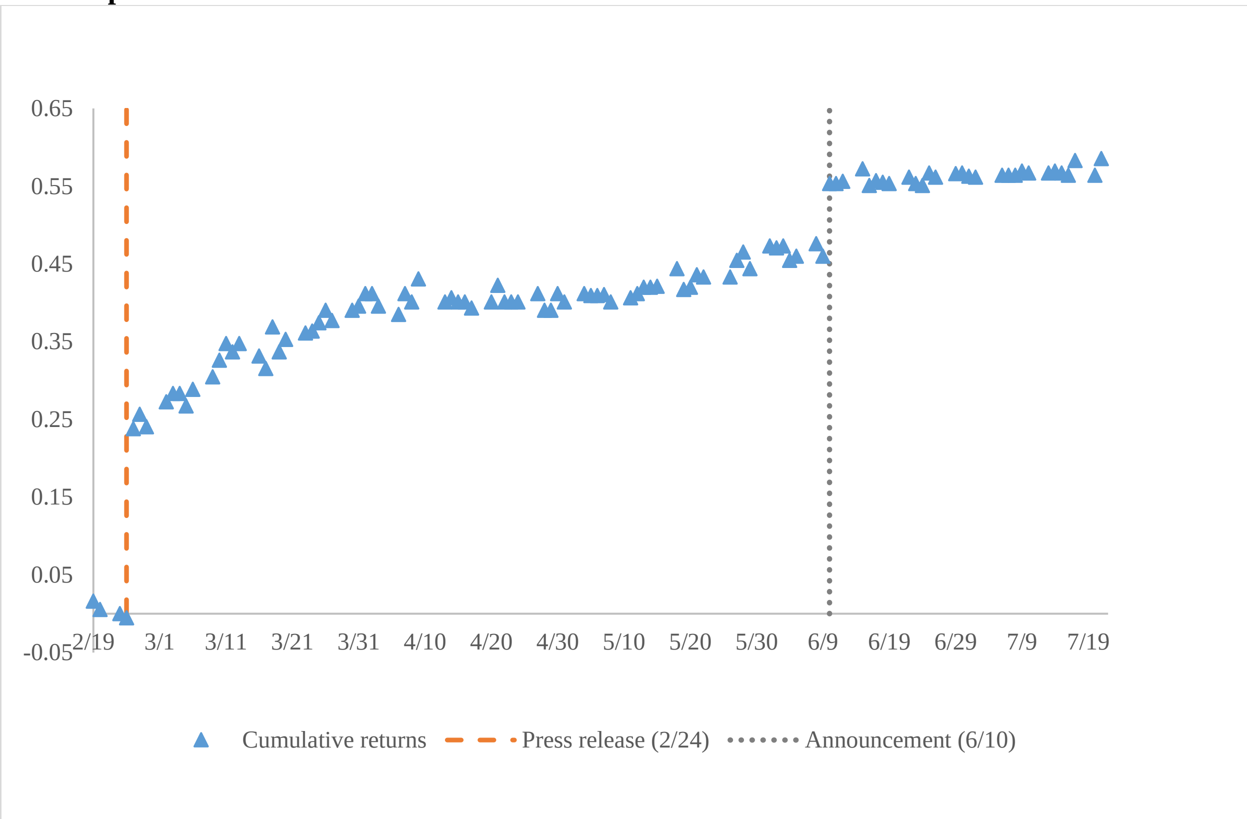
5. The arms-length negotiations between the Company and Parent leading to the belief of the Company Board that $73.50 per Share represents the highest price per Share that could be negotiated with Parent.

6. The fact that the Offer and the Merger provide for a prompt all-cash tender offer for all Shares to be followed by a merger for the same consideration, thereby enabling the Company's stockholders to obtain the benefits of the transaction in exchange for their Shares at the earliest possible time.

…

The merger was completed on July 31, 1998.

Appendix IA Figure 1: Plenum Publishing Corp's cumulative raw return between deal initiation and completion



Appendix IA.3: The sales process of a target-initiated deal

Target: Walbro Corp
Acquirer: TI Group PLC
SEC filings: SC 14D9[5]
Background of the merger (Simplified)
…
During the Fall of 1998, the Board of Directors met to examine the impact of short term and long term trends in the automobile manufacturing and automobile component industries and the Company's short and long term projected financial outlook. After these meetings the Board of Directors authorized Mr. Bauchiero to pursue strategic alternatives, including a possible sale of the Company. In October 1998, the Company engaged Salomon Smith Barney Inc. ("Salomon Smith Barney") to act as its financial advisor to assist the Company in its review of strategic alternatives.

On November 3, 1998 the Company met with its legal and financial advisors to discuss potential strategic alternatives, including a possible business combination, and the timing of such alternatives.

During November 1998, companies, including TI Group, were approached to determine their level of interest regarding a possible business combination transaction with the Company.

From November 1998 through January 1999 several of these companies conducted a preliminary due diligence review of certain legal, financial and operating data of the Company.

In January 1999 TI Group entered into a confidentiality agreement with the Company and thereafter received an information memorandum and certain other information regarding the Company.

During January 1999 a number of these entities, including TI Group, submitted indications of interest to the Company and continued their due diligence review of the Company.

During February 1999 members of senior management of the Company met with representatives of those entities which had submitted preliminary indications of interest to discuss business issues and the structure and timing of a potential business combination transaction.

On March 1, 1999, Sir Christopher wrote to Mr. Bauchiero to identify a number of areas that TI Group needed additional due diligence information before it could consider making any proposal to the Board of Directors of the Company.

During early March 1999, the parties suspended negotiations, primarily as a result of a disagreement with respect to the price and terms of a potential transaction. On March 3, 1999, TI Group's Board of Directors determined that TI Group was not in a position to pursue the possible acquisition of the Company at that time as its representatives had not been able to complete due diligence to TI Group's satisfaction and had not received certain financial information it deemed necessary. On March 3, 1999, the Company received a letter from Sir Christopher which restated TI Group's position that it was unable to proceed with the transaction based on the foregoing.
During March 1999 Mr. Bauchiero met or talked by telephone with Sir Christopher on numerous occasions to resume discussions regarding a business combination transaction. After further review of the Company's financial information and further due diligence, Sir Christopher and Mr. Laule wrote a letter to Mr. Bauchiero on March 19, 1999, informing Mr. Bauchiero that TI Group was not prepared to proceed at a price which would likely be attractive to the Company.

[5] The full document is available at https://www.sec.gov/Archives/edgar/data/104174/0000950131-99-002768.txt

On March 22, 1999, Sir Christopher, Mr. Laule and Mr. Bauchiero met to further discuss the possibility of a business combination. On March 23, 1999, Sir Christopher wrote a letter to Mr. Bauchiero expressing TI Group's desire to structure a transaction acceptable to both parties and made a conditional offer to purchase the assets of the fuel delivery systems business from the Company. The Company determined that this conditional offer was not in the best interests of its stockholders. After further discussions internally and with Warburg Dillon Read LLC, and after receiving, among other things, assurances from Mr. Bauchiero regarding the ability to obtain the desired consents from the Company's joint venture partners, on April 5, 1999, TI Group made a formal offer to purchase the Company in a letter to Mr. Bauchiero from Sir Christopher.

On April 7, 1999, at the direction of the Company, representatives of Salomon Smith Barney contacted representatives of Warburg Dillon Read to indicate that the Company wished to proceed with TI Group's proposal and to inquire what additional information regarding the Company TI Group required.

On April 13 and 14, 1999, representatives of TI Group met or had telephonic conferences with representatives of the Company to conduct further due diligence, to discuss the terms of the transactions to be proposed to their respective boards of directors and to negotiate definitive transaction documents. Contacts between the representatives of TI Group and the Company, and certain of the Company's joint venture partners continued over the next two weeks.

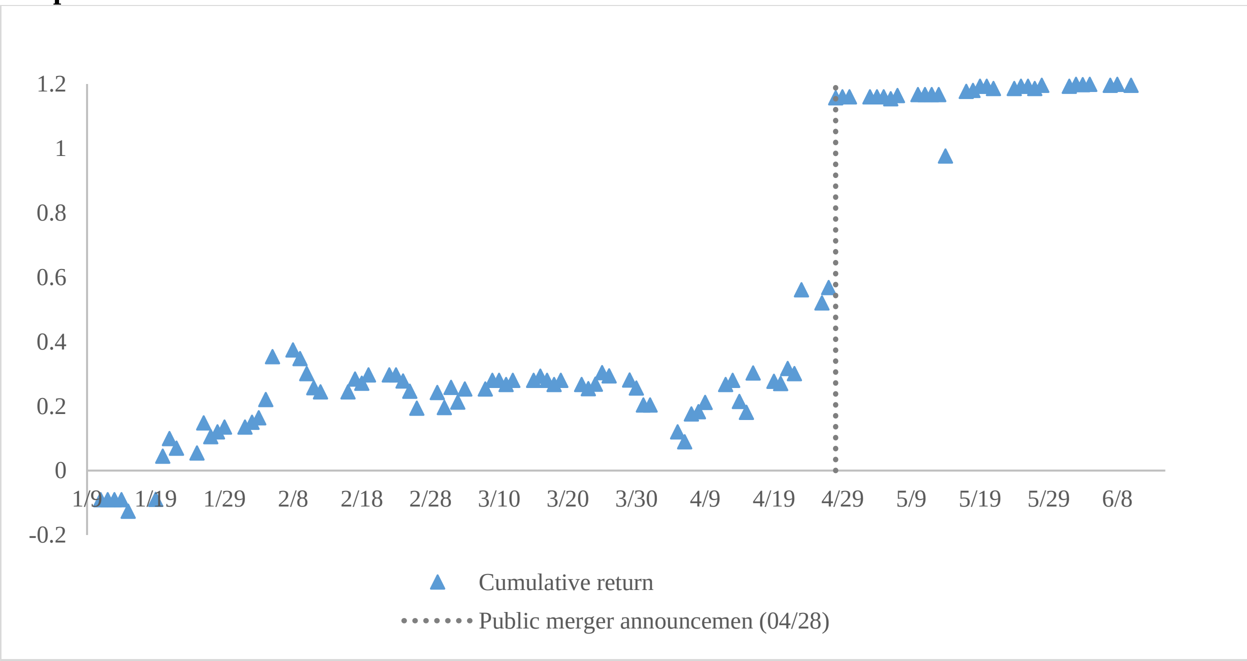
On April 19, 1999 the Board of Directors of the Company met in Chicago to discuss the current state of negotiations with the TI Group. At this meeting, Salomon Smith Barney presented an overview of the automotive OEM component industry. Also at this meeting, Katten Muchin & Zavis, counsel to the Company, presented a draft of the Merger Agreement, discussed its terms, conditions and timing and discussed the issues for which no agreement had been reached with TI Group. Representatives from Katten Muchin & Zavis also advised the Board members of their fiduciary obligations in considering a potential business combination transaction. Subsequent to these presentations, the Board discussed the proposed transaction and certain open issues. After such discussion, the Board directed senior management to continue negotiations with TI Group and to attempt to resolve the remaining open issues. On Wednesday, April 21, TI Group's Board met and approved in principle the transaction, subject to the completion of the negotiation of an acceptable definitive merger agreement, receipt of satisfactory consents from certain of the Company's joint venture partners and final approval from a committee of TI Group's Board consisting of Sir Christopher, Mr. Laule and Martin D. Angle.

On April 24, 1999 the parties and their respective advisors met in London, England to negotiate the terms of the Merger Agreement, which negotiations continued until the early morning on April 25, 1999.

On April 26, 1999, the Board of Directors of the Company held a telephonic meeting, during which Mr. Bauchiero briefed the Board on the current status of the negotiations and the Board held a discussion regarding certain unresolved issues. Subsequent to this telephonic Board meeting, the Company and TI Group and their respective representatives held a conference call to discuss certain unresolved issues, authorization of the Merger Agreement and the transactions contemplated thereby, and the timing of the announcement of the Merger. During the early evening of April 27, 1999, the Board of Directors of the Company held a telephonic meeting during which Mr. Bauchiero briefed the Board on what had taken place since the previous meeting. At this meeting, Salomon Smith Barney made a financial presentation and delivered to the Board its opinion as to the fairness, from a financial point of view, of the $20.00 per Share cash consideration to be received in the Offer and the Merger by holders of Shares (other than TI Group and its affiliates). The Company's counsel reviewed the terms of the Merger Agreement and reminded the Board members of their fiduciary duties as previously described at the meeting held on April 19, 1999. The Board asked senior management and the advisers a number of questions regarding the terms, conditions and timing of the proposed transaction. After a discussion, the Board of Directors unanimously approved, among other things, the Merger Agreement and the transactions contemplated thereby.

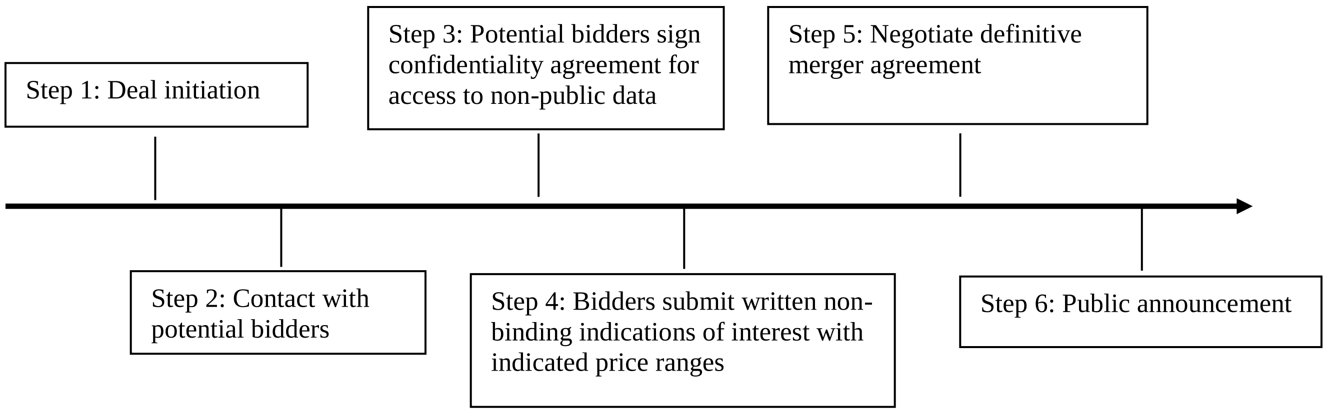
The Merger Agreement was then executed and publicly announced on April 28, 1999, pursuant to a press release.

Appendix IA Figure 2: Walbro Corp's cumulative raw return between deal initiation and completion



Appendix IA Figure 3. The timeline of a typical U.S. merger deal

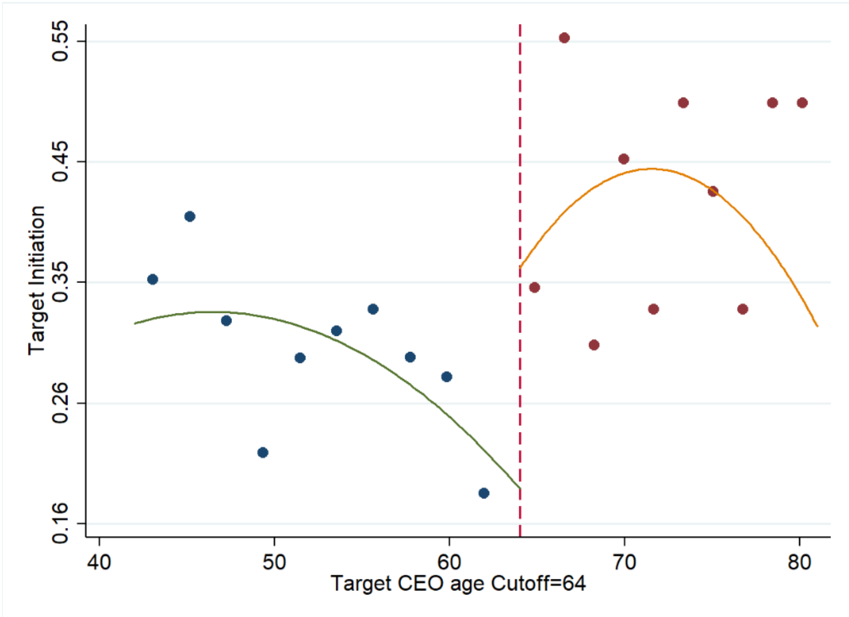
This figure illustrates the important stages involved in a U.S. merger deal before its public announcement.



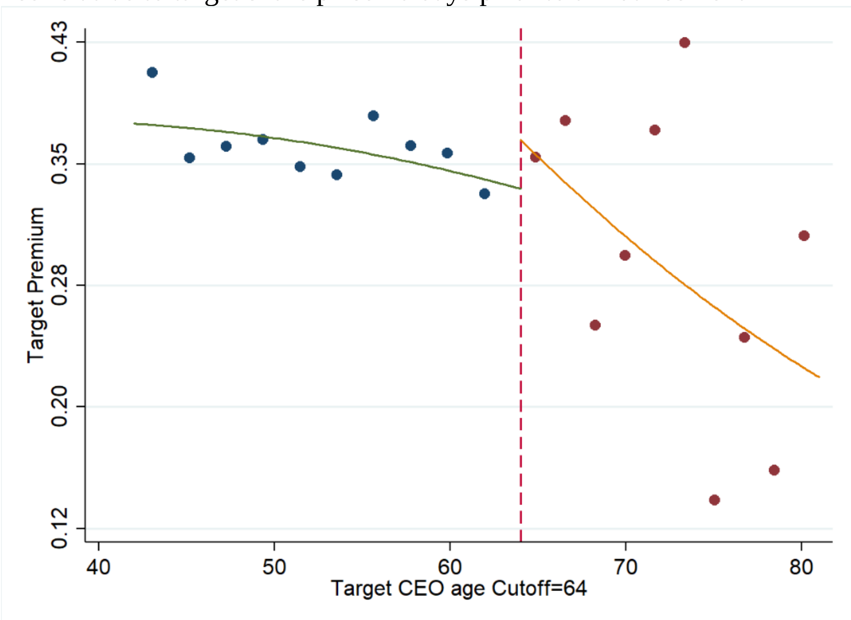
Appendix IA Figure 4: Impact of target CEOs' retirement preferences on deal initiation and premiums

This figure presents a plot of local sample means (i.e., the points on the graph) of percentage of deals initiated by target firms (Panel A) and deal premiums (Panels B, C, and D), grouped by target CEO age (in whole years) at the time the deal is initiated. We employ a cutoff age of 64. The fitted lines are regression lines based on quadratic polynomial models estimated separately on the two sides of the age 64 cutoff. The sample consists of 1,391 completed deals announced between 1994 and 2016 from the Thomson One Banker SDC database. We exclude deals with premiums larger than 200% or smaller than -50%.

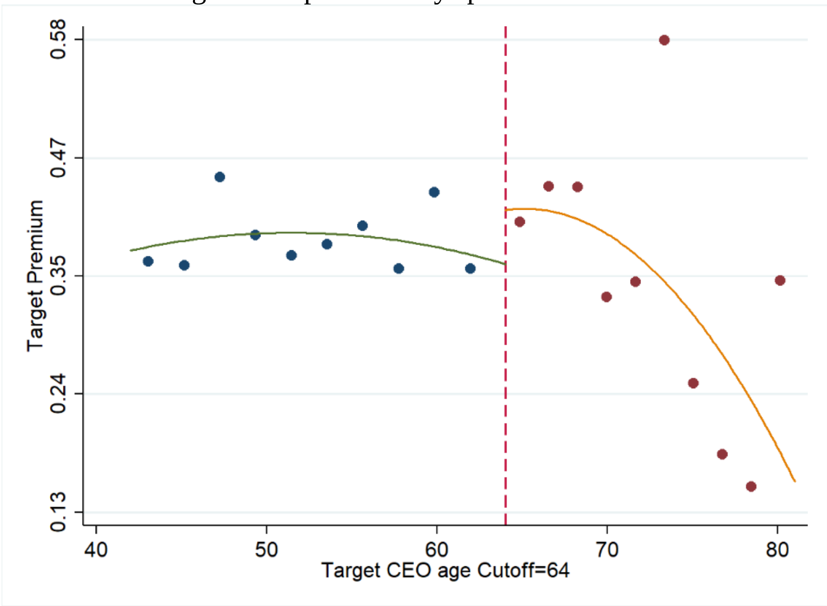
Panel A. Deal initiation



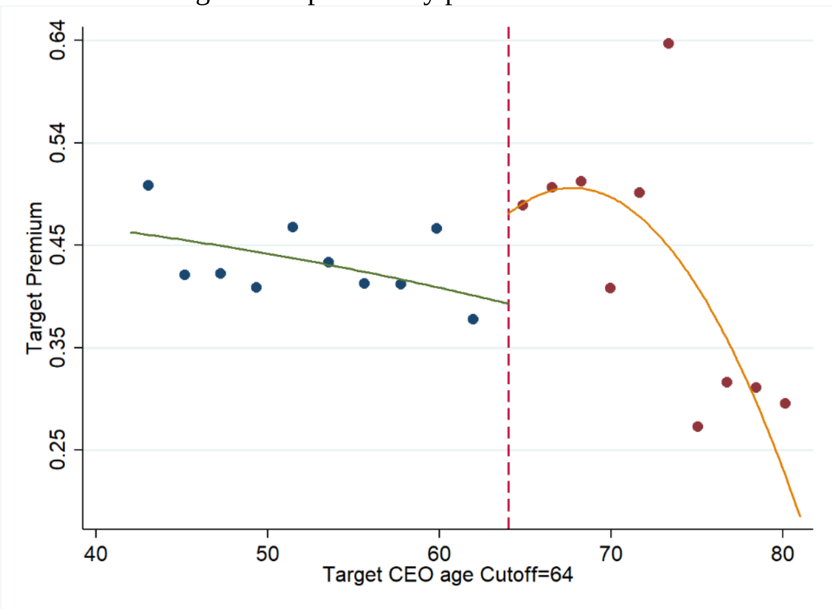
Panel B. Offer price relative to target share price 20 days prior to announcement



Panel C. Offer price relative to target share price 63 days prior to announcement



Panel D. Offer price relative to target share price 1 day prior to deal initiation



Appendix IA.4: Sample distribution and correlation matrix

This table presents our sample distribution by year and Pearson correlation matrix. All variables are defined in Appendix A of the main paper.

Panel A. Sample distribution by year

Year	# of deals	% of deals
1994	6	0.43%
1995	15	1.08%
1996	53	3.81%
1997	83	5.97%
1998	97	6.97%
1999	131	9.42%
2000	108	7.76%
2001	58	4.17%
2002	19	1.37%
2003	31	2.23%
2004	49	3.52%
2005	78	5.61%
2006	87	6.25%
2007	99	7.12%
2008	44	3.16%
2009	35	2.52%
2010	55	3.95%
2011	55	3.95%
2012	47	3.38%
2013	42	3.02%
2014	57	4.10%
2015	71	5.10%
2016	71	5.10%
Total	1,391	100.00%

Panel B: Pearson correlation matrix

	Deal value	Tender offer	Public bidder	Hostile	Toehold	Stock	Diversifying	Target initiation
Deal value	1							
Tender offer	-0.144	1						
	<.0001							
Public	0.074	0.003	1					
bidder	0.006	0.918						
Hostile	0.028	0.140	0.041	1				
	0.294	<.0001	0.125					
Toehold	-0.024	0.120	-0.078	0.061	1			
	0.363	<.0001	0.004	0.022				
Stock	0.123	-0.234	0.269	-0.020	-0.074	1		
	<.0001	<.0001	<.0001	0.461	0.006			
Diversifying	-0.065	0.071	-0.279	0.002	0.063	-0.147	1	
	0.015	0.009	<.0001	0.950	0.018	<.0001		
Target	-0.099	0.022	-0.039	-0.082	-0.036	-0.006	0.018	1
initiation	0.000	0.416	0.146	0.002	0.181	0.831	0.501	

Appendix IA.5: Multivariate evidence on target initiation and the takeover process

This table presents results on the relation between target initiation and the takeover process. We report OLS regression coefficients and associated heteroskedasticity-consistent standard errors in parentheses. The dependent variables are *# Contact*, *Early event*, and *Negotiation days*. All variables are defined in Appendix A of the main paper. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

	(1)	(2)	(3)
	# Contact	Early event	Negotiation days
Target initiation	8.042***	0.071***	30.352***
	(0.991)	(0.024)	(4.71)
Log(Target Size)	-2.417***	0.029***	-9.348***
	(0.378)	(0.009)	(1.80)
Tender offer	-3.595***	-0.044	-9.038
	(1.262)	(0.031)	(6.00)
Public bidder	-4.229***	-0.093***	-3.196
	(1.177)	(0.029)	(5.59)
Hostile	12.048***	0.070	-36.002**
	(3.441)	(0.085)	(16.35)
Toehold	-0.730	0.062	-12.277
	(2.614)	(0.064)	(12.42)
Stock payment	-2.266*	-0.081**	-8.45
	(1.290)	(0.032)	(6.13)
Diversifying	3.806***	0.007	1.539
	(1.000)	(0.025)	(4.75)
Constant	15.933	-0.432	88.784
	(12.174)	(0.299)	(57.85)
Industry and Year FEs	Yes	Yes	Yes
Observations	1,386	1,386	1,386
R-squared	0.252	0.173	0.168

Appendix IA.6: Analysis using sample selection process in Masulis and Simsir (2018)

This table replicates the analysis in Table 4 in our main paper, by following the sample selection process in Masulis and Simsir (2018). Specifically, we match their sample selection choices by adding the following selection criteria to our existing sample filters: 1), we require deal value to be greater than $5 million; 2) we require that both the acquirer and target are publicly listed; 3) we exclude acquirers from the financial services or utility industries; 4) we only include deals with announcement dates from 1997 – 2012; 5) we only include target-initiated deals and bidder-initiated deals (i.e., we exclude mutually initiated deals and deals initiated by investment banks or activists). These additional sample filters remove 684 observations from our original sample but allow us to more directly compare our results with the results reported in Masulis and Simsir (2018). All variables are defined in Appendix A of the main paper. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Summary statistics

	Target initiation			Non-target initiation			Test of difference	
	Mean	Median	Std	Mean	Median	Std	t-test	Wilcoxon test
	(1)	(2)	(3)	(4)	(5)	(6)	(1) - (4)	(2) - (5)
Premium (-63)	0.398	0.352	0.363	0.459	0.424	0.293	-0.061***	-0.072***
Premium (initiation)	0.457	0.368	0.418	0.477	0.426	0.316	-0.020	-0.058
CAR (-63, completion)	0.306	0.249	0.370	0.364	0.330	0.317	-0.058**	-0.081***
CAR (Initiation, completion)	0.393	0.329	0.435	0.387	0.340	0.351	0.005	-0.011

Panel B: OLS regression analysis

	(1)	(2)	(3)	(4)
	Premium (-63)	Premium (initiation)	CAR (-63, completion)	CAR (Initiation, completion)
Target initiation	-0.089***	-0.036	-0.085***	-0.021
	(0.027)	(0.030)	(0.027)	(0.031)
Log(Target Size)	-0.026**	-0.047***	-0.040***	-0.065***
	(0.011)	(0.012)	(0.011)	(0.013)
Tender offer	0.059*	0.017	0.003	-0.032
	(0.032)	(0.036)	(0.032)	(0.038)
Hostile	0.021	0.007	0.028	0.072
	(0.080)	(0.088)	(0.081)	(0.096)
Toehold	0.137	0.378***	0.123	0.180*
	(0.090)	(0.100)	(0.092)	(0.106)
Stock payment	0.024	0.012	-0.04	-0.056
	(0.035)	(0.040)	(0.037)	(0.042)
Diversifying	0.025	-0.002	0.031	0.006
	(0.027)	(0.030)	(0.028)	(0.032)
Multiple public bidders	-0.026	0.025	-0.007	0.117**
	(0.050)	(0.055)	(0.050)	(0.057)
Constant	0.455*	0.790*	1.175***	0.489
	(0.245)	(0.435)	(0.400)	(0.460)
Industry and Year FEs	Yes	Yes	Yes	Yes
Observations	690	681	691	677
R-squared	0.194	0.191	0.246	0.221

Appendix IA.7: OLS evidence on the effects of CEO career preferences on target initiation

This table presents results for the relation between target initiation and target CEO career preferences, where CEO age is used to proxy for retirement preferences. We report OLS regression estimates of target initiation using different subsamples with different CEO age groups. For example, in column (1) of Panel B, deals with CEO age between 62 and 65 are used in the regression. In columns (1) - (3), coefficients are estimated using the ordinary least squares regression. In column (4), coefficients are estimated using the weighted least squares regression where observations with CEO age around 64 are given higher weights. The variable of interest is an indicator variable, RET_AGE (64-66), that takes the value of one if CEO age is between 64 and 66, and zero otherwise. All variables are defined in Appendix A of the main paper. The heteroskedasticity-consistent standard errors are reported in parentheses. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

	(1) OLS	(2) OLS	(3) OLS	(4) WLS
CEO age	[62,65]	[60,67]	[58, 69]	[58, 69]
RET_AGE(64-66)	0.140*	0.181***	0.167**	0.175***
	(0.084)	(0.062)	(0.081)	(0.061)
AGE>=67		0.464***	0.232**	0.281***
		(0.146)	(0.105)	(0.079)
AGE 59-63			0.005	0.006
			(0.066)	(0.061)
Log(TargetSize)	-0.000	-0.055**	-0.077***	-0.049***
	(0.041)	(0.021)	(0.017)	(0.010)
Tender offer	-0.056	-0.044	-0.096	-0.085**
	(0.150)	(0.084)	(0.067)	(0.035)
Public bidder	-0.013	-0.011	0.018	-0.014
	(0.126)	(0.072)	(0.057)	(0.035)
Toehold	-0.114	-0.089	-0.202**	-0.008
	(0.226)	(0.147)	(0.102)	(0.092)
Stock payment	-0.039	-0.033	0.003	-0.008
	(0.128)	(0.073)	(0.062)	(0.035)
Diversifying	-0.027	0.038	0.016	0.030
	(0.098)	(0.057)	(0.048)	(0.028)
Constant	-0.534	0.211	0.256	-0.156
	(0.583)	(0.295)	(0.242)	(0.313)
Industry and Year FEs	Yes	Yes	Yes	Yes
Observations	180	355	513	1,457
R-squared	0.335	0.254	0.190	0.286

Appendix IA.8: Balancing tests

This table presents balancing tests suggested by Lee and Lemieux (2010) and Roberts and Whited (2013). The difference in each baseline characteristic around the age 64 cutoff is estimated by fitting a local linear regression using a triangular kernel to the left and right of the threshold. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

	Coef.	Std. Err.	z	p-value	Bandwidth
Log(Target size)	-0.141	0.356	-0.397	0.691	+/- 4
	-0.109	0.278	-0.392	0.695	+/- 6
	-0.094	0.237	-0.399	0.690	+/- 8
	-0.169	0.208	-0.816	0.414	IK (+/- 6.46)
Tender offer	0.093	0.099	0.946	0.344	+/- 4
	0.090	0.076	1.179	0.238	+/- 6
	0.074	0.066	1.118	0.264	+/- 8
	0.082	0.053	1.525	0.127	IK (+/- 6.63)
Public bidder	-0.012	0.108	-0.108	0.914	+/- 4
	0.043	0.081	0.533	0.594	+/- 6
	0.014	0.069	0.206	0.837	+/- 8
	-0.002	0.061	-0.040	0.968	IK (+/- 6.24)
Public bidder	0.042	0.026	1.583	0.113	+/- 4
	0.023	0.019	1.191	0.233	+/- 6
	0.020	0.019	1.076	0.282	+/- 8
	0.024	0.019	1.234	0.217	IK (+/- 6.95)
Toehold	0.007	0.041	0.170	0.865	+/- 4
	0.008	0.030	0.253	0.800	+/- 6
	0.008	0.026	0.291	0.771	+/- 8
	0.008	0.028	0.280	0.779	IK (+/- 6.54)
Stock payment	-0.005	0.109	-0.050	0.960	+/- 4
	0.042	0.084	0.507	0.612	+/- 6
	0.027	0.071	0.379	0.704	+/- 8
	0.030	0.065	0.469	0.639	IK (+/- 6.24)
Diversifying	-0.072	0.130	-0.551	0.582	+/- 4
	-0.061	0.097	-0.629	0.529	+/- 6
	-0.044	0.083	-0.526	0.599	+/- 8
	-0.050	0.086	-0.580	0.562	IK (+/- 6.78)

Appendix IA.9: Placebo tests

This table present the treatment effect using a pseudo threshold of age 68 (Panel A) and age 60 (Panel B), respectively. The dependent variable is deal premium based on the target price one day prior to our hand-collected deal initiation dates. RDD analysis of treatment effect of deal premiums is estimated by fitting a local linear regression using a triangular kernel to the left and right of the pseudo age cutoff 68 and 60, respectively, using different bandwidths. The last row of Panel A presents RD estimates based on the optimal bandwidth of Imbens and Kalyanaraman (IK, 2011).

Panel A: Cutoff CEO Age = 64 + 4 = 68

	Coef.	Std. Err.	z	P value	Bandwidth
Premium (initiation)	-0.037	0.068	-0.536	0.592	+/- 4
Premium (initiation)	-0.039	0.050	-0.783	0.433	+/- 6
Premium (initiation)	-0.034	0.041	-0.816	0.414	+/- 8
Premium (initiation)	-0.033	0.054	-0.619	0.536	IK (+/- 5.96)

Panel B: Cutoff CEO Age = 64 - 4 = 60

	Coef.	Std. Err.	z	P value	Bandwidth
Premium (initiation)	0.065	0.136	0.481	0.631	+/- 4
Premium (initiation)	-0.067	0.108	-0.623	0.533	+/- 6
Premium (initiation)	-0.058	0.092	-0.635	0.525	+/- 8
Premium (initiation)	0.016	0.073	0.214	0.831	IK (+/- 9.03)

Appendix IA.10: Robustness test: Target initiation and deal premiums

This table is similar to Panel C of Table 4 of the main paper except that here we control for merger waves and earnings surprise during the negotiation period. For this robustness analysis, we only include target firms with at least one earnings release during the negotiation period (i.e., from deal initiation to public announcement). Following Hartzmark and Shue (2018), we take each analyst's most recent forecast prior to the actual earnings announcement, and we use the median forecast as the expected earnings number. We require the most recent forecast to be made within 30 days prior to the earnings announcement to avoid stale information.[6] Earnings surprise is calculated as the difference between the actual earnings and the median analyst forecast scaled by the share price of the firm from three trading days prior to the earnings announcement. Following Maksimovic, Phillips, and Yang (2013), we define industry merger wave years as years in which the percentage of deals in a certain industry using the 2 digit SIC code in a given year is at least one standard deviation higher than the industry mean rate over all years. We present estimated coefficients and their associated heteroskedasticity-consistent standard errors in parentheses. We exclude observations with deal premiums higher than 200% or lower than -50%. All variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

	(1) Premium (-20)	(2) Premium (-63)	(3) Premium (initiation)
Target initiation	-0.045***	-0.062***	-0.025
	(0.017)	(0.019)	(0.022)
Log(Target Size)	-0.023***	-0.037***	-0.058***
	(0.007)	(0.008)	(0.009)
Tender offer	0.053**	0.050**	0.047*
	(0.021)	(0.025)	(0.028)
Public bidder	0.014	0.059**	0.040
	(0.020)	(0.023)	(0.027)
Hostile	0.059	0.085	0.093
	(0.065)	(0.076)	(0.087)
Toehold	0.050	0.041	0.073
	(0.051)	(0.059)	(0.067)
Stock payment	-0.026	-0.004	-0.046
	(0.022)	(0.025)	(0.029)
Diversifying	-0.000	0.013	0.002
	(0.017)	(0.020)	(0.022)
Multiple public bidders	0.023	-0.029	0.005
	(0.029)	(0.034)	(0.039)
Earnings surprise	-0.943*	1.562**	4.096***
	(0.547)	(0.666)	(0.727)
Merger wave	0.007	0.014	-0.002
	(0.019)	(0.022)	(0.025)

[6] In unreported results, we also use the most recent median analyst forecast reported in the I/B/E/S Summary History data set to measure analyst consensus forecast. Our results remain robust using this alternative measure.

Constant	0.570*	0.441	0.400
	(0.292)	(0.340)	(0.389)
Industry and Year FEs	Yes	Yes	Yes
Observations	1,153	1,160	1,152
R-squared	0.193	0.186	0.202

Appendix IA.11: Univariate test: Merger waves, target initiation, and deal premiums

This table report univariate analyses of deal premiums by merger waves and target initiation. We test the differences in means and medians, respectively, between subsamples for alternative premium measures. All variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Deal premiums (-20)		Target initiation					
		Yes		No		Difference	
		Mean	Median	Mean	Median	t-test	Wilcoxon test
Merger wave	Yes	0.338	0.297	0.370	0.325	-0.032	-0.028**
	No	0.339	0.291	0.357	0.325	-0.018	-0.035**
	Mean/Median difference (Yes-No)	-0.001		0.013			
	t-test	0.03		0.76			
	Wilcoxon test	0.41		0.39			

Deal premiums (-63)		Target initiation					
		Yes		No		Difference	
		Mean	Median	Mean	Median	t-test	Wilcoxon test
Merger wave	Yes	0.370	0.317	0.410	0.372	-0.040	-0.055*
	No	0.350	0.304	0.401	0.367	-0.05**	-0.064***
	Mean/Median difference (Yes-No)	0.020	0.068	0.009	-0.050		
	t-test	0.63		0.47			
	Wilcoxon test	0.16		0.40			

Deal premiums (initiation)		Target initiation					
		Yes		No		Difference	
		Mean	Median	Mean	Median	t-test	Wilcoxon test
Merger wave	Yes	0.434	0.347	0.433	0.384	0.001	-0.037
	No	0.420	0.337	0.428	0.389	-0.008	-0.052
	Mean/Median difference (Yes-No)	0.015	0.010	0.006	-0.005		
	t-test	0.37		0.26			
	Wilcoxon test	0.40		0.38			