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TOEHOLD COLLABORATIONS BEYOND  
INSIDER TRADING

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*With the proliferation of the new practice of wolf packing, the incidence of toehold (“TH”) collaborations as part of a takeover campaign is likely to increase as well. In addition to affecting the size of the TH—potentially transforming the TH into a foothold—TH collaborations may include asymmetric agreements between the collaborators that distort the incentives of the bidders and lead to inefficient results. For example, the asymmetric agreement may include contingent distribution rights that make losing the takeover bid to a rival bidder—even to a higher-value use bidder—undesirable. Losing may become so prohibitively expensive that the bidder may continue to bid beyond its reservation-value. As a result, ex ante, asymmetric TH collaborations are likely to deter potential rival bidders, which may motivate the collaborators to enter into such agreements. Bidders may use TH collaborations to present a credible threat of winning determination in order to curb competing bids (including efficient bids) which will negatively affect both shareholder value and social wealth. This Article demonstrates and analyzes potential distortions caused by TH collaboration agreements.*

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#### INTRODUCTION

Wolf packing, the novel practice of investors collaborating in the targeting of publicly traded firms, has changed the market for corporate control.<sup>1</sup> Hedge funds and institutional investors join forces and form a unified active front against management of publicly traded US firms. This collaboration has rattled the balance of power in the market and has thus gained a dominant role in the corporate governance debate.<sup>2</sup>

Practitioners and academics have analyzed and evaluated the effects of wolf packing on the market. This has led to a review of the applicable securities laws and a renewed focus on disclosure requirements and trade restrictions promulgated under the Securities and Exchange Act of 1934.<sup>3</sup> Specifically, opponents of the current early notification requirements of

1. See, e.g., John C. Coffee, Jr. & Darius Palia, *The Wolf at the Door: The Impact of Hedge Fund Activism on Corporate Governance*, 41 J. CORP. L. 545, 549 (2016) (“activist hedge funds have recently developed a new tactic—‘the wolf pack’—that effectively enables them to escape old corporate defenses”).

2. See, e.g., Alon Brav et al., *Wolf Pack Activism*, HARVARD LAW SCH. FORUM ON CORP. GOVERNANCE AND FIN. REGULATION (February 9, 2015), <https://corpgov.law.harvard.edu/2015/02/09/wolf-pack-activism/> (“The use of wolf packs has intensified in recent years and has attracted a great deal of attention.”).

3. Martin Lipton, *The Threat to Shareholders and the Economy from Activist Hedge Funds*, HARVARD LAW SCH. FORUM ON CORP. GOVERNANCE AND FIN. REG-

Rule 13d-3 have used the collaboration as fresh ammunition to argue for tightening the rule and shortening the notification period.<sup>4</sup>

ULATION (January 14, 2015), <https://corpgov.law.harvard.edu/2015/01/14/the-threat-to-shareholders-and-the-economy-from-activist-hedge-funds/>.

4. The securities rules require an acquirer to disclose its stake in the company and purpose of the acquisition within 10 days of owning at least 5% of the company. See § 13(d)(1) of the Securities and Exchange Act of 1934 and Rule 13d-1 promulgated thereunder. 15 U.S.C.A. § 78m(d)(1) (2015); 17 C.F.R. § 240.13d-101 (as amended in 1997). Tomas Lee Hazen, *THE LAW OF SECURITIES REGULATION* 405 (7th ed. 2009) (“There have been many proposals before the SEC to require advance filing under Section 13(d)”); see, e.g., H.R. REP. NO. 90-1711 (1968); see Cleary Gottlieb, *The Schedule 13D Ten-Day Window and Other Issues: Will the Pershing Square/Valeant Accumulation of a 9.7% Stake in Allergan Lead to Regulatory or Congressional Action?*, CLEARLYMA WATCH.COM (Apr. 24, 2014), <http://www.clearlymawatch.com/2014/04/the-schedule-13d-ten-day-window-and-other-issues-will-the-pershing-square-valeant-accumulation-of-a-9-7-stake-in-allergan-lead-to-regulatory-or-congressional-action/> (“For many years numerous market participants have urged Congress to shorten the [ten-day] window . . . . Eventually, the Dodd-Frank Act authorized the SEC to close the ten-day window . . . . The SEC has not yet taken a position and has not yet exercised its authority . . . high-profile events regarding Allergan may put pressure on the SEC (and potentially Congress) to address . . . whether the 13D ‘window’ should be closed”); David Gelles & Michael J. De La Merced, *Threatening a Proxy Battle, Valeant Raises Its Offer on the Botox Maker Allergan*, N.Y. TIMES (May 28, 2014), [http://dealbook.nytimes.com/2014/05/28/valeant-raises-bid-for-allergan/?php=true&\\_type=blogs&\\_r=0](http://dealbook.nytimes.com/2014/05/28/valeant-raises-bid-for-allergan/?php=true&_type=blogs&_r=0) (quoting California Congressman Ed Royce’s statement, “[t]his proposed merger has also raised questions about the efficacy of the ten-day rule outlined in Schedule 13D. Taking into account technological advancements, there are good public policy reasons for the S.E.C. to again revisit this rule and shorten the window that investors have to disclose stakes of 5 percent or more in a target company.”); Trevor Norwitz, *A New Takeover Threat: Symbiotic Activism*, HARVARD LAW SCH. FORUM ON CORP. GOVERNANCE AND FIN. REGULATION (April 25, 2014), <https://corpgov.law.harvard.edu/2014/04/25/a-new-takeover-threat-symbiotic-activism/> (“This new stratagem emphasizes the crying need for the SEC to bring its early-warning rules into the 21st century, as we have been urging for several years.”); cf. Lucian A. Bebchuk & Robert J. Jackson, JR., *The Law and Economics of Blockholder Disclosure*, 2 HARV. BUS. L. REV. 40, 45–47 (2012) (“This legislative history suggests that the ten-day window between the acquisition of a 5% stake and required disclosure is not a technical ‘gap’ left open by incompetent congressional drafters. Instead, the window reflects the balance that Senator Williams and his colleagues struck between the benefits that the holders of large blocks of stock convey upon public investors and the need for disclosure of these blocks,” and “tightening the rules that apply to blockholders can be expected to reduce the incidence of outside blocks as well as blockholders’ investments in monitoring and disciplining manage-

One significant form of collaboration in the market is the emerging practice of corporate bidders collaborating in toehold acquisitions prior to the formal launch of a takeover attempt. A toehold (“TH”) is a stake in a target firm that a bidder acquires on the open market before publicly announcing its plans to acquire the target.<sup>5</sup> Economic and finance scholars as well as legal academics have studied the TH in the simple context of a bidder interested in acquiring a target, without the added complexity of collaboration with additional investors. Indeed, the review of the reasons for this practice and its efficiency has produced an important body of work.<sup>6</sup> This Article adds to the existing body of work on THs by analyzing the evolving practice of collaborations in TH acquisitions, and uncovers a new concern associated with the purchase of a TH that may have an adverse effect on the market for corporate control and which should not be ignored.

This new practice of TH collaboration has reached the headlines in the widely publicized case of the failed acquisition attempt of Allergan Inc. (“Allergan”),<sup>7</sup> in which Valeant Pharmaceuticals International Inc. (“Valeant”) joined forces with renowned hedge fund manager William Ackman and his fund Pershing Square Capital Management (“Pershing”). While Valeant’s acquisition attempt was unsuccessful and a

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ment.”); Nagel, et al., *The Williams Act: A Truly “Modern” Assessment*, HARVARD LAW SCH. FORUM ON CORP. GOVERNANCE AND FIN. REGULATION 23 (2011) (“[T]he proposals for piecemeal changes to the Williams Act regime raised by advocates of incumbent management are self-serving and flawed,” and “further disclosure requirements on engaged investors will have widespread and detrimental impact to the markets and will benefit only underperforming managers.”).

5. See, e.g., Deon Strickland et al., *Toeholds as an M&A Strategy?*, 21 J. CORP. ACCT. & FIN. 57 (2010) (“Toeholds are defined as a bidder-investor purchasing an ownership interest in a target firm prior to initiating merger-and-acquisition (M&A) discussions.”).

6. For a survey of the financial literature see Sandra Betton, et al., *Corporate Takeovers*, 2 HANDBOOK OF CORPORATE FINANCE: EMPIRICAL CORPORATE FINANCE 330–56 (Elsevier/North-Holland Handbook of Finance Series, 2008), <http://mba.tuck.dartmouth.edu/pages/faculty/karin.thorburn/publications/ch15-n53090.pdf>.

7. Allergan is also famous for being the maker of Botox. For a description and comparison of the business-strategies of both Allergan and Valeant see Max Nisen, *How Allergan Rose and Valeant Fell*, BLOOMBERG GADFLY (March 24, 2016), [www.bloomberg.com/gadfly/articles/2016-03-24/allergan-and-valeant-similar-starts-different-outcomes](http://www.bloomberg.com/gadfly/articles/2016-03-24/allergan-and-valeant-similar-starts-different-outcomes).

competing bidder, Actavis plc,<sup>8</sup> ultimately acquired Allergan, Pershing reportedly made a substantial gain on its TH position.<sup>9</sup> In a subsequent lawsuit, plaintiffs alleged that the collaboration between Valeant and Pershing, specifically the purchasing of the TH, violated insider trading rules, because it allegedly took place while preparations for a tender offer,<sup>10</sup> rather than a friendly acquisition, were already underway.<sup>11</sup> The particular facts of the Allergan case have given rise to concerns regarding violations of tender offer rules partly because the collaboration in the TH acquisition came on the heels of a failed attempt to negotiate a friendly acquisition, making it likely that a hostile tender offer was in the offing. Putting aside the factual question of whether the acquisition of the TH preceded or followed the decision to pursue a tender offer in this unique case, collaboration in the acquisition of a TH is a novel practice that has the potential of affecting the market for corporate control and the corporate governance of firms. Thus, as this Article will show, this novel practice has far-reaching implications that go beyond the question of the applicability of insider trading rules in a specific case.<sup>12</sup>

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8. See, e.g., Margaret Cronin Fisk & Cynthia L. Koons, *Valeant, Ackman Lose Bid to Escape Suit Over Allergan Offer*, BLOOMBERG (Nov. 11, 2015), [www.bloomberg.com/news/articles/2015-11-11/valeant-ackman-loses-bid-to-dismiss-suit-over-allergan-offer](http://www.bloomberg.com/news/articles/2015-11-11/valeant-ackman-loses-bid-to-dismiss-suit-over-allergan-offer); David Gelles, *Allergan Escapes Valeant's Pursuit, Agreeing to Be Bought by Actavis*, N.Y. TIMES (Nov. 17, 2014), [dealbook.nytimes.com/2014/11/17/allergan-agrees-to-be-sold-to-actavis/?\\_r=0](http://dealbook.nytimes.com/2014/11/17/allergan-agrees-to-be-sold-to-actavis/?_r=0).

9. Over \$2.2 billion profit. See, e.g., Fisk & Koons, *supra* note 8; Complaint & Demand for Jury Trial, *Basile v. Valeant Pharmaceuticals Int'l, Inc.*, No. 8:14-cv-02004-JLS-JCG (C.D. Cal. S. Div. filed Dec. 16, 2014).

10. To be sure, the bidder (defined as an "offering person" in 17 C.F.R. § 240.14e-3 (2015) (hereinafter Rule 14e-3)), unlike "any other person," can purchase shares in the open market and acquire a TH even after it starts preparing for a hostile takeover and before plans for a tender offer are publicly announced.

11. The Williams Act and Rule 14e-3, which was promulgated thereunder, focus on tender offers because at the time of adoption "tender offers were the principal means of acquisitions and there were concerns about people trading based on advanced knowledge of tender offers." See Cleary Gottlieb, *supra* note 4.

12. To avoid allegations of insider trading due to collaboration in the purchase of the TH while contemplating a tender offer, bidders can enter into a TH collaboration agreement before negotiations with the target company begin.

To the best of my knowledge, this Article is the first to analytically study the novel practice of TH collaboration, including its potentially distortive effects.<sup>13</sup> The natural outcome of TH collaboration is that it may affect the size of the TH<sup>14</sup> or the *effective* size of the TH, which is the size of the TH that the bidder benefits from and internalizes even if it does not own it directly. Even more importantly, it is crucial to distinguish between two forms of TH collaboration: symmetric and asymmetric. I measure the symmetry in relation to the outcome of the acquisition attempt by the bidder. An asymmetric agreement will treat winning and losing the bid for the target differently and will provide for different outcomes accordingly. Conversely, in a symmetric TH collaboration agreement the profit sharing arrangement is not contingent upon the fate of the bidding for the target.

The symmetry of the TH collaboration or lack thereof is central to the understanding of the effect of the TH collaboration. The effects of a symmetric TH collaboration are broadly equivalent to changing the size of the TH that the bidder holds when making decisions about the proposed acquisition. For example, it may increase the size of the TH, which will amplify the positive effects of the TH. On the other hand, as this Article will show, an asymmetric collaboration may have

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13. To be sure, practitioners have noticed the novelty of the practice and reviewed the relevant legal rules. See, e.g., Jeffery B Floyd et al., *Hostile Activists: Collaborations between Shareholder Activists and Hostile Bidders*, 14 M&A J., no. 10, 2014, at 1, 3 (“[T]he first collaboration between a strategic acquirer and a shareholder activist to launch a hostile takeover as co-bidders.”). Practitioners also noted that the novel practice helps “to establish a bigger beachhead more quickly and cheaply than had previously been thought possible”. Trevor Norwitz, *A New Takeover Threat: Symbiotic Activism*, HARVARD LAW SCH. FORUM ON CORP. GOVERNANCE AND FIN. REGULATION (April 25, 2014), <https://corpgov.law.harvard.edu/2014/04/25/a-new-takeover-threat-symbiotic-activism/>. However, they did not identify the potentially distortive effects of the novel practice analyzed in this Article.

14. The level of noise trading is another example for what may affect the size of the TH. See Albert S. Kyle & Jean-Luc Vila, *Noise Trading and Takeovers*, 22 RAND J. ECON., no. 1, 1991, at 54, 55 (“[N]oise trading—uninformative trading for liquidity or life cycle motives—provides enough camouflage to enable a large outsider to profit by acquiring a significant stake in a target first without being noticed. When there is a great deal of noise trading. . . the market attributes changes in the quantity of shares supplied in the market to changes in noise trading, not to changes in the behavior of a large trader with private information about takeover prospects.”).

distortive effects on the potential acquirer which, depending on the direction of the asymmetry, may incentivize it to either over- or under-bid in a bidding competition for the target. Furthermore, the asymmetric agreement may have deterrent effects on additional potential bidders, chilling the competition in the market for corporate control. In fact, the bidder may use an asymmetric TH collaboration agreement to make a credible threat to continue bidding past the reservation value, thereby deterring efficient competing bids.

To be sure, if the potential acquirer acts unilaterally and purchases a larger TH without collaboration, the purported harm to the selling shareholders who consent to the sale of their stake in the target with no knowledge of the contemplated acquisition is identical to a case in which the acquirer collaborates with another entity to acquire a larger TH. The collaboration, however, may allow the potential acquirer to accumulate a larger combined TH than it would have been able to acquire unilaterally. The reasons for this may stem from the fact that the collaborator may provide additional funds and ease liquidity constraints as well as lower the risk associated with purchasing a larger stake at a preliminary stage when the ultimate success of the proposed takeover is uncertain.<sup>15</sup>

If the bidder does not have the required liquidity to purchase a large TH, the bidder can take out a loan to purchase the TH,<sup>16</sup> which allows the bidder to reap the expected profits from the larger TH. Alternatively, the bidder can join forces with a collaborator and share the TH and the future profits from the TH with the collaborator who will own part of the TH. In other words, the parties can enter into a financing transaction and structure it in a manner that has similar financial results to a TH collaboration agreement. One complication with the financing solution can be that in order to convince the lender to extend the loan to purchase the TH,

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15. See, e.g., Floyd et al., *supra* note 13, at 7 (“By teaming up with a deep-pocketed and experienced activist hedge fund, the new structure significantly lowers the risks of a hostile takeover.”).

16. If one identifies a good investment, such as an investment with a positive net present value, then even if it does not have the required funds needed to undertake the investment, it can take out a loan to finance the investment assuming the financial markets are efficient. To be sure, the investment expected return should cover the cost of financing (the interest on the loan) to make the investment still viable.

the bidder may be required to disclose the contemplated takeover to the lender and trust the lender's ability to maintain the secrecy of the bidder's plans. If information leaks, the price will rise,<sup>17</sup> making the takeover more difficult to execute, more expensive for the acquirer to purchase the TH (and possibly the target itself), and potentially lowering the benefits of acquiring a TH in the first place.<sup>18</sup> Thus, the bidder may prefer to use a collaborator who shares the interest of keeping the plans for the contemplated takeover concealed.

Yet, the increase in the size of the TH is most likely to affect uninformed public shareholders who will sell shares without knowing about the contemplated takeover. Still, regardless of collaboration, the size of the TH has an upper limit: a ceiling of generally 10% of the target, which stems from numerous concerns such as poison pill triggers,<sup>19</sup> controller laws,<sup>20</sup> the Hart-Scott-Rodino Antitrust Improvements

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17. For example, after Valeant publicly disclosed its plans to acquire Allergan, Allergan's stock increased by 22% in one day. Fisk & Koons, *supra* note 8.

18. In particular, such benefits include profiting from a sale of the TH to a free-rider bidder who ultimately takes over the target.

19. In order to avoid triggering a poison pill, the TH will be just below the threshold, which is typically 10 or 15%. See Bebchuk et al., *The Powerful Antitakeover Force of Staggered Boards: Theory, Evidence, and Policy*, 54 STAN. L. REV. 887, 904–07 (2002) (explaining the mechanism of a poison pill); Ronald Gilson & Jeffrey Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and the Revaluation of Governance Rights*, 113 COL. L. REV. 863, 910–11 (2013) (“The poison pill affords a remedy that can effectively prohibit undisclosed accumulations. . . One way to read the current campaign to compel quicker disclosure of shareholder accumulations is as an effort to persuade the SEC to impose the equivalent of a poison pill with a very low trigger at a time when institutional investors are successfully pressuring boards to turn away from poison pills.”); Paul H. Edelman & Randall S. Thomas, *Selectica Resets the Trigger on the Poison Pill: Where Should the Delaware Courts Go Next?*, 87 IND. L. J. 1087 (2012) (studying poison pills, their triggering level, and the relevant case law).

20. Transactions with controllers may be subject to the higher judicial standard of entire fairness review. See, e.g., *Kahn v. M&F Worldwide Corp.*, 88 A.3d 635 (Del. 2014).



Act of 1976,<sup>2122</sup> change-of-control provisions,<sup>23</sup> and short-swing profit disgorgement under Section 16(b) of the Securities Exchange Act of 1934.<sup>2425</sup> Whether this ceiling is set at the

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21. See, e.g., Gilson & Gordon, *supra* note 19, at 911 n. 164 (“[B]arriers to rapid accumulation of equity positions are [ ] significant. For example, for large capitalization firms, the requirement to file under Section 7A of the Clayton Act, 15 U.S.C. § 18a (2006), which is keyed to the value of the stock acquired rather than the percentage of outstanding equity acquired, will often limit the toehold to a level far short of that allowed under § 13(d).”).

For a summary of the current thresholds of the HSR Act filing requirements, which apply to potential mergers of competitors see FED. TRADE COMM’N, WHAT IS THE PREMERGER NOTIFICATION PROGRAM?: AN OVERVIEW (2009), <https://www.ftc.gov/sites/default/files/attachments/premerger-introductory-guides/guide1.pdf>; J. Hart Holden, *2016 Revised (Higher) Hart-Scott-Rodino Act Thresholds*, PAUL HASTINGS LLP (Feb. 8, 2016), <http://www.paulhastings.com/publications-items/details/?id=3f52e869-2334-6428-811c-ff00004cbded>; COOLEY ALERT, *Revised 2016 Hart-Scott-Rodino Antitrust Thresholds – Effective February 25, 2016*, COOLEY LLP, (Jan. 26, 2016), <https://www.cooley.com/news/insight/2016/2016-01-26-revised-2016-hsr-antitrust-thresholds-effective-feb-25-2016>.

22. However, the collaboration agreement might be used to circumvent the HSR requirements by choosing a collaborator who is not a competitor. See, e.g., Floyd, *supra* note 13, at 6 (“If Valeant, rather than Pershing Square, would have had to file for HSR clearance with respect to the toehold stake in Allergan, there likely would have been significant delays in obtaining anti-trust approval because of Allergan’s and Valeant’s overlapping business.”).

23. For change-of-control provisions that act as embedded defenses see Jennifer Arlen & Eric Talley, *Unregulable Defenses and the Perils of Shareholder Choice*, 152 U. PA. L. REV. 577, 582 (2003) (“[T]he inclusion of a ‘change of control’ provision in an everyday business contract (such as lease, joint venture, license, employment agreement or debt instrument) that imposes costs on the firm in the event of a change of control. These provisions, particularly when employed in a variety of the firm’s contracts, can be sufficient to deter most (if not all) bids.”).

24. Section 16 of the Exchange Act is triggered when a shareholder who owns more than 10% buys and sells shares within 6 months. If another bidder buys the target, including the TH, before half a year from the acquisition of the TH has lapsed, or if the Bidder decides not to proceed with the takeover and sell the TH back to the market less than half a year since acquiring the TH, then the bidder’s profits will fall under the short swing profit disgorgement requirements of Section 16. See, e.g., *Basile v. Valeant Pharms. Int’l, Inc.*, Case No. 8:14-CV-02004-JLS-JCG (C.D. Cal. Dec. 16, 2014) (Noting that a TH acquisition of 9.7% “was just shy of the ‘short swing’ profits prohibition in Section 16 of the Exchange Act, which requires holders of greater than 10% of a company’s stock to disgorge any profits made in six-month buy-sell period.”).

25. For a list of regulations and provisions that the acquisition of a TH may trigger see David Fox, “Toehold Stakes” in Target Firms, Harvard Law

right level is a policy question. The answer to this question lies in the balancing of (i) the negative effects on the uninformed selling shareholders on the one hand, and (ii) the benefits of a TH—including supporting the market for corporate control by compensating the bidder for searching and monitoring costs if a competing bidder ultimately acquires the target—on the other.

The size of the TH matters not merely because of concerns about the number of uninformed selling shareholders whom the acquisition of the TH may directly affect, or the effect on remaining shareholders who may face a new controlling shareholder.<sup>26</sup> The size of the TH is likely to affect the bidder as well.<sup>27</sup> Collaboration agreements may convert the TH into a foothold, making the searching endeavor more

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Sch. Forum on Corp. Governance and Fin. Regulation (May 15, 2012) <https://corpgov.law.harvard.edu/2012/05/15/toehold-stakes-in-target-firms/>.

26. I should note that when the uninformed shareholders sell their shares to the bidder, who accumulates shares to create a TH, they are doing so out of their own free will but without full information. The sale itself is not under duress, unlike a freeze out merger transaction, and the decision whether to sell is in each individual shareholder's hands. Nonetheless, the lack of information renders the decision to sell on the eve of a price increase an economically misfortunate decision for the selling shareholders, whether the shareholders sell to the bidder or to an unrelated third party. The TH acquirer does not owe a duty to disclose to the selling shareholders its plans because its decision to attempt a takeover is not information that was misappropriated. Furthermore, the intent of Rule 13d, which requires disclosure of the intent and purpose of the 5% or more acquisition, is to protect the remaining shareholders, those who did not sell their shares, from a new controller rather than those who did sell and thus severed their affiliation with the target. *See* Thomas Lee Hazen, *THE LAW OF SECURITIES REGULATION* 399 (7th ed. 2017) (“Section 13(d) of the 1934 Act was enacted as part of the Williams Act to give investors and the public markets as early warning of a major stock acquisition that could be a first step in acquiring control of the target company. . . . The Purpose of the Section 13(d) filing is to give investors and/or the public markets early warning of the existence of a person or a group that may be in a position to exert control over the corporation.”); *SEC v. Savoy Industries, Inc.*, 587 F.2d 1149, 1165 (D.C. Cir. 1978) (“[S]ection 13(d) was designed, in part, to allow investors an opportunity to know of potential changes in corporate control and to evaluate the situation”).

27. *See, e.g.*, Edelman & Thomas, *supra* note 19 (“Reducing the amount of target stock that strategic acquirers can accumulate will decrease the expected value of a takeover attempt and adversely affect their incentive to pursue value-enhancing acquisitions.”).

profitable and a takeover more attainable to the bidder. To be sure, if the bidder ultimately takes over the target, a larger TH allows it to purchase a larger stake in the target for less than the price of the takeover deal. A larger TH will also increase the benefit from the TH in case a more efficient bidder competes with the first bidder and acquires the target (including the first bidder's TH), and thus will compensate for the bidder's costs as well as help it overcome concerns of reputational losses<sup>28</sup> that otherwise may prevent an efficient outcome.

On the other hand, a larger TH may increase the bidder's incentive to overbid in an attempt to force a competing bidder to increase its offer closer to the competing bidder's reservation price.<sup>29</sup> The bidder may adopt this overbidding strategy in order to increase its profits from selling the TH to the competing bidder. The larger TH means a larger potential upside to the bidder from selling the TH for an even higher price.<sup>30</sup> Thus, the larger TH may increase the incidence of overbidding and the associated risk of failure and inefficient outcome where the first bidder wins despite being the lower-valuing bidder.

In the case of TH collaboration, the actual size of the bidder's *direct* interest in the TH (that is, how much it *personally* owns) matters.<sup>31</sup> In addition, the collaboration agreement may provide for the transfer of a portion of the profits gained from the TH between the first bidder and its collaborator. Such provisions will have the effect of changing (increasing or decreasing

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28. See John C. Coates IV & Guhan Subramanian, *A Buy-Side Model of M&A Lockups: Theory and Evidence*, 54 STAN. L. REV. 307, 360 (2000) (showing that reputational effects may distort the bidding choices of first bidders); Guhan Subramanian, *The Drivers of Market Efficiency in Revlon Transactions*, 28 J. CORP. L. 691, 702 (2003) (“[T]here may be potential reputational costs that are borne disproportionately by a first bidder. . .having a deal taken away may create a reputation for weakness, which would then impose costs (or reduce opportunities for profits) in future rounds.”).

29. See discussion of strategic overbidding *infra* Part II.B.3.

30. For an algebraic model of the bidder's decision process see Appendix.

31. The collaborator may vote in favor of the deal, however, it will be against its own interest to favor the deal over a higher bidder's offer. Though the parties might be in a repeat game in which they would like to collaborate in future deals and value the potential profits from such future relationship more than the present benefit of selling to a competing higher-value bidder.

ing) the de facto size of the TH that the bidder takes into account.

The size of the aggregate TH (that is, the holdings of both collaborators taken together), can be identical to the size of the TH in the case of an acquirer who acts independently, and thus the direct effect on the uninformed shareholders in such a case would also remain the same. In other words: the acquirer may purchase fewer shares, enabling the collaborator to purchase shares without exceeding the aggregate limit of just under 10% of the target.<sup>32</sup> However, the fact that it is not the acquirer who owns part of the TH has novel effects on the incentives and outcome of the planned acquisition, especially when the collaboration agreement is asymmetric.

The following points summarize the potential effects of the TH, which I discuss and illustrate with numerical examples below:

- 1) The TH may compensate the first bidder for search costs in case a competitor buys the target.<sup>33</sup>
- 2) The TH opportunity cost makes a higher-valuing bidder the optimal winner for the first bidder.<sup>34</sup>
- 3) Strategic bidding above the reservation price aimed at increasing the offer price of the competing bidder for the TH may result in overbidding above the competitor's reservation value.<sup>35</sup>
- 4) Forward asymmetric collaboration agreements may motivate the first bidder to increase the offer price above its reservation price and the reservation price of the competitor in order to win.<sup>36</sup>
- 5) Forward asymmetric collaboration agreements may credibly deter a competing bidder from entering the competition for the target, thus resulting in a lower price and potentially inefficient acquisition of the target.<sup>37</sup>

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32. See *supra* notes 20–26 and accompanying text.

33. See Easterbrook & Fischel, *Auctions and Sunk Costs in Tender Offers*, 35 STAN. L. REV. 1, 17 (1982) (“Reductions in the number of shares the bidder can buy in secret make it harder still for the bidder to recover the costs of search.”); for the numerical example see *infra* Part II.B.2.

34. See *infra* Part II.B.2.

35. See *infra* Part II.B.3.

36. See *infra* Part IV.A.1.

37. See *infra* notes 164–165 and accompanying text.

- 6) Reverse asymmetric collaboration agreements may motivate the first bidder to offer less than its reservation price, possibly below the reservation price of the competitor, causing it to lose the bidding war.<sup>38</sup>
- 7) Reverse asymmetric collaboration agreements may repel free-riders who will be confused by the signals received.<sup>39</sup>

The Article proceeds as follows: Part I provides a concise review of the wolf packing practice. Part II offers an analytic review of the costs and benefits of the TH acquisition. Part II also includes a discussion on strategic over-bidding. A numerical example illustrates the effects of acquiring a TH without collaboration. Part III analyzes TH collaboration agreements. Part IV focuses on the special case of asymmetric TH collaboration agreements and examines both forward and reverse asymmetric agreements. The Appendix studies TH collaborations with the use of algebraic modeling.

## I.

### WOLF PACKING REVIEW

The term “wolf pack” commonly refers to activist investors and institutional investors who engage in a target collaboratively. A wolf pack consists of multiple activist investors who share the goal of, and work towards, corporate control.<sup>40</sup> For example, forming a wolf pack can help an activist investor in a proxy fight. Typically, a lead investor will initially acquire a stake in a target and will subsequently encourage other investors to acquire large stakes in the target, thereby establishing a wolf pack.<sup>41</sup> The wolf pack increases the pressure on the target and thus the likelihood of success in implementing the corporate scheme promoted by the activist investors.<sup>42</sup>

While the members of the wolf pack exploit the advantages of collaborating with activist investors with whom they share similar interests, they are careful to avoid classification as

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38. See *infra* Part IV.A.2.

39. *Id.*

40. Carmen X.W. Lu, *Unpacking Wolf Packs*, 125 YALE L. J. 773 (2016) (defining a wolf pack as a “group of activist investors working in unison to gain control of corporate boards”).

41. *Id.* at 775.

42. Beth E. Flaming, *Best Defense Against ‘Wolf Pack’ Investors Is to Anticipate Their Attack*, FORBES (Nov. 3, 2015), <http://onforb.es/1kpkNv4>.

a “group of persons” under the Securities Exchange Act (the “Act”).<sup>43</sup> Thus, the members of the wolf pack normally avoid entering into a formal and explicit agreement in an attempt to circumvent disclosure and reporting requirements<sup>44</sup> and to avoid disgorgement of short-swing profits<sup>45</sup> that may apply to groups under the Act. Despite the risk of violating the Act, the lack of a uniform judicial definition for the term “group” under Section 13(d) of the Act may account for the proliferation of wolf packs.<sup>46</sup> In the case of TH collaboration, which is the focus of this Article, investors collaborate in the acquisition of a TH in a way that mirrors the collaboration by the members of the wolf pack. However, as this Article shows, unlike the members of a traditional wolf pack, the collaborators in the TH acquisition join forces openly and publicly.<sup>47</sup>

Wolf pack activism is reportedly on the rise,<sup>48</sup> though it is difficult to measure wolf pack activism with certainty because those activist investors who form wolf packs seek to keep their relationship as tenuous as possible in order to avoid disclosure requirements.<sup>49</sup> With the proliferation of wolf packs, the debate among scholars and practitioners about the long-term benefit of activist intervention has intensified.<sup>50</sup> Recent empiri-

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43. John C. Coffee, Jr. & Darius Palia, *The Wolf at the Door: The Impact of Hedge Fund Activism on Corporate Governance*, 41 J. CORP. L. 545, 562 (2016); Thomas W. Briggs, *Corporate Governance and the New Hedge Fund Activism: An Empirical Analysis*, 32 J. CORP. L. 681, 697–98 (2007).

44. See 17 C.F.R. § 240.13(d)-1 (2010) (requiring any person or “group” of persons owning more than a 5% of the voting rights of a corporation to file a Schedule 13D with the SEC within 10 days of acquisition); *id.* at § 240.16(a)-2 (requiring any ten percent beneficial owner to report short swing transactions, i.e., a sale and purchase of stock within a 6-month period).

45. See 17 C.F.R. § 240.16a-1 (2010).

46. Lu, *supra* note 40, at 776 (exploring the over and under inclusive nature of SEC regulations and case law with respect to wolf pack activism).

47. See *infra* notes 153–57 and accompanying text.

48. Martin Lipton, *The Threat to Shareholders and the Economy from Activist Hedge Funds*, HARVARD LAW SCH. FORUM ON CORP. GOVERNANCE AND FIN. REGULATION (Jan. 14, 2015), <https://corpgov.law.harvard.edu/2015/01/14/the-threat-to-shareholders-and-the-economy-from-activist-hedge-funds> (“Again in 2014, as in the two previous years, there has been an increase in the number and intensity of attacks by activist hedge funds. Indeed, 2014 could well be called the ‘year of the wolf pack.’”).

49. Briggs, *supra* note 43 at 698.

50. Lucian A. Bebchuk et al., *The Long-Term Effects of Hedge Fund Activism*, 115 COLUM. L. REV. 1085, 1087 (2015).

cal studies have found support for the view favoring activist investors' involvement.<sup>51</sup>

## II.

### TH REVIEW

#### A. *Costs and Benefits*

Shortly before a merger or a tender offer takes place, acquirers often purchase part of the target in anticipation of the takeover deal.<sup>52</sup> The opportunity to buy some of the shares at the lower price—the price that prevails before the dissemination of plans of a potential deal—motivates this purchase. Thus, the equity stake in the target may serve the important role of covering the search costs of the first bidder.<sup>53</sup> A raider can also use the acquired equity stake to influence the target's shareholder vote either directly (by voting the shares) or indirectly (by initiating a proxy fight or threatening to do so).<sup>54</sup> However, since the TH does not confer a control position on the bidder, its direct influence may be only marginal. The benefits from the TH are further limited since the size of such purchase of equity is restricted by several factors<sup>55</sup> including

51. *Id.* at 1154 (empirically testing “the claim that interventions by activist hedge funds have an adverse effect on the long-term interests of companies and their shareholders” and finding that “activist interventions are on average associated with beneficial outcomes in the long term”).

52. *See, e.g.*, Ronald Gilson, *A Structural Approach to Corporations: The Case Against Defensive Tactics in Tender Offers*, 33 STAN. L. REV. 819, 871 (1981) (“Increasingly, a potential bidder takes a potential block position in the stock of a target before announcing its intentions.”).

53. *See* Easterbrook & Fischel, *Auctions and Sunk Costs in Tender Offers*, 35 STAN. L. REV. 1, 16 (1982) (“Reductions in the number of shares the bidder can buy in secret make it harder still for the bidder to recover the costs of search.”).

54. *See, e.g.*, pSivida Ltd., Annual Report for the fiscal year ended June 30, 2007 (Form 20-F) at 17, <https://www.sec.gov/Archives/edgar/data/1314102/000119312507211073/d20f.htm> (describing the potential risk from Pfizer's ownership of about 13% of its equity: “Pfizer owns a significant percentage of our ordinary shares and therefore may be able to influence our business in ways that are less beneficial to [the shareholders]. . . . As a result, Pfizer may be able to exert significant influence over our board of directors and how we operate our business. The concentration of ownership may also have the effect of delaying or preventing a change in control of our company.”).

55. *See* Fox, *supra* note 25, for a list of regulations and provisions that acquiring a TH may trigger.

poison pill triggers,<sup>56</sup> controller laws,<sup>57</sup> Hart-Scott-Rodino Antitrust Improvements Act of 1976 (HSR Act),<sup>58</sup> change-of-control provisions,<sup>59</sup> and short-swing profit disgorgement under Section 16(b) of the Securities Exchange Act of 1934.<sup>60</sup>

In addition, Section 13(d) of the Securities Exchange Act of 1934 further restricts the acquirer, as it requires disclosure of an acquisition of a stake in the company of 5% or greater and disclosure of whether the purpose of a purchase that results in more than 5% ownership of a company is to acquire control of the company.<sup>61</sup> The securities rules, however, allow the acquirer both to file the report up to 10 days after reaching the 5% threshold, *and* to continue to purchase additional shares of the target during that window.<sup>62</sup> Thus, in the Allergan case, for example, the collaborators were able to acquire a 9.7% TH.<sup>63</sup>

The acquisition of a TH has clear benefits for the bidder.<sup>64</sup> It signals to the management of the target and its share-

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56. *See supra* note 19.

57. If the bidder is a controlling shareholder, or becomes one following the acquisition of the TH, then the takeover transaction might be subject to heightened review as a self-dealing transaction. *See, e.g.*, Kahn v. M & F Worldwide Corp., 88 A.3d 635, 642 (Del. 2014) (reasoning that absent certain procedural approvals, a transaction involving self-dealing is subject to the more demanding “entire fairness” judicial review standard as opposed to the business judgment standard).

58. *See supra* note 21.

59. *See supra* note 23.

60. *See supra* note 24.

61. *See* 15 U.S.C. § 78m(d)(1)(C) (2008); *see also* Gaf Corp. v. Milstein, 453 F.2d 709, 720 (“[S]ection 13(d) was intended to alert investors to potential changes in corporate control so that they could properly evaluate the company in which they had invested or were investing.”); *cf.* Easterbrook & Fischel, *supra* note 33 (“Reductions in the number of shares the bidder can buy in secret make it harder still for the bidder to recover the costs of search.”).

62. Hazen, *supra* note 4, at 400 (“This ten-day period provides a window of opportunity for acquiring considerably more than the five percent threshold before Section 13(d)’s early warning disclosures must be made.”).

63. *See, e.g.*, Cleary Gottlieb, *supra* note 4.

64. *See, e.g.*, Easterbrook & Fischel, *supra* note 33, at n.6 (1982) (“We agree with Bebchuk and Gilson that bidders’ purchase of targets’ shares in advance of their offers is both desirable and lawful. A bidder has the right to do this without disclosing any intent to make a tender offer eventually. *Staffin v. Greenburg*, 672 F.2d 1196, 1202–03 (3d Cir. 1982).”)



holders that the bidder is serious about the acquisition.<sup>65</sup> It also lowers the total cost of acquisition of the target.<sup>66</sup> The expected profit from the TH enables the bidder to pay the remaining shareholders more and to potentially overcome the free-rider problem of small shareholders holding out in an attempt to gain a higher premium.<sup>67</sup> Becoming a shareholder of the target due to the TH acquisition confers both the right to vote and to have standing, which may enable the bidder to bring a lawsuit against the target and its management.<sup>68</sup> Notably, the TH also enables the bidder to hedge against the cost of losing to a competing bidder.<sup>69</sup>

A competitor can free-ride on the search costs and takeover activities of the first bidder. This is amplified by the securities laws (Williams Act), which require that a tender offer remain open for a lengthy period.<sup>70</sup> Furthermore, state corporate law requires management to retain a fiduciary-out option and to renege on a board-approved agreement to pursue the best interest of the shareholders, including selling to a higher bidder who did not incur search costs in certain situations such as a sale of the company for cash.<sup>71</sup> Ex post, these laws help secure an efficient result: placing the target in the hand of the assigner of highest value. One ex ante effect of the potentially successful free-rider counterbid, however, is the reduction of the incentive to search for a target.<sup>72</sup>

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65. Fox, *supra* note 25; Floyd et al., *supra* note 13, (“It . . . sends a message to a target’s shareholders about the extent of the bidder’s commitment.”).

66. Fox, *supra* note 25 (“[The TH] could advantage a buyer in a subsequent sale process by reducing its average cost (by acquiring shares before a deal premium attaches)”).

67. See, e.g., Strickland et al., *supra* note 5; Shaul Grossman and Oliver Hart, *Takeover bids, The Free-Rider Problem and the Theory of the Corporation*, 11 BELL J. ECON. 42 (1980) (Studying the problem of shareholder free-riding and its adverse effects on the market for corporate control); Shleifer and Vishny, *Large Shareholders and Corporate Control*, 94 J. POL. ECON. 461 (1986) (Studying the ability of large shareholders to overcome the shareholder free-rider problem and facilitate takeovers).

68. See Fox, *supra* note 25.

69. *Id.*

70. See 17 C.F.R. § 240.14e-1 (requiring a tender offer to remain open for at least 20 business days).

71. *Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc.*, 506 A.2d 173 (Del. 1986).

72. See Easterbrook & Fischel, *supra* note 33, at 7.

The TH serves to mitigate this free-rider problem by giving an incentive to search for potential targets and identify poorly managed businesses or potential synergies. If a free-riding competitor-bidder successfully acquires the target, then the increase in the price of the TH itself may offset the costs associated with searching for and initiating the takeover of the target.<sup>73</sup> Thus, the TH facilitates the market for corporate control by encouraging searches for potential targets.

On the other hand, the bidder has to take into consideration the potential negative effects that acquiring a TH entails. The TH may antagonize the management of the target, who may perceive this move as either a hostile attack or as a precursor to one, and respond with defensive tactics, which may stand in the way of friendly negotiations.<sup>74</sup> Additionally, the TH acquisition may affect the reputation of the bidder both in case of failure and in case of success.<sup>75</sup> The TH also increases the economic risk that the bidder faces: should the acquisition attempt fail the TH investment itself may lose its value.<sup>76</sup>

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73. See Lucian Arye Bebchuk, *The Case for Facilitating Competing Tender Offers: A Last (?) Reply*, II:2 J. L. ECON. ORG. 253, 255 (1986) (“Whether or not the searcher ultimately acquires the target, the searcher will usually make a substantial profit on its pre-bid purchases.”).

74. Fox, *supra* note 25; Strickland et al., *supra* note 5, at 57 (“[The toehold] may cause the target management to turn hostile and oppose the acquisition.”).

75. See, e.g., Fox, *supra* note 25 (“[S]trategic acquirers have largely avoided [acquiring toehold stakes] . . . fearing the possible negative reputational . . . consequences.”).

76. Strickland et al., *supra* note 5, at 57, 59 (“If bidder establishes a large toehold and, for whatever reason management successfully opposes the transaction, the bidding firm will likely lose on their investment in the Target firm, because toehold shares will probably decline in value . . . . [The failed takeover may be interpreted by the market as a signal that the target is not] a viable takeover candidate.”); Vijay S. Sekhon & Jason Kornfeld, *Efficient Disclosure by Public Company Shareholders of Takeover Proposals*, 44 SEC. REG. L. J. 283, 288 (2016) (referring to the reputation of a takeover target as “damaged goods” reputation if the takeover is not consummated); Floyd et al., *supra* note 13, (“[I]f the target remains independent, the bidder is left with a large investment that might be impossible to divest without incurring significant losses.”). *But cf.* Bebchuk, *supra* note 73, at n.2 (“And if the target’s shareholders reject all available bids, then the searcher will still make a substantial gain, because in such a case the market price of the independent target’s shares will probably be higher than the pre-bid price for which the searcher bought the shares.”); GEORGESON, 2012 ANNUAL CORPORATE GOVERNANCE REVIEW 7 (2012) (describing the case of Airgas Inc. and of CF In-

Furthermore, potential acquirers may refrain from acquiring a TH because of the effect such purchase may have on the price of the stock of the target.<sup>77</sup> The increased demand produced by a TH acquisition is likely to increase the stock price in the market and subsequently the price that the bidder will have to pay for the entire target.<sup>78</sup> The higher stock price in the market right before the formal takeover commences may also increase the stock price that a court will consider in determining the stock value in appraisal procedures, and thus increase the cost for the bidder.<sup>79</sup> However, for the purpose of appraisal valuations<sup>80</sup> the court usually goes beyond the unaffected share price.<sup>81</sup> Additionally, sophisticated acquirers will trade in intervals so that the break in trading will help estab-

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dustrial Holdings, Inc., whose respective stock price substantially surpassed failed hostile bids); Liz Hoffman, *Investors Press Airgas To Destagger Board*, LAW360 (Aug. 7, 2013, 3:53 PM), <http://www.law360.com/articles/463213/investors-press-airgas-to-destagger-board> (“Since the chase ended, Airgas’ stock is up nearly 65 percent.”).

77. See Abraham Ravid & Matthew Spiegel, *Toehold Strategies, Takeover Laws and Rival Bidders*, 23 J. BANKING & FIN. 1219, 1229 (1999) (“[T]o the degree that a toehold drives up the stock price, and thereby increases the target’s value in the eyes of the court system, a toehold purchase may actually hurt the bidding firm.”).

78. Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 570 (1984) (“[E]ven a single knowledgeable trader with sufficient resources[ ] can . . . cause prices to reflect information by persistent trading at a premium over ‘uninformed’ price levels.”). *But see* Kyle & Vila, *supra* note 14, at 55 (1991) (“When noise traders are heavy sellers, the large informed trader notices an opportunity to buy a large stake at favorable prices and does so . . . the large trader has an incentive to declare a takeover . . .”).

79. See Ravid & Spiegel, *supra* note 77.

80. See, e.g., Peter V. Letsou, *The Role of Appraisal in Corporate Law*, 39 B.C. L. REV. 1121, 1156–60 (1998) (describing and analyzing procedural rules of appraisal remedy); Robert B. Thompson, *Exit, Liquidity, and Majority Rule: Appraisal’s Role in Corporate Law*, 84 GEO. L.J. 1, 40 (1995) (describing the requirements of appraisal).

81. See, e.g., Martin Lipton & Theodore N. Mirvis, *Delaware Court of Chancery Appraises Fully-Shopped Company at Nearly 30% Over Merger Price*, HARVARD LAW SCHOOL FORUM ON CORPORATE GOVERNANCE AND FINANCIAL REGULATION (June 3, 2016) (“Chancery decisions have held that the merger price . . . is the most reliable indicator of fair value.”), <https://corpgov.law.harvard.edu/2016/06/03/delaware-court-of-chancery-appraises-fully-shopped-company-at-nearly-30-over-merger-price/>; Gail Weinstein & Philip Richter, *2017: Where Things Stand—Appraisal, Business Judgment Rule and Disclosure*, HARVARD LAW SCHOOL FORUM ON CORPORATE GOVERNANCE AND FINANCIAL REGULA-

lish an unaffected stock price despite the large share accumulation prior to the takeover.<sup>82</sup>

I should note that some view termination fees (pre-negotiated fees paid by the target to the bidder in the event of a sale of the target to a competing bidder<sup>83</sup>) as a substitute for a TH that avoids the potential negative outcomes of a TH.<sup>84</sup> However, in addition to the fact that the management of the target has to agree to the granting of termination fees to the bidder, termination fees are imperfect substitutes for THs because of their effect on the target's value. Termination fees lower the value of the target for a competing bidder because termination fees transfer value from the target itself to the bidder in the event the competing bidder acquires the target.<sup>85</sup> If the termination fees are high, they may discourage an even higher-valuing competing bidder from purchasing the target.<sup>86</sup> If the competing bidder purchases a target that must pay termination fees to the first bidder, the competing bidder will pay less for the target than it would without the agreement to

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TION (2017), <https://corpgov.law.harvard.edu/2017/02/28/2017-where-things-stand-appraisal-business-judgment-rule-and-disclosure/>.

82. See, e.g., Floyd et al., *supra* note 13 at 5 (“Pershing Square . . . initially accumulate[d] 4.99% of Allergan’s common stock . . . then halted trading for two days in order to establish a colorable claim for Allergan’s unaffected share price . . . . After this brief waiting period, Pershing Square attempted to accumulate as many shares as possible.”).

83. For a general analysis of termination fees see, e.g., Afra Afsharipour, *Transforming the Allocation of Deal Risk Through Reverse Termination Fees*, 63 VAND. L. REV. 1161, 1179–80 (2010).

84. See, e.g., Strickland et al., *supra* note 5, at 60 (“Sometimes the termination fee can be used as a substitute for a toehold.”); Floyd et al., *supra* note 13, at 7, (“This [TH Reverse collaboration] arrangement effectively serves as the functional equivalent of a ‘break-up fee’ for the hostile bidder . . . .”).

85. See Ian Ayres, *Analyzing Stock Lockups: Do Target Treasury Sales Foreclose or Facilitate Takeover Auctions?*, 90 COLUM. L. REV. 682, 684 (1990); Marcel Kahan & Michael Klausner, *Lockups and the Market for Corporate Control*, 48 STAN. L. REV. 1539, 1544 (1996) (“If a target grants a lockup to one bidder, the lockup will effectively constitute a liability to another bidder . . . that succeeds in acquiring the target. The lockup reduces the profit the locked-out bidder obtains from acquiring the target at any given price by a sum equal to the value of the lockup. It therefore reduces the locked-out bidder’s reservation price by that amount. . . . Lockups have this effect whether they take the form of a termination fee, a stock lockup, or an asset lockup.”).

86. See, e.g., Ayres, *supra* note 85, at 684 (“[E]xtreme forms of treasury sales can foreclose third parties with higher target valuations from making competitive bids.”).

pay termination fees, thus negatively affecting all of the shareholders of the target.

On the other hand, THs do not have the same negative effect on the *value* of the target. A TH transfers value between the first bidder and the shareholders of the target who agree to sell their stake to the first bidder without information about the forthcoming acquisition attempt, but does not affect the intrinsic value of the target itself.<sup>87</sup> Should a subsequent takeover materialize, the uninformed selling shareholders will not receive compensation for the sale of control. If the target remains independent, however, the stock price may decline following the failure of the acquisition,<sup>88</sup> and the selling shareholders may be better off. Hence, the choice between a TH and termination fees may have both distributional effects and efficiency effects. This choice may determine (i) whether all the shareholders bear the costs of negotiating with the first bidder, or whether only the uninformed selling shareholders do, and (ii) whether a higher-valuing competing bidder acquires the target, or is instead discouraged from even competing because of the additional cost associated with the termination fees.

In addition, as long as the termination fees are lower than the expected profit from the acquisition, termination fees do not affect the outcome of the bidding contest: the bidder who wins the contest will still be the higher-value user. This is because the termination fees have an identical effect on the value that all bidders assign to the target, decreasing the value by the size of the termination fees. If the first bidder loses, the target has to pay the fees to the first bidder; and if the first bidder wins, it is forfeiting the value of the termination fees it would have otherwise received. In other words, termination fees lower the valuation of both sides—the competing bidders—by exactly the same amount.<sup>89</sup> On the other hand, a TH acquired without collaboration does not change the valuation of the target for the competing bidder because the TH only changes the identity of the shareholders from whom it will ac-

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87. To be sure, once the market learns about the increased transaction volume and the purchase of the TH it is likely to react positively and increase the stock price in anticipation of the contemplated acquisition of the target.

88. See Ravid & Spiegel, *supra* note 77.

89. Cf. Ayres, *supra* note 85, at 684 (“[S]elling treasury shares causes all auction participants to lower their maximum bid.”).

quire the shares. In addition, a TH acquired without collaboration also does not affect the bidding contest's outcome because the first bidder will prefer to sell its TH to a competing bidder if that bidder is willing to pay more than the TH's worth to the first bidder.<sup>90</sup> A classic TH makes winning less valuable to the holder of the TH only if a competing bidder is willing to pay more for the target than is the TH holder (who is, thus, the efficient winner). However, as I will demonstrate numerically in Part IV.A.1 below, a TH asymmetric collaboration agreement may distort the outcome of the bidding war and lead to a lower-value bidder winning the contest. This is because the TH affects only the first bidder's value of the target and its effect is asymmetric. For example, it can make losing more expensive for the collaborating first bidder, thus making it harder to beat the first bidder. In comparison, termination fees lower the gain from winning symmetrically for all bidders, and thus do not entail the same potential for an adverse efficiency effect. A TH that includes an asymmetric agreement may change the equilibrium and result in an inefficient outcome in which the lower-valuing bidder wins the contest.

### B. *Numerical Example*

The following example illustrates the effects of purchasing a TH before announcing the proposed acquisition of the target. The basic framework consists of a potential acquirer, the First Bidder, who has identified the target—a company suitable for acquisition. In the following Parts, I will analyze three scenarios.

Under the first scenario there is no competition for the target and the First Bidder attempts to convince the target's shareholders to either tender their shares or merge the target with the acquirer, instead of allowing the target to continue as an independent entity.

The second scenario introduces competition for the target in the form of the Competing Bidder. The latter learns about the First Bidder's plans to acquire the target following the public announcement of the First Bidder's acquisition of the TH and the disclosure of its plans to acquire the entire

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90. See *infra* Part II.B.2 for a numerical example.

target.<sup>91</sup> The Competing Bidder decides to compete and attempts to acquire the target in lieu of the First Bidder. Once there is competition for the target, the First Bidder may decide to engage in strategic-bidding because of the TH, as discussed in Part II.B.3 below.

Under the third and final scenario, the First Bidder enters into an agreement with a Collaborator. This agreement between the First Bidder and the Collaborator focuses on the purchase of the TH and on the profits gained from the TH in the event of an acquisition of the target. I will analyze this scenario in Part III below. In the Appendix, I further study TH collaborations using algebraic modeling.

#### 1. *TH with Neither Competition nor Collaboration*

The First Bidder purchases the TH before it announces the proposed acquisition of the target. At the time of the purchase of the TH, the selling shareholders are unaware of the buyer's intent to purchase control of the target. At this preliminary stage, the market price is low, as it does not include a control premium.<sup>92</sup> Thus, the First Bidder profits from the low share price, which prevails in the market. Following the announcement of the proposed acquisition, negotiations about the deal terms ensue, particularly the price per share of the target. The management of the target will not have to approve the deal, which could take the form of a hostile takeover directly targeting the shareholders of the target using a tender offer.<sup>93</sup> Nonetheless, management will influence the shareholder vote: formally, management is required to recommend to the shareholders whether to sell or not to sell even in the

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91. The actual size of the TH is likely to surpass the 5% ceiling, which triggers the disclosure requirement under Section 13(d) of the Securities Exchange Act of 1934, by the time of the actual disclosure, because the acquirer may continue and purchase shares in the market during the ten-day period between reaching 5% ceiling and making the disclosure. See Cleary Gottlieb, *supra* note 4.

92. See Alexander Dyck & Luigi Zingales, *Private Benefits of Control: An International Comparison*, 59 J. FIN. 537, 542 (2004) (“[T]he control premium . . . represents an estimate of private benefits of control enjoyed by the controlling party.”).

93. A merger transaction requires the approval of the board as well as the shareholders. See DEL. CODE ANN. tit. 8, § 251 (West 2011). To circumvent management opposition to a merger, the bidder may initiate a proxy fight in an attempt to replace the management with a supportive management.

case of a tender offer.<sup>94</sup> More restrictive than management's recommendations to the shareholders are antitakeover and entrenchment mechanisms that management is likely to utilize in order to prevent a hostile takeover.<sup>95</sup> Winning management support<sup>96</sup> may not be enough either, as recommendations by shareholder advisory firms, such as Institutional Shareholder Services (ISS) and Glass Lewis, may render the negotiations more challenging for the First Bidder, even without any direct competition.

The First Bidder may successfully negotiate the acquisition of the target, either with or without management's blessing. The aggregate price the First Bidder will agree to pay will be less than its reservation value so that it will expect to profit from the deal.<sup>97</sup> To be sure, paying less for the TH increases the First Bidder's total profit. Thus, the low cost of the TH enables the First Bidder to increase the price paid to the holders of the remaining shares of the target in case of fierce resistance and tough negotiations.

I now turn to consider the following basic numerical example, which illustrates the effect of the TH under the scenario at hand. The target has 100 shares issued and outstanding.

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94. The board of the target is required to advise the shareholders and disclose its position regarding the tender offer, including the reasons therefor, within 10 business days of the commencement of a tender offer. *See* 17 C.F.R. § 240.14d-9 (2010).

95. *See, e.g.*, Robert Daines & Michael Klausner, *Do IPO Charters Maximize Firm Value? Antitakeover Protection in IPOs*, 17 J.L. ECON. & ORG. 83, 116–17 (2001) (“The most restrictive level of our [antitakeover protection] variable is either dual-class or a staggered board combined with prohibitions on voting by written consent and prohibitions on shareholders calling a special meeting. . . . The second most restrictive . . . is a staggered board without shareholder voting restrictions.”); Bebchuk et al., *supra* note 19, at 890 (“[S]taggered boards make it extremely difficult for a hostile bidder to gain control over the incumbents’ objections.”).

96. Management support may be influenced by self-interest incentives such as consulting agreements and perpetual thrones. *See, e.g.*, Lucian A. Bebchuk & Jesse M. Fried, *Pay without Performance: Overview of the Issues*, 30 J. CORP. L. 647 (2005), at 24, [http://lsr.nellco.org/cgi/viewcontent.cgi?article=1316&context=harvard\\_olin](http://lsr.nellco.org/cgi/viewcontent.cgi?article=1316&context=harvard_olin) (discussing the award of “post-retirement consulting contracts” as “stealth compensation” to CEOs). *See generally* Mira Ganor, *Salvaged Directors or Perpetual Thrones?*, 5 VA. L. & BUS. REV. 267 (2010) (analyzing the award of perpetual thrones to target directors).

97. *See, e.g.*, Kahan & Klausner, *supra* note 85, at 1547 (“A party will make a bid only if its expected profits exceed the expected cost of bidding.”).



Its current market capitalization is \$80, in other words the trading price of the target's stock is \$0.8 a share.<sup>98</sup> Our First Bidder values the target at \$100. The First Bidder is purchasing a TH in the open market before announcing its intent to buy the whole target. I assume that the size of the TH is 10% of the target, and the First Bidder is able to accumulate the TH without affecting the market price.<sup>99</sup> Thus, the First Bidder pays \$8 for the 10% TH in the target, i.e., \$0.8 per share. Negotiations between the management of the target and the First Bidder will follow, and the First Bidder may decide to initiate a tender offer.<sup>100</sup> The First Bidder will try to acquire the remaining 90% of the target for a price as close as possible to the old market price of \$0.8 per share. At the same time, the shareholders will hope to receive a price closer to the first bidder's reservation price, which they will not know with certainty but which they will attempt to estimate via professional valuations of the target by investor bankers.<sup>101</sup>

Should the bidder succeed, it will own the entire target, including the TH; and the target will be worth \$100. This will increase the value of the TH, which is currently worth only \$8. The difference, \$92, is the maximum aggregate price that the First Bidder may pay the remaining shareholders for their shares. The highest price that the first bidder is willing to pay for each of the 90 shares of the target that it does not currently own is therefore \$1.0222.<sup>102,103</sup> Thus, the TH allows the bidder

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98. 80/100.

99. I assume that no arbitragers, momentum traders, or other investors notice the increased demand for the stock, there is no speculation about a potential acquirer who is responsible for the noise in the market, and thus no upward adjustment to the price occurs at this time.

100. The assumption under this Part is that the first bidder is the only bidder; there is no competition for the target.

101. To be sure, the shareholders may believe that both the market and the First Bidder undervalue the true intrinsic value of the target and thus refuse to sell their shares below that price, which exceeds the reservation value of the First Bidder.

102. 92/90.

103. The law prohibits the bidder from discriminating against any shareholders in a tender offer and all shareholders should receive the same price per share, as per the best price rule, codified in Rule 14d-10 under the Securities Exchange Act of 1934; 17 C.F.R. § 240.14d-10(a)(2) (2010) ("The consideration paid to any security holder for securities tendered in the tender offer is the highest consideration paid to any other security holder for securities tendered in the tender offer."). In a merger, however, dis-

to offer a higher price per share—higher than what it evaluates the price of the share to be. This is because shareholders who valued the shares at or below the market value presumably sold the TH for the lower market price. These shareholders were willing to sell because they valued the shares for less,<sup>104</sup> and because they did not have information about the proposed sale of control, which would have suggested the opportunity to sell for more.<sup>105</sup>

## 2. *TH with Competition but without Collaboration*

In this scenario, the Competing Bidder enters the scene after the First Bidder has done the preliminary work of identifying the target and incurring various costs in pursuing the acquisition transaction. These include costs for searching for a suitable (underpriced) target and costs related to the preparation for the acquisition following the discovery of the target. The Second bidder decides to compete for the target only after learning about the First Bidder's plans, not because it had performed an independent search. The Second bidder is thus attempting to free-ride on the efforts of the First Bidder.<sup>106</sup>

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proving shareholders may have an appraisal right; *see* sources cited *supra* notes 80–81.

104. In efficient markets, the price of the target should incorporate all material information available in the market and thus, assuming the absence of any material inside information, closely reflect the target's intrinsic value. From a supply and demand perspective, the price of the stock on the market represents the value of the company to the marginal shareholder, who is the least-value seller. *See* Mira Ganor, *Manipulative Behavior in Auction IPOs*, 6 DEPAUL BUS. & COM. L.J. 1 (2007) (demonstrating a strategic use of the downward sloping of the demand for shares). Once the bidder discloses its takeover plans, the shareholders of the target will attempt to capture as much as possible of the surplus between the higher value that the bidder assigns to the target (the reservation price) and the lower value that the sellers assign.

105. Assuming no liquidity constraints on the part of the selling shareholders, which may have forced them to sell at the time they did.

106. To be sure, the free-rider will have to conduct some independent checks of the target and will not rely blindly on the signal from the First Bidder; however, the First Bidder may well have incurred research costs for checking other potential targets first before identifying the target. *See, e.g.*, Ayres, *supra* note 85, at 698 (“Potential bidders may need to incur sunk costs to investigate the value of the target.”); Stephen M. Bainbridge, *Exclusive Merger Agreements and Lock-Ups in Negotiated Corporate Acquisitions*, 75 MINN. L. REV. 239, 242 (“[Bidding] typically requires the services of outside legal, accounting, and financial advisors . . . [and usually entails] commitment and

Should the Second bidder win, the First Bidder will potentially incur further costs (including reputational costs) for losing the bid.<sup>107</sup> Thus, *ex ante*, potential bidders might be deterred from searching for acquisition targets because of the risk of losing to free-riders who may materialize following the announcement of the proposed acquisition.<sup>108</sup> This may well stifle the market for corporate control.<sup>109</sup> However, the acquisition of the TH may serve as compensation to offset the potential cost of losing to a free-rider. In fact, the First Bidder may profit even where it loses the target by choosing to sell the TH to a free-riding competing bidder. The potential profit from selling the TH may be large enough to encourage search for acquisition targets despite the free-rider risk.<sup>110</sup> Thus, a TH may support the market for corporate control, even where a bidding war between an initial bidder and a free-rider ensues. Should a competitor value the target for more than the First Bidder does, that competitor will win the bidding contest.<sup>111</sup> The First Bidder will lose its search costs and may suffer reputational losses, but its profits from the sale of the TH to the competitor who is the higher bidder will compensate the First Bidder for its efforts.

While trying to overcome the other bidder, each bidder attempts to purchase the target for the lowest price acceptable to the target's shareholders. In the bidding war between the first and the Competing Bidder, each bidder attempts to counter the other bidder's offer in an auction-like competition. Once a bidder offers a price that is equal to or higher than the other bidder's reservation price, the other bidder will cease to raise its offer, since the other bidder will not pay more than the value it assigns the target. Thus, the higher-value bidder will be the last to bid and, assuming the shareholders accept the offer, it will win the bidding war.

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other financing fees.”). For further discussion on free-riders, see *supra* notes 67–73 and accompanying text.

107. See sources cited *supra* note 28.

108. See, e.g., Easterbrook & Fischel, *supra* note 33, at 7.

109. *Id.*

110. See, e.g., Bebchuk, *supra* note 73, at 255–56.

111. To be sure, this result may not happen in case of reputational costs, see *supra* note 28, or in the case of strategic bidding gone wrong, see *infra* note 118 and accompanying text.

To illustrate the effects of the TH under this scenario, I revisit the numerical example from Part II.B.1 above. The First Bidder is interested in acquiring the target, a company whose stock trades at \$0.8 per share. The First Bidder values the target at \$1 per share, which is 25% more than the market price. The First Bidder's initial move is to purchase a TH of 10% of the target for \$8. Then the First Bidder publicly announces its plans to acquire the target.

This time another bidder is also interested in the target and values it at \$102. In this example, the Competing Bidder is assigning a higher-value to the target. The following Table I summarizes the different valuations of the target.

TABLE I

	Market Value (target stays independent)	First Bidder	Competing Bidder
Expected Value of Target	\$80	\$100	\$102

It is easy to see that the highest price per share that the Competing Bidder will offer to pay for the target is \$1.02 for each one of the 100 shares of the target.<sup>112</sup> The First Bidder, however, had acquired a TH of 10% of the target prior to its announcement of the acquisition plan, paying the market price of \$0.8 per share. At the end of the day, the value of the TH, which is a function of the value of the target, will depend on who will ultimately own the target. The value of the TH in each event is as indicated in the following Table II.

TABLE II

	Target stays independent	First Bidder buys target	Competing Bidder buys target
Expected Value of TH	\$8	\$10	\$10.2

Once the First Bidder offers \$1 per share or more to acquire the remaining 90 shares, it expects to profit only from

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112. 102/100.

the TH, because it values the share of the target at \$1 per share, for a total of \$100. In the case of purchasing the 90 remaining shares for \$1 a share, the First Bidder's profit will be \$2, or the increase in the value of the TH from \$8 to \$10.

The Competing Bidder will counter the First Bidder's offer of \$1 per share, since it values the target at a greater sum than \$1, and will bid a little higher in order to win the auction and the target. It will then offer \$1.01 per share, for example. This offer includes an offer to pay a total of \$10.1 for the First Bidder's TH.<sup>113</sup> If the First Bidder accepts the Competing Bidder's offer it will profit from the difference between the consideration paid by the Competing Bidder (\$10.1), and the cost of acquiring the TH (\$8), for a total profit of \$2.01. The profit from accepting the Competing Bidder's offer is higher, and thus more lucrative, than increasing the bid and offering more for the 90 shares of the target that are still traded in the market. Thus, assuming there are no additional costs from losing the bidding war, such as reputational costs,<sup>114</sup> and without taking into account strategic bidding,<sup>115</sup> a rational First Bidder will allow the Competing Bidder to win at this point. Ending the bidding war will maximize the First Bidder's profit from the target at this time. The First Bidder will allow the competitor to win even though the First Bidder could increase its bid all the way up to \$1.0222 per share, as we saw in the scenario in which there is no competing bidder,<sup>116</sup> and win the bidding war. If the First Bidder were to offer \$1.0222, it would force the Competing Bidder out, since the Competing Bidder's reservation value is only \$1.02 per share and it will not want to pay more for the target than the value the Competing Bidder assigns to it. The First Bidder could offer to pay \$1.0222 per share without incurring a direct loss from its purchase of the target, even though it values the shares of the target for less, because the First Bidder purchased the TH at a discounted market price. However, should the First Bidder pay \$1.02 per share for the target, it will lose the opportunity to profit from selling the TH to the competitor. Thus, despite the presence

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113. The offer for the TH equals to 10% of the total proposed consideration for the target.

114. See sourced cited *supra* note 28.

115. Continue bidding in an attempt to lure the competing bidder to increase its bid. See *supra* Part II.B.3.

116. See *supra* Part II.B.1.

of the TH, the result of the bidding war will be efficient in the sense that the higher valuing bidder will acquire the target. The First Bidder will profit, and may well be compensated for the costs it sustains in discovering the opportunity to purchase the target and competing for it.<sup>117</sup>

### 3. *Strategic Overbidding*

To the extent that the First Bidder, who owns the TH, is the lower-valuing bidder, however, it may decide to act strategically. Rather than ending its attempt to acquire the target once the Competing Bidder offers a price that is equal to or higher than the First Bidder's reservation price, it may continue to bid and counter the Competing Bidder's last offer. The First Bidder may do so in order to cause the Competing Bidder to increase its offer further. Should this strategy succeed, the Competing Bidder will purchase the shares of the target—including the TH (which is owned by the First Bidder)—for a higher price than the price it would have paid without this strategy. This higher price will be closer to the Competing Bidder's reservation price. Thus, following this strategy, the First Bidder may increase its profits from the sale of the TH.

To illustrate the strategic overbidding process, we can think about the bidding war. Each bidder will continue to bid and attempt to acquire the target so long as the bid does not exceed the bidder's valuation of the target. The bidding will stop when the higher-value bidder offers a marginally higher bid than the reservation price of the competing bidder, who values the target for less. This last bid will set the purchase price of the target (assuming the selling shareholders accept the highest bid offered to them without additional attempts to increase the sale price at the end of the bidding war). The higher bidder will attempt to conceal its reservation price and only offer an incrementally higher bid than the bid of the competing bidder, thus profiting from the difference between its reservation price and the purchase price that is below the reservation price.

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117. Ex ante, this will encourage searching for undervalued, inefficiently managed targets and for synergies, and it will discourage shirking and private extractions by managers and enhance the market for corporate control. See Bebchuk and Jackson, *supra* note 4.

The First Bidder does not want to pay more for the target than the value it assigns the target. If the Competing Bidder wins the bidding war and the First Bidder loses, the Competing Bidder will purchase the target, including the First Bidder's TH. Thus, when the Competing Bidder wins and purchases the target, the First Bidder is selling its TH to the Competing Bidder, and the First Bidder would like to receive the highest possible price for its TH, which is the Competing Bidder's reservation price. In order to induce the Competing Bidder to offer its reservation price, the First Bidder may strategically continue bidding after it reaches its own reservation price. The First Bidder will do so if it believes that there is a reasonable likelihood that the Competing Bidder values the target for even more, so that the Competing Bidder will have to increase its bid for the target, which will increase the First Bidder's profit from the TH.

However, this strategic bidding is not without risk: if the First Bidder over-estimates the Competing Bidder's reservation value, the Competing Bidder will not counter the strategic over-bidding. Since the bidders conceal their reservation prices and each bidder only attempts to predict the other bidder's reservation price, the First Bidder might over-estimate the Competing Bidder's reservation price. Thus, the First Bidder might continue bidding, surpassing both the First Bidder's true reservation price and the Competing Bidder's in a failed attempt to force the Competing Bidder to pay more for the target (including the First Bidder's TH). Offering to pay more for the target than it is worth to the competitor (and to itself) may actually force the First Bidder to overpay for the target. The First Bidder might unintentionally win the auction and acquire the target for an excessive price.<sup>118</sup>

This result will have both distributive and efficiency effects. The First Bidder will pay for the target more than its own valuation of the target, transferring value to the target's shareholders. This undoubtedly creates a positive outcome for the shareholders, which may have the effect of encouraging investment in the stock market. The First Bidder will end up owning the target despite valuing it for less than the Competing Bidder does. An efficient, subsequent transfer of the target from

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118. Restrictions, such as reputational costs, may prevent the first bidder from renouncing its offer at this time even though the price is excessive.

the First Bidder to the Competing Bidder may not take place, even though the latter assigns a higher-value to owning the target. Such subsequent transfer may not take place because of transaction costs, reputational costs,<sup>119</sup> or because of the delay, which may have caused the window of opportunity to close by the time the First Bidder is ready to allow the transfer of the target to the Competing Bidder.<sup>120</sup> For example, a business opportunity may be time sensitive and the competitor may no longer assign a higher-value to the target than the value the First Bidder assigns it. The Competing Bidder may have pursued an alternative business transaction once it lost the auction and purchased another firm that competes with the target, even though the target would have been a better fit initially. At this later time, however, adjustment may have already taken place and the Competing Bidder may no longer have a use for the target.

To be sure, the First Bidder's decision to overbid strategically will not always result in an inefficient outcome, because the First Bidder may estimate the Competing Bidder's evaluation of the target at or below the true value and thus will stop the bidding war at a stage that will allow the Competing Bidder to win the auction. This will transfer value from the Competing Bidder to the First Bidder and the other target's shareholders, but will be an efficient transaction in the sense that the Competing Bidder—the higher-value bidder—will acquire the target.

### III.

#### TH COLLABORATION AGREEMENTS—SIZE AND SHARING

With the increased use of wolf packs,<sup>121</sup> bidders can collaborate in the acquisitions of THs. TH collaborations may be similar to collaborations in the acquisition of an equity stake in the company prior to the formal initiation of a proxy fight; such collaborations aim at increasing the benefit from, and

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119. See sources cited *supra* note 28.

120. Lucian A. Bebchuk, *The Case for Facilitating Competing Tender Offers: A Reply and Extension*, 35 STAN. L. REV. 23, 39 (1982) ("Impeding competing bids would substantially increase the likelihood that a target will be acquired by a firm other than the highest-valuing user. While such an acquirer may resell the target's assets to the highest-valuing user, this resale may involve delay and transaction costs and may never occur.")

121. See *supra* Part I.



the probability of success of, shareholder activism.<sup>122</sup> Yet, TH collaboration, which involves a takeover attempt, has different and notable consequences. The collaboration can take nuanced forms and can vary in the particularities of the specific collaboration agreement.

As an example, we can look at the collaboration between Valeant and Pershing Square in the failed acquisition of Allergan. In the Allergan case, Valeant and Pershing Square formed a jointly owned entity as a vehicle to purchase and hold the TH in Allergan. The TH collaboration agreement between Valeant and Pershing Square served a few goals. Arguably, it helped circumvent the requirements of the HSR Act by using an entity that would not trigger extensive anti-trust examinations.<sup>123</sup>

The agreement between Valeant and Pershing Square included a provision which provided that if Valeant's attempt to acquire the target, Allergan, did not succeed and there existed a competing bid, then Valeant would be entitled to 15% of the profits from the TH that would otherwise be allocated to Pershing Square, in addition to its own profit from the TH.<sup>124</sup>

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122. The purpose of the collaboration is to benefit from the price increase that is likely to ensue following the proxy fight. *See, e.g.*, Transcript of Record, Yucaipa America Alliance Fund II, L.P. v. Riggio, 1 A.3d 10 (Del. Ch. 2010) (“I call it the stupid acquirer rule . . . [I]f you could capture all these upside for yourself, why not do it . . .”) (Strine, J.).

123. Floyd et al., *supra* note 13 (“If Valeant, rather than Pershing Square, would have had to file HSR clearance with respect to the toehold stake in Allergan, there likely would have been significant delays in obtaining anti-trust approval because of Allergan’s and Valeant’s overlapping business.”).

124. Letter from J. Michael Pearson, Chairman and CEO, Valeant Pharmaceuticals, to William A. Ackman, Managing Member, Pershing Square § 3 (Feb. 25, 2014) (attached as exhibit 99.3 to Schedule 13D filing No. 0001193125-14-150906); *see also* Basile v. Valeant, No. SACV 14-2004-DOC, 2015 WL 7352005, at \*14 (C.D. Cal. Nov. 9, 2015) (denying motion to dismiss) (“Plaintiffs have included many specific allegations regarding Pearson, including that ‘Pearson convinced Ackman to agree that if Valeant’s takeover bid was trumped and defeated by a competing bid, Pershing would kick back 15% of its insider trading profits to Valeant . . .’”); Valeant Pharmaceutical International Inc., Schedule 13D, Item 6 (April 21, 2014) (“Valeant will have a right to 15% of the net profits otherwise allocated to Pershing Square if, before dissolution and at a time when a Valeant business combination proposal for the Issuer [Allergan, Inc.] is outstanding, a proposal for a third party business combination with the Issuer is outstanding or made . . .”).

In addition to a special profit sharing arrangement in case Valeant lost the bid for Allergan, Pershing Square agreed to a few provisions that would benefit Valeant if it successfully took over Allergan: it agreed to receive Valeant stock as consideration.<sup>125</sup> Furthermore, in an attempt to convince the other shareholders of Allergan to accept Valeant's offer, Ackman announced that his fund, Pershing, was willing to accept about 12% less per share than the other Allergan shareholders.<sup>126</sup>

In the Allergan case, the claim made by pension funds shareholders was that the acquisition of the TH took place while the acquirer was contemplating a *tender offer* rather than a friendly acquisition, thus triggering the Williams Act.<sup>127</sup> Even though the acquirer was describing its actions as an attempt to negotiate a friendly acquisition with the target's management, prior failed attempts to do the same, according to the plaintiffs, led the acquirer to plan a tender offer at that stage. However, without such history between the acquirer and the target at the time of the collaborative efforts to purchase the TH, a tender offer would be premature and the Williams Act and insider trading rules would likely not be applicable.<sup>128</sup> Outside the realm of the Williams Act, insider trading violations require either misappropriation of the information or a breach of a duty,<sup>129</sup> none of which applies to a standard TH collaboration. Whether the acquisition of a collaborative TH in Aller-

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125. Complaint at ¶ 119, *Basile v. Valeant*, No. 8:14-cv-02004-JLS-JCG, 2014 WL 7176420 (C.D. Cal. Dec. 16, 2014) ("Pershing Square agreed to forego all cash and accept 100% of its consideration in Valeant stock . . .").

126. Michael J. De La Merced, *In a Surprise Move, Valeant Again Raises Its Bid for a Rival, Allergan*, N.Y. TIMES: DEALBOOK, (May 30, 2014), <http://dealbook.nytimes.com/2014/05/30/valeant-raises-bid-for-allergan-again/>.

127. See Complaint, *supra* note 125, at ¶ 32 ("Because Allergan's board was not interested in a transaction with Valeant in 2012 and declined to engage in discussions, Valeant was well aware in early 2014 that Allergan was not likely to be supportive of a friendly merger.") and ¶ 107 ("While Valeant initially tried to characterize its takeover as a 'merger' in an effort to skirt the federal securities regulations triggered by a tender offer, its plan from the very beginning was to launch a tender offer.").

128. Similarly, should the parties agree that both are equally involved in the takeover attempt and sufficient control is given to the collaborator, a co-bidder relationship may be deemed to be created so that they may be regarded as a single offering person.

129. See *Chiarella v. U.S.*, 445 U.S. 222, 235 (1980) ("[A] duty to disclose under Section 10(b) does not arise from the mere possession of nonpublic market information.").

gan was in violation of the securities laws, and specifically insider trading rules, is a factual question that is specific to the particular facts of that case. However, it does not restrict the adoption of the strategy of a collaborative TH in general, in cases that do not involve a tender offer.

The first bidder may enter into a TH collaboration agreement and as a result may own, directly, fewer shares in the target, since the collaborator will own a portion of the TH.<sup>130</sup> Why would the first bidder share in the opportunity to purchase shares for a lower price on the eve of the planned takeover? It may choose to do so because it receives other benefits from the collaborator. Such benefits may be direct and related to the specific transaction, such as lower financing costs, as the collaborator may serve as the lender and provide financing for the acquisition at a more favorable cost. Alternatively, the benefit can be unrelated to the specific transaction; rather it may involve other business relations between the two collaborators, such as the collaborator identifying additional potential targets. The first bidder may also decide to use a collaborator for the purchase of the TH because of liquidity constraints that may prevent it from acquiring all of the TH directly.

There is disagreement about whether increasing the size of the TH is desirable. Proponents of THs argue that high costs lead to suboptimal levels of searching efforts and shareholder activism, while sizable THs may help incentivize searches for underperforming targets and enhances corporate governance.<sup>131</sup> On the other hand, opponents of THs and of

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130. The total size of the TH is likely to be less than 10%. See *supra* notes 19–25 and accompanying text.

131. Bebchuk, *supra* note 73, at 256 (“The rewards for search could be substantially increased by raising the statutory limit on the amount of the target’s shares that a searcher can purchase without being required to disclose its purchases. As long as the researcher is required to stay below the threshold of effective control, an increase in the disclosure threshold would be consistent with an auctioneering regime.”); Ronald J. Gibson, *Seeking Competitive Bids Versus Pure Passivity in Tender Offer Defense*, 35 STAN. L. REV. 51, 53–54 (1982). See also Subramanian, *supra* note 28, at 709 (“[Toe-holds] provide some offset against the search costs, operational costs, and reputational costs . . . .”); *Id.* at 713 (“Economic theory and anecdotal evidence suggest that first bidder costs may be substantial. . . particularly when reputational and operational costs are also considered, and that toe-holds and breakup fees may not be sufficient to mitigate these costs.”); Easterbrook &

increasing their size argue that, first, shareholder activism has surpassed the optimal level and intervenes to efficiently manage corporate businesses,<sup>132</sup> and second, that the stock market will benefit from increased transparency and prompt disclosure of lower thresholds on TH acquisitions, which will curtail the size of THs.<sup>133</sup>

The TH collaboration agreements can affect both the actual and effective size of the TH through agreements to join in the purchase of the TH and share in the profits it produces. The agreement between the collaborator and the bidder can provide that the collaborator will pay the bidder if it loses and another bidder wins (meaning that the collaborator agrees to transfer part of the profits from selling the TH to the second bidder). For example, in Valeant's failed acquisition of Allergan, Pershing entered into an agreement with Valeant that provided, in part, that the fund would pay Valeant 15% of its profits from its stake in the TH if a second bidder acquired Allergan instead of Valeant. The effect of this agreement is similar to owning a larger TH directly in the sense that it increases the profits when a competing bidder wins the bidding war and acquires the TH and the rest of the target.

However, this agreement has the effect of increasing the size of the TH without the risk and expense of the original bidder acquiring a larger TH directly. Since the collaborator, rather than the First Bidder, purchases at least part of the TH, the risk to the First Bidder is lower than if it had purchased the collaborator's share of the TH directly. After all, there are no assurances that an additional bidder will materialize; and even if another bidder attempts to acquire the target, it may be that despite the potential acquirers' best efforts, the target will remain independent, and the First Bidder will be left holding

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Fischel, *supra* note 33, at 17 ("The optimal level of regulation of tender offers for either purpose is zero. Private and social wealth is greatest when bidders choose their own time periods and disclosures, subject to a prohibition of fraud.").

132. See, e.g., Lipton, *supra* note 3.

133. David Benoit & Liz Hoffman, *Taking Sides on Activist Investors*, WALL ST. J., (March 19, 2015), <https://www.wsj.com/articles/strine-urges-closing-of-10-day-investment-disclosure-window-1426791548> (reporting that Chief Justice Leo Strine recommended changing the disclosure requirements of Rule 13d in order to increase transparency in the stock market. He suggested shortening the disclosure period from 10 day to 24 hours and lowering the 5% threshold to 2%).

the TH. It is also possible that no one will succeed in acquiring the target (and along with it, the TH), either because the target's management will prevent it<sup>134</sup> or because further due diligence on the target reveals that it is not a worthwhile acquisition. Selling the TH back to the market may well involve a loss, as noise traders are likely to have noticed the increased demand, especially in the 10 days after the bidder crossed the 5% threshold.<sup>135</sup> Dispensing the TH back to the market may increase the loss of the First Bidder who already spent money and reputation on the failed acquisition attempt. The price the First Bidder paid for the TH may be significant if it purchased a sizable amount, which may well have increased the price of the stock because of the noise in the market and the increased demand and upward movement on the supply curve.<sup>136</sup> The target's value may have declined since the TH's original purchase because the target's management may have spent resources in an effort to fight off a hostile takeover at-

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134. *See, e.g.*, the case of the management of Airgas, which successfully used a prolonged poison pill to fend off a hostile takeover. Gina Chon, "Poison Pill" Lives as Airgas Wins Case, WALL ST. J. (Feb. 16, 2011), <https://www.wsj.com/articles/SB10001424052748704343404576146821120717658> ("Minutes after the judge's ruling [upholding the poison pill], Air Products dropped its effort to buy Airgas.").

135. For example, in the Allergan case the price of the stock of Allergan increased allegedly because market participants had picked up on something, such as unusual increased momentum, or because of illegal insider trading. *See, e.g.*, Joe Van Acker, *Allergan Investors Accuse Valeant, Pershing of Takeover Plot*, LAW360 (Dec. 17, 2014) ("The complaint also quoted analysts who said the volume of trading in Allergan stock in the 10 days before Valeant's announcement was 86 percent higher than the previous year, indicating that additional tipping by Pershing Square and Valeant may have occurred."); Matt Levine, *Predatory Traders Front-Ran Bill Ackman's Botox Buy*, BLOOMBERGVIEW (Apr. 23, 2014), <https://www.bloomberg.com/view/articles/2014-04-23/predatory-traders-front-ran-bill-ackman-s-botox-buy> ("Whoever did it—tippees, momentum-seeking tape-reading day traders, or HFT algorithms—someone traded ahead of Ackman here.").

136. *See, e.g.*, Kyle & Vila, *supra* note 14 ("'noise trading'—uninformative trading for liquidity or life cycle motives—provides enough camouflage to enable a large outsider to profit by acquiring a significant stake in a target firm without being noticed. When there is a great deal of noise trading . . . the market attributes changes in the quantity of shares supplied in the market to changes in noise trading, not to changes in the behavior of a large trader with private information about takeover prospects.") (footnote omitted).

tempt.<sup>137</sup> While the TH can prove beneficial if another bidder wins, it may be a liability in the case of a failed hostile takeover wherein the target remains completely independent.<sup>138</sup>

Thus, sharing the TH enables the bidder to share and lower its risk and may in fact promote challenges to corporate control, as it may enable hostile takeovers to succeed in cases wherein there is a non-negligible probability that the target's management may strongly oppose the takeover and potentially succeed in blocking the takeover attempt.<sup>139</sup> In addition, from a reputational perspective, the reputational cost of the failed takeover attempt may be lower if a collaborator shares it, especially a collaborator that has a positive track record. If such a collaborator backed the attempt, albeit a failed attempt, the failure will reflect less poorly on the bidder. The collaboration may also help the bidder to protect its reputation by letting the collaborator take the role of the aggressor and by refraining from openly participating in any hostile attacks on the target's management.<sup>140</sup>

Alternatively, the asymmetric collaboration agreement can provide that the collaborator will pay the bidder if it wins and acquires the target. This time, the parties agree to share in the profit in the event of a successful bid. This type of agreement can take the form of agreeing to accept a less valuable consideration for the TH as part of the acquisition of the target. In the Allergan case, for example, Pershing agreed to receive stock as sole consideration for its TH in the event Valeant acquired Allergan, even if the other shareholders of Allergan receive a combination of cash and stock or even all-cash.<sup>141</sup> Such agreements make it easier for the acquirer to

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137. *See, e.g.,* *Unocal v. Mesa Petroleum Co.*, 493 A.2d 946 (Del. 1985) (upholding the self-tender plan of Unocal's board, which required Unocal to incur significant debt, as a defense tactic aimed at fending off Mesa's hostile takeover attempt.).

138. *See supra* note 76.

139. Several factors, such as different diversification needs and risk preferences, may influence a collaborator to purchase a TH when a bidder on its own would not.

140. *See* Floyd et al., *supra* note 13, at 7 ("The structure moreover mitigates the reputational stigma of a hostile takeover campaign because the bidder can use the activist for attacks on the target's board and management while maintaining—or at least purporting to maintain—the moral high ground.").

141. *See* Complaint at ¶ 119, *Basile vs. Valeant Pharm. Int'l*, No. 8:14-cv-02004-JLS-JCG (C.D. Cal. Dec. 16, 2014) ("Pershing Square agreed to forego

take over the target, since it has to pay less cash and, instead, can use its own stock. The discount the collaborator gives the bidder can be higher or lower than the control premium the acquirer is willing to pay for the remaining shares of the target.<sup>142</sup>

If the collaborator agrees to pay the bidder in the event it wins, then the collaboration agreement increases the expected benefit from winning and thus has the effect of making losing even less desirable. The collaboration agreement can have this same effect (of making losing less desirable to the bidder) by directly providing that losing will be costlier. For example, the agreement could state that if the bidder loses, then the collaborator's share of the profits from selling the TH will be larger.

The agreement can also have the reverse provision: the bidder, instead of the collaborator, agrees to pay the collaborator part of its share of the TH profits if it wins, and the bidder pays the collaborator more than the payment the other target's shareholders would receive. The Williams Act prohibits discrimination between shareholders, and all shareholders should be paid the same.<sup>143</sup> However, there is a risk that the payment will take an indirect form (such as consultant fees) rather than payment for the shares, de facto constituting a higher cost to the bidder in case of winning in a way that does not overtly violate the law.<sup>144</sup>

More generally, the provisions of the collaboration agreement can provide that each one of the parties may agree to pay the other a portion of its share in the TH if certain events

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all cash and accept 100% of its consideration in Valeant stock . . . Pershing Square would receive \$20.75 per share less consideration than other Allergan stockholders . . .").

142. If, instead, the bidder had acquired a large TH directly, with no collaborators, then the bidder would have paid for the shares the lower pre-notice market price, which did not include the control premium.

143. See Rule 14d-10, *supra* note 103.

144. See, e.g., *In re Luxottica Group S.p.A. Sec. Litig.*, 293 F. Supp. 2d 224 (E.D.N.Y. 2003); *Field v. Trump*, 850 F.2d 938 (2d Cir. 1988); *Lerro v. Quaker Oats Co.*, 84 F.3d 239 (7th Cir. 1996); cf. Ganor, *supra* note 96 (executive payments and Perpetual Thrones given to target officers and directors). It should be noted that in 2006 the SEC amended the best price rule to exempt "compensatory arrangements from the rule so long as specific substantive standards are satisfied." Press Release, Sec. and Exch. Comm'n, SEC Amends Tender Offer Best-Price Rules to Benefit Investors (Oct. 18, 2006), <https://www.sec.gov/news/press/2006/2006-177.htm>.

come to pass. The collaborator can agree to pay the bidder. The collaboration agreement can also work in the reverse direction: the bidder can agree to pay the collaborator. The triggering event for paying can be the bidder winning and acquiring the target. Alternatively, the triggering event can be the bidder losing and a competing bidder buying the target along with the TH.

There are four possible contingent profit-sharing provisions: (a) The Collaborator agrees to pay the Bidder if a second bidder, a competitor, wins and acquires the target (thus sharing the collaborator's profits from selling the TH with the Bidder); (b) the Collaborator agrees to pay the Bidder if the Bidder acquires the target (such payment can take the form of the Collaborator accepting a lower-valued consideration for its TH shares); (c) the Bidder agrees to share with the Collaborator its profits from selling the TH to a second competing bidder if the competitor acquires the target; and (d) the bidder agrees to pay the Collaborator if it acquires the target.<sup>145</sup>

The collaboration agreement can include one or more of these contingent profit-sharing provisions. The combination of the provisions can work either in the same or in opposite directions. The total effect of the agreement depends on the cumulative direction of the provisions adopted in the agreement. The agreement can be symmetric in the sense that the provisions will balance each other out: in the aggregate, the same party to the agreement will receive the same amount of payment from the other party whether the bidder wins or loses the battle to acquire the target. Conversely, the total effect of the agreement can be asymmetrical. As long as there is asymmetry between the two effects, which means that the bidder's net gain from the provisions is higher in the case of one outcome rather than the other, then the TH may affect the decision of whether to go ahead with the acquisition of the target or let the competitor win.

For example, the collaborator agrees to pay or otherwise transfer equivalent value to the bidder both if the bidder wins

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145. This provision may be more difficult to achieve directly in case of a tender offer, since the Williams Act prohibits discrimination regarding a tender offer consideration, thus the price per share paid for the TH should be the same. However, there are other ways to achieve this result indirectly, such as payment for consultation. See Securities and Exchange Commission, *supra* note 144, at 1.



and if it loses. The effect of each of these two undertakings is balanced out: regardless of the result of the proposed acquisition the collaborator will transfer the same value to the bidder, and thus the bidder's incentives and the outcome of the bidding contest should not be affected. The agreement makes it less expensive for the bidder to acquire the target, because the collaborator will accept a lower consideration, and at the same time, it is more valuable for the Bidder to lose the bid because the collaborator will pay the Bidder if a competitor purchases the target.

On the other hand, if the agreement is not symmetrically balanced, then the asymmetry of the agreement will affect the incentives of the parties. This may result in changing the motivations of the Bidder and incentivizing it to either win or lose the bidding because of the added effect of the collaboration agreement. For example, the collaboration agreement may provide that the bidder will share part of its profits from its stake in the TH in case it loses the bidding war and ends up selling the TH to a competing bidder. This may serve as a penalty for losing, thereby minimizing the incentive to lose and encouraging overbidding. At the same time, since this agreement confers a benefit on the collaborator in the event of a competing bidder's win, it increases the Collaborator's incentive to support this outcome and vote its shares against the Bidder and in favor of the competing bid.<sup>146</sup> Alternatively, the agreement may provide for a payment to the collaborator when the acquisition of the target by the Bidder is finalized, thus making the deal less valuable to the Bidder and, at the same time, increasing the collaborator's incentive to support the deal.

In particular, an asymmetric collaboration agreement that penalizes the First Bidder for losing the bid for the target to a competitor may have a deterrent effect on potential competing bidders. Since the collaborators publicize their agreement (as the existence of such an agreement must be disclosed under the requirements of Rule 13d) following the purchase

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146. This incentive to vote against the First Bidder and in favor of the Competing Bidder may explain voting agreements that require the Collaborator to vote its TH shares in favor of the First Bidder. [For example, the Allergan case included such a provision. . .] To be sure, an overt vote against the First Bidder entails reputational costs for the Collaborator.

of the TH,<sup>147</sup> potential bidders may realize that their chances of successfully bidding for the target are low even if the value of the target to them is higher than it is to the Bidder. The reason for the decrease in the likelihood of success is that the collaboration agreement creates a credible threat of overbidding by the Bidder. Thus, from an *ex ante* standpoint, initiating a competition may be economically rational only if the competitor values the target significantly more highly than the Bidder does, so that it will have a chance to overcome the collaboration agreement. One can think of this strategy of asymmetric TH collaboration as a strategy that openly and credibly makes losing worse for the bidder so that the bidder will be pushed to make an extra effort to win, virtually telling the potential competing bidders that it cannot afford to lose.

Thus, the asymmetric collaboration agreement may result in an inefficient outcome in the sense that a potential bidder who values the target for more will not enter the competition.<sup>148</sup> This raises the question of why the Bidder would create a credible threat *ex ante* when such a threat is likely to result in deterring an efficient competitor who would have bought the bidder's TH for more than it is worth to the Bidder. The answer lies in the fact that *without* the competition the bidder is likely to profit *more* than it would profit from selling its TH to a competing bidder, as the lack of competition will allow the bidder to profit from acquiring the target for a lower price.<sup>149</sup> While the asymmetric TH collaboration may look like shooting oneself in the foot (or rather, toehold), it may ultimately benefit the bidder.

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147. See, e.g., THOMAS LEE HAZEN, *THE LAW OF SECURITIES REGULATION* 400 (7th ed. 2017) ("Disclosures also must be made with respect to contracts and other arrangements between the persons making the Schedule 13D filing and any other persons concerning the target securities of the issuer, including voting agreements options, and distributions of profits.").

148. See, e.g., Lucian A. Bebchuk, *The Case for Facilitating Competing Tender Offers*, 95 HARV. L. REV. 1028, 1030 (1982) ("[F]acilitating competing tender offers is desirable both to targets' shareholders and to society.").

149. *Id.* (arguing that "facilitating competing tender offers is desirable both to targets' shareholders and to society" and that auctions increase shareholder value and social wealth); Sekhon & Kornfeld, *supra* note 76, at 288 (2016) ("A bidding competition is beneficial to shareholders' financial interests because of the potential for a higher price.").

IV.  
THE EFFECT OF A TH WITH AN ASYMMETRIC  
TH COLLABORATION

A. *TH, Competition, and Collaboration*

As in Part II.B.2 above, the following analysis assumes that the First Bidder has identified a company for acquisition (the target) and that the Competing Bidder learns about the acquisition plans when the First Bidder publicly announces the acquisition of the TH and its plans to acquire the entire target. The Competing Bidder decides to attempt to acquire the target as well. This time the First Bidder enters into an agreement with a Collaborator. The Collaborator may take the form of an activist investor, a financial entity, or a general business partner. The agreement between the First Bidder and the Collaborator focuses on the purchase of the TH and on the profits from the TH in the event of an acquisition of the target. TH collaboration agreement may be asymmetric. It is an asymmetric agreement in the sense that the size of the payments that the parties to the collaboration agreement undertake to pay each other varies in relation to the First Bidder's success with the acquisition of the target. That is, the extent of the profit sharing is contingent upon the outcome of the bidding war between the First Bidder and the Competing Bidder. I will consider two alternative and converse asymmetric agreements: The first agreement will provide that the First Bidder will have to share in its profits from the TH it buys with the Collaborator *only in the event that* the First Bidder wins the bidding war with the Competitor and acquires the target.<sup>150</sup> The second agreement will provide that the First Bidder will share its profits from the TH with the Collaborator, but only if the First Bidder loses the bidding war with the competitor and does not acquire the target.<sup>151</sup>

The First Bidder and the Collaborator agree on a transfer of funds that is conditioned on the outcome of the contemplated acquisition of the target. The fate of the target and the

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150. This agreement is similar to an agreement that provides that the collaborator will share in its profits from its part of the TH with the First Bidder if a competitor ultimately acquires the target rather than the first bidder.

151. This agreement is similar to an agreement that provides that the collaborator will share in its profits from its part of the TH with the First Bidder if the First Bidder acquires the target.

identity of its ultimate owner will determine the direction of the transfer—whether the First Bidder pays the collaborator or the collaborator pays the First Bidder. For example, the agreement may provide that should the First Bidder lose the bidding war and a Competing Bidder win and acquire the target, then the First Bidder may not retain all of the profits from the sale of the TH to the Competing Bidder<sup>152</sup>: rather, the first bidder shall share its profits with the Collaborator. However, should the First Bidder win the bidding war, it may retain all of its profits from the TH.<sup>153</sup> In other words, the asymmetric agreement may be drafted in ways that distort the incentives of the first bidder by penalizing a losing outcome.

Since the asymmetric agreement may motivate the First Bidder to win even if the price it has to pay in order to win is excessively high, the asymmetric agreement may affect potential competing bidders *ex ante*. An asymmetric agreement may credibly threaten a potential competing bidder and deter it from entering the bidding war since it lowers the competitors' chances of winning. Thus, the parties to such an agreement would prefer to make its contents public so that potential competition will become aware of the credible threat their collaboration poses. The securities laws help the parties achieve this goal by requiring the disclosure of such agreements and supplying a platform for the disclosure as part of Schedule 13D.<sup>154</sup> By eliminating the competition, the first bidder may be able to pay less for the target, which will directly hurt the target's shareholders.<sup>155</sup> Furthermore, the distorting incentive designed by contractually penalizing the first bidder in the event

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152. In this example, I assume that the first bidder owns all of the TH. Alternatively, the collaboration agreement may provide for the co-purchase of the TH and the allocation of the profits thereof based on the outcome of the takeover.

153. The collaborator may still profit from the deal as it may provide the funds for the acquisition, or it may have purchased a part of the TH that increased in value once the Competing Bidder acquired the target.

154. See sources cited *supra* note 4.

155. See, e.g., Bebchuk, *supra* note 148, at 1030.

of a loss will potentially deter competition even from a higher-value bidder, thus leading to an inefficient<sup>156</sup> outcome.<sup>157</sup>

An alternative design of the collaboration agreement, which nevertheless produces a similar outcome, could frame the agreement as a positive payment to the First Bidder in the event that it wins. For example, the collaborator buys part of the TH and agrees to share in the profits from subsequently selling the TH, but only if the First Bidder, rather than the Competing Bidder, ends up acquiring the target. Sharing in the profits from the TH in this case is tantamount to agreeing to sell the TH to the First Bidder for a lower price than the price the First Bidder will pay to the other target's shareholders. Similarly, agreeing to be paid in stock rather than cash (as occurred in the Valeant example<sup>158</sup>) may have the identical effect of agreeing to a lower consideration. The asymmetric part of the collaboration agreement may be structured as either a penalty or a reward: a penalty for losing the bidding war or a reward for winning. Either way, the result of such an asymmetric agreement is a shift in favor of winning. Conversely, the parties can enter into an agreement that has an asymmetric effect in the opposite direction: the First Bidder will be rewarded if, and only if, it loses the bid to a competing bidder.<sup>159</sup>

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156. To be sure, claims about efficient outcomes should be qualified. For example, in this case it could be argued that the expected higher profit of the First Bidder caused by competition elimination may increase the level of searches and improve corporate government. However, this could also backfire by managers over reacting and entrenching themselves and thus reducing the incentive to search for targets. See Richard S. Markovits, *Monopoly and the Allocative Inefficiency of First-Best-Allocatively-Efficient Tort Law in Our Worse-Than-Second-Best World: The Whys and Some Therefore*, 46 CASE W. RES. L. REV. 313, 319–20 (1996) (discussing the general theory of Second Best, the deficiency of an isolated allocative efficiency analysis without a study of the aggregate effects, and the applications of this theory to the law).

157. As before, further transfer to a higher-value bidder is likely to be inhibited by transaction costs. See Bebchuk, *supra* note 120.

158. See Complaint at ¶ 119, Basile vs. Valeant Pharm. Int'l, No. 8:14-cv-02004-JLS-JCG (C.D. Cal. Dec. 16, 2014).

159. Drafting a similar agreement that provides that the First Bidder is penalized for winning by having to compensate the collaborator should avoid violating Williams Act, which requires that all shareholders of the target be paid the same higher consideration in a tender offer. Thus, the First Bidder cannot directly pay the Collaborator more for its TH, but it may enter into a financing agreement with a higher interest rate in case of the acquisition of the target, for example, which in fact will have the effect of

In the following Part, I outline a basic numerical example that illustrates the effect of a TH in the case of collaboration with an asymmetric agreement. The asymmetric collaboration can take one of two forms: I call the first form Forward Asymmetric Collaboration Agreement (FACA) and the second form Reverse Asymmetric Collaboration Agreement (RACA). The FACA penalizes the First Bidder for losing while the RACA penalizes the First Bidder for winning.

1. *Forward Asymmetric Collaboration Agreement*

The first bidder enters into a collaboration agreement. This agreement has an asymmetric effect: the first bidder agrees to pay its collaborator more if it loses than if it wins. Thus, it penalizes the first bidder for losing the bidding war. For example, the agreement may say that if, and only if, a competitor wins and buys the target, the First Bidder will have to share the profit from the TH with the collaborator. This asymmetric agreement reduces the effect of the TH on the First Bidder in the event that a competitor wins: the First Bidder agrees to share a portion of the profits from the TH with the collaborator but only if it loses the bid and sells the TH to the Competing Bidder. Thus, if it loses the war, it will retain less of the profit from buying a TH.

However, since this agreement treats winning and losing differently, its effect is not equivalent to merely reducing the size of the TH. Rather, it distorts the incentives of the first bidder, and may motivate it to offer a higher price, higher than the actual value it assigns the shares of the target, in order to win and avoid paying the Collaborator the penalty for losing. To be sure, this case of over-bidding is different from the over-bidding that occurs in the strategic bidding discussed in Part II.B.3 above. While in both cases the First Bidder continues to bid beyond its reservation value, in the strategic bidding scenario the bidder overbids above its reservation price in order to induce the Competing Bidder to increase its bid, but not with an intention to win, but rather with a hope of losing the bidding war to the competitor.

To illustrate the possible effects of entering into an asymmetric agreement, I assume that the two collaborators agree

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penalizing the First Bidder for winning. *See supra* note 103 and accompanying text.

that the first bidder will be able to keep only 4% of the profit from the TH if it loses the bidding war. The Table below summarizes the collaboration agreement.

TABLE III

	Target stays independent	First Bidder buys target	Competing Bidder buys target
Payment to Collaborator	\$0	\$0	96% of TH profit

As before,<sup>160</sup> the First Bidder bought a TH in the open market, a 10% stake in the target, for \$8. If the First Bidder owns the target, it will be worth \$100 to it.

Suppose the competitor offers \$1 per share, which is exactly how much the first bidder values the shares of the target to be worth. If the competitor's offer of \$1 per share is accepted, the first bidder stands to profit \$2 from the TH position (10 shares times \$1 minus the cost of \$8). According to the collaboration agreement, the first bidder will have to pay the collaborator 96% of the profit from selling the TH to the competitor, leaving it with a net profit of only \$0.08 (4% x 2). However, if the first bidder counterbids and offers the shareholders of the target \$1.01 per share, \$0.01 more than it values the shares, it will have to pay a total of \$90.9 for the remaining 90 shares. The total cost of purchasing the target will be \$98.9, which includes the \$8 it paid for the TH. Since the target is worth \$100 to the first bidder, this leaves the first bidder with a profit of \$1.1, all of which it may keep. This time, if it wins, the first bidder does not have to share its profit with the collaborator with whom it entered into the asymmetric collaboration agreement.

However, the competitor values the target at \$102, and thus will be willing to offer up to \$1.02 per share. If the First Bidder does not make a counteroffer and loses to the competitor following the asymmetric agreement with the collaborator, it will be allowed to keep only 4% of the profit on the TH. The first bidder will receive from the competitor \$1.02 per each of the 10 shares constituting the TH for a total of \$10.2, or 10%

160. See numerical example *supra* Part II.B.

of the \$102. Since the cost of the TH was \$8, the profit will be \$2.2, and the first bidder's 4% share is \$0.088.

If the first bidder increases its offer and bases its offer on a \$102.1 valuation of the target, or \$1.021 per share for the remaining 90 shares, then it will win the bidding war.<sup>161</sup> In this case, it will lose \$0.021 for each of the 90 shares that it buys in the tender offer, which is the access payment it makes above its share valuation of \$1. The first bidder will make a total overpayment to the holders of the 90 shares of  $\$0.021 \times 90 = \$1.89$ . It will make \$2 on the TH (since it paid \$8 for it and it will be worth \$10 after it owns the entire target). As a result, the first bidder will profit from the transaction: its net gain will be \$0.11.<sup>162</sup> Since it gets to keep only 4% of the profit from the TH if it loses but all of the profit if it wins, the first bidder will continue bidding past its own reservation value of \$100 and even past \$102 (the reservation value of the competitor), thus winning the bidding war with the competitor even though the competitor assigns a higher-value to the target than the First Bidder. The following Table IV summarizes the possible outcomes from the perspective of the First Bidder.

TABLE IV

	Profit from TH	Value of 90 shares	Cost of purchase of 90 shares	Total profit
Sale of TH for \$1.02 per share	4% (10.2-8) = \$0.088	0	0	\$0.088
Purchase of Target for \$1.021 per share	10-8 = \$2	\$90	90X1.021=\$91.89	\$0.11

Prima facie, this result seems favorable to the target's shareholders<sup>163</sup> because they receive a higher price for their shares than the value either one of the bidders attributes to the shares. Ex ante, however, since the collaboration agree-

161. This is because the offer is higher than the Competitor's value.

162. ( $\$2 - \$1.89$ ).

163. To be sure, not the original shareholders who sold the shares of which the TH consists, these shareholders received the market price without a control premium, but rather a price close to the market price of the share at the time of the acquisition of the TH.



ment is made public and the asymmetric treatment of losing and winning in particular is disclosed, the competitor is made aware that it will face the possibility that the First Bidder will continue bidding above its reservation value. Given the lower chance of winning,<sup>164</sup> the competitor may well decide not to compete for the target at all, leaving the first bidder to negotiate with the target's shareholders alone. Without competition, the target's shareholders will be in a more difficult negotiating position and are likely to end up with less for their shares.<sup>165</sup> Thus, this result has both distributive and efficiency effects. The cumulative effect on efficiency is mixed. On the one hand, a lower-value bidder ends up owning the target and the shareholders receive a lower return on their investment, negatively affecting the incentives to invest in the market *ex ante*. On the other hand, bidders can expect to profit more from acquiring the target and thus may be encouraged to spend more in search costs and to increase the level of takeovers, potentially supporting the market for corporate control.<sup>166</sup>

## 2. *Collaboration in the Opposite Direction—Reverse Asymmetric Collaboration Agreements*

In this Subpart, I will consider an asymmetric collaboration in the opposite direction. Under this scenario, the collaboration agreement penalizes the First Bidder when it wins the bidding war and acquires the target. Suppose that the First Bidder and the Collaborator enter into an asymmetric agreement that takes the following form: the Collaborator agrees to buy the TH and promises to share equally (50/50) with the

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164. Including a lower chance of winning for a price below the competitor's reservation price.

165. See, e.g., Bebchuk, *supra* note 148, at 1030 (for the benefit of having more than one bidder competing for the target); see also Peter Lattman, *Court Revives Financier's Fraud Suit Against Citigroup Over the Sale of EMI*, N.Y. TIMES, MAY 31, 2013, <https://dealbook.nytimes.com/2013/05/31/appeals-court-revives-financiers-suit-against-citigroup/> (describing the suit brought by Terra Firma Capital Partners Ltd. against Citigroup for allegedly misrepresenting that another bidder was interested in acquiring EMI Group Ltd. In its complaint, Terra Firma argued it paid an inflated price for EMI because of Citigroup's alleged misrepresentation.).

166. Similarly, the effect of increasing the search level may not necessarily be efficient as it may be excessive, in addition to encouraging management to adopt anti-takeover mechanisms, which may likely affect social welfare negatively.

First Bidder its profit from the sale of the TH only if the First Bidder loses and a Competing Bidder purchases the target. In order to illustrate the possible distortive effects of such an asymmetric contract in the opposite direction, I consider the following example: this time the First Bidder is the efficient buyer in the sense that the value it assigns to the target is higher than the value that the Competing Bidder assigns to the target. The First Bidder values the target for \$101 and the Competitor values it for only \$100. As before, the TH is 10% of the target and the cost of purchasing the TH in the market before the proposed takeover announcement is \$8, based on an \$80 value. Should the Competitor offer \$100 for the target, including \$10 for the TH, then the total profit from the TH will be \$2. The Collaborator will share half of the profit with the First Bidder, who will gain \$1. Alternatively, The First Bidder could continue with the bidding war and make a counteroffer to the Competing Bidder's last and highest offer, since it values the target for \$101. Nevertheless, any counteroffer that the First Bidder will propose above the \$100 offered by the Competing Bidder will leave it with less than \$1 profit.<sup>167</sup> Thus, in this case, winning is an inferior strategy to losing the bidding war and receiving half of the TH profit.

This simple example shows that an asymmetric TH collaboration agreement may cause the First Bidder to walk away from the target and allow a lower-valuing competitor to acquire the target.<sup>168</sup> Why would the parties, the collaborators, enter into such an agreement? An asymmetric agreement in the other direction may play an important role in deterring competition and allow the first bidder to acquire the target at a lower price. Conversely, at first glance, an asymmetric agreement in this direction may encourage potential bidders to compete for the target and prevent the first bidder from acquiring the target. However, such potential acquirers may wonder whether the initial TH acquisition is indeed a signal that the First Bidder has conducted a thorough study of the target and concluded that it is a worthy target for acquisition. The TH acquisition may look like a ploy to lure other buyers

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167. If it bought the target for \$100 it would have made a \$1 profit. Any price above \$100 will leave it with a lower profit.

168. Subsequent transfer may not be possible. See Bebachuk, *supra* note 120.

to acquire the target and leave the parties to the asymmetric agreement with an easy and quick gain from the TH with no sincere intent to follow through with a full takeover of the target. Such an agreement may indicate to potential competitors that the offer is not serious and that the collaborators are merely interested in profiting from the TH, not in acquiring the target itself. Thus, this may serve to weaken the free-rider opportunity since potential competing bidders may no longer rely on the first bidder's disclosed intentions. At the end of the day, this type of asymmetric agreement may also help to prevent the entrance of free-riders, who may be uncertain about the true intent of the parties to the agreement, and thus chill competition. To be sure, to the extent that the first bidder is a serial acquirer who repeatedly acquires targets despite such asymmetric agreements, such agreements are not likely to chill free-rider competition. Furthermore, management and shareholder advisory institutions may view this agreement as a signal of lack of seriousness and may make the target reluctant to negotiate with the first bidder.

It should be noted that a collaboration agreement could be drafted with either a penalty or an award and yet still have an identical economic effect, in that penalizing the bidder if it loses can be equivalent to rewarding it if it wins, (each has the effect of motivating winning and discouraging losing); and rewarding losing can substitute for penalizing winning (motivating losing and discouraging winning). However, the choice between the two, the carrot or the stick, may have behavioral psychological effects similar to the endowment effect<sup>169</sup> and to loss aversion,<sup>170</sup> as the estimation of a cost (as opposed to a benefit) may be skewed by the fact that it is framed as a cost.

#### CONCLUSION

The cooperation with a hedge fund or other business entity in takeover contests opens the door to new arrangements and alters the concept of a traditional TH. This Article has shown that with the new wolf packing practice, which fosters investor collaboration, a TH may affect the outcome of a take-

169. See Richard Thaler, *Toward a Positive Theory of Consumer Choice*, 1 J. ECON. BEHAV. & ORG. 39, 44 (1980).

170. See Daniel Kahneman & Amos Tversky, *Choices, Values, and Frames*, 39 AM. PSYCHOLOGIST 341, 342 (1984).

over attempt and may negatively affect social welfare in ways that have previously gone unexplored. The collaboration in the acquisition of the TH itself presents an opportunity for potential bidders to create credible threats and deter competition from other potential acquirers including those who value the target for more.

Cooperation in the TH acquisition can include special agreements which will come into effect once a competing bidder enters the scene. The TH collaboration can include a profit sharing agreement that can either penalize or reward the bidder who is a party to the TH collaboration by increasing or decreasing the bidder's share of the profits from the TH based on the outcome of the bidding contest. The triggering event for these arrangements can be the competing bidder winning the contest and taking over the target.

Thus, the TH collaboration agreement can have a foothold effect, making it more profitable for the bidder to acquire the target rather than allowing a competing bidder, even a higher-use bidder, to acquire the target. Making the TH collaboration agreement public is likely to deter potential competing bidders *ex ante*, thus allowing the first bidder and its collaborator to increase their profits from the target at the expense of the shareholders and possibly at the expense of social welfare as well.<sup>171</sup>

While TH scholars have long recognized the potential benefits of acquiring a TH—particularly the ability to hedge against the possible loss of search costs in the event of a loss to a free-riding-higher-value bidder—the debate about TH acquisitions, including the timely disclosure of such acquisitions, persists. With enhanced collaboration among investors, public disclosure of TH collaboration agreements, specifically asymmetric agreements, may actually serve to strengthen the initial bidder and may well deter competition, dampening the market for corporate control. Thus, with collaboration, the complexity of the bidding game has increased and more aspects of the bidding game may affect the efficiency of the market. Appeals to the U.S. Securities and Exchange Commission to use

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171. *Cf. supra* note 166 and accompanying text, discussing the effects on corporate governance: a potential increase in the level of target-searching activities on the one hand, followed by a likely increase in the level of defensive activities employed by incumbents on the other hand.

its authority under the Wall Street Reform and Consumer Protection Act of 2010 (the “Dodd-Frank Act”) to amend the mandatory disclosure rule by shortening its window,<sup>172</sup> on the one hand, as well as apparent plans to repeal the Dodd-Frank Act on the other,<sup>173</sup> seem to be crude attempts to fix the market. Such solutions are excessively broad for the current level of complexity in the market and are unlikely to stop the tide of emboldened activist investors, who are seeking means of circumventing the rules—and should they succeed, (i) there may well be unintended consequences and (ii) the result would not necessarily lead to a smaller decrease in social welfare than under the current state of affairs.

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172. See *supra* notes 3–4 and accompanying text.

173. See, e.g., Ben Protess, *Republicans’ Paths to Unraveling the Dodd-Frank Act*, N.Y. TIMES, Jan. 30, 2017, [https://www.nytimes.com/2017/01/30/business/dealbook/republicans-unravel-dodd-frank-act.html?\\_r=0](https://www.nytimes.com/2017/01/30/business/dealbook/republicans-unravel-dodd-frank-act.html?_r=0) and Bob Ehrlich & J.C. Boggs, *The Next Repeal and Replace: Dodd-Frank*, FORBES, Jan. 28, 2017, <https://www.forbes.com/sites/realspin/2017/01/28/the-next-repeal-and-replace-dodd-frank/#5119b90f45cd>.

## APPENDIX

In this Appendix, I will use algebraic modeling to study TH collaborations. The basic framework, and especially the review of the basic TH theory in Appendix Part I below, will follow the work of Sandra Betton, et al.<sup>174</sup> In Appendix Part II, I will model TH collaboration agreements.

## I.

## REVIEW OF THE BASIC TH THEORY

Consider the following scenario: Company A is interested in acquiring the target T. First, Company A purchases a toe-hold  $\alpha$  in T.  $\alpha$  is a fraction between 0 and 1 that represents the fraction of T that A owns. Subsequently, A discloses its acquisition plans to the public. After learning about A's plans to acquire T, Company B realizes that T is a good target for acquisition and that it, B, should acquire T instead of A, and thus decides to compete with A. I assume that B does not have an equity stake in T; nor does B start buying shares in the open market at this time. Following A's public announcement, the market adjusts the price of T's shares and includes a control premium to reflect A's acquisition plans.<sup>175</sup> A bidding war ensues: A and B incrementally raise their respective offer to T until one of the parties, the "losing" party, yields. B will stop bidding once the offer price has reached its own valuation of T, its reservation value, which I denote by  $V_B$ . A does not know what  $V_B$  is, but it does have a probability distribution for  $V_B$ , which means that it can estimate the likelihood of a range of values. A's own valuation of T is denoted by  $V_A$ . A has to decide when to stop bidding. I denote A's ceiling, above which it will stop bidding, by  $h$ . For simplicity, I assume that there are no termination fees, transaction costs, reputation costs, or other outside reasons that may influence each bidder to either leave the bidding contest or increase the offer price.

The main result of Betton, et al.,<sup>176</sup> who formulated an elaborate model for the basic, traditional, TH, is that the optimal  $h$  can be higher than A's valuation,  $V_A$ . A possible intuitive explanation to this mathematical result is that when the bid-

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174. See Betton et al., *supra* note 6.

175. See Dyck & Zingales, *supra* note 92.

176. Betton et al., *supra* note 6.

ding has reached a level higher than  $V_A$ , A continues to bid even though it does not want to purchase T at the high price it now offers, which is higher than  $V_A$ , in fact this time A hopes to lose the bidding contest to B. A continues to bid past its reservation price because it is trying to lure B to make a higher offer. This will allow it to reap higher proceeds from the TH, which it wants B to buy from it for the highest possible price. B may indeed continue to match A's offer as long as it is below  $V_B$ .<sup>177</sup>

Specifically, the main result of Betton, et al. is that A's optimal bid is higher than  $V_A$  by an amount that equals the percentage of the target that the TH represents times a certain function  $R(h)$  of the optimal bid. Explicitly,  $h$  is given by the solution to the equation:

$$h = V_A + \alpha R(h) \tag{1}$$

The factor  $R(h)$  is calculated from the probability distribution that A assigns to  $V_B$ . We first denote:

G(x)	Cumulative probability function, that is, the probability that $x > V_B$ .
F(x)	=1- G(x) the probability that $x \leq V_B$ .
f(x)	=G'(x) Probability distribution function, that is, for small $\epsilon$ , $f(x)\epsilon$ is the probability that $x < V_B < x + \epsilon$ .

Then, according to Betton et al.,

$$R(x) = \frac{F(x)}{f(x)}$$

To gain more insight into this formula, let us take a uniform probability distribution as an example. Suppose  $V_A=100$ ,  $\alpha=10\%$ , and  $V_B$  is uniformly distributed in the range [100,200]. The range starts at 100, because if B values the target for less than 100 then it will stop bidding and A will win for a profitable price that will allow it to buy the target below its reservation price. Unlike A, B does not strategically bid higher than

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177. See discussion of strategic overbidding, *supra* Part II.B.3.

its reservation price, because I assume that it does not own a TH in the target.<sup>178</sup> Then

$G(x)=(x-100)/100$ ,  $F(x)=(200-x)/100$ ,  $f(x)=0.01$ , for  $100 < x < 200$ .

Plugging these values in formula (1) we get the following:

$$h = 100 + \alpha \frac{\left(\frac{200 - h}{100}\right)}{0.01} = 100 + \alpha (200 - h)$$

For  $y=h-100$ , which is the amount that A bids above its  $V_A$ , this can be written as

$$y = \alpha (100 - y)$$

with the solution of  $y = \frac{100 \alpha}{1 + \alpha}$

To understand the logic behind this result we can look at A's decision process. In making the decision about what should be A's maximal bid, the amount that A will not bid above (not to be confused with the optimal bid), of  $h=y+V_A=y+100$ , which is  $y$  over A's valuation, A's calculation is as follows:

Case	Outcome	Probability	A's Profit/Loss
$h > V_B$	A wins the bid	$y/100$	$-(1-\alpha)(V_B - 100)$
$h < V_B$	B wins the bid	$1-(y/100)$	$\alpha y$

In case  $h > V_B$ , I assume that  $V_B$ , the value that competitor B assigns to the target, is a random variable. If  $h=100+y > V_B$  then  $V_B$  is a uniformly distributed random variable in the range  $[100,100+y]$  and therefore the expected value of  $V_B$  is  $100+(y/2)$ . So, plugging the expected value of  $V_B$  in A's profit in case it wins, that is when  $h > V_B$ , gives:  $-(1-\alpha)(y/2)$ .

Thus, A's expected profit is:

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178. I also assume that B has no other reasons to want A to pay more for T. If A and B were competitors, in addition to competing for T, then B may have had an incentive to cause A to pay more for T even if B does not directly benefit from the acquisition.



$$\left(1 - \frac{y}{100}\right) \alpha y + \left(\frac{y}{100}\right) \left\{-\frac{(1-\alpha)y}{2}\right\} = \alpha y - \frac{(1+\alpha)y^2}{200}$$

This is a quadratic function whose maximum is at  $y=100 \alpha/(1+\alpha)$ , the same as what formula (1) predicted.

For a uniform distribution, equation (1) has a simple interpretation. Suppose the bidding has reached a level that equals A’s valuation  $V_A$ . A now has to consider a Bayesian distribution for  $V_B$ , which is uniformly distributed in the range  $[V_A, W]$ , for some upper bound  $W > V_A$  and then  $f=1/(W - V_A)$ . Equation (1) written as

$$h - V_A = \frac{\alpha F(h)}{f}$$

can be expressed as

$$(h - V_A)f = \alpha F(h)$$

The left hand side is the probability that A wins the bid (because  $V_B < h$ ). On the other hand  $F(h)$  is the probability that B wins the bid (because  $V_B > h$ ). Thus, the optimal  $h$  is when the ratio of Bayesian probabilities for A to win and for A to lose equals the toehold.

## II.

### TH COLLABORATION AGREEMENTS

In this Appendix Part, I first follow the scenario analyzed in Appendix Part I above, including its assumptions and notations. A (the First Bidder) and B (the Competing Bidder) engage in a bidding contest for the target. A can calculate its future wealth, which will include the value of its TH in the target and will depend on the outcome of the bidding contest - winning or losing to B. The following table<sup>179</sup> describes A’s wealth:

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<sup>179</sup> Note that the table in Appendix Part I looks at A’s profit or loss from bidding above  $V_A$ , rather than wealth, and thus I subtract the constant  $100\alpha$ , as the value of the TH. In this table, I look at the A’s wealth instead of its profit, which includes its TH.

Case	Outcome	Probability	A's Wealth
$h > V_B$	A wins the bid	$y/100$	$100-(1-\alpha)V_B$
$h < V_B$	B wins the bid	$1-(y/100)$	$\alpha h$

A, the First Bidder and owner of the TH, enters into an agreement with a third-party collaborator, which I denote by F. The collaboration agreement provides that A will transfer a portion  $\gamma$  of the TH value to F and will keep a portion  $\eta=1-\gamma$  of the TH value if the Competitor B acquires the target including the TH. The following table describes A's wealth given the collaboration agreement:

Case	Outcome	Probability	A's Wealth
$h > V_B$	A wins the bid	$y/100$	$100-(1-\alpha)V_B$
$h < V_B$	B wins the bid	$1-(y/100)$	$\eta \alpha h$

As in Appendix Part I above, I assume that  $V_B$  is a uniformly distributed random variable, and I plug the expected value of  $V_B$ ,  $100+(y/2)$ , in A's wealth in case it wins, if  $h=100+y > V_B$ . I take the expected value of A's wealth:

$$\left(1 - \frac{y}{100}\right) \eta \alpha (100 + y) + \left(\frac{y}{100}\right) \left\{100 - (1-\alpha)\left(100 + \frac{y}{2}\right)\right\}$$

Maximizing the expected wealth of A for  $y$ , the amount that A bids above its  $V_A$ , I find that the optimal  $y$  is:

$$y_o = 100 \alpha / (1 - \alpha + 2 \eta \alpha)$$

which can be written as

$$y_o = 100 \alpha / (1 + \alpha - 2 \gamma \alpha). \quad (2)$$

After setting  $\gamma=0$ , which means no collaboration, the optimal overbidding,  $y_o$ , reduces to the result of equation (1) in Appendix Part I above, which follows Betton, et al.'s results. However, as  $\gamma$  increases, the denominator  $(1 + \alpha - 2 \gamma \alpha)$  decreases, and the optimal  $y_o$  increases. Thus, equation (2) shows that the more that bidder A has agreed to share with the collaborator the higher the bid that A will be willing to make for the target. Since the collaboration increases A's optimal bid, it follows that collaboration increases the probability of A winning, despite the assumption that B values the target for more.

Thus, TH collaboration increases the probability of an inefficient outcome in which A wins even though B values the target for more.

It is interesting to note that when  $\eta=0$ , which is the maximal collaboration transfer, the overbidding is not strategic overbidding in the sense described in Part II.B.3 *supra*. In this event, the overbidding is not a strategy that attempts to cause B to pay more for the TH, because A will not gain from the sale of the TH to B, only its collaborator will. Rather, the overbidding is an attempt to prevent the loss from the transfer of the TH to the collaborator, which will take place in the event the competitor wins. A will bid more than its valuation of T, because in the event that A wins it will not have to pay for the TH, but will continue to own it, so A will be able to pay more for the remainder of the target than the value it assigns to it.

As an example, set  $\alpha=10\%$ . Then, for  $\eta=0$  we find  $y_o=100\alpha/(1-\alpha)=11.11$ . . . , while for  $\eta=1$  we find  $y_o=100\alpha/(1+\alpha)=9.0909$ . For  $\eta=85\%$  we find  $y_o=9.3457$ . If we increase the TH, for example, set  $\alpha=20\%$ , the optimal bid increases as well. For  $\eta=0$  we find  $y_o=100a/(1-\alpha)=25$ , while for  $\eta=1$  we find  $y_o=100a/(1+\alpha)=16.666$ . And for  $\eta=85\%$  we find  $y_o=17.5439$ .

To further explore the collaboration agreement, we can look at the effect of  $\eta$ , the portion of the TH that A may keep in case B wins, on A's expected wealth. Plugging the optimal  $y$ , A's expected wealth can be described as:

$$\Phi(\eta) = 50\alpha[\alpha + 2(1-\alpha)\eta + 4\alpha\eta^2] / [1 + (2\eta-1)\alpha] = 100\alpha\eta + 50\alpha^2 / [1 + (2\eta-1)\alpha].$$

Note that the first derivate of  $\Phi(\eta)$  is  $\Phi'(\eta)=100\alpha - 100a^3/[1 + (2\eta-1)\alpha]^2$

and the second derivative is  $\Phi''(\eta)=400\alpha^4/[1 + (2\eta-1)\alpha]^3$

And  $\Phi'(\eta)=0$  for  $\eta=-1/(2\alpha)$  and  $\eta=1-1/(2\alpha)$ , and  $\Phi'(\eta)<0$  for  $-1/(2\alpha)<\eta<1-1/(2\alpha)$

Thus,  $\Phi(\eta)$  increases for  $\eta>1-1/(2\alpha)$ . And since  $\eta>0$ , for  $\alpha<0.5$ , a TH that conveys less than full control of the target, it follows that  $\Phi(\eta)$  is a monotonically increasing function of  $\eta$ . This result is intuitive, since a higher  $\eta$  means that A has to share less with the collaborator if it loses the bid.

For example, for  $\eta=0$  (A has to give all the TH to the collaborator if B wins), we have  $\Phi(0) = 50\alpha^2/(1-\alpha)$ . For  $\eta=1$  (no collaboration), we have  $\Phi(1) = 50\alpha(2+3\alpha)/(1+\alpha)$ .