Do Wealth Creating Mergers and Acquisitions Really Hurt Bidder Shareholders?[*]

Mark Humphery-Jenner[†], Ronald W. Masulis[‡] and Peter L. Swan[§]

School of Banking and Finance, UNSW Australia Business School

Draft: May 19, 2016

ABSTRACT

We examine the economic benefits of acquisitions for U.S. public firms. We estimate revelation bias from recent investment decisions and find it leads to negative bidder returns, often interpreted as shareholder wealth destruction. Examining exogenously failed bids, which lack revelation bias, we demonstrate that bidders capture roughly 78 percent of economic gains. Combined economic gains are large at 15.4% of combined firm assets. Adjusting for revelation bias over the M&A bid cycle, we find that conventional methodologies understate bidder returns. We confirm the neoclassical view that takeovers are highly profitable for typical bidders, consistent with M&A on average being profitable investments.

Key Words: M&A, takeover bids, acquisition benefits, bidder gains, acquisition synergies, targets, bidders, failed bids.
JEL Codes: G34, G14

1. INTRODUCTION

Many studies document that bidders systematically destroy shareholder wealth in mergers and acquisitions (M&As), while targets benefit at their expense.[1] Moeller, Schlingemann, and Stulz (2005) find that shareholders of bidding firms over the 1998-2001 period lose 12 cents per dollar of purchase price on takeover bid announcements and collectively lose a sizeable $312 billion to conclude that there is a more negative reaction to a large bid. In their M&A literature survey, Betton, Eckbo, and Thorburn (2008, Table 9) find large stock bidders experience a significantly negative abnormal return of -2.21 percent in acquisitions of public targets, which for large cash bidders shrinks to -0.3 percent. They find small stock bidders approximately breakeven, while small cash bidders for public targets gain 3.06 percent. Surprisingly, small stock bidders for private targets elicit a large favorable market reaction of 6.46 percent.[2] Thus, if a zero NPV is the minimum required expected return for a rational bidder, then only small bidders satisfy this rationality criterion. Given that M&A investment plays a major role in the global economy[3], constituting $2.3 trillion in 2015 for the U.S. alone, or 12.7% of its GDP, according to Thomson-Reuters, it would be strange to find such widespread and persistent M&A investment failures.

The conventional finding that acquiring shareholders gain little from M&A activity in listed companies is mentioned in many major finance textbooks.[4] While the overall synergistic benefits measured by the average change in the combined values of bidders and targets on a takeover announcement is marginally positive, bidder shareholders appear to be distinct losers, while target shareholders are clear winners. Andrade, Mitchell and Stafford's (2001) survey indicates a massive long-event-window loss to acquirers that averages 3.8 percent, which they interpret as a possible subsidy to target shareholders who realize an overall gain of 23.8 percent.

---

[1] For an early example of a study showing that bidder value falls at the time of takeover announcement see Dodd (1980). Betton, Eckbo, and Thorburn (2008, Table 6) summarize 16 relatively recent large-sample studies of bidder returns. Most report sizeable takeover samples in which the bidder's share price reaction is negative.

[2] The positive CARs in stock-for-stock acquisitions of unlisted targets can be due to such acquisitions creating a new blockholder who is motivated to actively monitor the merged firm, thereby improving corporate governance.

[3] For 2015, aggregate global M&A transactions exceeded U.S. $4.7 trillion and made up of 42,313 deals, according to Thomson Reuters http://share.thomsonreuters.com/general/PR/MA-4Q15-(E).pdf, a 42% gain from the prior year.

[4] For example, see Damodaran (2001, pp.864-865), Brigham and Daves (2010, p.929), Ross, Westerfield, and Jordan (2013, p.869), Copeland, Weston, and Shastri (2005, p.778), Grinblatt and Titman (1998, p.681), and Berk and DeMarzo, (2011, p.915).

These findings stand in stark contrast to what we term the neo-classical theory of M&A (see Ahern and Weston (2007) and Ahern and Harford (2014)) which asserts that profit motivated bidders naturally drive the ownership of assets to their highest valued use. From this perspective, bidders (and their shareholders) expect to benefit on average from M&A transactions, rather than suffer losses. This should reflect itself in a gain in the combined market value of the merged firms. Furthermore, since these transactions are freely entered into, this gain should be shared, with both bidder and target shareholders benefiting. Since many trillions of dollars are spent globally on acquisitions each year, these gains are likely to be sizeable and to greatly exceed those found using the conventional bid announcement methodology.

In the last few years, several researchers have begun to question the conventional wisdom that bidders destroy shareholder wealth and have reported some evidence that is consistent with the neoclassical theory and our findings that are set out below. Ahern (2012) identifies an appropriate metric for merger partner dollar gains, and finds that targets do not do significantly better than bidders, especially because bidders tend to be much larger in size. Moreover, in vertical acquisitions, a target's relative scarcity and product market dependence help explain its share of the total merger gains. Ahern's analysis is based on conventional short-window bid annoucement returns that are converted into dollar gains using contemporaneous prices and does not take into account the bidder revelation effect discussed below and the likelihood of bid failure. Compared to our alternative approach, this methodology also has a downward bias, which yields economically small estimates of the overall synergistic gains, especially the gains realized by bidders. Cai, Song, and Walkling (2011) present evidence to show that some bids are more of a surprise to the market than others. In particular, the first bid within an industry is a greater surprise to the market and has a higher return than subsequent bids. They conclude that, after accounting for this bid anticipation effect, bidding activity generates wealth, even though these gains are very small compared with our estimates.[5]

---

[5]Dimopoulos and Sacchetto (2014) structurally estimate the likelihood of preemptive bidding and target resistance. They show that only rarely does a second bidder materialize, which means that most initial bids are preemptive. Their simulations imply that initial bidder valuations of targets are roughly twice the pre-bid value and the potential rival's valuation is a far lower 58% above the pre-bid value. Thus, prospective synergistic gains are likely to be the monopoly of the initial bidder, so that the main barrier to a bidder extracting most of the gains is target resistance. Our findings are the first to justify the high initial bidder valuations that are otherwise unexplained by their modeling. Furthermore, in their framework, bids fail endogenously as synergistic gains are insufficient to overcome target resistance. Thus, endogenously failed bids yield fewer synergistic benefits than exogenously failed bids, which is precisely what we find in our sample of endogenously and exogenously failed bids.

Betton, Eckbo and Thorburn (2008, Table 7) examine bidder cumulative abnormal returns (CARs) from 41 days prior to the merger announcement until the date when the contest outcome becomes known. They find a highly significant positive relationship to the target's stock price run-up of a similar magnitude and conclude that large run-ups mutually benefit both bidder and target. They also note that the overall negative market reaction to control contests is puzzling. Betton, Eckbo, Thompson, and Thorburn (2011) find strong empirical support for the hypothesis that bidder abnormal stock returns increase with target stock price run-up to merger announcements. This finding is predicted by their model in which takeover rumors generate rational market anticipation of synergies from impending takeover bids.

In this study, we present both a new methodology and new evidence to question the proposition that M&A activity typically occurs at considerable cost to bidder shareholders. We argue that bid announcements often coincide with or release other economically important negative bidder news. Specifically, a bid can reveal negative information about a bidder's internal growth prospects. Also, the choice of takeover currency can reveal information about bidder stock's overvaluation. Thus, we argue that takeover returns to successful bidders are often conflated by this 'revelation effect', and that after accounting for this added negative information effect, takeovers on average create substantial bidder shareholder value. Hence, a key question to ask is: how would a bidder perform without this acquisition? To address this question, we compare successful bidder stock performance with an appropriate counter-factual: a failed bid.

We demonstrate that not only are the net economic benefits of M&A activity large, with the lion's share going to the bidder (77.2%) in non-contested bids, consistent with neoclassical theory and Scharfstein's (1988) disciplinary theory of corporate raiders (see, for example, Gort (1969), Mitchell and Mulherin (1996), Maksimovic and Phillips (2001), Jovanovic and Rousseau (2002), and Harford (2005)). Our findings, which include a high shareholder gains ratio for bidders relative to targets of 3.38 times in uncontested bids subject to regulatory approval combined with the relatively small frequency of contested bids (8%), strongly suggest the need to match a deal's bidder and target before assessing shareholder gains from M&A deals.

Bidder gains are not obvious when conventional event study approaches are used since bidding often releases significant bad news about a bidder's stand-alone value. In particular, we find that a bidder's market value falls more over the M&A bid cycle (measured from 60-days

prior to the bid announcement until two days after the outcome becomes known), the greater is the prior evidence of a successful internal growth strategy. Strikingly, a one standard deviation rise in Tobin's Q and CAPEX/Assets three years prior to a bid announcement is associated with a 12% fall in firm value over this M&A bid cycle. Thus, the expected large benefits of a typical M&A bid can be masked by negative information released about a bidder's stand-alone value. Hence, the net effect on a bidder's equity value is positive, but small in the case of a non-stock-only bid, while it falls in value by approximately 0.9% in the case of a stock-only bid.

We further examine whether the decline in Tobin's Q or the CAPEX/Assets ratios, which signals a failed internal growth strategy could be detected prior to the takeover announcement, and if so, whether it can be used to predict the takeover bid itself. We employ a number of empirical tests to show that the reverse is true: bid announcements predict internal growth failure, but not the reverse. Thus, the market is surprised by this bid announcement, which signals a faltering internal growth strategy. This yields a downward bias for conventional bid announcement return measures.

2. LITERATURE REVIEW

We show that the traditional event study methodology fails to account for the negative information that takeover bids often release, thereby downward biasing returns calculated using a standard event study methodology; we term this the "revelation bias". The logic for this conclusion is explained below.

First, a bid itself can often release bad news about a bidder. For example, a bid may reveal unprofitable empire-building tendencies on the part of incumbent management, or a negative bidder-management assessment of the firm's internal growth opportunities, which leads them to switch to external investment (see Eckbo, Maksimovic and Williams (1990), Fuller, Netter and Stegemoller (2002) and Hietala, Kaplan and Robinson (2003)). More recently, Barraclough, Robinson, Smith, and Whaley (2013) use option prices around 167 takeover offers to conclude that bids release bad news about bidders and good news about targets. They report a small overall synergistic gain of 5.9 percent, with gains equally split between bidder and target. Their overall average gain estimate for the combined bidder and target shares is about one-third of our

estimated overall gain, based on 1,800 takeover bids. However, they recognize that their sample is biased towards finding small synergistic gains.

Second, given the conflict of interest between existing and new shareholders, manager access to proprietary information, and incentives to protect existing shareholders (see Myers and Majluf (1984)), acquisitions financed with large new equity issues release bad news about a stock's true value. News of equity sales gives rise to substantial stock price drops that can offset some or all the good news associated with a bid's expected synergistic gains. Similarly, stock issuance is likely to be the preferred M&A financing choice when a bidder's stock is overvalued (see Travlos (1987) and Shleifer and Vishny (2003)).

Third, bidders anticipating using stock as M&A currency have incentives to artificially inflate their stock price by releasing optimistic news in the lead up to a bid, at which point the exchange rate between bidder and target shares is set (Ahern and Sosyura (2014)). Erickson and Wang (1999) find evidence that in the lead up to a merger, bidders in stock mergers upwardly manage earnings. Louis (2004) reports that acquirers inflate their earnings immediately prior to stock merger announcements, in contrast to cash bidders who do not inflate earnings. The likelihood of an artificially inflated bidder stock price is then revealed by news of a stock bid as a bidder's over-valuation motive becomes clear.

Finally, bidder initial announcement returns can be downward biased because of a significant likelihood of bid failure, perhaps due to potential entry by competing bidders, regulatory disapproval, or insufficient synergies to overcome target resistance. There is a large frequency of failure of 14.3 percent in our overall sample, but only 10.7% in our subsample subject to regulatory scrutiny and where failure is generally triggered exogenously.

Bhagat, Dong, Hirshleifer, and Noah (2005) propose a probability scaling method (PSM) to estimate the probability of a successful bid. The PSM method can be used to tackle one of the many dimensions of this complex problem. However, it does not account for the possibility that a bid reveals negative information about the bidder. In contrast, our methodology does not rely on the probability of a successful bid and we also exclude competing bids, which occur infrequently. Using simple announcement returns, Bradley Desai, and Kim (1988) estimate a combined gain to bidder and target shareholders of 5.3%, while the Bhagat, Dong, Hirshleifer, and Noah (2005)'s PSM method estimates the gain to be 7.3%. In contrast, we find a 15.4% gain

over the M&A bid cycle period, when we adjust for the bid's revelation bias. The reason for the difference is that while Bhagat, Dong, Hirshleifer, and Noah are aware of the revelation bias, their PSM method does not adjust for its sizable effect.

Our approach takes into account that merger failures offer a valuable new approach to measuring merger gains and losses. Combining merger partner assets to create new positive net present value (NPV) projects should produce positive abnormal returns for a bidder's long term shareholders. Hoberg and Phillips (2010) show that merger synergy levels are related to the extent that a target has skills or technologies that enable a bidder to differentiate its products from its rivals and hence improve profitability. If a bid fails, then the stock prices of merger partners should individually and collectively fall, reflecting this loss of expected synergies.

Several studies investigate M&A withdrawal announcements. A negative target share price reaction to offer withdrawal announcements indicates the size of the loss of synergistic benefits (Bradley, Desai, and Kim (1988) and Samuelson and Rosenthal (1986)). Bradley Desai, and Kim (1988) find that after an offer withdrawal, a target's share price on average declines to it pre-offer level over the following year, if no subsequent acquisition bid occurs. Bradley's (1980) study of pure cash offers shows that bidders experience severe negative reactions to offer failure, compared to positive reactions in successful offers.

Our study builds on the Shleifer and Vishny (2003) and Rhodes-Kroft and Viswanathan (2004) studies that put forward an explanation for the choice of stock acquisition bids over cash bids where only bidder management is aware of the temporary overpricing of its stock. Thus, bidder shareholders gain and target shareholders correspondingly lose from the resulting exchange of overvalued bidder equity for relatively underpriced target equity. A bidder is assumed to be able to lock-in favorable terms for a target acquisition prior to the public release of bad news known privately by the bidder. It follows that on the stock bid announcement both the bidder and target price should fall as the market should now be aware that both are overvalued and, following a subsequent bid failure announcement, the target's stock price should substantially recover the loss sustained on bid announcement.

An alternative view of merger incentives is found in studies by Roll (1986) and Malmendier and Tate (2008). Roll proposes the hubris hypothesis, which argues that at least some managers overestimate synergies when bidding for targets, which leads to a loss in bidder value. Similarly,

Malmendier and Tate propose that overconfident CEOs overpay for targets. If either hypothesis is valid, then bidder stock prices should consistently fall on news of a bid and rise on news of its failure as the overvalued bid is withdrawn. In fact, we see the opposite pattern for bid failure.

Recently, Savor and Lu (2009) focus on failed or withdrawn bids that are triggered by exogenous factors. They find that stock bidders suffer a more severe value reduction than completed stock bidders and successful stock bidders continue to outperform over the next three years, whereas stocks of failed bidders continue to underperform. They find for their sample that cash bidders that succeed do better than successful stock bidders and outperform them over short horizons, whereas cash bidders that fail do not suffer any significant value loss. They attribute these finding to the inability of unsuccessful bidders to swap their overvalued equity for fairly valued target equity and conclude that shareholders of successful stock bidders realize sizable benefits through the sale of overvalued bidder shares to target shareholders.

3. HYPOTHESIS CONSTRUCTION

This section details our hypotheses. The overarching idea is that the takeover bid announcements reveal negative information about acquirers even if the takeover itself might generate value. For brevity, and to avoid repetition, we leave the discussion of the prior literature to the foregoing literature review. We formally develop our hypotheses using a model, which is in Appendix A.1, and we discuss our hypotheses below.

The first testable implication of our argument is that, on the announcement of a bid failure, the value of the bidder and target should fall. The basic argument behind the neo-classical theory of takeover-decision-making is that a target should find its way to the bidder that values it the most and can, presumably, extract the greatest utility from it. Thus, if there are changes in technology, for example due to innovation, regulatory changes, or shifts in demand for goods and services such that the existing ownership of assets is no longer optimal, M&A activity should occur to profit from a redistribution of the ownership and control of these assets from targets to bidders. Therefore, takeovers are (on average) synergistic such that bid failure is associated with value-reductions for the bidder. Thus, based on the empirical evidence in the existing literature and equations (A2) and (A4) in Appendix A, which describe the outcome when bid failure occurs, we propose the following hypothesis:

HI: *On announcements of M&A bid failures, the values of bidder, target, and combined bidder and target shares should fall due to the loss of expected synergistic gains.*

We next turn to whether the bid itself is associated with other negative information about the bidder's internal growth prospects, which might downwardly bias bidder announcement returns. Takeover announcements correlate with other negative news about the bidder, which means that announcement returns are negatively related to pre-bid CAPEX and to the capitalization of these growth prospects, as denoted by a high Tobin's Q. Or, put differently, for these relatively high expenditure and Tobin's Q bidders, the bid signals a decline in internal growth opportunities and anticipation of a lower future Tobin's Q due to these poorer prospects. This follows from equation (A4) in Appendix A.1, which shows that this revelation loss deflated by the probability of deal success is approximately equal to difference in value between deal success and failure.

It follows from the prior arguments that the market's reaction to the bid announcement captures both the bid's expected synergies and the revelation of information about the bidder's internal growth prospects. Further, given that this negative information about internal growth is revealed at the bid announcement (not on its consummation or failure announcement), it must also be true that the bid failure announcement returns capitalize the loss of synergies expected from the deal. This insight gives rise to three hypotheses:

HII: *Bidder stock valuation at bid announcement and over the M&A bid cycle are both declining in contemporaneous and past CAPEX to sales ratios and in contemporaneous Tobin's Q (reflecting prior market overvaluation of a bidder's internal growth options);*

HIII: *After an initial bid announcement, but prior to the bid outcome news (success or failure), a bidder's stock price reflects news of a bidder's declining internal growth strategy.*

Bid outcome announcements reflect the gain or loss of expected synergies associated with the M&A deal. These announcements capture the change in the probability of bid success multiplied by the expected synergies associated with a successful deal.

HIV: *The valuation impact of the bid outcome (success or failure) is unrelated to the CAPEX and Tobin's Q ratios. Thus, a bidder's stock price reaction to news of a bid failure represents an unbiased estimate of its loss of a bid's expected synergies.*

Our analysis also has important implications for how bidder and target stock prices relate to one-another throughout the bid-process (albeit with deviations at the time of the bid announcement). We model this in equations (A3) to (A5) of Appendix A.1. The intuition is as follows. During the bid announcement, target shareholders experience price-appreciation, reflecting anticipated takeover premiums. A bidder's share price need not appreciate given the negative revelation effect. However, following the announcement, bidder and target stock price movements should reflect expected takeover synergies and the likelihood of deal success. Thus, if a deal becomes less likely both bidder and target share prices should both decline. Ultimately, if a bid fails, the bidder's price should fall to reflect the loss of synergies and the target's price should fall to reflect the loss of takeover premiums, facilitated by those synergies. From this analysis, we obtain the following predictions:

HV: *A bidder's stock price generally moves in the same direction as the target's stock price over all or part of the M&A bid cycle, and during the run-up period, regardless of whether the bid succeeds or fails or which M&A currency is chosen (cash, stock or both). The exception is the initial bid announcement when a bidder revelation effect also occurs.*

We next consider the special circumstances around stock-for-stock acquisitions. As discussed earlier, during the run-up period, bidders tend to suppress negative information releases and accelerate positive information releases, causing a positive average run up in bidder stock prices. While incentives for such information management exist for cash and stock bids, these incentives are stronger in stock bids where a higher stock price raises a bidder's purchasing power.

Consistent with the above analysis, Ahern and Sosyura (2014) show that stock bidders issue substantially more press releases in the M&A bid negotiations period, promoting a substantial bidder price run-up, which is partially corrected on a stock bid's announcement, while Erickson and Wang (1999), and Louis (2004) find evidence of positively biased bidder earnings forecasts and earnings manipulation in this same pre-announcement run-up period. We argue that in these cases, as in cash acquisitions, bidder announcement-returns are downwardly biased due to the bid releasing other negative information (i.e., pertaining to the bidder's internal growth prospects). However, in stock deals the bid announcement also releases additional negative information about bidder stock overvaluation. Further, as in cash acquisitions, the price fall at the

announcement of a stock bid failure reflects the loss of synergies associated with that deal. We capture this in the following hypothesis:

HVI: *Bidder stock prices on average fall on stock bid announcements since it typically releases news of bidder stock overvaluation. Initial bid announcements do not affect estimates of synergistic gains and losses inferred from stock price declines triggered by bid failures.*

To assess the validity of these propositions as well as the null hypothesis that bidders gain little, if anything, in M&A bids, we employ both event study analysis and cross-sectional regressions to analyze stock returns in the run-up period prior to initial bid announcements, at the bid announcement, at failure announcements as well as during the period in between. We seek to assess whether bidders gain a significant share of expected synergistic benefits of the initial bid announcement. To test this proposition, we examine whether on bid failure announcements, bidder stocks lose their portion of the expected synergistic benefits created by the proposed deal, while at the same time, target stocks lose their corresponding share of the synergies.

4. SAMPLE CONSTRUCTION

We collect data on all successful and failed U.S. bids by listed bidders for listed targets and whether or not the bid is subject to regulatory review. These stocks must all be listed on major U.S. stock exchanges. The sample construction year-by-year spans the 1978-2012 period, inclusive. Of the 3,040 bids, 436 fail (14.3%) and of this failed group, 192 (6.3%) are subject to regulatory review. There is significant variation over calendar time in the number of M&A deals, with deals in years 1995 - 2001 and years 2003 – 2007, just prior to the 2008 global financial crisis being more frequent.[6] A bid's value must exceed USD one million and the bidder must hold less than 50 percent of target shares before the bid announcement and seek to own more than 50 percent of target shares. We obtain data on bid failure from Security Data Corporation (SDC) together with bid announcement date and end dates, where the end date is defined as the date when the bid outcome is announced to be a failure or a success.

---

[6] This is consistent with takeover bids clustering in time (Harford (2005); Powell and Yawson (2005), (2007), (2012); Ahern and Harford (2013)).

We assess takeover performance by analyzing bidder and target cumulative abnormal returns (CARs) and buy and hold abnormal returns (BHARs) immediately around the initial bid announcement date, the bid end date, and over the period from 60 trading days prior to the bid announcement to immediately after the bid end date. In unreported analysis, we investigate a longer 120 day run-up period that yields slightly stronger results. We estimate CARs and BHARs using market models estimated over a 250 trading day period ending 130 trading days prior to the initial bid announcement. We obtain data on stock returns from the CRSP database and accounting and investment data from the COMPUSTAT database.

We collect data for control variables found in the M&A literature to influence bid performance (see e.g. Moeller *et al.* (2004), (2005); Masulis *et al.* (2007); Harford *et al.* (2013)). Bidder characteristics included are the logarithm of total assets, the debt to asset ratio, operating performance measured by EBIT/Assets, Tobin's Q (often interpreted as the market's assessment of a bidder's growth options), changes in Tobin's Q around the initial bid (to measure the revision in the market's assessment of the value of a firm's growth options), the ratio of bidder to target Tobin's *Qs* and indicators for (1) 'serial' bidders, (2) a dividend paying bidders (evidence of a financial constraint), and (3) bidders in a 'high tech' or 'financial services' industries.

Since we want to estimate the average revelation bias on bid announcements, we add controls for a bidder's CAPEX to Assets ratio and various lags of this ratio obtained from COMPUSTAT, to estimate the value loss associated with the signal of a decline in its internal growth options. By examining lags in the CAPEX to Assets ratio as far back as three years prior to the bid, we are able to identify the point at which the market reassesses the firm's internal growth prospects, conditional on a bid announcement. The greater the magnitude of this ratio, the larger is the expected revelation loss. We also control for whether the bidder or target is backed by a private equity (PE) firm, as indicated in the SDC M&A database. Further, we collect data on bid-level factors that could influence bid performance, including indictors for bids with multiple bidders, pure stock financed bids, and the ratio of target to bidder equity value one year prior to the bid announcement as an estimate of the relative size of the potential M&A deal. This lagged ratio should be exogenous to the bid, whereas the conventional target purchase price to bidder equity capitalization (relative deal size value) taken from SDC incorporates the very takeover premium that the model is supposed to explain, which would make it endogenous.

Summary statistics are presented in Table 1 and the sample is split between bids that require regulatory review, making up 67.5% of the overall sample, and those that do not. Since, bids requiring regulatory approval are far more likely to fail exogenously, as we confirm later, even though they far less likely to fail relative to all bids as noted above, our main focus is on the sample requiring regulatory approval. This table and all later tables show bidder returns after excluding competing bids, representing 8% of the sample and bidders with toehold positions, representing 5.8% of the sample, where bids are likely to be anticipated. Both bids involving more than one bidder and toehold bidders muddy the waters with other issues and thus, detract from our clean experimental setting.

Bidder CARs are negative on average around the five-day bid announcement window and over the entire M&A bid cycle (from 60 days prior to the announcement until two days after the bid outcome becomes known), consistent with prior studies of acquisitions of publicly listed targets (Chang, 1998; Fuller, Netter, and Stegemoller, 2002) and target CARs are positive and large in magnitude, consistent with the existence of a sizable takeover premium. Target five-day announcement CARs average 22.4%, although they are significantly larger for the regulatory reviewed sample. Also, buy and hold abnormal returns (BHAR) over the entire M&A bid cycle window averages 23.4%.

The mean target to bidder market capitalization ratio is 32.8%, while the median is 13.9%. Bidders subject to regulatory review select better performing targets with a higher EBIT to Assets ratio. These targets are also significantly larger, averaging $2,755 million in assets compared to $728 million in the remaining bid sample, and they also have less debt, lower CAPEX to Assets ratios, are smaller relative to the bidder, and have a smaller relative Tobin's Q ratio. These characteristics of the regulatory review sample are not at all surprising given that the U.S. anti-trust policy followed by the U.S. Federal Trade Commission (FTC) and Department of Justice (DOJ) focusses on large bidders appearing to substantially increase their market share through horizontal acquisitions or increased control of the value chain through vertical mergers, which could potentially diminish competition. However, as pointed out by Aktas, de Bodt, and Roll (2007), there is little empirical support for this "market power" motivation, while cost savings and greater efficiency appear to be more plausible drivers. The presence of regulatory intervention has all the hallmarks of exogenous rather than endogenous source of deal failure.

Indicative of positive synergistic gains, the combined bidder-target five-day CARs around bid announcements averages a positive 1.9% for the regulatory reviewed sample, suggesting that the typical acquisition bid is expected to create a very modest economic value based on the conventional methodology, although the combined gain over the entire M&A bid cycle is a negative 6.1%. For the regulatory reviewed subsample, the five-day bid announcement CAR is -1.4%, indicating how misleading the standard measure of takeover performance can be due to its contamination by the revelation effect, as are all of these other measures. Since the literature pays particular attention to stock-only bids, Table 1 reports that these bids represent 38.3% of the regulatory reviewed subsample, and only 32% of the remaining non-reviewed subsample.

In Table 2 we examine the difference in a number of summary statistics between failed and completed bids subject to regulatory approval. Failed bidders experience significantly lower returns (-14.2%) over the entire M&A bid cycle (from 60 trading days prior to the bid announcement until two days after the outcome announcement) relative to successful bidders, targets of failed bids likewise have much lower returns (-52.1%).[7] Unsurprisingly, targets experience significantly lower returns in failed bids than in successful bids and this is true even for stock bids. Stock-only bids *per se* do not differ significantly between outcome successes and failures, suggesting that they are indistinguishable from cash bids. If it were true that the stock prices of bidders were temporarily greatly overvalued as is often contended, then one would expect the target stock value to rise, rather than fall when the bid fails. These findings highlight the importance of analyzing returns throughout a bid's life.

Turning now to the combined bidder and target weighed average returns, the entire M&A bid cycle loss is 20.8%. All of these differences are significant at the 1% level and very large in economic magnitude. There are also significant differences in some firm- and bid-level characteristics between failed and successful bids, which we control for using multivariate regressions and matching. The figures are consistent with those reported in prior U.S. studies (see e.g. Moeller *et al.* (2004); Masulis *et al.* (2007)).

---

[7] These losses are even greater using the longer M&A bid cycle period comprising a 120 day run-up period with -18.1% bidder and -56.5% target loss differences.

5. ANALYSIS

This section contains our empirical analysis of the economic effects surrounding M&A bids. The regressions serve four main purposes. First, we emphasize the importance of analyzing returns from when a bidder is likely to be planning a potential bid with its M&A advisor, which is at least 60 days prior to the bid announcement date through to the bid outcome announcement date (either bid failure or success). Second, in so doing, we demonstrate that exogenously failed bids, which come as a surprise result in significantly lower bidder CARs and BHARs, emphasizing that the loss of synergies from a failed bid can hurt bidder as well as target shareholders. If bids are value destroying or bidders are subject to hubris, as is often contended, then bid failure should greatly improve bidder value, not destroy it. Third, we present extensive evidence to show that many bids reveal quantifiable adverse information about the failure of internal growth mechanisms which is not confined to failed bids. Finally, we examine how bidder and target returns are correlated over different event intervals reflecting the sharing of expected synergistic gains.

5.1 Do failed bids perform worse than do successful ones?

The first issue we explore is whether failed bids perform worse than successful ones. In addressing this question, we document the importance of examining returns over a bid's life. Table 3 shows our baseline results for bidder CARs and BHARs. We analyze bidder CARs and BHARs for various time-horizons from 60 trading days prior to the bid announcement to immediately after the bid outcome announcement (i.e., the bid withdrawal or completion date). Of our total sample of 2,667 bids not subject to competing bids or toeholds, a maximum of 1,800, or 67.5%, are subject to regulatory review. In Table 3, Panel A, which contains only the 32.5% of bids not subject to regulatory review, we find that in every column and for the run-up periods that bid failure has no statistically significant effect, although the signs are always negative. This indicates that this sample contains essentially marginal bids with typically low levels of synergistic gain such that bid withdrawal and failure come as no surprise to the market. We term this the endogenous failure sample.

By contrast, in Table 3, Panel B which consists entirely of bids subject to regulatory approval, we find that failed bids are associated with significantly lower bidder CARs and BHARs (when

measured over a bid's life). In support of Hypothesis **HI**, the BHARs over the entire M&A bid cycle including the 60 day run-up period are 13.0% more negative for failed bids relative to successful bids. These large losses are all significant at the 1% level. This M&A bid cycle loss is considerably larger in magnitude than the bidder announcement loss of -1.4% for the 5-day CAR reported in the univariate statistics of Table 1 for the regulatory review sample or the negligible fall for the bids free of regulatory review. Bidder returns, realized immediately around the initial bid announcement, or around the bid failure announcement, are not significantly influenced by whether the bid is successful, as indicated by the insignificant coefficient on the failure indicator in columns 4 and 8-10 of Table 3. While subsequent bid failures are not significantly anticipated during the conventional five-day bid announcement window, they appear to be anticipated over the longer 11- and 23-day bid announcement windows ((Ann -5, Ann +5) and (Ann -11, Ann +11)) in Columns 5 and 6 respectively, but their magnitude is tiny in comparison to the loss over the full bid cycle. Could these bids have failed endogenously due to the adverse market reactions to the bid announcements based on these longer event windows because the market regarded these bids as offering minimal synergistic gains? Aktas, de Bodt, and Roll (2004) confirm that investors take the potential regulatory action into account when evaluating a merger bid. In this subsample, the regulator has queried the bidder, signaling a possible intervention, which can account for the negative reaction in the longer event windows.

<< Insert Table 3 about here >>

The finding of sizeable losses on bid failure for the sample subject to regulatory review further supports Hypothesis **HI** and indicates much higher estimates of the bidder's expected synergistic gain on bid success than the conventional estimate of zero or a negative value. Since the mean bidder's total assets equal $2,754.5 million (Table 1), the implied magnitude of the bidder's expected synergistic gain in a successful bid is a sizable $358 million based on the longer BHAR (Ann -60, End +2) M&A bid cycle (excluding competing bids and toehold bids), whereas the vast majority of studies in the existing literature concludes that bidder shareholder's expected benefit from acquisitions of publicly listed firms is either negligible or negative.

Second, apart from the sizeable loss on bid failure, the only statistically significant explanatory variables for bidder shareholder returns over the M&A bid cycle or on the bid announcement are the Tobin's Q prior to the bid and the three-year lag of bidder CAPEX scaled

by total assets. By the time the firm's management realizes that its internal growth strategy has failed and launches a new external growth strategy signaled by its takeover bid, its CAPEX to total assets ratio could have peaked and begun a decline. This explains why we allow for this possibility by including three lags of the internal investment ratio.

Both the Tobin's Q and internal investment ratios are strong indicators of high internal growth opportunities in the lead-up to the bid and clearly have nothing to do directly with either the nature of the bid itself or whether or not the bid succeeds. It is important to recognize that the high investment ratio three years prior and the high Tobin's Q one year prior to the bid are effectively detectable only after the bid is announced. The small run-up effect preceding the bid is only significant at the 10% level. In Table 5 we examine over 200,000 company years made up of bidders and non-bidders, inclusive of years in which a company did not make a bid to show that neither the investment nor Tobin's Q ratios are predictive of takeover bids. Hence, the bid is consistently the first indicator of weak internal growth prospects. Indeed, to mitigate the concern that our foregoing results might be biased by serial acquirers, for which the market might already have priced-in the possibility of declining growth prospects, in robustness tests (untabulated for brevity) we also find economically similar results to those in Panel B of Table 3 if we exclude from our sample any firm that had made more than one bid in the prior three years.

To interpret the economic magnitude of our estimates, we take the standard deviation of Tobin's Q for this sample of 1.738 (Table 1) to show that a one standard deviation rise in the pre-announcement Tobin's Q lowers the M&A bid cycle value by a large 9.4% or $259 million based on the mean asset valuation for the sample, the five-day CAR drops by 0.87%, the 11-day CAR by 1.22% and the 23-day CAR by 2.09%. The coefficient on the BHAR for three-year lagged CAPEX over the full M&A bid cycle (Start - 60, End + 2) has a coefficient value of -0.493, which is significant at the 1% level and a standard deviation of 0.063 (Table 1). Thus a one standard deviation rise in the lagged CAPEX ratio reduces the value of the bidder by 2.7% or by a sizeable $74 million over the full M&A bid cycle, given average bidder asset values.

Thus, unless one makes the extremely implausible assumption that firms perceived to have high growth opportunities some years in the past systematically make worse takeover decisions than lower growth firms, then the takeover announcement and subsequent evolution of the bidder's stock price is strongly negatively influenced by market perceptions of failed internal

growth options. However, the key point is that the failure of internal growth opportunities should not and cannot affect the valuation difference between a successful and an exogenously failed bid, namely our measure of the lost synergistic gains, thus supporting Hypotheses **III** and **IV**, as the announcement effects are clearly downward biased by the failed internal growth options.

As hypothesized in **HII** and **HIII**, we find bidders with large internal investment growth strategies are severely penalized by the market following a bid announcement as this is the first indicator of the strategy's failure. It appears that while failure of internal growth strategies is partially, but only weakly anticipated over the 60-day run-up period at the 10% level, the market's negative re-assessment of internal growth options is reinforced in the period from the bid announcement to its outcome announcement by a fall in bidder value of 12.09% or $333 million over the M&A bid cycle period with most of it occurring post bid announcement. Not coincidently, the market assessment of a bidder's loss in value due to bid failure is almost identical at 13%, as we showed that a bidder's loss on news of bid failure is an unbiased estimate of a bidder's share of the expected synergistic gains in the acquisition.

In Table 3, Panel B, we test Hypothesis **VI** by investigating pure stock bids and whether they differ from partial or complete cash bids. Row 2 of Panel B shows that the interaction of the failed bid and stock bid indicator for all the BHAR and CAR return windows that we investigate are statistically insignificant. This result indicates that, contrary to what is presumed in much of the M&A literature, stock bids are not regarded more negatively by the market than are partial or complete cash bids and they generate similar expected synergistic benefits. The second to last column of Panel B in Table 3 examines the 60-day run-up period and it shows a statistically significant larger stock price run-up prior to a stock bid of 3.4%, which is consistent with bidders attempting to lock-in improved terms of trade by artificially inflating their stock prices. The stock bid announcement results in a significant bidder price fall of -0.9% (column 4) during the five-day announcement window, but by the time the bid outcome is known, there is no significant difference in M&A bid cycle returns between stock and cash bids. These downward corrections to a bidder stock price previously experiencing a price run-up are consistent with the market becoming aware of potential prior price manipulation and adjusting down its stock price. Thus, the announcement price drop reflects the window dressing incentives of stock bidders and it does not imply that bidders chose to use a stock bid simply because they knows their stock is overvalued. This evidence supports the prediction of Hypothesis **VI**.

The above findings are consistent with the evidence of Ahern and Sosyura (2014) suggesting that stock bidders release a string of positive announcements in the run-up to an M&A bid announcement, thereby boosting their share price. In their sample, merger talks begin on average 64.5 days prior to the initial bid announcement, but bidder advisors are aware of the proposed offer well before merger talks begin. Since it would seem that over a third of the bidders in our sample lack the cash or debt capacity to launch a cash bid, it is clear far in advance of a bid that stock financing is their only feasible option. This advance knowledge of the need to rely on stock bids provides an opportunity for the price manipulation so as to improve the terms of trade identified by Ahern and Sosyura. In contrast, we find no evidence for the opportunistic behavior claimed by Shleifer and Vishny (2003) and Savor and Lu (2009) in which the bidder chooses to use stock as its M&A currency to enable it to sell over-valued equity. He, Lie, and Shu (2013) demonstrate how bidders are able to manipulate analyst beliefs to help achieve a pre-bid price run-up in the stock. Erickson and Wang (1999) and Louis (2004) also find evidence of positive earnings manipulation well before the bid announcement.

Panel B of Table 3 indicates that over the entire M&A bid cycle, the market not only downgrades previous high-growth firms, but unsurprisingly, it values bids of larger market capitalization bidders substantially more, as shown by the significant positive coefficient of the logarithm of total assets on the M&A bid cycle returns. Since the standard deviation of log total assets is 1.88, a one standard deviation rise in bidder size adds about 3% to the M&A bid cycle return. The positive valuation effect of bidder size indicates that the market values a bidder's larger absolute claim on synergistic gains, conditional on bid success. This result contrasts starkly with the literature's general view that large firms make poor bidders, e.g., Moeller, Schlingemann, and Stulz (2005).

A likely explanation for this remarkable new finding is that the bulk of our freshly identified synergistic gains almost certainly come from larger firms subject to anti-trust regulation. This reflects their potential ability to either create or strengthen market power when they make acquisitions. When these bids do pass the regulatory hurdle, it should come as no surprise that the gains accruing to these successful bidders are increasing in firm size. Our finding differs from those of Moeller, Schlingemann, and Stulz (2005) who focus on bidder announcement effects for a very time-specific period. Also, they do not examine the M&A bid cycle valuation effects, nor the unanticipated losses of internal growth opportunities.

The relative target to bidder market capitalization ratio one year prior to the bid announcement is positive and significant at the 5% level for both the full M&A bid cycle and the bid run-up period, but not for the bid announcement CARs. For the 60-day run-up period, the coefficient is 0.083, which together with the relative capitalization ratio's standard deviation of 0.392 implies that a one standard deviation rise improves the M&A bid cycle BHAR by 3.25%. Many studies conclude that large acquisitions by large bidders destroy shareholder value, but normally these studies use contemporaneous relative size ratios, not lagged ratios. Since the contemporaneous ratio incorporates the bid premium, it suffers from a potential endogeneity problem. What these findings indicate is that bidder synergistic gains rise in both bidder size and size of the target relative to the bidder. These findings are consistent with acquisition bids on average representing very large positive NPV projects that are likely to be exclusively available to the individual bidder This explains the small proportion of competing bids in the initial sample, in which private information is used to identify profitable matches and targets with systematic underperformance. These overall results emphasize both the importance of examining returns from well before the bid announcement to the bid's conclusion and demonstrate that exogenously failed bids earn significantly lower returns, which is consistent with these firms experiencing large losses of expected deal synergies.

In Table 4 we ask a rather subtle question: Given the market appears to be aware that a firm with a failing or failed internal growth option is more likely to embark on a substitute strategy of external acquisition, does the takeover market anticipate the fall in Tobin's Q due to the failed strategy prior to the actual decline in Tobin's Q? To test this conjecture, we deliberately create a "look ahead" measure based on the absolute decline in a bidder's Tobin's Q from one year prior to the acquisition until one year after the acquisition. Obviously, this decline is imperfectly known at the bid announcement. However, Table 4 suggests that investors anticipate the decline. For example, the coefficient on the investment decline variable is negative as expected and large at -0.085 and statistically significant over the M&A bid cycle. It also negatively affects all the CAR announcement returns. We also interact the "look ahead" decline in Tobin's Q with the ratio of target to bidder market capitalization to show that this interaction has no significant effect. What this indicates is that the market's assessment of failed internal growth prospects and Tobin's Q decline are unrelated to bid characteristics that are captured by the capitalization ratio.

<< Insert Table 4 about here >>

In Table 5, we investigate a related question: in a panel regression including all the firm-years surrounding bid announcements (representing 200,000 firm-years), could investors have used either an indicator of declining internal growth option prospects, namely a fall in the CAPEX/Assets ratio or a fall in Tobin's Q, prior to the bid announcement signal itself? In Table 5, Panel A, the dependent variable is an indicator which takes the value of 1 (otherwise 0) if the CAPEX ratio declined over various horizons ranging from years t-3 to t-1 prior to the bid or if it declined pre- to post-bid. The coefficient of *Does regulatory acquisition in year t* is insignificant for the growth prospect decline indicator prior to the bid, but it is significantly positive for all intervals that span pre-and post-bid. Hence, the answer is no. That is, the first significant indicator that a bidder's internal growth prospects are in decline is the bid announcement itself. In Panel B of Table 5, the dependent variable is an indicator which is 1 if Tobin's Q declines over an interval and zero otherwise. In the interval prior to the bid announcement, the sign of the acquisition variable is negative and significant. Yet, it is significantly positive in all the return intervals spanning the bid announcement. Hence, as with the fall in the CAPEX ratio, investors are unable to recognize the decline in Tobin's Q prior to the bid announcement signal itself.

<< Insert Table 5 about here >>

Table 6 presents more evidence showing the inability of investors to identify firms whose internal growth strategy is failing until a takeover bid is announced. In a panel regression inclusive of all firm-years surrounding bid announcements, the dependent variable is the likelihood that a takeover bid occurs within the year. The two explanatory variables of interest are the absolute values of the declines in the CAPEX/Assets ratio and Tobin's Q over different time intervals, one of which ends prior to the bid announcement and the remaining intervals span the bid announcement itself. Those return intervals that end prior to the actual announcement are either negative in sign or insignificant, while those that include the bid announcement are all significantly positive at the 1% level. We conclude from this analysis that takeover bid announcements successfully predict internal growth option difficulties, but indicators of failing internal growth strategies are unable to predict takeover bid announcements.

<< Insert Table 6 about here >>

5.2 Evidence that regulatory failed bids are exogenous events

So far we have not attempted to distinguish between exogenously and endogenously failed bids, other than to observe that bids subjected to regulatory intervention that subsequently fail do so for largely exogenous, i.e., regulatory, reasons. In an early study by Ellert (1976) of 205 companies subjected to anti-merger regulatory intervention, he found that in 60% of cases either the merger plans were cancelled or the defendants were forced to divest all or part of any assets acquired. This regulatory intervention is not confined to horizontal mergers as 21 vertical takeovers are challenged by U.S. antitrust regulators over the 1981-2004 period (see Shenoy (2012)).[8] When a proposed deal's expected synergistic gains are low, the bid is more likely to endogenously fail since it is more likely that either the bidder or target will walk away from the bid as they find their share of expected synergies are too low to justify the risk. Thus, we expect endogenously failed bids to be associated with smaller losses in bidder value than exogenously failed bids and to be less of a surprise. As indicated above, exogenously failed bids are largely due to federal regulatory intervention, with 44% of all failed bids falling into this category.

In Table 7 we investigate the likely determinants of bid failure using either a logit or linear probability model framework with three sets of specifications varying by CAR window length, shown in columns 1 - 6. Since both competing and toehold bids muddy the interpretation of our experiment, we continue to exclude these bids from our analysis. The first row, *Bid involving regulator*, shows that such bids are less likely to fail regardless of the methodology used or window length. Yet, it is only for the wider 23-day window (Ann -11, Ann +11) shown in columns 5 and 6 that we uncover a negative mean announcement period CAR, indicating that a lower expected synergistic gain has a significant positive association with bid failure. Moreover, only in the logit specification shown in column 5 does the interaction of a negative CAR and regulatory review significantly raise the likelihood of bid failure, and then it is only at a 10% significance level. In all the remaining columns, there is no evidence that a negative bid announcement CAR for deals subject to regulatory review raises the likelihood of bid failure. Hence, it is safe to conclude that bid announcement CARs, except possibly for very wide event windows, contain weak indications of regulatory concern. It follows that bid failure due to

---

[8] Morse (1998) provides a detailed description of major U.S. vertical merger cases and the courts' reasoning over the period 1949-1997.

regulatory intervention is for the most part an unanticipated exogenous event, i.e., unrelated to the negative market reactions to the bids.

<< *Insert Table 7 about here* >>

The final model specifications in Panel B of Table 3 for bidder BHARs are shown in Figures 1 and 2 and are split between regulatory induced and non-regulatory induced failed bids. The two figures, centered on the bid initiation and outcome announcements respectively, clearly show that the average BHAR of regulatory triggered failed bids relative to that of non-regulatory failed bids is more negative, but both types of failed bids continue to underperform after the bid outcome becomes known. One possible explanation is that not all the bad news relating to failed internal growth options is fully incorporated in stock prices at the bid initiation and outcome announcements, which is similar to embarking on an external acquisition path, where the market views this announcement as only a partial signal of failing internal growth options. Section 4.7 provides evidence of continuing underperformance of both regulatory failed and combined fail (all-failed) firms after the bid outcome becomes known.

<< *Insert Figures 1 and 2 about here* >>

We now come to the main takeaway from the figures. As expected from our previous analysis and the evidence that non-regulatory reviewed bids fail endogenously, the figures show that non-regulatory failed bids offer modest synergies if the bid is successful. Hence, bid failure is minimally costly to a bidder in these marginal deals. Thus, with little to gain, such bids are likely to fail from natural causes. This is akin to an engagement where both parties soon discover that they are incompatible and thus, cancel their wedding plans. By contrast, the stakes are huge for potential regulatory failed bids, but despite some premonition of failure in the days after the bid announcement, exogenous failure turns out to be an economic disaster for a typical bidder and represents a huge loss of potential shareholder value. The sheer size of bidder losses from exogenously induced bid failure are not surprising as regulatory intervention can rule out many highly profitable growth paths and future acquisition options, while success opens up new opportunities and sources of synergy and possible pricing power.

5.3 Evidence that exogenously failed bids provide unbiased estimates of synergistic gains

A formal model is presented in Appendix A, which motivates our hypotheses. It predicts that if a bid releases damaging new information about weakening internal growth options, then the degree of downward bias in the stock price reaction during the bid announcement window, and in all the other bid event windows, is a positive function of past investment levels, which represent investments in growth opportunities. Thus, as predicted in Hypothesis **II**, the greater are the losses due to declining internal growth prospects, the more negative is the bid announcement return, holding constant the expected benefits of the external M&A investment, i.e., bid strategy. Moreover, Hypotheses **III** and **IV** add a key prediction that the size of the valuation change on the bid outcome announcement is independent of the release of bad news about the bidder's internal growth strategy. Hence, since all bidders, rather than only failed bidders, are likely to suffer losses and poor future performance due to declining internal growth options, the only difference between successful and failed bidders should be due to the loss of synergistic gains. With bid failure due to regulatory intervention, this might not represent just a one-time loss, but also an ongoing loss of opportunities as regulatory intervention can also close off future acquisition opportunities.

In Table 8 we examine four sets of bidder investment and performance ratios: CAPEX/Assets, R&D to Sales, EBIT/Assets and the Tobin's Q ratio, for three years following the bid outcome, utilizing the regulatory reviewed bid sample. We test Hypothesis **IV** in Table 8 by interacting the future values of a bidder's four investment and performance ratios with the regulatory bid failure indicator to better understand the investment and performance differences between successful and failed bidders. Consistent with our hypothesis, bid failure has no direct effect on any of our four performance ratios over the three years following an acquisition with one exception, the R&D to Sales ratio for year t+2. Out of the 12 interactions with bid failure, the only investment and performance ratios to be affected by bid failure are R&D to Sales in year t+1 and Tobin's Q in year t+2, with both of these coefficients being negative in sign. Essentially, bid failure appears to moderate any persistence in R&D intensity and Tobin's Q ratios in these one-off years. However, these two findings out of a possible 12 could be due to a loss of synergistic gains, rather than failed internal growth options occurring some years earlier. We find economically

similar (i.e., statistically insignificant) effects if we look at either repeat or one-off bidders.[9] Thus, we conclude that there is no systematic evidence that failed bids due to regulatory intervention differ from successful bids, except for the significant loss of synergistic gains.

<< Insert Table 8 about here >>

5.4 Target returns

We now extend our analysis to target firm returns. Table 9 reports target return evidence for failed bids due to regulatory intervention. The sample again excludes competing and toehold bids. For all failed bids in Table 9, the average target loss from regulatory induced bid failure is sizeable at -40.9% (column 2) *relative* to successful bids over the M&A bid cycle period. By implication, these average bid cycle target gains in successful bids far exceeds the univariate 24.6% five-day target announcement return of successful bids (Table 2). We know that this target announcement gain in successful bids is small relative to our M&A bid cycle return, since that the announcement returns ignore both the price run-up and the largely unpredictable chance of regulatory intervention, i.e., exogenous bid failure. This is because investors are largely unable to distinguish between successful and failed bids at this early stage. Once the bid outcome becomes known or predictable, target stocks of failed bids collapse in value, while targets of successful bids realize stock price gains. The difference between bid failures and successes in univariate target BHARs over the full M&A bid cycle is also larger at -52.1% (Table 2), than the regression coefficient estimates, but BHARs do not control for a host of differences in target characteristics controlled for in the regression analysis.

The interaction term between the bid failure and pure stock bid indicators in row 2 and column 2 of Table 9 shows that the target loss on failure of stock bids is even more negative at -25.8%, unlike the zero impact experienced by bidder stocks on pure stock bid failures (Panel B of Table 3). Across the full M&A bid cycle in successful bids, there is no difference in bidder stockholder wealth gains between pure stock and cash bids. Hence, only targets gain more in successful stock bids then they do in successful cash bids, presumably due to the greater

---

[9] In robustness tests (unreported for brevity) we find similar results to those in Table 8 if we split the sample into firms that made only one bid versus more than one bid in the past three years.

synergistic gains of such bids, as is reflected in the additional losses target shareholders suffer on bid failure. Target shareholders can also realize tax deferral benefits in successful stock bids.

On a bid announcement, the five-day target return is 6.6% lower for pure stock bids than other bids types and this difference is significant at the 1% level. This difference could reflect the fact that stock bidders are able to lock-in much of their price run-up due to the selective release of good news and other public relations strategies prior to a bid. This price correction is consistent with investors inferring from the stock bid announcement that the bidder has strong incentives to lock in favorable terms of trade by temporarily manipulating up its stock price prior to the bid. Consistent with this inference, we find no differences in target returns of pure stock and other bid types over the full M&A bid cycle, which includes a market adjustment for the stock bid news, when bidder stock prices typically decline to reflect the presumed prior market manipulation.

<< Insert Table 9 about here >>

The coefficients of the lagged target to bidder market capitalization ratio in Table 9 indicate that the five-day CAR significantly falls as relative target/bidder size rises. Yet, the negative effect over the more relevant entire M&A bid cycle return is not statistically significant. Likewise, the significant coefficient on target size in the five-day CAR regression is negative, but not significant over the M&A bid cycle return period, unlike the positive and significant bidder asset size coefficient in Table 3, Panel B above. These findings are consistent with large bidders subject to regulatory review who successfully pass this hurdle, being expected to generate significant M&A benefits that must be shared with targets, irrespective of target size. Moreover, Table 9 shows that the target CAPEX/Asset ratio is irrelevant to target gains as predicted, since targets do not suffer a negative revaluation of their internal growth options, unlike bidders whose significant CAPEX ratios indicate internal investment opportunity decline.

In fact, while we cannot entirely rule out the possibility that some of the identified synergistic gains are due to enhanced market power, the evidence provided by the literature fails to support this hypothesis. For example, Eckbo (1983) examines 259 mergers over the 1963-1978 period and finds that 76 were challenged by the regulator and of these challenges, 45 were rejected. If rivals benefit from the expected collusive behavior of anticompetitive mergers, then their values should go up on the bid announcement and decline on the antitakeover challenge, but Eckbo finds just the opposite occurs. His evidence is consistent with bidders seeking to realize

efficiency gains. On the other hand, regulatory intervention denies bidders these scale economies and other economic gains, which otherwise would make them more effective competitors. Hence, the positive market reactions of rivals to the regulatory challenge news. Consistent with this interpretation, Fee and Thomas (2004) find little evidence of increased monopolistic power following horizontal mergers, but instead find evidence of improved productive efficiency and buying power. Finally, Shenoy (2012) analyzes a large sample of 225 successful vertical mergers and assesses three economic motives for these mergers, namely collusion, foreclosure,[10] and efficiency enhancement. Shenoy finds that the efficiency is the dominant motive.

In regressions of target returns over the full M&A bid cycle, the coefficient of a target Tobin's Q is highly statistically significant and negative at -8.5. Given the standard deviation of target Tobin's Q of 1.597 (Table 1), this implies that a one standard deviation fall in target Tobin's Q improves target gains by 13.6%. These sizeable gains for poorly performing targets are not only consistent with acquisitions playing a disciplinary role, but also indicate that target shareholders in poorly performing firms reap particularly high benefits. In contrast, a one standard deviation rise in target indebtedness, which lowers its attractiveness as a target, significantly reduces its gains by about 5% over the M&A bid cycle, which indicates that capital structure plays a role in target valuation without apparently playing a similar role in bidder valuation (Table 3, Panel B).

5.5 Combined bidder and target returns and the distribution of synergy gains

In order to obtain a better understanding of the distribution of synergy benefits realized by the two parties, we investigate the weighted-average combined returns for our regulatory reviewed sample in Table 10. Over the M&A bid cycle, the combined return on all failed bids is -15.4%, with little indication that the market anticipates bid failure during the 60-day run-up period or the five-day bid announcement period. There is however a loss of -4.2%, which is significant at the 1% level, over the longer 11-day bid outcome announcement window.

These combined returns yield new findings that are not apparent from examining either the bidder or target returns alone. For example, bidder asset size does not significantly affect the combined returns, but a high-performing bidder measured by its EBIT to Assets ratio does better.

---

[10] "Foreclosure" of the market via vertical integration refers to the possibility that an acquisition of the firm's supplier or customer can deny part of the market to his competitor. For example, if his customer consists of retail outlets then these outlets may no longer stock his rival's products, so foreclosing the market.

The coefficient on this ratio is 0.52 for the M&A bid cycle return and is significant at the 5% level, with a one standard deviation gain in accounting performance raising the combined return by a sizable 5.8%. A financial services sector bidder incurs a sizeable -41% negative stock return for a one standard deviation gain in the M&A bid cycle return, which is significant at the 1% level. The negative coefficient on target returns from being in the financial services industry can be due to occasional mergers of equals and friendly deals that are devoid of disciplining bids, which reflects banking regulators consistently discouraging unsolicited bids. Also, the revelation bias associated with failed internal growth options, which is so conspicuous in bidder M&A bid cycle returns of Table 3, continues to be important as indicated by the large, negative and highly significant coefficients for a bidder's Tobin's Q and three-year lagged CAPEX/Asset ratios.

<< Insert Table 10 about here >>

Summing the initial bidder asset value, denoted A_B^I, and target asset value, denoted A_T^I, and equating the estimated combined return (negative of the failure returns) to the sum of the estimated individual bidder and target returns (negative of failure returns) in Tables 3 (Panel B), 9, and 10, over the M&A bid cycle, we obtain the combined return, which equals to the value weighted sum of bidder and target returns:

$$0.154\left(A_B^I + A_T^I\right) \equiv 0.13 A_B^I + 0.409 A_T^I. \tag{1}$$

On solving equation (1) for the target to bidder initial valuation ratio A_T^I / A_B^I, we obtain $A_T^I / A_B^I = 0.094118$. Since the pre-bid mean bidder asset value for the regulatory sample is \$2,755 million, the average target size implied by the value-weighted regression estimates is \$259.3 million which is less than the mean observed target size of \$347.9 (Table 1). This means that the crude summary statistics overweight target size relative to the more precise regression estimates derived from the three sets of regression estimates – bidder, target and combined returns – which take into account the actual returns of each matched bidder and target and the weighted-average combined firm returns for every deal in the regression sample.

Since the implied regression weights are consistent with the thousands of individual bidder and target gains and the combined gains to the two merging firms, whereas the mean asset values of the bidders and targets are relatively uninformative, we adopt the weights recovered from the regressions. It follows that bidder shareholders realize a mean benefit of \$358 million, target

shareholders realize a more modest $106 million gain, and the shareholders of the combined entity recognize a gain of $464 million on an initial combined firm asset value of $3,014 million, which yields a combined firm return of 15.4%. Thus, for the sample of exogenously failed bids, we find that the relative bidder/target synergistic benefit ratio is 3.38 times, with 77.2% of the overall gains accruing to bidder shareholders in uncontested bids that exclude toehold bidders.

5.6 Bidders and targets share in synergistic gains at every stage of the M&A cycle

Having completed our analysis of how regulatory failed bids enable us to extract unbiased estimates of a deal's synergistic benefits, we evaluate the validity of Hypothesis **V**. This hypothesis predicts that since bidder and target stockholders share in the expected synergistic gains associated with the bid, the abnormal stock returns for bidders and targets should consistently move together at every stage of the M&A bid cycle, other than the bid announcement itself, when the bidder also experiences a revelation effect. Alternatively, if the conventional belief is correct that on average all the M&A gains are captured by targets, with bidders capturing none, then we should observe either no evidence of correlation between these two sets of returns or the co-movements should be negatively related. It is well-known that M&A arbitrage can occur in stock bids as an arbitrageur can buy the discounted target stock and sell-short the bidder stock such that if the merger succeeds a profit is realized. Does merger arbitrage induce a positive correlation between bidder and target stock returns if bidder shareholders gain nothing? Since bidder shareholders are predicted to gain nothing, while target shareholders are predicted to gain a great deal, this form of arbitrage should not induce a false positive correlation in bidder and target stock returns.

The evidence on Hypothesis **V** is presented in Table 11. The dependent variable is the bidder's returns, either CARs or BHARs, over all the different intervals making up the entire M&A bid cycle and the explanatory variables are target CARs and BHARs measured over the same intervals. In every case, the coefficients are large, positive and significant at the 1% level, with the exception of the five-day bid announcement CAR, which is only significant at the 10% level. Hence, our evidence provides strong empirical support for Hypothesis **V**.

<< Insert Table 11 about here >>

6. CONCLUSIONS

In this study, we demonstrate that the net economic benefits of M&A activity are much larger than previously believed. In fact, most existing studies find negligible overall synergies once bidder losses are taken into account. In contrast, we identify average gains of approximately $464 million per successful bid involving a public bidder and target and including the 60-day run-up period. Successful and failed bids are evaluated over several alternative M&A bid periods stretching from 60 days prior to the bid until two days after the outcome is publicly known. Approximately 77.2% of the wealth gains appear to accrue to bidder shareholders, with little difference being observed between pure stock bids and more cash-dominated bids. This contrasts with the standard finding in the M&A literature, which reports that bidder shareholders gain nothing in cash bids and lose heavily in stock bids. We also show that these large expected synergy gains, with the lion's share captured by the bidder, are often obscured by contamination of bid announcements by a simultaneous release of bad news about a bidder's stand-alone value, specifically the value of internal investment opportunities, which we term the bid revelation bias.

We contribute to the empirical evidence on M&A profitability by comparing the performance of bidders whose offers succeed with those whose offers fail. Rather than focusing on the bid announcement period, we instead examine the difference in returns between successful and exogenously failed bids over the full M&A bid cycle (from 60 days prior to the bid announcement until two days after the bid outcome is known). We show theoretically that the division of M&A synergistic gains between bidder and target are revealed by the differences in returns between successful and exogenously failed bids and that this measure is free of the revelation bias that contaminates most M&A bid announcement effects. We confirm this hypothesis empirically by examining the impact of the prior Tobin's Q ratios and investment outlays scaled by total assets on the valuation of these bidders, where we show that a one standard deviation decline in these internal investment measures for bidders with a previously successful internal growth strategy is approximately of the same order of magnitude as the size of loss due to exogenous bid failure (i.e., 12 to 13%). Since acquirers spend approximately 13% of GDP on mergers each year, our finding of huge gains to successful acquirers (relative to failure) is compatible with investment outlays of this magnitude. But, if the conventional view of bidders realizing either a zero or large negative returns were valid, then we should to see evidence of persistent wealth destruction on an unimaginably massive scale across a long list of

countries and over many decades. We see no evidence of such lemming-like destructive behavior on a global scale. In fact, we reconcile the magnitude of the revelation loss to that of deal failure losses, and explain many of the puzzling body of results documented in this literature.

This new methodology is complemented by an analysis showing that in subintervals of the M&A bid cycle, including the run-up, bid announcement, and post bid announcement to bid outcome periods, we observe that the market valuation of bidder and target shares move together in the same direction across the entire M&A bid cycle, with only a weak association expected at the bid announcement due to the magnitude of the bidder revelation effect. This is consistent with both bidder and target sharing in the considerable expected synergistic gains of a successful bid and in the loss of expected synergies in failed bids.

APPENDIX: SYNERGY MEASUREMENT AND DIVISION OF GAINS

A.1 Cash Bid for the Entire Target

Denote the initial equity values of the bidder and target well before the opening of M&A negotiations, immediately prior to the time when the bidder first engages an advisor to identify a suitable target as E_B^I and E_T^I respectively. Denote the overall synergistic gains of the deal as $G \geq 0$, which is shared by the target and bidder in the proportions denoted respectively by G_T and $G_B \geq$ or ≤ 0, such that a bidder's share could be negative. Superscripts C and S denote cash and stock financing respectively to distinguish these two important forms of M&A currency. Thus $G_T^C \equiv P_T - E_T^I$, is measured by the premium paid to the target in a cash bid, where P_T represents the cash purchase price paid. For simplicity, we assume there is no prior bidder toehold in target shares, no competing bidder and neither the bidder nor the target is debt financed. The market value of a cash bidder following the bid's outcome is denoted by either $V_{B,S}^C$ or $V_{B,F}^C$ with subscripts S or F denoting success or failure respectively with p_S representing the probability of deal success and $p_F = 1 - p_S$ the probability of failure.

Let Δ_B^C represent the absolute value of the revelation loss in value due to any bad news released about a bidder's stand-alone market value in a cash bid, regardless of the bidder's fit with the target, i.e. independent of deal synergies. The greater the magnitude of the firm's

investment program, representing the internal growth option that unbeknown to the market has failed, the greater is the likely magnitude of the revelation loss. Hence this loss must be increasing in indications of prior internal growth success inclusive of a high Tobin's Q value and past internal investment outlays. If the bid fails, then we assume that the bidder's value falls back to its pre-bid value minus the revelation effect. Thus, following a bid and prior to news of a bid's outcome, a cash bidder's expected market valuation equals:

$$
\begin{aligned}
\mathrm{E}\left[V_B^C\right] &= p_S V_{B,S}^C + (1 - p_S) V_{B,F}^C \\
&= p_S\left(E_B^I - \Delta_B^C + G_B^C\right) + (1 - p_S)\left(E_B^I - \Delta_B^C\right) = E_B^I - \Delta_B^C + p_S G_B^C,
\end{aligned}
\tag{1}
$$

such that the bidder's stock value reflects the revelation loss regardless of the state of the world, bid success or failure. Consequently, any revelation loss is not reversed on a bid failure. Moreover, the bidder's expected synergistic gain cannot be separated from the unknown revelation loss without further analysis.

Once the outcome of the bid is known, the value of the successful bidder is given by $V_{B,S}^C = E_B^I - \Delta_B^C + G_B^C$. If a bid is withdrawn due to exogenous causes, i.e., fails due to (say) regulatory intervention, then the bidder's valuation conditional on failure is given by $V_{B,F}^C = E_B^I - \Delta_B^C$. It is now clear that the unbiased value of the bidder's share of the expected synergistic gain is simply the difference in value between bid success and failure:

$$
G^C - \left(P_T - E_T^I\right) \equiv G_B^C = V_{B,S}^C - V_{B,F}^C,
\tag{1}
$$

as the revelation loss is common to both outcomes, and thus cancels out (see Hypotheses **I** to **IV**).

Solving equations (A1) and (A2) for the revelation loss, we find:

$$
\Delta_B^C = E_B^I - \mathrm{E}\left[V_B^C\right] + p_S G_B^C,
\tag{1}
$$

that it is identified as simply the bidder's known value change on the bid announcement, $E_B^I - \mathrm{E}\left[V_B^C\right]$, plus the bidder's synergistic gain inferred from equation (A2), weighted by the probability of deal success.

Typically, this bidder value change, $E_B^I - E[V_B^C]$, is either zero (i.e., the revelation loss equals the expected synergistic gain), or negative (i.e., the revelation loss exceeds the expected synergistic gain) in bids for listed targets and especially for large stock funded acquisitions. If the value change is approximately zero, then a bidder's synergistic gain,

$$G_B^C \cong \frac{\Delta_B^C}{p_S} = V_{B,S}^C - V_{B,F}^C ,\qquad (1)$$

equals the revelation loss scaled by the probability of bid success. It follows from equation (A4) that the loss suffered by the bidder during the over the complete M&A bid cycle, inclusive of the price run-up until the bid outcome is known, and also during bid announcement window is directly a function of the magnitude of the revelation loss, Δ_B^C. Hence the destruction of bidder value over the complete M&A bid cycle must be increasing in the level of investment in the firm's failed internal growth strategy and its perceived success (high Tobin's Q value) since the greater the investment and the higher Tobin's Q, the greater the revelation loss (see Hypotheses **I** and **III**). Moreover, the loss incurred during in the announcement window must also be increasing in the magnitude of the firm's previous investment in its failed internal growth program (see Hypothesis **II**).

Note that the bad news coming to light at the bid has no effect on the size of the total synergistic gain from the M&A deal or its distribution between bidder and target. This is because both completed and withdrawn deals suffer the same loss. (see Hypothesis **IV**) Nevertheless, an economically significant negative news effect, Δ_B^C, that either exceeds the anticipated bidder synergy gain, $p_S G_B^C$, or equals it, can make it appear (incorrectly) that the hubristic bidder either overpaid for the target or that actual or potential competition from other bidders forced the bidder to pass on all the anticipated synergistic gains to the target.

During the pre-bid-announcement phase, any leakage of information about the bid will influence the stock prices of both the bidder and target in a positive direction since they both share in the combined synergistic gain, $G^C \equiv G_B^C + G_T^C$, where G_T^C represents the target's gain, if the bid succeeds. The same will be true after the bid announcement. But if there is anticipation of bid failure or a deal failure is announced, then both stock prices should fall reflecting the shared

33

loss of expected synergistic gains. Hence, the stock price of the bidder should move positively with that of the target and *vice versa* for each of these time intervals (see Hypothesis **V**).

Since the combined bidder and target synergistic gain must equal the combined valuation loss if bid failure occurs, we have:

$$G^C \equiv G_B^C + G_T^C = V_{B,S}^C + V_{T,S}^C - \left(V_{B,F}^C + V_{T,F}^C \right), \qquad (1)$$

such that for the combined bidder-target the total synergistic gain benefit can be directly computed from the combined value loss on deal failure. Hence, the share of the overall synergistic gain attributable to the bidder can be simply computed from the relative benefit ratio $\dfrac{G_B^C}{G^C}$ calculated from equations (A2) and (A5) above (see Hypotheses **I** and **V**).

A.2 Stock Bid for the Entire Target

The analysis of stock financed bids is similar, with an unbiased estimate of the synergistic gain also given by the valuation difference between bid success and failure. This analysis is available on request.

Appendix B: Variable Definitions

Performance variables	Definition
CAR (Ann – 2, Ann + 2)	The cumulative abnormal return obtained from two days before the acquisition bid announcement to two days after the acquisition announcement bid. We calculate the abnormal return on day t as the difference between the bidder's return on day t and the return predicted by an OLS estimation of the market model estimated from 60 trading days before the acquisition announcement for a period of 250 trading days.
CAR (End – 2, End + 2)	The cumulative abnormal return obtained from two days before the announcement of the 'end' of the bid to two days after the 'end' of the bid. We define the 'end' of the bid as the date on which the bid is withdrawn or is completed, is applicable. We calculate the abnormal return on day t as the difference between the bidder's return on day t and the return predicted by an OLS estimation of the market model estimated from 60 trading days before the acquisition announcement for a period of 250 trading days.
BHAR (Ann – 60, Ann + 2)	The buy and hold abnormal return earned from 60 trading days before the acquisition bid announcement to 2 trading days after the acquisition bid announcement. Abnormal returns are based on an OLS estimation of the market model, computed from the period 60 trading days before the acquisition announcement for t time-horizon of 250 trading days.

Core Variables	
Failed	An indicator that equals one if the bid fails and equals zero otherwise
Bidder Serial Bidder	An indicator that equals one if the bidder has made a prior bid in the last three years
Rel Q	The ratio of the bidder's Tobin's Q value to the target's Tobin's Q value
Bidder ln(Assets)	Natural log of bidder total book assets
Bidder Debt/Assets	The bidder's debt scaled by its assets
Tgt Debt/Assets	The target's debt scaled by its assets
Diversifying (SIC 3D)	An indicator that equals one if the bidder and the target are in different 3-digit SIC industries.
Bidder EBIT/Assets	The bidder's EBIT scaled by its assets
Tgt EBIT/Assets	The target's EBIT scaled by its assets
Stock Only	An indicator that equals one if the bid is (or was) a pure stock-for-stock deal
Bidder High Tech	An indicator that equals one if the bidder is a high tech company. A high-tech company is one with the 3-digit or 4-digit SIC codes 357, 737, 5045, or 5734.
Bidder Fin Services	An indicator that equals one if the bidder is in the financial services industry. A financial services company is one whose one-digit SIC code is six.
Tgt High Tech	An indicator that equals one if the target is a high tech company. A high-tech company is one with the 3-digit or 4-digit SIC codes 357, 737, 5045, or 5734.
Tgt Fin Services	An indicator that equals one if the target is in the financial services industry. Financial services companies have one-digit SIC code of six.
Rel Deal Size	The transaction value scaled by the bidder's market value
Competed	An indicator that equals one if there was more than one bidder.

Bidder PE Backed	An indicator that equals one if the bidder was PE backed (as indicated by the buy-side sponsor involvement flag in SDC).
Tgt PE Backed	An indicator that equals one if the bidder was PE backed (as indicated by the sell-side sponsor involvement flag in SDC).

References

Ahern, Kenneth R., 2012. Bargaining Power and Industry Dependence in Mergers. *Journal of Financial Economics* 103, 530-550.

Ahern, Kenneth R., and Jarrad Harford, 2014. The Importance of Industry Links in Merger Waves. *Journal of Finance* 69, 527-576.

Ahern, Kenneth R., and Denis Sosyura, 2014. Who Writes the News? Corporate Press Releases During Merger Negotiations. *Journal of Finance* 69, 241-291.

Ahern, Kenneth R., and Weston, F., 2007. M&As: The Good, the Bad, and the Ugly. *Journal of Applied Finance* 17, 5-20.

Aktas, Nihat, Eric de Bodt, and Richard Roll, 2004. Market Response to European Regulation of Business Combinations. *Journal of Financial and Quantitative Analysis* 39, 731-757.

Aktas, Nihat, Eric de Bodt, and Richard Roll, 2007. Is European M&A Regulation Protectionist? *Economic Journal* 117, 1096-1121.

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

Barraclough, Kathryn, David T. Robinson, Tom Smith, and Robert E. Whaley, 2013. Using Option Prices to Infer Overpayments and Synergies in M&A Transactions. *Review of Financial Studies* 26, 695-722.

Bena, Jan and Kai Li, 2014. Corporate Innovations and Mergers and Acquisitions. *Journal of Finance* 69, 1923-1960.

Berk, Jonathan and Peter DeMarzo, 2011. *Corporate Finance*. Second Edition (Global Edition), Pearson, New York.

Betton, Sandra, Espen B. Eckbo and Karin S. Thorburn, 2009. Merger Negotiations and the Toehold Puzzle. *Journal of Financial Economics* 91, 158-178.

Betton, Sandra, Espen B. Eckbo and Karin S. Thorburn, 2008. Corporate Takeovers. In Espen B. Eckbo (ed.) *Handbook of Empirical Corporate Finance: Empirical Corporate Finance Volume 2,* Elsevier/North-Holland Handbook of Finance Series, Ch. 15, 291-430.

Bhagat, Sanjai, Ming Dong, David Hirshleifer, and Robert Noah, 2005. Do tender offers create value? New methods and evidence. *Journal of Financial Economics* 76, 3–60.

Bradley, Michael, 1980. Interfirm tender offers and the market for corporate control. *Journal of Business* 53, 345-376.

Bradley, Michael, Anand Desai, and E. Han Kim, 1988. Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms. *Journal of Financial Economics* 21, 3-40.

Brigham, Eugene F. and Phillip R. Daves, 2010. *Intermediate Financial Management*, Tenth Edition, South-Western, Mason, Ohio.

Cai, Jie, Song, Moon H. and Walking, Ralph A., 2011. Anticipation, acquisitions, and bidder returns: Industry shocks and the transfer of information across rivals. *Review of Financial Studies*, 24: 2242-2285.

Cameron, A. Colin and Douglas L. Miller, 2014. A Practitioner's Guide to Cluster-Robust Inference. *Journal of Human Resources.* Forthcoming Spring 2015.

Chang S., 1998. Takeovers of privately held targets, method of payment, and bidder returns. *Journal of Finance* 53, 773-784.

Copeland, Thomas E., J. Fred Weston, and Kuldeep Shastri, 2005. *Financial Theory and Corporate Policy*, Fourth (and latest) Edition, Pearson, New York.

Damodaran, Aswath, 2001. *Corporate Finance: Theory and Practice*, Second Edition, John Wiley & Sons, New Jersey.

Dimopoulos, Theodosios and Stefano Sacchetto, 2014. Preemptive Bidding, Target Resistance, and Takeover Premiums. *Journal of Financial Economics* 114, 444–470.

Dong M., D. Hirshleifer, S. Richardson, and S. H. Teoh, 2006. Does Investor Misvaluation Drive the Takeover Market? *Journal of Finance* 61, 725–761.

Eckbo, Esben B., 1983. Horizontal Mergers, Collusion, and Stockholder Wealth, *Journal of Financial Economics* 11, 241-273.

Eckbo, E., V. Maksimovic and J. Williams, 1990. Truncation Bias and Cross-Sectional Estimates in Event Studies: Econometric Issues with an Application to Horizontal Mergers, *Review of Financial Studies*, 343-367.

Ellert, James C., 1976. Mergers, Antitrust Law Enforcement and Stockholder Returns, *Journal of Finance* 31, 715-732.

Erickson, Merle, and Shiing-wu Wang, 1999. Earnings management by acquiring firms in stock for stock mergers, *Journal of Accounting and Economics* 27, 149–176.

Fee, C. Edward and Shawn Thomas, 2004. Sources of gains in horizontal mergers: evidence from customer, supplier, and rival firms, *Journal of Financial Economics* 74, 423–460.

Ferreira MA, M. Massa, and P. Matos, 2010. Shareholders at the Gate? Institutional Investors and Cross-Border Mergers and Acquisitions. *Review of Financial Studies* 23, 601–644.

Fich Eliezer M., Tu Nguyen, and Micah Officer, 2012. Large Wealth Creation in Mergers and Acquisitions. Working Paper. University of Rochester.

Fu F, L. Lin, and M. S. Officer, 2013. Acquisitions Driven by Stock Overvaluation: Are They Good Deals? *Journal of Financial Economics* 109, 24-39.

Fuller K, J. Netter, and M. Stegemoller, 2002. What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions. *Journal of Finance* 57, 1763–1794.

Gort, Michael, 1969. An Economic Disturbance Theory of Mergers. *Quarterly Journal of Economics* 83, 624-642.

Grinblatt, Mark and Sheridan Titman, 1998. *Financial Markets and Corporate Strategy.* Irwin/McGraw-Hill, Boston, Massachusetts.

Harford J., 2005. What drives merger waves? *Journal of Financial Economics* 77**,** 529–560.

Harford J., Mark L. Humphery-Jenner, and Ronan G. Powell, 2012. The Sources of Value Destruction in Acquisitions by Entrenched Managers. *Journal of Financial Economics* 106, 247–261.

He, Jie (Jack), Tingting Lie, and Tao Shu, 2014. Lower the basket for easy shots? Expectation management before takeovers, Working Paper, Terry College of Business, University of Georgia, December.

Hietala, Pekka, Steven N. Kaplan, and David T. Robinson, 2003. What is the Price of Hubris? Using Takeover Battles to Infer Overpayments and Synergies, *Financial Management* 32, 5-32.

Hoberg, Gerard, and Gordon Phillips, 2010, Product market synergies and competition in mergers and acquisitions: A text-based analysis. *Review of Financial Studies* 23, 3773-3811.

Humphery-Jenner Mark, 2012. The Impact of the EU Takeover Directive on Takeover Performance and Empire Building. *Journal of Corporate Finance* 18, 254–272.

Humphery-Jenner M., and R. G. Powell, 2011. Firm size, takeover profitability and the effectiveness of the market for corporate control: Does the absence of anti-takeover provisions make a difference? *Journal of Corporate Finance* 17, 418–437.

Humphery-Jenner, Mark and Ronan G. Powell, 2014. Firm size, sovereign governance, and value creation: Evidence from the acquirer size effect. *Journal of Corporate Finance* 26, 57 – 77.

Jegadeesh, Narasimhan and Yue Tang, 2010. Institutional Trades around Takeover Announcements: Skill Vs. Inside Information, Working Paper, Goizueta Business School, Emory University.

Jensen Michael C., 1986. Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review* 76, 323–329.

Johan SA, Knill A, Mauck N., 2013. Determinants of sovereign wealth fund investment in private equity vs public equity. *Journal of International Business Studies* 44, 155–172.

Jovanovic, Boyan, and Peter L. Rousseau, 2002. The *q*-theory of mergers. *American Economic Review* 92, 198–204.

Krishnan, C.V.N., and R. Masulis, 2013. Law Firm Expertise and Mergers and Acquisitions. *Journal of Law and Economics* 56, 189-226.

Levine, Oliver, 2013. Acquiring Growth. Working paper, Wisconsin School of Business, University of Wisconsin-Madison.

Liu, Baixiao and John J. McConnell, 2013. The Role of the Media in Corporate Governance: Do the Media Influence Managers' Decisions to Abandon Acquisition Attempts? *Journal of Financial Economics 110,* 1–17.

Louis, Henock, 2004. Earnings management and the market performance of acquiring firms. *Journal of Financial Economics* 74, 121–148.

Maksimovic, Vojislav, and Gordon Phillips, 2001. The market for corporate assets: Who engages in mergers and asset sales and are there efficiency gains? *Journal of Finance* 56, 2019–2065.

Malatesta, P., and R. Thompson, 1985. Partially Anticipated Events: A Model of Stock Price Reaction with an Application to Corporate Acquisitions. *Journal of Financial Economics* 14, 237-250.

Malmendier, Ulrike and Geoffrey Tate, 2008. Who makes acquisitions? CEO overconfidence and the market's reaction. *Journal of Financial Economics* 89, 20–43.

Manne, Henry G., 1965. Mergers and the Market for Corporate Control. *Journal of Political Economy* 73, 110-120.

Masulis Ronald W., C. Wang, and F. Xie, 2007. Corporate Governance and Acquirer Returns. *Journal of Finance* 62(4), 1851–1889.

Mitchell, Mark L., and J. Harold Mulherin, 1996. The impact of industry shocks on takeover and restructuring activity. *Journal of Financial Economics* 41, 193–229.

Moeller S. B, and F. P. Schlingemann, 2005. Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions. *Journal of Banking and Finance* 29, 533–564.

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

Moeller S. B, F. P. Schlingemann, and R. M. Stulz, 2005. Wealth Destruction on a Massive Scale? A Study of Acquiring-Firm Returns in the Recent Merger Wave. *Journal of Finance* 60, 757–782.

Morse, Howard M., 1998. Vertical Mergers: Recent Learning, *The Business Lawyer* 53, 1217-1248.

Myers, S. C. and S. N. Majluf, 1984. Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have. *Journal of Financial Economics* 13, 187-221.

Netter, J., Stegemoller, M. and M. Wintoki, 2011. Implications of data screens on merger and acquisition analysis: A large sample study of mergers and acquisitions from 1992 to 2009. *Review of Financial Studies* 24, 2316-2357.

Powell R., and A. Yawson. 2012. Internal Restructuring and Firm Survival. *International Review of Finance* 12, 435–467.

Powell R. G, and A. Yawson, 2005. Industry aspects of takeovers and divestitures: evidence from the UK. *Journal of Banking & Finance* 29, 3015–3040.

Powell R. G, and A. Yawson, 2007. Are Corporate Restructuring Events Driven by Common Factors? Implications for Takeover Prediction. *Journal of Business Finance & Accounting* 34, 1169-1192.

Rhodes-Kroft, Matthew and S. Viswanathan, 2004. Market valuation and merger waves. *Journal of Finance* 59, 2685-2718.

Roll, Richard, 1986. The Hubris Hypothesis of Corporate Takeovers. *Journal of Business* 59, 197-216.

Ross, Stephen A., Randolph W. Westerfield, and Bradford D. Jordan, 2013. *Fundamentals of Corporate Finance*, 10th Edition, McGraw-Hill, New York.

Samuelson, William and Leonard Rosenthal, 1986. Price Movements as Indicators of Tender Offer Success. *Journal of Finance* 41, 481-499.

Savor, P. G., and Q. Lu, 2009. Do Stock Mergers Create Value for Acquirers? *Journal of Finance* 64, 1061-1097.

Scharfstein, David, 1988. The Disciplinary Role of Takeovers. *Review of Economic Studies* 55, 185-199.

Schipper, K. and R. Thompson, 1983. Evidence on the capitalized value of merger activity for acquiring firms. *Journal of Financial Economics* 11, 85-120.

Shenoy, Jaideep, 2012. An Examination of the Efficiency, Foreclosure, and Collusion Rationales for Vertical Takeovers, *Management Science* 58, 1482-1501.

Shleifer, A., and R. W. Vishny, 2003. Stock Market Driven Acquisitions. *Journal of Financial Economics* 70, 295-311.

Travlos, N. G., 1987. Corporate takeover bids, method of payment, and bidding firm's stock returns. *Journal of Finance* 42, 943-63.

Table 1: Summary statistics comparing regulatory versus non-regulatory bids

This table contains summary statistics that compare bids that involve a regulator and those that do not. The table reports sample means, medians, standard deviations, and differences therein. Bids where there are competing bidders or where the bidder has a toehold have been excluded from both samples. Superscripts ***, ***, and * denote significant differences in means or medians using a two-sample t-test or a non-parametric difference-in-medians test, as applicable.

Variable	Regulatory			Non-Regulatory			Difference	
	Mean	Median	SD	Mean	Median	SD	Mean	Median
Bidder BHAR (Ann -2,End +2)	-0.070	-0.040	0.300	-0.079	-0.025	0.342	0.008	-0.016**
Bidder BHAR (Ann - 60,End + 2)	-0.103	-0.062	0.430	-0.092	-0.051	0.524	-0.011	-0.011
Bidder CAR (Ann - 2,Ann + 2)	-0.014	-0.012	0.071	-0.005	-0.005	0.081	-0.009***	-0.007***
Bidder CAR (Ann - 5,Ann + 5)	-0.016	-0.013	0.089	-0.003	-0.009	0.104	-0.013***	-0.004
Bidder CAR (Ann - 11,Ann + 11)	-0.019	-0.016	0.120	-0.007	-0.010	0.146	-0.012**	-0.006
Bidder CAR (Ann -2,Ann + 120)	-0.058	-0.035	0.339	-0.059	-0.031	0.416	0.001	-0.004
Bidder CAR (End -2,End +2)	0.004	0.003	0.056	0.002	0.000	0.066	0.002	0.003
Bidder CAR (End -5,End +5)	0.001	0.002	0.079	-0.006	-0.004	0.098	0.008**	0.006
Bidder CAR (End -11,End +11)	-0.002	0.003	0.119	-0.015	-0.009	0.144	0.013**	0.012**
Target BHAR (Ann -2,End +2)	0.205	0.190	0.430	0.179	0.140	0.465	0.026	0.050***
Target BHAR (Ann - 60,End + 2)	0.231	0.214	0.610	0.224	0.204	0.682	0.007	0.010
Target CAR (Ann - 2,Ann + 2)	0.243	0.201	0.235	0.204	0.157	0.245	0.039***	0.045***
Target CAR (Ann - 5,Ann + 5)	0.254	0.216	0.243	0.218	0.173	0.267	0.036***	0.043***
Target CAR (Ann - 11,Ann + 11)	0.269	0.230	0.271	0.233	0.189	0.305	0.037***	0.041***
Target CAR (Ann -2,Ann + 120)	0.234	0.210	0.377	0.222	0.201	0.450	0.011	0.009
Target CAR (End -2,End +2)	-0.006	-0.001	0.079	-0.007	-0.001	0.106	0.001	0.000
Target CAR (End -5,End +5)	-0.005	0.001	0.098	-0.009	-0.001	0.131	0.005	0.002
Target CAR (End -11,End +11)	-0.001	0.003	0.126	0.000	0.001	0.166	-0.001	0.002
Combined BHAR (Ann -2,End +2)	-0.034	-0.013	0.284	-0.040	0.000	0.315	0.006	-0.012
Combined BHAR (Ann - 60,End + 2)	-0.061	-0.028	0.407	-0.050	-0.023	0.483	-0.011	-0.005
Combined CAR (Ann - 2,Ann + 2)	0.019	0.012	0.072	0.023	0.014	0.082	-0.005	-0.002
Combined CAR (Ann - 5,Ann + 5)	0.019	0.015	0.088	0.026	0.016	0.106	-0.008*	-0.001
Combined CAR (Ann - 11,Ann + 11)	0.018	0.015	0.116	0.024	0.021	0.140	-0.006	-0.005
Combined CAR (Ann -2,Ann + 120)	-0.019	-0.004	0.303	-0.017	-0.008	0.370	-0.002	0.005
Combined CAR (End -2,End +2)	0.002	0.002	0.052	0.001	0.000	0.059	0.001	0.002
Combined CAR (End -5,End +5)	0.000	0.001	0.074	-0.007	-0.002	0.088	0.008*	0.003
Combined CAR (End -11,End +11)	-0.002	0.004	0.111	-0.009	-0.004	0.127	0.007	0.009
Target BHAR (Ann - 125,Ann - 11)	-0.047	-0.038	0.417	-0.045	-0.042	0.492	-0.003	0.004
Bidder BHAR (Ann - 125,Ann - 11)	-0.046	-0.024	0.322	-0.030	-0.013	0.390	-0.016	-0.011
Bidder Q	1.351	0.811	1.738	1.577	0.949	1.943	-0.225***	-0.137***
Bidder EBIT/Assets	0.076	0.072	0.110	0.066	0.083	0.164	0.010*	-0.011**
Bidder ln(Assets)	7.921	7.920	1.880	6.590	6.517	2.141	1.331***	1.404***
Bidder Debt/Assets	0.152	0.101	0.163	0.177	0.125	0.179	-0.026***	-0.024***
Bidder Cash/Assets	0.088	0.044	0.110	0.099	0.043	0.138	-0.011**	0.002
Bidder CAPEX/Assets	0.038	0.023	0.053	0.061	0.042	0.074	-0.023***	-0.019***
Bidder R&D/Sales	0.068	0.000	0.300	0.087	0.000	0.338	-0.020	0.000***
Bidder High Tech	0.144	0.000	0.352	0.144	0.000	0.352	0.000	0.000
Bidder Financial Services	0.347	0.000	0.476	0.180	0.000	0.385	0.167***	0.000***
Bidder PE Backed	0.023	0.000	0.150	0.015	0.000	0.120	0.008*	0.000
Target Q	1.144	0.624	1.597	1.252	0.730	1.568	-0.108*	-0.106***
Target EBIT/Assets	0.015	0.047	0.192	-0.022	0.053	0.256	0.038***	-0.006
Target ln(Assets)	5.852	5.833	1.672	4.727	4.462	1.829	1.125***	1.371***
Target Debt/Assets	0.142	0.064	0.181	0.167	0.086	0.193	-0.025***	-0.022**
Target CAPEX/Assets	0.041	0.021	0.059	0.065	0.042	0.077	-0.024***	-0.021***
Target R&D/Sales	0.118	0.000	0.488	0.139	0.000	0.538	-0.020	0.000***
Stock Bid Only	0.383	0.000	0.486	0.323	0.000	0.468	0.060***	0.000***
Competing Bid	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Rel Q	1.711	1.252	1.672	1.983	1.204	2.350	-0.272***	0.048
Target PE Backed	0.030	0.000	0.171	0.010	0.000	0.098	0.020***	0.000***
Bidder Serial	0.163	0.000	0.369	0.107	0.000	0.310	0.055***	0.000***
Tgt Mktcap / Bidder Mktcap	0.258	0.118	0.392	0.380	0.153	0.569	-0.122***	-0.035***
Tgt Assets / Bidder Assets	0.325	0.154	0.498	0.515	0.201	0.795	-0.190***	-0.047***
Bidder CAPEX/Assets (t-3)	0.044	0.023	0.063	0.046	0.029	0.059	-0.002	-0.006**

Table 2: Summary statistics comparing failed versus successful bids

This table contains summary statistics that compare failed bids with completed bids. The sample only includes bids that involve regulatory approval. Bids where there are competing bidders or where the bidder has a toehold have been excluded from both samples. The table reports sample means, medians, standard deviations, and differences therein. Superscripts ***, ***, and * denote significant differences in means or medians using a two-sample t-test or a non-parametric difference-in-medians test, as applicable.

Variable	Failed Mean	Failed Median	Failed SD	Completed Mean	Completed Median	Completed SD	Difference Mean	Difference Median
Bidder BHAR (Ann -2,End +2)	-0.179	-0.116	0.365	-0.062	-0.036	0.294	-0.116***	-0.081***
Bidder BHAR (Ann - 60,End + 2)	-0.236	-0.180	0.499	-0.093	-0.058	0.423	-0.142***	-0.122**
Bidder CAR (Ann - 2,Ann + 2)	-0.027	-0.022	0.083	-0.013	-0.012	0.070	-0.014*	-0.011*
Bidder CAR (Ann - 5,Ann + 5)	-0.040	-0.039	0.095	-0.014	-0.012	0.089	-0.026***	-0.027**
Bidder CAR (Ann - 11,Ann + 11)	-0.054	-0.036	0.132	-0.017	-0.014	0.119	-0.037***	-0.022***
Bidder CAR (Ann -2,Ann + 120)	-0.182	-0.147	0.443	-0.049	-0.030	0.329	-0.132***	-0.117***
Bidder CAR (End -2,End +2)	0.005	0.006	0.076	0.004	0.003	0.054	0.001	0.004
Bidder CAR (End -5,End +5)	-0.013	-0.004	0.108	0.002	0.002	0.077	-0.015	-0.006
Bidder CAR (End -11,End +11)	-0.023	-0.004	0.148	0.000	0.003	0.117	-0.023*	-0.007
Target BHAR (Ann -2,End +2)	-0.195	-0.166	0.414	0.234	0.207	0.417	-0.428***	-0.373***
Target BHAR (Ann - 60,End + 2)	-0.255	-0.206	0.619	0.266	0.237	0.594	-0.521***	-0.443***
Target CAR (Ann - 2,Ann + 2)	0.209	0.173	0.224	0.246	0.203	0.235	-0.037*	-0.030
Target CAR (Ann - 5,Ann + 5)	0.212	0.203	0.237	0.257	0.217	0.244	-0.045**	-0.014
Target CAR (Ann - 11,Ann + 11)	0.215	0.199	0.287	0.273	0.232	0.269	-0.058**	-0.033
Target CAR (Ann -2,Ann + 120)	-0.024	-0.004	0.473	0.252	0.218	0.362	-0.276***	-0.222***
Target CAR (End -2,End +2)	-0.109	-0.091	0.172	0.006	0.000	0.047	-0.115***	-0.091***
Target CAR (End -5,End +5)	-0.136	-0.121	0.202	0.010	0.005	0.062	-0.147***	-0.125***
Target CAR (End -11,End +11)	-0.134	-0.138	0.263	0.015	0.006	0.087	-0.149***	-0.145***
Combined BHAR (Ann -2,End +2)	-0.188	-0.128	0.333	-0.022	-0.010	0.277	-0.165***	-0.118***
Combined BHAR (Ann - 60,End + 2)	-0.255	-0.194	0.443	-0.047	-0.020	0.400	-0.208***	-0.174***
Combined CAR (Ann - 2,Ann + 2)	0.025	0.011	0.090	0.018	0.012	0.071	0.007	-0.001
Combined CAR (Ann - 5,Ann + 5)	0.014	0.009	0.106	0.019	0.015	0.087	-0.005	-0.005
Combined CAR (Ann -2,Ann + 120)	-0.156	-0.120	0.385	-0.009	0.004	0.294	-0.147***	-0.124***
Combined CAR (End -2,End +2)	-0.026	-0.017	0.074	0.006	0.003	0.048	-0.031***	-0.019***
Combined CAR (End -5,End +5)	-0.046	-0.027	0.101	0.006	0.004	0.068	-0.052***	-0.031***
Target BHAR (Ann - 125,Ann - 11)	-0.120	-0.089	0.434	-0.042	-0.033	0.416	-0.078**	-0.056
Bidder BHAR (Ann - 125,Ann - 11)	-0.085	-0.036	0.320	-0.043	-0.023	0.322	-0.042	-0.014
Bidder Q	1.505	0.869	1.963	1.341	0.803	1.722	0.164	0.066
Bidder EBIT/Assets	0.075	0.077	0.105	0.076	0.072	0.111	-0.001	0.004
Bidder ln(Assets)	7.072	7.089	1.771	7.980	7.962	1.873	-0.908***	-0.872***
Bidder Debt/Assets	0.182	0.130	0.186	0.149	0.099	0.161	0.033**	0.031**
Bidder Cash/Assets	0.097	0.045	0.122	0.087	0.044	0.109	0.010	0.001
Bidder CAPEX/Assets	0.044	0.030	0.050	0.038	0.022	0.053	0.007	0.008**
Bidder R&D/Sales	0.059	0.000	0.129	0.068	0.000	0.309	-0.009	0.000
Bidder High Tech	0.130	0.000	0.338	0.145	0.000	0.353	-0.015	0.000
Bidder Financial Services	0.239	0.000	0.428	0.355	0.000	0.479	-0.116***	0.000***
Bidder PE Backed	0.014	0.000	0.120	0.023	0.000	0.151	-0.009	0.000
Target Q	1.277	0.678	1.845	1.135	0.611	1.578	0.142	0.068
Target EBIT/Assets	0.046	0.069	0.156	0.013	0.045	0.195	0.033**	0.024**
Target ln(Assets)	5.998	6.036	1.850	5.842	5.820	1.658	0.156	0.216
Target Debt/Assets	0.164	0.084	0.196	0.140	0.063	0.180	0.024	0.021
Target CAPEX/Assets	0.045	0.031	0.053	0.040	0.020	0.060	0.005	0.011**
Target R&D/Sales	0.091	0.000	0.414	0.120	0.000	0.493	-0.029	0.000
Bidder High Tech	0.130	0.000	0.338	0.145	0.000	0.353	-0.015	0.000
Bidder Financial Services	0.239	0.000	0.428	0.355	0.000	0.479	-0.116***	0.000***
Bidder PE Backed	0.014	0.000	0.120	0.023	0.000	0.151	-0.009	0.000
Stock Bid Only	0.428	0.000	0.497	0.380	0.000	0.486	0.047	0.000
Competing Bid	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Rel Deal Size	0.666	0.413	0.726	0.365	0.173	0.591	0.301***	0.240***
Rel Q	1.860	1.222	1.934	1.700	1.254	1.652	0.159	-0.032
Target PE Backed	0.014	0.000	0.120	0.031	0.000	0.174	-0.017	0.000
Bidder Serial	0.087	0.000	0.283	0.168	0.000	0.374	-0.081***	0.000**
Tgt Mktcap / Bidder Mktcap	0.517	0.275	0.645	0.239	0.111	0.361	0.278***	0.163***
Tgt Assets / Bidder Assets	0.609	0.380	0.711	0.305	0.140	0.473	0.304***	0.240***
Bidder CAPEX/Assets (t-3)	0.048	0.030	0.065	0.044	0.023	0.063	0.004	0.008

Table 3: Panel A. Bidder returns in non-regulatory reviewed bids

This table contains OLS regressions that analyze bidder announcement returns over various windows surrounding the takeover announcement. The analysis is cross-sectional (with the unit-of-analysis) being at the bid level and we only include bids that are non-competed, do not involve a regulator, and for which the bidder did not have a toehold in the target. The column header states the dependent variable. All models include year and industry fixed effects and cluster standard errors by bidder. Brackets contain standard errors and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent	BHAR	BHAR	CAR	CAR	CAR	CAR	CAR	CAR	CAR	CAR	CAR
Window	Ann -2	Ann - 60	Ann - 2	Ann - 5	Ann - 11	Ann -2	End -2	End -5	End -11	Ann - 60	Ann - 60
	End +2	End + 2	Ann +2	Ann + 5	Ann + 11	Ann + 120	End +2	End +5	End +11	Ann -2	Ann +2
Failed	-0.061	-0.083	-0.008	-0.019	-0.024	-0.078	-0.014	-0.014	-0.015	-0.021	-0.015
	[0.039]	[0.055]	[0.010]	[0.012]	[0.017]	[0.048]	[0.008]	[0.012]	[0.017]	[0.027]	[0.027]
Failed x Stock Bid	0.106	0.015	0.000	0.001	-0.040	0.002	-0.002	0.003	0.026	-0.041	-0.049
	[0.075]	[0.103]	[0.021]	[0.025]	[0.034]	[0.097]	[0.016]	[0.027]	[0.036]	[0.051]	[0.052]
Bidder Q	-0.031***	-0.046***	-0.001	-0.007*	-0.009	-0.063***	-0.004*	-0.008*	-0.015***	-0.008	-0.025***
	[0.011]	[0.018]	[0.003]	[0.004]	[0.006]	[0.015]	[0.002]	[0.004]	[0.005]	[0.009]	[0.008]
Bidder EBIT/Assets	-0.073	-0.142	-0.029	-0.021	-0.050	-0.283*	0.028	-0.005	0.001	-0.115	0.089
	[0.143]	[0.189]	[0.032]	[0.043]	[0.062]	[0.172]	[0.031]	[0.038]	[0.063]	[0.090]	[0.087]
Bidder ln(Assets)	0.023***	0.033**	0.001	-0.003	-0.001	0.015	-0.001	0.002	0.008**	-0.001	0.003
	[0.009]	[0.014]	[0.002]	[0.003]	[0.004]	[0.010]	[0.002]	[0.002]	[0.003]	[0.006]	[0.006]
Bidder Debt/Assets	-0.242**	-0.339*	-0.020	-0.036	-0.044	-0.348**	0.012	-0.025	-0.056	-0.013	-0.041
	[0.103]	[0.191]	[0.025]	[0.031]	[0.045]	[0.146]	[0.025]	[0.038]	[0.049]	[0.079]	[0.081]
Bidder Cash/Assets	-0.004	-0.283	-0.021	-0.011	-0.106	-0.053	0.021	-0.021	-0.092	-0.083	-0.001
	[0.152]	[0.266]	[0.040]	[0.049]	[0.074]	[0.205]	[0.033]	[0.043]	[0.070]	[0.136]	[0.125]
Bidder CAPEX/Assets	0.282	0.408	0.100	0.087	0.067	0.602**	-0.021	0.087	0.164	0.142	0.301*
	[0.266]	[0.399]	[0.069]	[0.089]	[0.133]	[0.306]	[0.050]	[0.083]	[0.120]	[0.192]	[0.176]
Bidder CAPEX/Assets (t-3)	-0.204	-0.240	0.030	0.001	0.001	-0.188	0.048	-0.050	-0.154	0.021	-0.112
	[0.244]	[0.381]	[0.057]	[0.066]	[0.084]	[0.231]	[0.051]	[0.066]	[0.096]	[0.167]	[0.169]
Bidder R&D/Sales	0.032	0.063	-0.016	0.002	0.008	-0.023	0.004	0.005	0.018	-0.014	0.043
	[0.058]	[0.085]	[0.020]	[0.022]	[0.023]	[0.068]	[0.016]	[0.019]	[0.027]	[0.045]	[0.045]
Stock Bid Only	-0.054	-0.037	-0.017**	-0.016	-0.013	-0.019	0.002	-0.003	0.003	0.008	-0.020
	[0.035]	[0.056]	[0.008]	[0.011]	[0.015]	[0.040]	[0.006]	[0.009]	[0.014]	[0.024]	[0.024]
Tgt Mktcap / Bidder Mktcap (t-1)	-0.071**	-0.094**	-0.001	-0.010	0.008	-0.068*	-0.007	-0.004	-0.008	-0.017	-0.011
	[0.033]	[0.048]	[0.008]	[0.009]	[0.013]	[0.037]	[0.006]	[0.009]	[0.013]	[0.020]	[0.018]
Bidder High Tech	-0.009	-0.017	-0.015	-0.026	-0.025	0.024	-0.009	0.012	0.008	0.005	0.064
	[0.062]	[0.092]	[0.016]	[0.021]	[0.030]	[0.084]	[0.013]	[0.020]	[0.027]	[0.050]	[0.048]
Bidder Financial Services	-0.343*	-0.513*	-0.226***	-0.208**	0.052	0.045	0.080***	0.069	-0.075	0.233	-0.445**
	[0.180]	[0.294]	[0.049]	[0.081]	[0.094]	[0.234]	[0.030]	[0.052]	[0.068]	[0.311]	[0.191]
Rel Q	0.009	0.011	-0.000	-0.000	0.004	0.021**	-0.000	-0.001	0.004	0.002	0.006
	[0.008]	[0.012]	[0.001]	[0.002]	[0.003]	[0.009]	[0.001]	[0.002]	[0.003]	[0.005]	[0.005]
Bidder PE Backed	0.220*	0.490**	0.002	0.060	0.063	0.226	0.044	0.007	0.036	0.079	0.023
	[0.124]	[0.231]	[0.034]	[0.061]	[0.071]	[0.162]	[0.030]	[0.049]	[0.061]	[0.118]	[0.103]
Target PE Backed	0.132**	0.230	0.021	0.016	0.045	0.139	0.010	0.007	0.059	0.055	0.130
	[0.058]	[0.145]	[0.023]	[0.039]	[0.052]	[0.114]	[0.023]	[0.040]	[0.044]	[0.098]	[0.103]
Bidder Serial	-0.014	0.017	-0.008	-0.006	-0.005	-0.036	-0.007	-0.011	-0.025	0.014	0.003
	[0.042]	[0.070]	[0.011]	[0.015]	[0.019]	[0.056]	[0.010]	[0.015]	[0.018]	[0.034]	[0.033]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	842	843	845	845	845	845	852	852	853	838	867
R-squared	0.181	0.166	0.140	0.123	0.107	0.193	0.116	0.122	0.127	0.131	0.165

Table 3: Panel B. Bidder returns in regulatory reviewed bids

This table contains OLS regressions that analyze bidder announcement returns over various windows surrounding the takeover announcement. The analysis is cross-sectional (with the unit-of-analysis) being at the bid level and we only include bids that are non-competed, involve a regulator, and for which the bidder did not have a toehold in the target. The column header states the dependent variable. All models include year and industry fixed effects and cluster standard errors by bidder. Brackets contain standard errors and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent Window	BHAR Ann -2 End +2	BHAR Ann - 60 End + 2	CAR Ann - 2 Ann + 2	CAR Ann - 5 Ann + 5	CAR Ann - 11 Ann + 11	CAR Ann -2 Ann + 120	CAR End -2 End +2	CAR End -5 End +5	CAR End -11 End +11	CAR Ann - 60 Ann -2	CAR Ann - 60 Ann +2
Failed	-0.077**	-0.130***	-0.014	-0.031***	-0.041***	-0.081	-0.004	-0.023*	-0.030*	-0.028	-0.040*
	[0.039]	[0.047]	[0.010]	[0.012]	[0.015]	[0.051]	[0.009]	[0.012]	[0.017]	[0.022]	[0.023]
Failed x Stock Bid	-0.013	0.010	-0.009	-0.003	-0.016	-0.138	0.021	0.035	0.022	0.003	0.009
	[0.071]	[0.094]	[0.017]	[0.021]	[0.028]	[0.086]	[0.016]	[0.021]	[0.029]	[0.043]	[0.047]
Bidder Q	-0.038***	-0.054***	-0.005**	-0.007***	-0.012***	-0.057***	-0.003	-0.007***	-0.014***	-0.011*	-0.010*
	[0.008]	[0.014]	[0.002]	[0.002]	[0.004]	[0.010]	[0.002]	[0.003]	[0.004]	[0.006]	[0.006]
Bidder EBIT/Assets	0.260*	0.375*	0.029	0.025	0.062	0.090	0.032	0.050	0.036	-0.019	0.020
	[0.133]	[0.196]	[0.033]	[0.041]	[0.054]	[0.159]	[0.027]	[0.033]	[0.056]	[0.088]	[0.084]
Bidder ln(Assets)	0.008	0.016**	0.000	0.001	0.002	0.011*	-0.001	-0.002	-0.001	0.004	-0.003
	[0.006]	[0.008]	[0.001]	[0.002]	[0.002]	[0.006]	[0.001]	[0.001]	[0.002]	[0.003]	[0.004]
Bidder Debt/Assets	-0.076	-0.047	0.002	-0.008	-0.001	-0.149*	-0.009	-0.006	-0.015	0.055	0.026
	[0.071]	[0.102]	[0.017]	[0.022]	[0.028]	[0.080]	[0.012]	[0.016]	[0.025]	[0.043]	[0.042]
Bidder Cash/Assets	-0.050	-0.105	-0.032	-0.023	-0.054	0.013	-0.007	-0.045	-0.032	-0.044	-0.139*
	[0.108]	[0.162]	[0.029]	[0.034]	[0.044]	[0.119]	[0.021]	[0.030]	[0.048]	[0.072]	[0.082]
Bidder CAPEX/Assets	0.337	0.110	-0.002	0.012	0.012	0.208	0.022	0.009	0.024	-0.094	0.021
	[0.235]	[0.335]	[0.053]	[0.065]	[0.088]	[0.294]	[0.044]	[0.067]	[0.105]	[0.159]	[0.183]
Bidder CAPEX/Assets (t-3)	-0.334***	-0.493***	-0.066**	-0.114***	-0.157***	-0.206	0.003	0.000	-0.002	-0.149*	-0.154**
	[0.112]	[0.155]	[0.031]	[0.038]	[0.049]	[0.140]	[0.024]	[0.036]	[0.059]	[0.083]	[0.075]
Bidder R&D/Sales	0.034	0.035	-0.009	0.004	0.018	-0.022	0.008	0.003	-0.016	0.007	-0.024
	[0.037]	[0.054]	[0.011]	[0.016]	[0.017]	[0.050]	[0.007]	[0.009]	[0.018]	[0.024]	[0.022]
Stock Bid Only	-0.016	0.018	-0.009**	-0.009	-0.008	-0.011	-0.001	-0.006	0.001	0.034***	0.008
	[0.019]	[0.028]	[0.004]	[0.005]	[0.007]	[0.021]	[0.003]	[0.005]	[0.007]	[0.011]	[0.012]
Tgt Mktcap / Bidder Mktcap (t-1)	0.033	0.083**	0.001	0.000	0.006	0.042	0.001	-0.001	0.010	0.045***	0.020
	[0.025]	[0.035]	[0.008]	[0.009]	[0.012]	[0.029]	[0.005]	[0.006]	[0.009]	[0.016]	[0.018]
Bidder High Tech	0.013	0.007	0.002	-0.005	-0.010	-0.011	0.003	0.003	0.026	0.011	0.061**
	[0.036]	[0.056]	[0.011]	[0.014]	[0.018]	[0.045]	[0.009]	[0.012]	[0.018]	[0.026]	[0.030]
Bidder Financial Services	0.142	0.856***	-0.040	-0.083***	0.001	-0.371***	-0.075***	-0.072***	-0.135**	-0.337***	-0.167**
	[0.190]	[0.200]	[0.029]	[0.028]	[0.023]	[0.094]	[0.020]	[0.024]	[0.056]	[0.103]	[0.066]
Rel Q	-0.009*	-0.012*	0.002	0.002	-0.000	-0.005	-0.002**	-0.002	-0.001	-0.002	-0.000
	[0.005]	[0.007]	[0.001]	[0.002]	[0.002]	[0.005]	[0.001]	[0.001]	[0.002]	[0.003]	[0.003]
Bidder PE Backed	-0.053	-0.093	-0.018	-0.026	-0.034	-0.144*	-0.017	-0.019	-0.048*	-0.029	-0.018
	[0.049]	[0.073]	[0.014]	[0.020]	[0.025]	[0.073]	[0.011]	[0.017]	[0.028]	[0.038]	[0.037]
Target PE Backed	-0.026	-0.003	-0.005	0.001	-0.007	0.010	-0.003	0.004	0.028*	-0.007	-0.007
	[0.045]	[0.067]	[0.010]	[0.015]	[0.019]	[0.045]	[0.008]	[0.010]	[0.016]	[0.027]	[0.034]
Bidder Serial	-0.004	-0.016	0.009**	0.009	0.008	0.005	-0.002	0.003	0.004	-0.016	0.006
	[0.022]	[0.029]	[0.004]	[0.006]	[0.008]	[0.025]	[0.004]	[0.006]	[0.009]	[0.013]	[0.013]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,774	1,775	1,799	1,799	1,800	1,799	1,785	1,785	1,785	1,732	1,761
R-squared	0.189	0.183	0.128	0.113	0.111	0.187	0.055	0.070	0.083	0.135	0.103

Table 4: Relationship between bidder returns and future growth prospects

This table contains OLS regressions that analyze bidder announcement returns over various windows surrounding the takeover announcement. The analysis is cross-sectional (with the unit-of-analysis) being at the bid level and we only include bids that are non-competed, involve a regulator, and for which the bidder did not have a toehold in the target. The column header states the dependent variable. All models include year and industry fixed effects and cluster standard errors by bidder. Brackets contain standard errors and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent	BHAR	BHAR	CAR	CAR	CAR	CAR	CAR	CAR	CAR	CAR	CAR
Window	Ann -2 End +2	Ann - 60 End + 2	Ann - 2 Ann + 2	Ann - 5 Ann + 5	Ann - 11 Ann + 11	Ann -2 Ann + 120	End -2 End +2	End -5 End +5	End -11 End +11	Ann - 60 Ann -2	Ann - 60 Ann +2
Failed	-0.076*	-0.128***	-0.014	-0.031***	-0.041***	-0.077	-0.004	-0.022*	-0.029	-0.026	-0.038*
	[0.040]	[0.049]	[0.010]	[0.012]	[0.016]	[0.052]	[0.009]	[0.013]	[0.018]	[0.022]	[0.023]
Failed x Stock Bid	-0.028	-0.013	-0.010	-0.004	-0.020	-0.161*	0.019	0.031	0.016	-0.003	0.001
	[0.073]	[0.100]	[0.018]	[0.021]	[0.030]	[0.094]	[0.016]	[0.023]	[0.031]	[0.045]	[0.048]
A: Bidder Tobin's Q Decline (t-1,t+1)	-0.036**	-0.033	-0.007*	-0.012**	-0.013*	-0.032*	0.005*	0.004	0.001	0.000	0.024**
	[0.016]	[0.023]	[0.004]	[0.005]	[0.007]	[0.019]	[0.003]	[0.005]	[0.007]	[0.011]	[0.011]
B: Tgt Mktcap / Bidder Mktcap	0.048	0.123***	-0.000	0.001	0.007	0.066**	0.006	0.004	0.016	0.050**	0.046**
	[0.029]	[0.043]	[0.011]	[0.012]	[0.016]	[0.033]	[0.006]	[0.007]	[0.011]	[0.020]	[0.022]
A x B	-0.014	-0.057	0.004	0.002	0.003	-0.033	-0.009	-0.008	-0.012	-0.011	-0.050*
	[0.040]	[0.056]	[0.013]	[0.014]	[0.019]	[0.046]	[0.009]	[0.012]	[0.017]	[0.026]	[0.030]
Bidder EBIT/Assets	0.045	0.070	0.001	-0.014	-0.000	-0.218	0.018	0.009	-0.040	-0.083	-0.036
	[0.119]	[0.173]	[0.031]	[0.037]	[0.048]	[0.142]	[0.025]	[0.032]	[0.054]	[0.077]	[0.076]
Bidder ln(Assets)	0.011**	0.020**	0.001	0.002	0.003	0.016***	-0.001	-0.001	0.000	0.005	-0.003
	[0.005]	[0.008]	[0.001]	[0.002]	[0.002]	[0.006]	[0.001]	[0.001]	[0.002]	[0.003]	[0.004]
Bidder Debt/Assets	-0.040	0.005	0.005	-0.003	0.008	-0.110	-0.007	-0.001	-0.005	0.060	0.034
	[0.074]	[0.105]	[0.017]	[0.022]	[0.029]	[0.083]	[0.012]	[0.017]	[0.026]	[0.041]	[0.042]
Bidder Cash/Assets	-0.145	-0.243	-0.044	-0.041	-0.081*	-0.123	-0.014	-0.064**	-0.067	-0.067	-0.174**
	[0.106]	[0.160]	[0.029]	[0.033]	[0.044]	[0.115]	[0.020]	[0.029]	[0.047]	[0.072]	[0.081]
Bidder CAPEX/Assets	0.219	-0.051	-0.014	-0.008	-0.018	0.074	0.020	-0.002	0.000	-0.099	0.021
	[0.244]	[0.349]	[0.052]	[0.067]	[0.090]	[0.300]	[0.045]	[0.068]	[0.105]	[0.160]	[0.182]
Bidder CAPEX/Assets (t-3)	-0.280**	-0.410***	-0.074**	-0.121***	-0.158***	-0.147	0.003	0.004	0.011	-0.118	-0.148**
	[0.111]	[0.158]	[0.030]	[0.037]	[0.048]	[0.137]	[0.024]	[0.037]	[0.060]	[0.083]	[0.074]
Bidder R&D/Sales	-0.004	-0.017	-0.014	-0.003	0.006	-0.075	0.006	-0.003	-0.028*	-0.002	-0.031
	[0.034]	[0.048]	[0.010]	[0.015]	[0.015]	[0.048]	[0.007]	[0.009]	[0.016]	[0.023]	[0.021]
Stock Bid Only	-0.038**	-0.011	-0.012***	-0.013**	-0.014*	-0.042**	-0.002	-0.010**	-0.006	0.028***	0.004
	[0.019]	[0.027]	[0.004]	[0.005]	[0.007]	[0.020]	[0.003]	[0.005]	[0.007]	[0.011]	[0.011]
Bidder High Tech	-0.008	-0.021	-0.002	-0.010	-0.018	-0.045	0.002	-0.001	0.019	0.003	0.059*
	[0.036]	[0.056]	[0.011]	[0.013]	[0.018]	[0.043]	[0.009]	[0.012]	[0.018]	[0.026]	[0.030]
Bidder Financial Services	0.136	-0.513***	-0.038	-0.082***	0.267***	-0.330***	-0.001	-0.039	-0.064	-0.018	-0.162**
	[0.169]	[0.183]	[0.031]	[0.031]	[0.103]	[0.098]	[0.034]	[0.067]	[0.076]	[0.105]	[0.070]
Rel Q	-0.014***	-0.019***	0.001	0.001	-0.002	-0.013**	-0.002***	-0.003**	-0.003*	-0.004	-0.002
	[0.005]	[0.007]	[0.001]	[0.002]	[0.002]	[0.005]	[0.001]	[0.001]	[0.002]	[0.003]	[0.003]
Bidder PE Backed	-0.060	-0.101	-0.019	-0.027	-0.036	-0.151*	-0.017	-0.020	-0.050*	-0.030	-0.016
	[0.051]	[0.079]	[0.014]	[0.020]	[0.026]	[0.079]	[0.012]	[0.019]	[0.029]	[0.039]	[0.038]
Target PE Backed	-0.012	0.016	-0.002	0.005	-0.001	0.035	-0.002	0.007	0.033**	-0.002	-0.004
	[0.044]	[0.066]	[0.010]	[0.015]	[0.019]	[0.043]	[0.008]	[0.010]	[0.016]	[0.027]	[0.034]
Bidder Serial	-0.009	-0.022	0.008**	0.008	0.006	-0.002	-0.002	0.002	0.002	-0.018	0.006
	[0.022]	[0.029]	[0.004]	[0.006]	[0.008]	[0.025]	[0.004]	[0.006]	[0.009]	[0.013]	[0.013]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,772	1,773	1,797	1,797	1,798	1,797	1,783	1,783	1,783	1,730	1,759
R-squared	0.170	0.163	0.124	0.109	0.101	0.151	0.054	0.059	0.065	0.128	0.102

Table 5 Panel A: Regulatory bids and CAPEX declines

This panel contains OLS panel regressions that analyze the likelihood that a firm's CAPEX/Assets declines over various event windows around the takeover announcement. The analysis is at the firm-year level. All regressions include firm and year fixed effects and cluster standard errors by firm. Brackets contain standard errors and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent Variable	CAPEX/Assets Decline Indicator						
Window	(t-3,t-1)	(t-1,t+1)	(t-1,t+1)	(t-1,t+2)	(t-1,t+2)	(t-1,t+3)	(t-1,t+3)
Does regulatory acquisition in year t	-0.011	0.045***	0.039**	0.045***	0.039**	0.034***	0.031**
	[0.012]	[0.012]	[0.016]	[0.012]	[0.016]	[0.012]	[0.015]
Tobin's Q (t-1)	-0.024***	0.021***	0.021***	0.032***	0.032***	0.036***	0.036***
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
Does regulatory acquisition in year t x Tobin's Q (t-1)			0.004		0.004		0.002
			[0.007]		[0.007]		[0.007]
EBIT/Assets (t-1)	-0.094***	-0.050***	-0.050***	0.009	0.009	0.041***	0.041***
	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]	[0.010]	[0.010]
ln(Assets (t-1))	0.012***	-0.005***	-0.005***	0.003**	0.003**	0.003**	0.003**
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.002]	[0.002]
Debt/Assets (t-1)	0.040***	0.126***	0.126***	0.083***	0.083***	0.076***	0.076***
	[0.010]	[0.010]	[0.010]	[0.011]	[0.011]	[0.011]	[0.011]
Cash/Assets (t-1)	0.164***	-0.245***	-0.245***	-0.216***	-0.216***	-0.180***	-0.180***
	[0.013]	[0.013]	[0.013]	[0.013]	[0.013]	[0.014]	[0.014]
R&D/Sales (t-1)	-0.004	-0.004	-0.004	-0.001	-0.001	-0.004	-0.004
	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	202,858	202,858	202,858	202,850	202,850	202,847	202,847
R-squared	0.024	0.025	0.025	0.028	0.028	0.029	0.029

Table 5 Panel B: Regulatory bids and Tobin's Q declines

This panel contains OLS panel regressions that analyze the likelihood that a firm's Tobin's Q declines over various event windows around the takeover announcement. The analysis is at the firm-year level. All regressions include firm and year fixed effects and cluster standard errors by firm. Brackets contain standard errors and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent Variable	Tobin's Q Decline Indicator						
Window	(t-3,t-1)	(t-1,t+1)	(t-1,t+1)	(t-1,t+2)	(t-1,t+2)	(t-1,t+3)	(t-1,t+3)
Does regulatory acquisition in year t	-0.068***	0.119***	0.121***	0.139***	0.143***	0.119***	0.126***
	[0.012]	[0.012]	[0.015]	[0.012]	[0.015]	[0.012]	[0.015]
CAPEX/Assets (t-1)	-0.289***	0.940***	0.941***	0.940***	0.940***	0.895***	0.895***
	[0.024]	[0.024]	[0.024]	[0.024]	[0.024]	[0.025]	[0.025]
Does regulatory acquisition in year t x CAPEX/Assets (t-1)			-0.038		-0.111		-0.160
			[0.202]		[0.220]		[0.211]
EBIT/Assets (t-1)	-0.379***	0.309***	0.309***	0.320***	0.320***	0.311***	0.311***
	[0.011]	[0.010]	[0.010]	[0.010]	[0.010]	[0.011]	[0.011]
ln(Assets (t-1))	0.040***	-0.014***	-0.014***	-0.017***	-0.017***	-0.018***	-0.018***
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.002]	[0.002]
Debt/Assets (t-1)	0.275***	-0.341***	-0.341***	-0.398***	-0.398***	-0.408***	-0.408***
	[0.010]	[0.010]	[0.010]	[0.011]	[0.011]	[0.011]	[0.011]
Cash/Assets (t-1)	-0.373***	0.342***	0.342***	0.405***	0.405***	0.414***	0.414***
	[0.013]	[0.013]	[0.013]	[0.014]	[0.014]	[0.014]	[0.014]
R&D/Sales (t-1)	-0.068***	0.067***	0.067***	0.071***	0.071***	0.072***	0.072***
	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]	[0.005]	[0.005]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	201,152	201,205	201,205	200,676	200,676	200,205	200,205
R-squared	0.110	0.122	0.122	0.122	0.122	0.122	0.122

Table 6: Likelihood of a bid and declines in Q and CAPEX

This table contains OLS panel regressions that analyze the likelihood that a does an acquisition in a given year as a function of whether the firm's CAPEX/Assets or Tobin's Q declines over a given interval. The analysis is at the firm-year level. All regressions include firm and year fixed effects and cluster standard errors by firm. Brackets contain standard errors and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent Variable	Does Acquisition in Year t							
Tobin's Q (t-1)	0.001***		0.001***		0.001***		0.001***	
	[0.000]		[0.000]		[0.000]		[0.000]	
CAPEX/Assets (t-1)		0.000		-0.003		-0.004		-0.003
		[0.003]		[0.003]		[0.003]		[0.003]
CAPEX Decline (t-3,t-1)	-0.000							
	[0.000]							
Tobin's Q Decline (t-3,t-1)		-0.003***						
		[0.000]						
CAPEX Decline (t-1,t+1)			0.002***					
			[0.000]					
Tobin's Q Decline (t-1,t+1)				0.005***				
				[0.000]				
CAPEX Decline (t-1,t+2)					0.002***			
					[0.000]			
Tobin's Q Decline (t-1,t+2)						0.005***		
						[0.000]		
CAPEX Decline (t-1,t+3)							0.001***	
							[0.000]	
Tobin's Q Decline (t-1,t+3)								0.005***
								[0.001]
EBIT/Assets (t-1)	0.003***	0.003***	0.004***	0.003***	0.003***	0.003***	0.003***	0.003***
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
ln(Assets (t-1))	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Debt/Assets (t-1)	-0.006***	-0.007***	-0.006***	-0.006***	-0.006***	-0.006***	-0.006***	-0.006***
	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]
Cash/Assets (t-1)	0.001	0.003	0.002	0.002	0.002	0.001	0.002	0.002
	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]
R&D/Sales (t-1)	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.001
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	202,858	201,152	202,858	201,205	202,850	200,676	202,847	200,205
R-squared	0.005	0.005	0.006	0.006	0.006	0.006	0.005	0.006

Table 7: Predicting bid failure based on the 'all bids' sample

This table contains logit and OLS regressions that predict the likelihood that a bid fails based on our sample of all bids but excluding competed bids and bidders with toeholds. The column header states if the analysis is OLS or logit. All models contain year effects and industry effects and cluster standard errors by bidder. Brackets contain standard errors and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent Variable	Bid Failure Indicator					
Model	Logit	OLS	Logit	OLS	Logit	OLS
Bid with regulator review	-1.344***	-0.118***	-1.334***	-0.104***	-1.472***	-0.105***
	[0.260]	[0.024]	[0.272]	[0.023]	[0.272]	[0.022]
Negative CAR(Ann -2, Ann +2)	0.092	0.002				
	[0.218]	[0.027]				
Regulatory x Negative CAR(Ann -2, Ann +2)	0.369	0.021				
	[0.311]	[0.029]				
Negative CAR(Ann -5, Ann +5)			0.286	0.032		
			[0.216]	[0.027]		
Regulatory x Negative CAR(Ann -5, Ann +5)			0.327	-0.002		
			[0.320]	[0.029]		
Negative CAR(Ann -11, Ann +11)					0.429**	0.048*
					[0.211]	[0.026]
Regulatory x Negative CAR(Ann -11, Ann +11)					0.516*	-0.002
					[0.308]	[0.028]
Bidder Q	0.053	0.005	0.045	0.004	0.034	0.004
	[0.059]	[0.005]	[0.061]	[0.005]	[0.060]	[0.005]
Bidder EBIT/Assets	-0.439	-0.057	-0.469	-0.057	-0.433	-0.057
	[0.546]	[0.065]	[0.552]	[0.066]	[0.540]	[0.065]
Bidder ln(Assets)	-0.089*	-0.004	-0.084*	-0.004	-0.082*	-0.004
	[0.048]	[0.004]	[0.048]	[0.004]	[0.049]	[0.004]
Bidder Debt/Assets	0.406	0.018	0.372	0.016	0.401	0.021
	[0.470]	[0.045]	[0.474]	[0.045]	[0.464]	[0.045]
Bidder Cash/Assets	-0.714	-0.069	-0.676	-0.067	-0.668	-0.067
	[0.736]	[0.071]	[0.732]	[0.071]	[0.739]	[0.071]
Bidder CAPEX/Assets	-1.916	-0.186	-1.852	-0.178	-1.890	-0.177
	[1.526]	[0.155]	[1.510]	[0.155]	[1.494]	[0.155]
Bidder R&D/Sales	0.132	0.006	0.134	0.007	0.186	0.008
	[0.228]	[0.024]	[0.227]	[0.024]	[0.220]	[0.024]
Stock Bid Only	-0.125	-0.012	-0.119	-0.011	-0.130	-0.012
	[0.169]	[0.014]	[0.168]	[0.014]	[0.168]	[0.014]
Tgt Mktcap / Bidder Mktcap (t-1)	0.941***	0.120***	0.945***	0.120***	0.968***	0.120***
	[0.139]	[0.020]	[0.138]	[0.020]	[0.141]	[0.020]
Bidder High Tech	-0.978***	-0.071**	-0.988***	-0.072**	-1.024***	-0.074**
	[0.362]	[0.033]	[0.361]	[0.033]	[0.363]	[0.033]
Bidder Financial Services	-0.141	-0.132	-0.181	-0.114	-0.215	0.036
	[0.952]	[0.110]	[0.948]	[0.110]	[0.954]	[0.057]
Rel Q	-0.019	0.001	-0.018	0.001	-0.012	0.001
	[0.039]	[0.003]	[0.040]	[0.003]	[0.040]	[0.003]
Bidder PE Backed	-0.146	-0.014	-0.177	-0.016	-0.164	-0.016
	[0.632]	[0.041]	[0.628]	[0.041]	[0.630]	[0.041]
Target PE Backed	-1.014	-0.054**	-0.965	-0.053**	-1.071	-0.058**
	[0.794]	[0.026]	[0.791]	[0.026]	[0.796]	[0.027]
Bidder Serial	-0.339	-0.016	-0.359	-0.016	-0.356	-0.017
	[0.251]	[0.014]	[0.251]	[0.014]	[0.253]	[0.014]
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,540	2,647	2,540	2,647	2,541	2,648
R-squared		0.141		0.142		0.145
Pseudo R-squared	0.186		0.189		0.196	

Table 8: Post-bid CAPEX, R&D, EBIT, and Tobin's Q and the Relationship between Bid Failure and Performance

This table contains OLS regressions that analyze the bidder's CAPEX/Assets, R&D/Sales, EBIT/Assets, and Tobin's Q one, two, and three years after the takeover announcement. The analysis is cross-sectional at the bid-level. The sample is confined to bids subject to regulation and excludes competed bids and bidder toeholds. All models include year and industry effects and cluster standard errors by bidder. Brackets contain standard errors and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent Variable	CAPEX/Assets			R&D/Sales			EBIT/Assets			Tobin's Q		
Year	t+1	t+2	t+3	t+1	t+2	t+3	t+1	t+2	t+3	t+1	t+2	t+3
Failed	0.003	-0.000	-0.005	0.018	-0.025**	0.049	-0.008	-0.002	0.005	0.132	0.194	0.200
	[0.007]	[0.008]	[0.007]	[0.036]	[0.010]	[0.043]	[0.017]	[0.011]	[0.017]	[0.278]	[0.200]	[0.235]
Failed x Bidder CAPEX/Assets	0.009	-0.113	0.154									
	[0.112]	[0.113]	[0.157]									
Failed x Bidder R&D/Sales				-0.353**	-0.118	-0.234						
				[0.143]	[0.090]	[0.142]						
Failed x Bidder EBIT/Assets							-0.085	-0.091	-0.095			
							[0.144]	[0.120]	[0.094]			
Failed x Bidder Tobin's Q										-0.101	-0.299***	-0.111
										[0.184]	[0.096]	[0.124]
Bidder Q	-0.002*	-0.001	-0.001	-0.000	0.007	0.007	0.006	0.005	0.001	0.423***	0.291***	0.266***
	[0.001]	[0.001]	[0.001]	[0.009]	[0.005]	[0.008]	[0.004]	[0.004]	[0.005]	[0.080]	[0.078]	[0.080]
Bidder EBIT/Assets	0.013	0.023	0.008	0.271*	0.051	-0.052	0.264***	0.161***	0.213***	1.012	1.839***	1.033**
	[0.016]	[0.018]	[0.018]	[0.157]	[0.058]	[0.074]	[0.063]	[0.056]	[0.075]	[0.664]	[0.509]	[0.484]
Bidder ln(Assets)	-0.001	-0.001	-0.001	-0.016***	-0.009*	-0.010**	0.009***	0.010***	0.013***	-0.001	0.029	0.025
	[0.001]	[0.001]	[0.001]	[0.006]	[0.005]	[0.005]	[0.002]	[0.002]	[0.003]	[0.026]	[0.030]	[0.033]
Bidder Debt/Assets	-0.012	-0.010	-0.007	-0.030	-0.026	0.057	0.002	-0.010	-0.013	-0.173	0.176	0.072
	[0.010]	[0.011]	[0.011]	[0.050]	[0.034]	[0.064]	[0.020]	[0.024]	[0.024]	[0.274]	[0.323]	[0.309]
Bidder Cash/Assets	0.002	-0.019	-0.004	0.044	-0.013	0.053	-0.055	-0.103**	-0.142**	-0.629	0.243	-0.143
	[0.017]	[0.020]	[0.018]	[0.106]	[0.058]	[0.087]	[0.045]	[0.043]	[0.059]	[0.613]	[0.686]	[0.624]
Bidder CAPEX/Assets	0.160***	0.166***	0.096**	-0.112	-0.024	0.270	-0.004	-0.030	-0.109	0.459	-0.200	-1.661*
	[0.047]	[0.051]	[0.045]	[0.130]	[0.085]	[0.175]	[0.077]	[0.093]	[0.098]	[1.108]	[1.088]	[0.987]
Bidder CAPEX/Assets (t-3)	0.028	0.064*	0.013	-0.240**	-0.025	-0.090	0.015	-0.078	-0.091	1.124*	-0.317	0.131
	[0.027]	[0.036]	[0.027]	[0.094]	[0.073]	[0.083]	[0.046]	[0.058]	[0.069]	[0.673]	[0.546]	[0.603]
Bidder R&D/Sales	0.001	0.005	-0.001	0.265**	0.072	-0.001	0.006	0.034***	0.053***	0.323	0.525*	0.270
	[0.005]	[0.004]	[0.004]	[0.129]	[0.065]	[0.026]	[0.019]	[0.012]	[0.018]	[0.238]	[0.285]	[0.180]
Stock Bid Only	0.001	-0.003	-0.007**	0.007	-0.025	-0.018	-0.011*	0.002	0.004	0.084	-0.029	0.018
	[0.003]	[0.003]	[0.003]	[0.014]	[0.015]	[0.017]	[0.006]	[0.007]	[0.008]	[0.085]	[0.087]	[0.102]
Tgt Mktcap / Bidder Mktcap (t-1)	-0.004	0.006	-0.004	0.008	-0.015	-0.031*	0.005	0.020***	0.018*	0.053	0.306**	0.083
	[0.004]	[0.004]	[0.004]	[0.020]	[0.011]	[0.017]	[0.009]	[0.007]	[0.010]	[0.120]	[0.126]	[0.111]
Bidder High Tech	0.015	0.009	0.000	0.049	0.064***	0.025	0.003	-0.010	-0.009	0.668**	0.399	0.284
	[0.009]	[0.010]	[0.012]	[0.063]	[0.017]	[0.021]	[0.021]	[0.015]	[0.018]	[0.314]	[0.293]	[0.288]
Bidder Financial Services	0.054***	0.071***	0.036**	0.087*	0.076	0.108*	-0.042	0.098*	0.233***	0.848*	1.310**	1.519*
	[0.012]	[0.010]	[0.016]	[0.050]	[0.076]	[0.063]	[0.036]	[0.050]	[0.038]	[0.467]	[0.606]	[0.876]
Rel Q	-0.000	0.002	0.001	-0.009***	-0.004	-0.000	0.000	-0.002	-0.003	-0.021	-0.049**	-0.025
	[0.001]	[0.001]	[0.002]	[0.003]	[0.003]	[0.005]	[0.002]	[0.002]	[0.003]	[0.028]	[0.024]	[0.030]
Bidder PE Backed	-0.001	0.011	0.038**	0.074	0.005	0.178	-0.045*	0.001	-0.063*	-0.025	-0.234	0.483
	[0.011]	[0.013]	[0.019]	[0.076]	[0.033]	[0.114]	[0.026]	[0.019]	[0.037]	[0.334]	[0.289]	[0.412]
Target PE Backed	-0.007	-0.006	-0.004	0.006	0.060	-0.041**	0.003	-0.031	0.029**	0.179	0.040	0.283
	[0.006]	[0.009]	[0.008]	[0.028]	[0.064]	[0.016]	[0.015]	[0.026]	[0.014]	[0.249]	[0.237]	[0.281]
Bidder Serial	-0.004	-0.007**	-0.010**	0.031	-0.019*	0.013	0.000	0.001	-0.016	0.118	-0.016	-0.015
	[0.003]	[0.003]	[0.004]	[0.021]	[0.012]	[0.021]	[0.008]	[0.009]	[0.010]	[0.119]	[0.133]	[0.150]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,834	1,834	1,833	1,825	1,820	1,820	1,759	1,731	1,707	1,833	1,833	1,832
R-squared	0.153	0.138	0.076	0.144	0.057	0.054	0.186	0.132	0.142	0.304	0.186	0.133

Table 9: Target returns for regulatory sample

This table contains OLS regressions that analyze target announcement returns over various windows surrounding the takeover announcement. The analysis is cross-sectional (with the unit-of-analysis) being at the bid level and we only include bids that are non-competed, involve a regulator, and for which the bidder did not have a toehold in the target. The column header states the dependent variable. All models include year and industry fixed effects and cluster standard errors by target. Brackets contain standard errors and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent	BHAR	BHAR	CAR	CAR	CAR	CAR	CAR	CAR	CAR	CAR	CAR
Window	Ann -2	Ann - 60	Ann - 2	Ann - 5	Ann - 11	Ann -2	End -2	End -5	End -11	Ann - 60	Ann - 60
	End +2	End + 2	Ann + 2	Ann + 5	Ann + 11	Ann + 120	End +2	End +5	End +11	Ann -2	Ann +2
Failed	-0.374***	-0.409***	-0.032	-0.044	-0.040	-0.200***	-0.110***	-0.151***	-0.166***	0.029	-0.017
	[0.051]	[0.073]	[0.030]	[0.031]	[0.037]	[0.058]	[0.020]	[0.024]	[0.032]	[0.036]	[0.042]
Failed x Stock Bid	-0.129	-0.258**	0.041	0.033	0.004	-0.227**	-0.032	-0.030	-0.013	-0.162**	-0.103
	[0.081]	[0.127]	[0.046]	[0.051]	[0.062]	[0.093]	[0.035]	[0.041]	[0.053]	[0.065]	[0.077]
Target Q	-0.056***	-0.085***	-0.016***	-0.017***	-0.022***	-0.052***	-0.002	-0.005	-0.011***	-0.037***	-0.044***
	[0.009]	[0.017]	[0.004]	[0.005]	[0.006]	[0.009]	[0.003]	[0.003]	[0.004]	[0.007]	[0.007]
Target EBIT/Assets	-0.046	0.011	-0.005	-0.009	-0.024	-0.144*	0.013	-0.005	-0.044	-0.086	-0.066
	[0.096]	[0.138]	[0.056]	[0.055]	[0.063]	[0.083]	[0.018]	[0.021]	[0.032]	[0.063]	[0.077]
Target ln(Assets)	-0.007	-0.009	-0.014***	-0.015***	-0.018***	-0.007	0.000	0.002	0.003	-0.007	-0.026***
	[0.009]	[0.013]	[0.005]	[0.005]	[0.005]	[0.008]	[0.002]	[0.003]	[0.003]	[0.005]	[0.007]
Target Debt/Assets	-0.186**	-0.280**	-0.048	-0.017	-0.025	-0.155**	-0.015	-0.003	-0.024	-0.069	-0.068
	[0.080]	[0.119]	[0.042]	[0.042]	[0.053]	[0.072]	[0.019]	[0.023]	[0.032]	[0.051]	[0.062]
Target Cash/Assets	0.114	-0.087	0.084	0.095	0.099	0.126	0.010	0.010	-0.026	-0.099	0.049
	[0.102]	[0.157]	[0.055]	[0.059]	[0.071]	[0.095]	[0.025]	[0.029]	[0.037]	[0.069]	[0.087]
Target CAPEX/Assets	-0.026	-0.191	-0.047	-0.012	-0.122	-0.043	0.016	0.100	0.121	-0.126	0.091
	[0.252]	[0.344]	[0.117]	[0.117]	[0.142]	[0.222]	[0.067]	[0.085]	[0.113]	[0.166]	[0.179]
Target R&D/Sales	0.055**	0.047	0.030*	0.027	0.040*	0.045*	-0.001	-0.003	-0.003	0.007	0.025
	[0.028]	[0.044]	[0.018]	[0.018]	[0.021]	[0.025]	[0.006]	[0.008]	[0.010]	[0.025]	[0.025]
Stock Bid Only	-0.008	-0.031	-0.066***	-0.070***	-0.065***	-0.008	0.008	0.005	0.010	-0.007	-0.085***
	[0.027]	[0.040]	[0.014]	[0.014]	[0.016]	[0.023]	[0.005]	[0.006]	[0.009]	[0.018]	[0.021]
Tgt Mktcap / Bidder Mktcap (t-1)	-0.044	-0.051	-0.091***	-0.088***	-0.091***	-0.057**	0.007	0.018	0.019	0.003	-0.066***
	[0.027]	[0.041]	[0.014]	[0.015]	[0.016]	[0.026]	[0.008]	[0.011]	[0.014]	[0.019]	[0.023]
Target High Tech	-0.082	-0.043	-0.078**	-0.076**	-0.075**	-0.085*	-0.009	-0.002	0.021	0.048	-0.039
	[0.055]	[0.083]	[0.030]	[0.032]	[0.037]	[0.046]	[0.017]	[0.022]	[0.024]	[0.036]	[0.050]
Target Financial Services	-0.102	0.168	-0.310	-0.415*	-0.432*	-0.741***	0.080**	0.060	0.039	-0.296**	-0.701***
	[0.152]	[0.182]	[0.210]	[0.223]	[0.223]	[0.283]	[0.036]	[0.049]	[0.068]	[0.137]	[0.173]
Rel Q	0.009	0.027**	0.010**	0.016***	0.019***	0.016**	0.000	0.000	0.003	0.014***	0.019***
	[0.008]	[0.014]	[0.005]	[0.005]	[0.006]	[0.007]	[0.002]	[0.002]	[0.003]	[0.005]	[0.007]
Bidder PE Backed	0.029	-0.096	0.044	0.033	0.034	0.003	0.027	0.031	0.036	-0.085*	-0.024
	[0.065]	[0.088]	[0.037]	[0.040]	[0.044]	[0.061]	[0.022]	[0.022]	[0.026]	[0.046]	[0.049]
Target PE Backed	0.012	-0.002	-0.002	0.002	0.014	0.016	-0.024*	-0.027*	-0.020	0.002	-0.032
	[0.057]	[0.075]	[0.038]	[0.038]	[0.044]	[0.048]	[0.014]	[0.015]	[0.019]	[0.035]	[0.044]
Bidder Serial	-0.020	-0.001	-0.013	-0.010	-0.003	-0.004	0.004	0.012	0.014	0.010	-0.002
	[0.031]	[0.045]	[0.018]	[0.019]	[0.022]	[0.028]	[0.008]	[0.009]	[0.012]	[0.021]	[0.025]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,551	1,551	1,577	1,577	1,577	1,577	1,047	1,047	1,047	1,513	1,554
R-squared	0.233	0.209	0.210	0.214	0.206	0.232	0.282	0.299	0.249	0.146	0.218

Table 10: Combined returns for regulatory sample

This table contains OLS regressions that analyze combined bidder and target announcement returns over various windows surrounding the takeover announcement. The analysis is cross-sectional (with the unit-of-analysis) being at the bid level and we only include bids that are non-competed, involve a regulator, and for which the bidder did not have a toehold in the target. The column header states the dependent variable. All models include year and industry fixed effects and cluster standard errors by bidder. Brackets contain standard errors and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent Window	BHAR Ann -2 End +2	BHAR Ann - 60 End + 2	CAR Ann - 2 Ann + 2	CAR Ann - 5 Ann + 5	CAR Ann - 11 Ann + 11	CAR Ann -2 Ann + 120	CAR End -2 End +2	CAR End -5 End +5	CAR End -11 End +11	CAR Ann - 60 Ann -2	CAR Ann - 60 Ann +2
Failed	-0.110***	-0.154***	-0.005	-0.027**	-0.036**	-0.077*	-0.016	-0.042***	-0.054***	-0.021	-0.028
	[0.038]	[0.046]	[0.011]	[0.013]	[0.017]	[0.047]	[0.010]	[0.013]	[0.018]	[0.021]	[0.023]
Failed x Stock Bid	-0.100	-0.110	0.002	0.006	-0.013	-0.225***	-0.034*	-0.025	-0.019	-0.040	-0.036
	[0.072]	[0.087]	[0.022]	[0.027]	[0.036]	[0.087]	[0.018]	[0.024]	[0.033]	[0.042]	[0.050]
Bidder Q	-0.031***	-0.042***	-0.004*	-0.007**	-0.009**	-0.047***	0.001	-0.003	-0.013**	-0.007	-0.009
	[0.011]	[0.015]	[0.002]	[0.003]	[0.004]	[0.012]	[0.002]	[0.004]	[0.005]	[0.006]	[0.006]
Bidder EBIT/Assets	0.372**	0.520**	0.056	0.065	0.104*	0.240	-0.013	-0.019	-0.006	0.010	0.055
	[0.148]	[0.208]	[0.038]	[0.048]	[0.059]	[0.171]	[0.030]	[0.040]	[0.068]	[0.087]	[0.083]
Bidder ln(Assets)	-0.004	-0.003	-0.011***	-0.012***	-0.015***	-0.002	-0.002	-0.004*	-0.003	-0.004	-0.022***
	[0.008]	[0.011]	[0.002]	[0.003]	[0.003]	[0.008]	[0.002]	[0.002]	[0.004]	[0.005]	[0.005]
Bidder Debt/Assets	-0.060	-0.020	0.005	-0.005	0.008	-0.121	-0.007	-0.014	-0.026	0.055	0.032
	[0.070]	[0.100]	[0.017]	[0.023]	[0.031]	[0.077]	[0.015]	[0.022]	[0.032]	[0.043]	[0.045]
Bidder Cash/Assets	0.049	-0.035	-0.030	-0.022	-0.059	0.124	0.015	-0.016	-0.006	-0.057	-0.157**
	[0.108]	[0.164]	[0.031]	[0.038]	[0.045]	[0.112]	[0.024]	[0.035]	[0.057]	[0.072]	[0.078]
Bidder CAPEX/Assets	0.317	-0.165	-0.017	0.007	-0.068	0.140	0.145**	0.060	0.043	-0.200	-0.021
	[0.267]	[0.362]	[0.066]	[0.078]	[0.105]	[0.321]	[0.065]	[0.094]	[0.134]	[0.167]	[0.169]
Bidder CAPEX/Assets (t-3)	-0.222*	-0.391**	-0.063*	-0.140***	-0.148***	-0.184	-0.006	-0.018	-0.094	-0.186**	-0.182**
	[0.118]	[0.169]	[0.033]	[0.043]	[0.055]	[0.147]	[0.033]	[0.049]	[0.078]	[0.087]	[0.087]
Bidder R&D/Sales	0.059	0.043	-0.007	0.003	0.017	-0.015	0.008	-0.003	-0.024	-0.009	-0.038
	[0.049]	[0.066]	[0.011]	[0.015]	[0.015]	[0.059]	[0.008]	[0.012]	[0.020]	[0.025]	[0.025]
Stock Bid Only	-0.004	0.027	-0.016***	-0.018***	-0.015*	0.005	0.001	-0.007	-0.005	0.030**	-0.000
	[0.022]	[0.031]	[0.005]	[0.006]	[0.009]	[0.023]	[0.005]	[0.007]	[0.011]	[0.013]	[0.014]
Tgt Mktcap / Bidder Mktcap (t-1)	0.041	0.057	0.012	0.012	0.011	0.058*	-0.006	-0.002	0.004	0.011	0.038**
	[0.029]	[0.043]	[0.010]	[0.012]	[0.014]	[0.032]	[0.007]	[0.010]	[0.015]	[0.020]	[0.020]
Bidder High Tech	0.019	0.040	0.026**	0.023	0.035*	0.040	-0.007	0.007	0.020	0.031	0.091***
	[0.047]	[0.070]	[0.013]	[0.017]	[0.021]	[0.054]	[0.011]	[0.015]	[0.024]	[0.030]	[0.031]
Bidder Financial Services	-0.450*	-0.815***	-0.079*	-0.158***	-0.199**	-0.406*	-0.031	0.002	-0.024	-0.380**	-0.750***
	[0.247]	[0.209]	[0.046]	[0.055]	[0.079]	[0.232]	[0.038]	[0.044]	[0.080]	[0.159]	[0.233]
Rel Q	-0.018***	-0.024**	-0.003*	-0.002	-0.006**	-0.016**	-0.005***	-0.005***	-0.004	-0.006	-0.008**
	[0.007]	[0.009]	[0.002]	[0.002]	[0.003]	[0.007]	[0.001]	[0.002]	[0.003]	[0.004]	[0.004]
Bidder PE Backed	-0.020	-0.055	0.007	0.005	-0.001	-0.097	-0.008	0.016	0.000	-0.022	0.000
	[0.049]	[0.069]	[0.014]	[0.018]	[0.023]	[0.070]	[0.016]	[0.021]	[0.036]	[0.032]	[0.031]
Target PE Backed	0.017	0.046	0.000	-0.003	-0.011	0.017	-0.013	-0.015	0.002	-0.003	-0.017
	[0.043]	[0.059]	[0.014]	[0.016]	[0.019]	[0.039]	[0.009]	[0.011]	[0.019]	[0.022]	[0.031]
Bidder Serial	-0.008	-0.018	0.006	0.005	0.008	0.011	0.001	0.010	0.010	-0.015	0.009
	[0.023]	[0.030]	[0.005]	[0.007]	[0.009]	[0.026]	[0.005]	[0.008]	[0.011]	[0.015]	[0.015]
Target Q	-0.023**	-0.032**	-0.005**	-0.004	-0.006	-0.026**	-0.004*	-0.007**	-0.007	-0.011*	-0.011**
	[0.009]	[0.014]	[0.002]	[0.003]	[0.004]	[0.011]	[0.002]	[0.003]	[0.004]	[0.006]	[0.005]
Target EBIT/Assets	-0.046	-0.035	0.008	0.006	-0.003	-0.086	0.021	0.001	-0.022	-0.011	-0.012
	[0.061]	[0.089]	[0.019]	[0.022]	[0.028]	[0.081]	[0.013]	[0.019]	[0.035]	[0.039]	[0.044]
Target ln(Assets)	0.011	0.018	0.006***	0.009***	0.010***	0.010	0.000	0.003	0.003	0.009*	0.015***
	[0.008]	[0.011]	[0.002]	[0.003]	[0.003]	[0.008]	[0.002]	[0.003]	[0.004]	[0.005]	[0.005]
Target Debt/Assets	-0.130**	-0.155*	-0.018	-0.005	0.002	-0.134**	0.004	0.016	-0.000	-0.037	-0.015
	[0.058]	[0.082]	[0.015]	[0.019]	[0.024]	[0.062]	[0.015]	[0.020]	[0.030]	[0.035]	[0.035]
Target Cash/Assets	-0.072	-0.177	-0.005	0.001	0.001	0.002	-0.010	-0.021	-0.028	-0.078	0.011
	[0.079]	[0.117]	[0.019]	[0.024]	[0.031]	[0.089]	[0.019]	[0.025]	[0.041]	[0.051]	[0.052]
Target CAPEX/Sales	-0.088	-0.040	0.003	-0.008	0.024	0.006	-0.004	0.005	0.023	0.060	0.080***

	[0.056]	[0.079]	[0.014]	[0.016]	[0.017]	[0.056]	[0.008]	[0.011]	[0.021]	[0.037]	[0.031]
Target R&D/Sales	0.003	0.002	0.004	0.003	-0.008	-0.011	0.003	-0.000	-0.008	-0.006	-0.012
	[0.024]	[0.038]	[0.005]	[0.007]	[0.009]	[0.028]	[0.005]	[0.006]	[0.011]	[0.015]	[0.013]
Target High Tech	0.011	0.022	-0.023**	-0.028*	-0.033*	-0.021	0.014	0.005	0.025	0.020	-0.035
	[0.049]	[0.067]	[0.011]	[0.015]	[0.018]	[0.055]	[0.011]	[0.015]	[0.022]	[0.028]	[0.027]
Target Financial Services	-0.182	1.079***	-0.302***	-0.414***	0.057	0.082	-0.177***	-0.118*	-0.069	0.590***	0.140
	[0.205]	[0.285]	[0.063]	[0.083]	[0.155]	[0.348]	[0.037]	[0.071]	[0.101]	[0.201]	[0.239]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,446	1,447	1,471	1,471	1,472	1,471	984	984	984	1,410	1,471
R-squared	0.238	0.244	0.230	0.201	0.190	0.247	0.195	0.203	0.191	0.208	0.211

Table 11: Relationship between bidder returns and target returns

This table contains OLS regressions that analyze the relationship between bidder returns and target returns. The dependent variable is the bidder's return over the specified event window. The sample contains only deals that involve a regulator, are non-competed, and for which the bidder did not have a toehold in the target. All models contain year and industry effects and cluster standard errors by bidder. Brackets contain standard errors and superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent Window	BHAR Ann -2 End +2	BHAR Ann - 60 End + 2	CAR Ann - 2 Ann + 2	CAR Ann - 5 Ann + 5	CAR Ann - 11 Ann + 11	CAR Ann -2 Ann + 120	CAR End -2 End +2	CAR End -5 End +5	CAR End -11 End +11	CAR Ann - 60 Ann -2	CAR Ann - 60 Ann +2
Tgt BHAR (Ann -2, End +2)	0.291***										
	[0.022]										
Tgt BHAR (Ann -60, End +2)		0.303***									
		[0.023]									
Tgt CAR (Ann -2, Ann +2)			0.016*								
			[0.008]								
Tgt CAR (Ann -5, Ann +5)				0.038***							
				[0.011]							
Tgt CAR (Ann -11, Ann +11)					0.090***						
					[0.014]						
Tgt CAR (Ann -2, Ann +120)						0.239***					
						[0.028]					
Tgt CAR (End -2, End +2)							0.149***				
							[0.040]				
Tgt CAR (End -5, End +5)								0.204***			
								[0.042]			
Tgt CAR (End -11, End +11)									0.255***		
									[0.051]		
Tgt CAR (Ann -60, Ann -2)										0.190***	
										[0.023]	
Tgt CAR (Ann -60, Ann +2)											0.139***
											[0.018]
Failed	0.024	0.009	-0.015*	-0.029***	-0.043***	-0.065	0.019*	0.020	0.021	-0.019	-0.029
	[0.033]	[0.042]	[0.009]	[0.010]	[0.014]	[0.043]	[0.010]	[0.013]	[0.020]	[0.019]	[0.021]
Bidder Q	-0.026***	-0.035***	-0.005***	-0.008***	-0.011***	-0.050***	-0.003	-0.008**	-0.014***	-0.006	-0.006
	[0.008]	[0.012]	[0.002]	[0.003]	[0.003]	[0.010]	[0.002]	[0.004]	[0.005]	[0.005]	[0.006]
Bidder EBIT/Assets	0.207*	0.289*	0.031	0.051	0.080	0.121	0.009	0.023	-0.014	0.022	0.068
	[0.125]	[0.160]	[0.037]	[0.039]	[0.051]	[0.159]	[0.032]	[0.043]	[0.072]	[0.081]	[0.082]
Bidder ln(Assets)	0.011**	0.019***	-0.000	0.001	0.001	0.012**	-0.002*	-0.002	-0.001	0.007**	-0.001
	[0.005]	[0.007]	[0.001]	[0.002]	[0.002]	[0.006]	[0.001]	[0.002]	[0.003]	[0.003]	[0.004]
Bidder Debt/Assets	-0.036	-0.029	0.004	-0.003	-0.003	-0.110	-0.012	-0.006	-0.011	0.048	0.036
	[0.066]	[0.095]	[0.017]	[0.021]	[0.028]	[0.079]	[0.015]	[0.020]	[0.032]	[0.040]	[0.040]
Bidder Cash/Assets	-0.085	-0.157	-0.029	-0.019	-0.062	0.006	0.007	-0.027	-0.006	-0.048	-0.122
	[0.096]	[0.135]	[0.030]	[0.035]	[0.044]	[0.119]	[0.026]	[0.038]	[0.059]	[0.068]	[0.081]
Bidder CAPEX/Assets	0.455**	0.297	0.023	0.032	0.031	0.272	0.073	-0.042	-0.086	-0.124	0.054
	[0.220]	[0.304]	[0.055]	[0.066]	[0.087]	[0.304]	[0.057]	[0.084]	[0.136]	[0.150]	[0.185]
Bidder CAPEX/Assets (t-3)	-0.222**	-0.339**	-0.054*	-0.116***	-0.127***	-0.148	-0.005	-0.009	-0.061	-0.136*	-0.149**
	[0.100]	[0.132]	[0.031]	[0.039]	[0.046]	[0.138]	[0.030]	[0.043]	[0.063]	[0.071]	[0.071]
Bidder R&D/Sales	0.022	0.034	-0.007	0.000	0.012	-0.043	0.007	-0.004	-0.046***	0.007	-0.017
	[0.033]	[0.052]	[0.011]	[0.014]	[0.013]	[0.050]	[0.007]	[0.011]	[0.016]	[0.024]	[0.020]
Stock Bid Only	-0.008	0.034	-0.009**	-0.006	-0.002	-0.009	0.001	-0.004	-0.003	0.035***	0.020*
	[0.017]	[0.024]	[0.004]	[0.005]	[0.007]	[0.019]	[0.004]	[0.006]	[0.009]	[0.010]	[0.011]
Tgt Mktcap / Bidder Mktcap (t-1)	0.059**	0.120***	0.002	0.004	0.016	0.058**	-0.004	-0.006	-0.004	0.053***	0.039**
	[0.023]	[0.031]	[0.008]	[0.009]	[0.012]	[0.028]	[0.006]	[0.008]	[0.012]	[0.015]	[0.017]
Bidder High Tech	0.011	0.020	-0.000	-0.007	-0.011	0.000	0.004	0.018	0.040*	0.008	0.052*
	[0.034]	[0.052]	[0.012]	[0.014]	[0.018]	[0.042]	[0.010]	[0.014]	[0.022]	[0.026]	[0.029]
Bidder Financial Services	-0.148***	0.774***	-0.056**	0.010	0.265*	-0.263*	-0.045*	-0.036	-0.047	-0.257***	-0.069

|	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	[0.038]	[0.079]	[0.023]	[0.085]	[0.136]	[0.135]	[0.024]	[0.030]	[0.063]	[0.081]	[0.053]
Rel Q	-0.018***	-0.031***	0.001	0.001	-0.002	-0.014***	-0.004***	-0.002	-0.002	-0.008***	-0.005*
	[0.005]	[0.007]	[0.001]	[0.002]	[0.002]	[0.006]	[0.001]	[0.001]	[0.002]	[0.003]	[0.003]
Bidder PE Backed	-0.062	-0.071	-0.019	-0.026	-0.038	-0.141**	-0.022	-0.009	-0.026	-0.015	-0.012
	[0.041]	[0.057]	[0.014]	[0.020]	[0.024]	[0.069]	[0.014]	[0.021]	[0.036]	[0.034]	[0.036]
Target PE Backed	0.013	0.067	-0.006	-0.010	-0.015	0.028	-0.004	-0.000	0.019	0.003	0.003
	[0.037]	[0.058]	[0.010]	[0.014]	[0.019]	[0.043]	[0.008]	[0.010]	[0.020]	[0.030]	[0.033]
Bidder Serial	0.007	0.002	0.010**	0.010*	0.010	0.018	-0.002	0.002	0.001	-0.017	0.009
	[0.018]	[0.024]	[0.004]	[0.005]	[0.008]	[0.023]	[0.005]	[0.007]	[0.010]	[0.012]	[0.013]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,713	1,714	1,738	1,738	1,739	1,738	1,140	1,140	1,140	1,672	1,741
R-squared	0.332	0.342	0.130	0.126	0.143	0.242	0.121	0.142	0.182	0.208	0.153
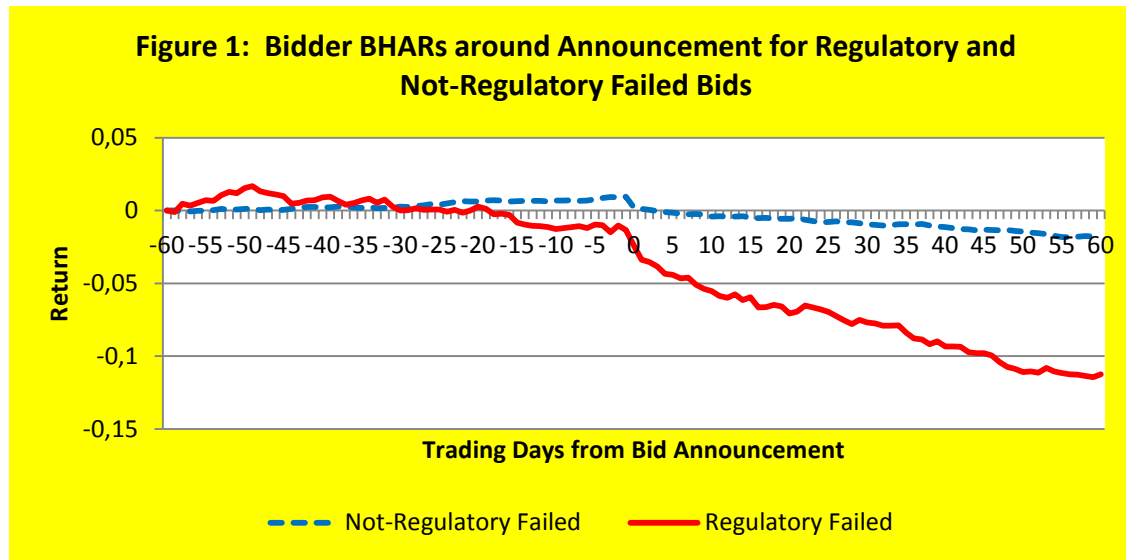
Figure 1: Bidder BHARs around the announcement of the takeover split between regulatory and non-regulatory failed deals
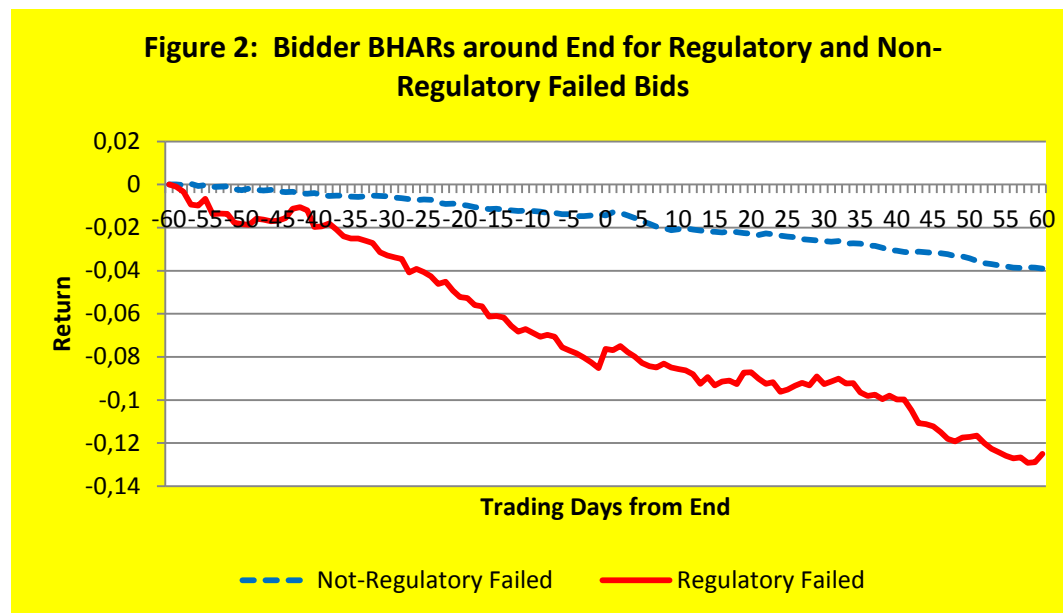

Figure 2: Bidder BHARs around the announcement of the takeover outcome split between regulatory and non-regulatory failed bids