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DO TARGETS GAIN FROM DEFEATING TENDER OFFERS?

FRANK H. EASTERBROOK AND GREGG A. JARRELL*

Do shareholders benefit from management decisions to resist tender offers? Professor Easterbrook and Mr. Jarrell think the evidence is unequivocal. They cite three recent studies of post-offer movements in the prices of target stocks which show that successful defensive tactics by management have deprived target shareholders of appreciation gains worth between fifteen and fifty-two percent of the value of target shares. They then introduce the results of their own more conventional study: had these gains been realized and reinvested in equity securities, shareholders would have fared considerably better during the past decade. The authors argue that a similar study by Kidder, Peabody & Co. reaches a seemingly contrary result because it erroneously compares the post-offer performances of these target stocks to the rate of inflation rather than to the performance of the equity market. The latter far outpaced inflation in recent years and thus, in the authors' view, provides a better measure of the true cost of defensive tactics to investors. This cost is enormous, the authors conclude, and warrants close judicial scrutiny, if not outright prohibition, of defensive tactics.

INTRODUCTION

One of the central questions in the debate about managers' responses to tender offers is whether defensive tactics are likely to make the targets' shareholders better off. If the defeat of an offer benefits these shareholders, then it follows that the decisions whether and how to defend should receive the same protection the business judgment rule accords other managerial decisions. If, on the other hand, the defeat of an offer is bad news for the target's shareholders, application of the business judgment rule is less defensible.

The business judgment rule is designed to protect managers from judicial reassessment of decisions that may or may not turn out well for the firm.1 It reflects the fact that business decisions are risky and often in retrospect seem ill-advised. The business judgment rule gives managers the freedom to err, and thus it facilitates risk-taking. Perhaps more fundamentally, it reflects the fact that error-prone managers eventually are "selected out" by the process of competition

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among firms and among managers themselves.\textsuperscript{2} Judges, on the other hand, are not chosen for their business acumen and are not fired or subject to reductions in salary if they err in assessing business situations. Judges also are accustomed to deciding cases on full records and may be too quick to blame managers who act—as they often should—in haste or on incomplete information. It is better to insulate all honest decisions from review than to expose managers and directors to review by judges and juries who do not face market pressures.

There has always been increased judicial scrutiny, though, of decisions by managers with conflicting interests.\textsuperscript{3} Under the law of most states, these decisions are scrutinized for “fairness.” This means that judges ask whether a decision of this type could have been reached by people acting at arms’ length, with no self-interest. Judges are better at policing managers’ loyalty than at policing their astuteness.

Tender offers create conflicts of loyalty in almost every case: to defend against the offer is to defend against a threat to one’s job as well. Managers’ promises of fidelity to shareholders’ interests are less likely to be honored when the stakes are so large for the managers themselves. Even when the evidence of conflicting interests is weak, some courts have been willing to restrict the scope of managers’ discretion. For example, some courts have closely scrutinized directors’ efforts to dismiss derivative litigation pending against fellow directors.\textsuperscript{4} When the evidence of conflict is convincing—when certain kinds of self-interested decisions always or almost always turn out poorly for the shareholders—the rationale of the business judgment rule is seriously undermined.

Defensive responses to tender offers could be classified as “ordinary” business decisions and protected by the business judgment rule. They could be classified as “self-interested” decisions and subjected to

\textsuperscript{2} See Easterbrook, Managers’ Discretion and Investors’ Welfare: Theories and Evidence (collecting and discussing the evidence about how markets influence and discipline managers) (on file at New York University Law Review).

\textsuperscript{3} Where a director has a personal interest in fending off a threat to corporate policy and control, courts do not presume that the director has acted in the corporation’s interest. See, e.g., Cheff v. Mathes, 199 A.2d 548 (Del. 1964); Bennett v. Propp, 187 A.2d 405 (Del. 1962); Condec Corp. v. Lunkenheimer Co., 43 Del. Ch. 353, 230 A.2d 769 (1967).

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review for "fairness." Or they could be classified as outside the scope of managers' implicit authority and banned altogether. Each of these positions has its partisans.

Recent judicial decisions, supported by much commentary, apply the ordinary business judgment rule. The cases are not very strong, though. Each of the three most important was decided by a vote of 2-1, and state courts have yet to speak. In contrast, some scholars have argued for outright prohibition of defensive tactics. (There is a further dispute about whether attempts to find "white knights" and run auctions, in addition to attempts to remain "independent," should be within such a ban. For current purposes we examine only outright defenses, by which firms seek to defeat all offers.) The SEC's Advisory Committee on Tender Offers took a middle position, proposing to permit some defensive tactics, to regulate others by requiring special

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One important assumption in these anti-defense arguments is that the Williams Act or some equivalent set of rules hinders the tactics of bidders and gives the targets' managers the opportunity to mount effective defenses. If bidders were free to select their tactics, we and many of the other authors listed above would take a quite different position on judicial review of defensive tactics.

votes of shareholders, and to ban some under defined circumstances.\(^8\) Some courts, too, have used the Williams Act to prohibit certain defensive tactics.\(^9\) Such decisions appear to have support from the Supreme Court's statement, in the course of invalidating state anti-takeover laws, that defensive tactics are damaging to shareholders.\(^10\) Many paths lie ahead. The recommendations of the SEC's Advisory Committee must be considered by Congress and the SEC, as well as by the state legislatures and the courts.\(^11\) The American Law Institute's Corporate Governance Project will address tender offers and defensive tactics. Although some portions of the ALI's project have been circulated in draft form, the part on these subjects has not been written. Proposed revisions of the ABA's Model Business Corporations Act are circulating for comment, and the proposals contain recommendations that bear on these subjects. Congress, the SEC, the ALI, and the ABA all need to know whether defensive tactics are likely to make the targets' shareholders better off. To shed light on this issue, we present some evidence from financial economics and then consider the major piece of contradictory evidence. We show that, when

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\(^8\) Advisory Committee Report, supra note 6, at 13 (considering regulations of auctions), 18 (Rec. 9.b recommends that the business judgment rule govern takeover contests), 34 (Rec. 35 endorses business judgment rule, subject to caveat in n.31 and Rec. 34 concerning state anti-takeover laws), 36 (Rec. 35 opposes high barriers to change of control in articles and bylaws), 36-37 (Rec. 36 calls for supermajority voting on some anti-takeover provisions), 38-39 (Rec. 37 calls for advisory votes on some defensive provisions), 40-41 (Rec. 38.a would ban Golden Parachutes adopted after commencement of an offer), 42 (Rec. 39.b would prohibit self-tender with expiration date in advance of bidder's date), 43 (Rec. 40 would ban PAC-MAN defense as a response to a bid for 100% of target's stock), 44 (Rec. 41 would limit issuance of stock during offer to 15%, unless shareholders' approval obtained).


\(^10\) Edgar v. MITE Corp., 457 U.S. 624, 643 (1982) (defenses hinder the "reallocate economic resources to their highest valued use" and reduce "the incentive the tender offer mechanism provides incumbent management to perform well").

\(^11\) The SEC has endorsed some of the Advisory Committee's proposals, rejected some, and stated that it needs more time to examine others. See Statement of John S.R. Shad, Chairman of the SEC, to the House Subcommittee on Telecommunications, Consumer Protection and Finance [1983-1984 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 83,511 (Mar. 28, 1984). The Commission appears quite skeptical about defensive tactics, proposing (among other things) to prohibit the issuance of lock-up options amounting to more than 5% of a firm's stock without approval by shareholders. See Tender Offer Reform Act of 1984, H.R. 5693, 98th Cong., 2d Sess. (1984). It has expressed doubt, though, that anti-defense rules should come from federal rather than state law.
viewed in the proper light, the evidence is not contradictory at all. Both sources of evidence demonstrate that targets' shareholders lose when managers defeat tender offers. Because what is good for investors in this respect is good for the economy as a whole, the loss is felt widely.  

I

The Evidence About Defeated Offers

A. Direct Price Comparisons

There are two kinds of evidence about the consequences of defensive tactics. Those who support defensive tactics have argued that corporations that fend off tender offers often do quite well. Martin Lipton describes the fate of McGraw-Hill, which defeated an offer for $40 only to see the price of its stock rise above that level within two years, as an example. According to Lipton, other targets also prosper after defeating offers. This line of argument draws substantial support from a study by Kidder, Peabody & Co.

The Kidder study analyzes 38 defeated hostile tender offers between 1974 and 1982 in which the target remained independent for at least one year. The study used four different methods to assess the effect of defeating a tender offer. Depending on the method used, the study purports to show that the shareholders of between 45% and 97% of all targets did better, as a result of the defeat of the offer, than they would have done if the offer had succeeded. At the low end of Kidder's range is a comparison of the price on February 28, 1983, discounted at the rate of inflation, versus the offer price. The discounted February 28 price exceeded the offer in 45% of all cases. The high end compares the highest price a stock attained after the offer with the original offer; 97% of the "highs" exceed the original offer.

The inference many draw from the Kidder study is that defense often is beneficial to targets' shareholders. If this inference is correct, then it seems to follow that managers' decisions should be fully pro-

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12 Some people have said that tender offers may be socially bad, though privately profitable, because they "use up credit" or otherwise distort markets. This kind of criticism reflects ignorance of how credit markets work, as the SEC's Advisory Committee unanimously recognized. See Advisory Committee Report, supra note 6, at 13-14, 72-74.

13 See Lipton Update, supra note 5, at 1026.

14 The Kidder study was submitted to and considered by the SEC's Advisory Committee on Tender Offers.
ected by the business judgment rule. On the other hand, if the Kidder study is misleading, quite a different inference is in order.

B. Evidence from Financial Economics

There is a body of evidence that suggests that the Kidder study is not the right way to look at things. This evidence, developed through the use of the powerful tools of financial economics, focuses on the movements in the price of stock at the time an offer is made and at the time it is defeated. The methodology works roughly as follows. First examine the movements of a firm's stock in the recent past to determine its "beta"—the extent to which its movements are a function of the market's or some industry group's movements. For example, if on average a stock's price rises 2% when the market (or its industry group) rises 1%, and falls 2% when the market falls 1%, the stock has a beta of 2. Then use the stock's beta, together with knowledge of what other stocks did near the time of a tender offer, to determine any "abnormal" movements in the price of the stock. If the stock has a beta of 2, and the market rises 2% on a given day, we expect the stock to rise by 4% on average. If it rises 6%, then it has done better than expected, and the 2% difference is an unexpected gain to investors. If, instead, it rises only 1%, it has done 3% worse than expected; we infer that something bad happened to the firm in relation to the market. The next step in the process is to examine the abnormal gains and losses of all targets near the time tender offers are made and withdrawn. Do they gain, relative to expectations, when offers are made? Do they gain, relative to expectations, when offers are defeated and withdrawn? The final step is to separate targets that defeated offers into two groups. The first contains targets that remained "independent." The second contains targets that were acquired by another bidder, whether this occurred with the target's consent or over its objection.

Only "seems" to follow because what is beneficial to shareholders when an offer is on the table is not necessarily what shareholders would have selected in advance. If a strategy that drives up the price also decreases the likelihood of an offer, it may or may not help shareholders. See the exchange of views in note 7 supra.

Three studies of this character have been performed in an effort to determine the effects of defensive tactics. All three studies show that investors in firms that defeated offers and remained independent for some time lost significantly when compared with the value of the offer and the value of successful transactions. They disclose identical patterns: the price of a target's stock rises dramatically, approximately 30% relative to the rest of the market, when an offer is announced. If the first offer is defeated and a later offer succeeds, the price rises a little more. If the offer is defeated and no other takes its place, the entire gain is lost. At the cost of omitting some other important data and qualifications, we summarize the findings as follows:

<table>
<thead>
<tr>
<th>Study</th>
<th>Appreciation on Announcement of Bid</th>
<th>Effect of Defeat*</th>
<th>Effect of Sale in Auction*</th>
<th>Cost of Defeat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asquith</td>
<td>ca. 15%</td>
<td>+1.0%</td>
<td>n.a.**</td>
<td>ca. -15%***</td>
</tr>
<tr>
<td>Bradley, Desai &amp; Kim</td>
<td>35.5%</td>
<td>+3.43%</td>
<td>55.73%</td>
<td>-52.3%</td>
</tr>
<tr>
<td>Jarrell</td>
<td>30.0%</td>
<td>+9.0%</td>
<td>38.00%</td>
<td>-29.0%</td>
</tr>
</tbody>
</table>

* Relative to pre-offer price. The Bradley, Desai & Kim data show effects one year after the initial bid; the Jarrell data show effects 100 trading days after the bid; the Asquith data show effects 60 trading days after the bid.
** Asquith's method of reporting data does not permit us to extract this number.
*** To compute the cost of defeat, we simply used the appreciation on the announcement of the bid as an estimate of the opportunity cost of defeating the bid.

The table shows, to use the Bradley study as an example, that when a bid was announced stock prices appreciated by about 35%. When a bid was defeated, the price fell back to approximately the same level as before the bid (an increase of 3.4% relative to pre-bid price); when it succeeded, the average auction premium was about 56%. Thus the loss the shareholders suffered because of defeat, the available premium less the post-defeat value, was about 52% of the total value of the stock. The effect in no-auction cases is the first column (35%) less the second, or a loss of about 32%. All studies demonstrate very large differences between how shareholders fared when their firms defeated offers and how they would have fared had

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the offers been successful. (The other studies apply slightly different methods of analysis to different samples of offers over different periods of time. Thus the difference in the results is not surprising.)

We find these data exceptionally powerful. All three studies show that the defeat of an offer means very large losses for investors. Other people are reluctant, however, to draw the obvious inference. In presenting these findings to the SEC's Advisory Committee on Tender Offers, and in other forums, we have encountered a number of responses worthy of brief discussion. Before we start, though, it is important to realize that the methods generating these numbers are not controversial within the economics profession. There is no debate about this subject in the way monetarists, Keynesians, and supply-siders debate employment and inflation. The method of analyzing market returns is almost universally accepted as valid, subject only to questions about the sources of data and the exact structure of the equations.18

1. Profits Versus Prices

The data we report are based on stock market movements at the time of the events, not accounting numbers or "real" profits. Thus, it may be said, they do not show either social gains or "reliable" gains to investors. As it turns out, accounting profit studies also do not measure real social gains,19 but this is not terribly important here. For investors, what matters is that they can cash out immediately at a gain and invest elsewhere.20 For society, what matters is that the higher prices accompanying acquisitions reflect estimates of future gains. Prices are reasonably good proxies for these gains, at least when large numbers of firms are involved, because stock prices are based on estimates of future real profits and dividends. Higher equity prices also attract new capital into the market and increase the rate of savings. (For what it is worth, the available evidence on the profitability of tender

18 There is, for example, debate about whether the "arbitrage pricing model" offers slightly better estimates than the model used in the studies we described; about the strength of the inferences; and about the comprehensiveness of the samples of events on which the conclusions are based. These differences, even taken together, affect only the magnitude rather than the existence or direction of the effects described.


20 For purposes of this analysis, we disregard other considerations that might affect a shareholder's decision to cash out: the tax consequences and transaction costs of selling stock, the costs of locating a suitable alternative investment, and the availability of a market for the stock or a satisfactory appraisal remedy.
offers suggests that they result in no unusual profits or losses. In other words, an investment of $X in a target appears to be about as profitable for a bidder as an investment of $X in other assets, such as new plants. This is what one would expect to see if managers of bidders are behaving rationally.

A related argument is that the finance studies emphasize the short-term results at the expense of the longer term. Managers, it may be said, know the longer term better than the market. This criticism misses the mark for two reasons. First, it is not accurate to say that the studies of abnormal returns are flawed because they look only at "instantaneous" price changes and not changes over a longer period. The studies do both. The studies summarized in the table above offer an "instantaneous" result in the first column. They tell you what happens to all of the target's stock when a bid is made for part or all. (The reason the abnormal gain is less than the average premium of 50-70% is that most bids are for less than all stock, and some bids fail. The "all stock" appreciation reflects the fact that not all investors will receive gains in all cases.)

The results in columns two to four are delayed results. Column three shows offers that we know in retrospect were successful. The investors in targets in these successful offer cases receive appreciation higher than the gains that we observe on the day the offer is made. Column two shows targets that we know in retrospect defeated all offers for an extended period. The investors in these targets show either losses, two years later, relative to the pre-bid price (Bradley, Desai & Kim) or losses, four months later, relative to the initial price (Jarrell). The losses relative to successful bids, shown in column four, are staggeringly large.

The second reason why this criticism is unavailing is simple: many careful studies have shown that the price of stock on any given day is the best estimate of the price of stock in the future. We return to this below.

2. Unusual Events

The studies of tender offers treat gains and losses to investors as averages, while individual cases may diverge from the pattern. This is true, but the implication is obscure. When legislatures or courts design rules of law, they must act on the basis of averages rather than outlying or unusual events. Society gains from inventions and the construction of new plants, even though many inventions and new plants are wastes. The fact that in 5% of all cases the investors of targets that stay independent may gain is not a very good excuse for
defense, as a rule, if the other 95% lose and if—as we think likely—any rule of law designed to protect the 5% also affects the other 95% to their detriment.21

3. Imperfect and Incomplete Evidence

The studies we have mentioned inevitably have flaws. They are based on incomplete samples of tender offers and may be affected by the quirks of particular offers. Thus one cannot say the data are “conclusive.” Yet this is an unrealistic demand for economic data. Suppose we were to study business decisions about whether to engage in searching for new ways to grow corn, or about introducing new products, or building new plants. The evidence about the profitability of these highly beneficial things is much less powerful than the evidence about tender offers. To believe, as some apparently do, that society does not lose much if managers defeat offers because the data do not conclusively prove the damage of such actions is to believe that society also would not lose if Congress systematically set about to discourage new ideas, new products, and new plants.

4. Inefficient Markets

Many people just cannot believe that stock markets are efficient, and they reject all studies and inferences that in their view are based on assumptions concerning efficiency. Louis Lowenstein is a good example. He argues that many targets are “well managed,” so tender offers are unlikely to be value-increasing, and that markets cannot be efficient because stock prices jump around “too much” in relation to “intrinsic values” for the market to be pricing them well.22 Thus, Lowenstein argues, the stock market data are misleading and independence is a beneficial goal.

There is an enormous body of evidence showing that stock markets are efficient both in the sense that the price of stock on any given day is the best estimate of its future price and in the sense that movements in the price of stock are “unbiased” (meaning that changes

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21 Investors prefer whatever arrangement maximizes total gains. This is obvious if each investor holds a diversified portfolio, but it is also true of undiversified investors. See Makowski, Competition and Unanimity Revisited, 73 Am. Econ. Rev. 329 (1983); cf. Easterbrook & Fischel, Corporate Control Transactions, 91 Yale L.J. 698, 711-14 (1982). Because shares are tradeable and are repriced in response to legal rules, no rule can succeed in transferring income from one class of investors to another.
22 See Lowenstein, supra note 5, at 289-94.
neither overshoot nor undershoot the price in the longer run).\textsuperscript{22} Those who challenge the efficiency of the stock markets usually do not take issue with these findings. They maintain, rather, that the markets are inefficient in the sense that "the price is not right." That is, they observe (accurately) that often a stock is over- or under-priced in relation to its "true" (future) value.

Efficiency in this "right price" sense is not, however, an assumption of the method used in the studies we reported above. Evaluation of the gains and losses from offers depends only on the assumption that the degree of pricing accuracy does not change rapidly. So long as the price a year from now is about as likely as today's price to be "right," inferences based on large numbers of cases will be reliable. "Wrong" prices will offset one another, and any substantial changes in average prices, or average responses, will enable us to determine the costs and benefits of defensive strategies.\textsuperscript{24}

\textbf{C. The Kidder, Peabody Study Once More}

A substantial number of skeptics remain. We have heard over and over the question: "If these studies are right, then what about the Kidder, Peabody study?" The implication is that the Kidder study is countervailing data, and that the dispute calls for continued application of the business judgment rule.

The Kidder study examines the consequences of defenses by comparing the bidder's offer against an "adjusted" price of the target's stock at some later time. The adjustment takes into account any inflation during the time between the offer and later price. If the bid was made in 1980, and the later price was observed in 1982, Kidder deflated the 1982 price to "1980 dollars" using the Consumer Price Index (CPI). It then compared this deflated price with the offer. If the deflated price exceeded the offer, Kidder concluded that the defense was beneficial for the target's investors. Using this definition, Kidder concluded that investors gained between 45\% and 97\% of the time (depending on the subsequent date chosen).

We have checked the Kidder sample, data, and computations. We found no serious errors. Yet we are unshaken in our belief that

\textsuperscript{22} See R. Brealey, An Introduction to Risk and Return from Common Stocks 3-20 (2d ed. 1983) (summarizing many of the pertinent studies); see also J. Cragg & B. Malkiel, Expectations and the Structure of Share Prices (1982) (impressive demonstration that market professionals do not "beat the market," as they should if there were unexploited opportunities for those with the best information to outguess today's price).

\textsuperscript{24} See Advisory Committee Report, supra note 6, at 107-09, 116-18 (separate statement of Easterbrook and Jarrell discussing the role of "efficiency" in creating and interpreting similar data).
successful defenses are calamities for the target's investors. This is so because the Kidder study simply is not inconsistent with the work examining abnormal returns. The Kidder study is a textbook example of how, if you approach data with the wrong question, you will get a misleading answer.

To understand why Kidder's question is wrong, consider a simple example. Suppose you own stock in Widgets Inc., which on December 1, 1980, was trading for $20. The next day Raider Corp. bids $30 for 100% of the stock. If successful, Raider would pay cash on January 1, 1981. Widgets Inc. beats back the offer, and you are left with shares that on January 1 trade for $20. Two years later, your stock trades for $34 (including the value of reinvested dividends). The 70% gain over $20 looks pretty good. Are you better off? Kidder would say "yes." The $34 is higher than the $30 bid, and if you adjust the $34 to "1981 dollars" you still have more than $30. Kidder would view anything over $33.94 as a gain.\(^2\)

You would disagree with Kidder, though, if you thought you could do better than inflation with your investments. Suppose you had $30 in hand on January 1, 1981, to invest however you wanted. If you had bought a market basket of stocks, you would have had more than $34 by January 1, 1983, because during that time a value-weighted index of New York Stock Exchange firms, including reinvested dividends, rose 14.64%, exceeding inflation.\(^2\) Knowing how Widget Inc. does against how you would have done with the cash is the sort of comparison you would care about. The stock versus the CPI does not tell you much unless by accident the market just tracks inflation. As it turns out, though, for most of the period covered by the Kidder study, especially 1980 and 1982-83, the stock market gain was much greater than inflation. Thus the Kidder study is seriously biased because it ignores what happened to other equity investments.

The extraordinary rise in the stock market over 1980-83 places the defeated bids in a different perspective when compared with the subsequent price of the target. Kidder labels defeats as beneficial just because the whole market rose. Similarly, if the market had fallen, Kidder's method would have greatly overstated the losses incurred by investors in targets, because the price of the targets would have gone

\(^2\) The Consumer Price Index increased 8.9% in 1981 and 3.9% in 1982. Thus $30 \times 1.089 \times 1.039 = $33.94.

\(^2\) This figure and all the others in our study come from the tape of daily stock prices maintained by the Center for Research in Securities Prices at the University of Chicago.
down with the market while the imputed value of the bids would have risen with inflation. None of this is a very satisfactory way to assess consequences for investors.

It is possible to make an accurate comparison only by taking into account how the market as a whole behaves. We tried to do this. To see how investors really fared, we did a new study, using all of the firms in the Kidder sample that were traded on the New York or American Stock Exchanges, according to the following method. This method uses none of the assumptions and practices that are challenged by those who do not accept the findings of modern financial economics.

We assumed that the targets “accepted” the bidders’ offers and that the shareholders invested the proceeds in a diversified portfolio of all equities traded on the New York and American Stock Exchanges. (Of course particular investors would have purchased some less complete sample, but the market as a whole indicates how investors as a whole would have done.) Then we examined this investment one, two, three, etc., months after the offer to see how the portfolio was performing compared with the targets’ actual stocks (given the real defeats of the offers). If the portfolio was doing better than the target, we viewed the defeat of the offer as bad news for the targets’ shareholders.27

We constructed an index that compares the results of the actual investment (given the defeat of the offer) with the hypothetical investment following the hypothetical success of the offer. If the two are equal at any time after the offer’s defeat, the index is 1.00. If the actual stock is 10% higher than the basket of equities obtained after success, then the index is 1.10. If, however, the shareholder would have done better with the defeated offer, the index is below 1.00. If, for example, the target’s stock does 10% worse than the investor would have expected to achieve in the market, the index is 0.90.

The results of this study are striking. A month after the offers, the targets’ stock was trading for about 10% less than the “invested

27 This method actually understates, by a substantial amount, the gains the investors would demand to make them indifferent between the success of the offers and their defeats. There has been a generally rising market in equities. The stocks of individual targets are riskier investments than the stocks of the market as a whole. In order to be indifferent between targets’ stocks and the market, investors demand compensation for the risk, and these individual stocks actually rise faster than the market (while other firms, such as AT&T and big utilities, rise more slowly). In treating targets’ stocks as if they were as safe as the whole market, we give a substantial advantage to the thesis that defense is beneficial. In other words, the method described in the text erroneously assumes that targets’ stocks have beta coefficients of one.
proceeds.” Two months later, we see a further 10% decline. Three months (60 trading days) after the offers, 27 of the 31 firms in our sample have index values less than one. Five months (100 trading days) after the offer, 28 of 31 still have indices less than one; the average index is .83.

Over the course of two years after the offer, the targets as a group fluctuate at a 10% to 20% loss relative to the “invested proceeds.” There they sit. The targets never recover. The invested proceeds always do better. So it turns out, if you ask the right question, that the single apparently contrary study is not so contrary after all.

We reproduce our study in an appendix in both tabular and graph form. In the table the company is listed in column one. The other columns give the date relative to the announcement of the offer. Date -20 is 20 trading days (a month) before the offer, and so on. In each column there are two index numbers for each company. The bottom number is the index we have described above. The top number gives the current price of the stock on the listed trading date relative to a basket of equities that could have been purchased by selling the stock 40 days before the offer. This top index will equal 1.00 whenever the offer (followed by defeat) made the shareholders no worse off than they would have been if no offer had ever been made. The final listing in the table, called the “Equal Weighted Portfolio,” is the average index of all 31 target stocks. The index number relative to the offer (the lower number in the table) is less than one for the portfolio as a whole on all subsequent dates and less than one for the vast majority of all targets on each subsequent date.

In the first graph the horizontal axis is the number of days after the announcement of the initial bids, and the vertical axis is the relation between the actual price of all target stocks taken as an average (subtracting market movements) and their price at the time of the offer. It is the equivalent of the bottom index in the table. This ratio drops steadily from 1.00 at the time of the offer to about 0.85 after it becomes clear that the offer has been defeated. The second graph is the equivalent of the table’s top index. It shows a rise from the average pre-offer price to more than 1.40 at the time of the offer. This is a benchmark; it shows what the investor could have had by taking the offer. The subsequent decline illustrates how the gains slowly ebb away over time as the likelihood that the offer will succeed (or that another offer will be made) goes down.

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28 See Appendix A at 294-97 infra.
29 See Appendix B at 298-99 infra.
The table shows that some targets' stocks did better than the investor would have done by taking the offer and investing in the market as a whole. For example, 60 trading days (three months) after the offer, four of the 31 firms had indices exceeding one. (We use the second index number from the table because it shows value relative to the offer.) Does this demonstrate that some managers cleverly outguessed the market and saved their investors from losing money?

To test whether the presence of some gains shows astuteness or just random variance, we asked the following question: "If every manager who resisted a tender offer expected the firm to lose 10% of its value, what number of firms nonetheless would appreciate just by chance?" In other words, how likely is it that the pattern of gains and losses we observe would exist even if every target expected its index to be 0.90? This is a simple test, for which statistical methods are well developed. The test shows that the probability is about 98.84% that chance alone would have produced four "winners" even if all defeats of tender offers were expected to be bad news for the targets' investors. Indeed, this method of looking at the data predicts that managers expected to lose about 20% relative to the market by defeating the offers. Given such an expectation, and given the volatility of the targets' stocks, four targets could have had indices exceeding 1.00, just by chance. That is exactly what happened.

Conclusion

It does not matter how one looks at defeated tender offers. Any method that takes into account the movement of the stock market

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30 This statistical approach assumes that prices fluctuate around some "true" value and that the size of the average daily fluctuation is known but the direction of the fluctuation is selected randomly. It is possible to find out how far, and with what probability, a future price would diverge from this "true" value after n days of such fluctuations. A large number of trials with a given "true" value and average daily fluctuation will yield a probability distribution, the mean and median of which will be the "true" value, with prices extending higher and lower. By specifying the expected fluctuation and the "true" value, we can therefore find the likelihood that on a given day the actual price in the market will be a given amount higher than the "true" value.

31 We omit the description of the method, but it is a standard combinatorial problem. It helps to think of the process as one that fills an urn with balls, some of which are colored to reflect the probability that by chance a given firm with a history of fluctuating prices will have an index value exceeding one after 57 days of fluctuations. For the sample of firms here, the chance for each firm is 2,840 in 10,000. If you draw 31 balls from an urn containing 10,000 balls, and 2,840 of the balls are black, what is the chance of getting at least four black balls? We will not go into the math behind the answer, which turns out to be 98.84%.

32 If you use the method employed in note 31 supra and select an index of 0.60 as the expected or true value, you find that the chance of any one target's index exceeding 1.00 is 12.7%. The best expectation is that you will draw about four black balls in 31 tries from a large urn, if 12.7% of the balls are black.
shows that managers who resist tender offers to the point of defeating them do a grave disservice to their investors. The size of the loss is 52% of value by some methods, such as comparing success with defeat in the Bradley, Desai & Kim study reported above; it is 30% of value using the method in Jarrell's study reported in the same table. If we use the most conservative assumptions, such as assuming that targets' stocks are as "safe" as the whole market (which we did in reassessing the Kidder study), we can shrink the size of the loss to 15% or so. But the loss just will not go away. A 15% loss in tender offers of the sort examined here represents an enormous loss in shareholders' equity.

These findings have substantial implications for the treatment of the business judgment defense. If, as the data show, managers who resist tender offers to the point of defeating them almost always harm the shareholders, there is little reason for judges to accord deference to these decisions and good reason to treat them as self-protective measures. The inference we draw is fortified by still another kind of evidence. Managers who try to defend are overpaid (relative to the firm's profits and the pay of managers elsewhere) and in danger of replacement.33 Their efforts to keep their salaries and positions are understandable but not excusable. It is past time to prohibit defense or subject it to the most exacting scrutiny to protect the interests of investors.

APPENDICES