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Tender Offers and Management Resistance

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A NUMBER OF EMPIRICAL STUDIES, including those by Bradley [5] and Dodd and Ruback [8], have found that in those cases in which a tender offer is unsuccessful the targets retained the gains they realized at the announcement date of the offer.[1] One possible explanation of the empirical results on unsuccessful tender offers is that they are due to the averaging of the returns on (at least) two types of targets that successfully resist tender offers: 1) those that are willing to agree to an acquisition but resisted the offer in the sample because it was inadequate compared to what management believed to be the "true" value of the firm, and 2) those that resisted the offer because their managements have a "preference for control" so as to preserve their jobs, perquisites, or the share of any agency costs they were capturing. Firms in the first category would be expected to accept an adequate future offer, while those in the second category would be less likely to do so and less likely to receive future offers if they develop a reputation for having a preference for control. At some point the market, based on revealed information, should be able to distinguish between those firms that are willing to accept a satisfactory offer and those that are not with the market value of the former rising and the market value of the latter falling.[2]

Recent studies by Bradley, Desai, and Kim [6] and Sokol [15] investigated the post-offer returns of targets of unsuccessful tender offers and found that the market value of those targets that received another offer within five years of the unsuccessful offer retained or increased their returns after the rejection of the original offer, while those that received no further offer lost all of their announcement date gains. One purpose of this paper is to present an explanation of these findings based on a theory in which target management may use its private information about the "true" value of the target in a strategy to resist tender offers.

The basic arguments for resisting a tender offer are that the offer is inadequate relative to the true value of the target and that a higher offer can likely be

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[1] While some unsuccessful tender offers are due to government antitrust actions and others are due to the withdrawal of the offer, most appear to be caused by resistance by the target.

[2] At the outcome date of the tender offer process Asquith [1] found that those targets that were successfully acquired had positive returns, while those that were not acquired had negative returns. This implies that considerable uncertainty was resolved at the outcome date indicating that prior to that time the market was unable to perfectly predict which offers would be successful and which would be defeated. This is consistent with the model presented here in which the market is unable to determine prior to the outcome date whether a target will accept or reject an initial offer and if it is rejected, whether the rejection was due to the inadequacy of the offer or to a preference for control on the part of management.

obtained in the future. These arguments, however, provide a cover for target managements that seek to maintain control to protect their jobs or perquisites. The central issue for investors is then to distinguish between those firms that resist an offer because it is inadequate and those firms that make the same claim but resist in an attempt to maintain their independence and control. A second purpose of the paper is to provide a characterization of the optimal resistance strategy for a target whose management may have a preference for control and hence has interests that diverge from those of target shareholders.

A number of legal scholars have proposed rules that would constrain target management's actions when confronted by a tender offer. Easterbrook and Fischel [9] [10] propose a "passivity rule" that would restrict management's actions to making press releases similar to those that could be made by the offeror. The basic rationale for this rule is that resistance reduces the gains to the initial offeror and hence discourages the investment in information about and search for prospective targets. The probability that a tender offer will be made is thus reduced which allows increases in agency costs and hence reductions in social welfare.[3] In addition to preserving incentives to search for targets, a passivity rule may be useful in dealing with target management's incentive to resist a tender offer to maintain its control. A third purpose of this paper is to investigate the effect of a passivity rule when target management has private information about the true value of the firm and may have a preference for control.

I. A Model of Management Resistance

To resist an offer, a target may among other alternatives purchase its own shares to prevent them from being tendered, file antitrust suits to block the acquisition, attempt to acquire another firm to make itself less attractive to the offeror, and sell assets that the offeror is seeking.[4] The target may also attempt to obtain and use defensive or shark repellent charter provisions that make it difficult to acquire a controlling interest or to obtain control of the target if the tender offer is successful. Charter provisions that require supermajority votes of shareholders for business combinations, establish a classified board, and permit shareholder actions only at regularly scheduled meetings called by management have frequently been used both to forestall tender offers and to make it more difficult to

[3] Gilson [11] and Bebchuk [3] [4] have argued against this passivity rule because of the allocational efficiency gains that can result from a bidding contest that ultimately results in the target being acquired by the investor that values it the most highly. They argue that prospective bidders have means, such as purchasing shares of the target prior to the announcement of its offer, to assure some gains from an offer that is subsequently topped by another bidder. They argue that the possible welfare losses from reduced incentives to make the initial offer are offset by the efficiency gains that are realized when the target is allocated to the investor that values it most highly.

[4] Resistance by target management with the purpose of delaying an initial offer to allow other prospective bidders to make offers will not be considered. That is, prospective bidders are assumed to have sufficient time to make an offer.

make a successful offer.[5] As Gilson [12] has argued, however, target management may choose not to enforce these provisions once a controlling interest has been obtained, since the managers have an incentive not to foreclose their opportunities with the new owners. Two other commonly-used charter provisions, fair price provisions and right of redemption provisions, may have more of an effect because incumbant management cannot choose not to enforce them, since that right is given directly to shareholders.[6] The model to be presented here is based on the assumption that the target has the means, either through powers established through its charter or by the use of defensive measures, to defeat an offer. Even a target management that has a preference for control, however, will accept a sufficiently high offer.

Consider a firm with true value V, which is known to its management but about which investors only have imperfect information.[7] The imperfect information about V is assumed to be that remaining after any signalling by the firm. Uncertainty might remain, for example, because complete disclosure of the information relevant to the true value would allow competitors to take actions that would reduce that value.[8] Management of the firm is assumed to act in its own interests and may have a preference for retaining control which will be represented by a monetary equivalent Y that is known to management but about which investors have only imperfect information. If management owns an α share of the firm, its return from retaining control is assumed to be $\alpha V + Y$. To facilitate the analysis of the market value of the firm, it is convenient to represent management's preferences in proportion to $V + aY$, where $a = 1/\alpha$. Consequently, the smaller is target management's share ownership, the greater is its preference for control relative to the proceeds αS it would receive from the sale of the target at a price S.

The firm's shares are assumed to be traded in a competitive stock market with no discounting. Investors are assumed to be risk neutral and to have the opportunity to make tender offers for the firm if they believe that they can manage the target's assets more efficiently, realize synergy gains from combining

[5] An extreme example that illustrates the effect of management resistance is the case of FMC's $22 per share offer for 52.5% of the shares of R. P. Scherer Corp., of which Karla Scherer Fink owns 21.1% and her husband is CEO. Scherer management claimed it controlled 48.5% of the shares. To block the offer, Scherer submitted a proposal to amend its Certificate of Incorporation to require an 80% vote to approve a merger, which would give Mrs. Fink the ability to prevent any merger. Although FMC urged Scherer shareholders to reject the offer, the proposal received a majority vote and was adopted. Upon announcement of its success, Scherer's share price dropped $4.125 to $11.50 bid. The remaining question is why the non-management shareholders voted in favor of the amendment. Perhaps they failed to understand the significance of their vote or perhaps they were persuaded by management that the amendment would give management the authority to reject any offer that it deemed to be inadequate relative to the true value of the firm.

[6] DeAngelo and Rice [7] and Linn and McConnell [14] studied the effects of such charter amendments on the returns on common stocks and obtained inconclusive results.

[7] Investors thus do not have any foreknowledge about the true value of the target.

[8] One possibility for management of firms with high V is to take the firm private. While this possibility is not considered here, it may not be possible to do so unless the private information of target management can be verified by financiers.

the assets of the target with their own assets, or realize tax advantages from the combination. To represent these possibilities, at the beginning of period i each investor j is assumed to learn his private valuation w_{ij} of the target's assets.[9] The total value of the target to investor j is then $w_{ij} + V$, where V is only imperfectly known. The valuations of individual investors will be different, and each investor is assumed to know only his own valuation.

Since tender offers are made publicly and bidders have the opportunity to top outstanding offers, competition for a target takes the form of a progressive auction. Auction theory indicates that the highest bid will be made by the investor with the highest valuation for the target and that to be successful that investor will be forced to bid such that the expected gain of the investor with the next highest valuation will be nonpositive.[10] That is, the highest bid will be based on the second highest valuation, which will be denoted by w_i. While w_i is known only to the investor with that valuation, the bidding process fully reveals that information.[11]

The information of investors is assumed to be represented by a prior joint distribution $f(V, Y)$ that is common knowledge. To facilitate the analysis, the joint distribution will be simplified by assuming that V and Y are independent and that Y can take on a value of zero with probability γ and a value y with probability $1 - \gamma$.[12] The distribution of V will be assumed to be uniform on the interval $[0, V^0]$, and the distribution of w_i will be taken to be uniform on the interval $[0, W_i]$. Certain means of defeating an offer, such as creating an antitrust challenge to the acquisition, would preclude a future offer by that investor. The model considered here is intended to represent this case, so the highest bid in one period will be assumed to be independent of the highest bid in other periods. The informational asymmetry in the model is thus one-sided in the sense that the observation of an offer in period 1 provides no information about the likely offer in any other period. This assumption has the advantage that it allows the analysis to focus on the information about the target and not about prospective acquirers.

In period 1 based on their information and the realization w_1, investors bid until a final offer $S_1(w_1)$ results. Target management then decides to accept or reject it. In making this decision the target recognizes that the bidder does not know the target's type (V, Y) and hence will consider the decision that each possible type would make if it were the true type. Consequently, the true type must consider the decision that each possible type would make when confronted with an offer S_1. The decisions of each possible type must constitute an equilibrium, and the equilibrium concept to be employed is Nash where each possible

[9] The private valuations of the investors incorporate any gains that might be achieved by displacing target management.

[10] The difference between the highest and the second highest valuations provides an incentive to search for targets, but the progressive auction nature of the tender offer process implies that the gains to the acquiring firm would be small unless the valuations of potential acquirers differed considerably.

[11] The highest valuation is not revealed, however.

[12] The a ɹmption that Y may equal 0 or y is not intended to indicate that some managements have a preference for control and others do not but rather that investors are uncertain about the extent of that preference.

type chooses its decision given the decisions of the other possible types. As will be indicated below, the equilibrium will be such that there is a reservation value $R_1(S_1)$ such that if $V + aY \leq R_1(S_1)$ the target will accept the offer, and if $V + aY > R_1(S_1)$, the target will reject it.

The rejection of a first-period offer conveys information to investors about the type of the target. While investors can only observe whether an offer is accepted or rejected, they must form conjectures about the reservation level $R_1(S_1)$ used by the target and those conjectures must be correct in equilibrium. The beliefs $f(V, Y \mid R_1)$ of an investor in period 2 that conjectures R_1 are determined from Bayes' rule and for $R_1 \geq ay$ are

$$f(V, 0 \mid R_1) = \begin{cases} 0 & \text{if } 0 \leq V \leq R_1 \\ \gamma/D & \text{if } R_1 < V < V^0 \end{cases} \tag{1a}$$

$$f(V, y \mid R_1) = \begin{cases} 0 & \text{if } 0 \leq V \leq R_1 - ay \\ (1-\gamma)/D & \text{if } R_1 - ay < V < V^0, \end{cases} \tag{1b}$$

where $D \equiv V^0 - R_1 + (1-\gamma)ay$. The distribution of $(V, 0)$ may be thought of as the posterior probability of $Y = 0$, which is

$$Pr[Y = 0 \mid R_1] = \gamma(V^0 - R_1)/D, \tag{2}$$

multiplied by the distribution $f(V \mid Y = 0, R_1)$ which is given by

$$f(V \mid Y = 0, R_1) = \begin{cases} 0 & \text{if } 0 \leq V \leq R_1 \\ 1/(V^0 - R_1) & \text{if } R_1 < V < V^0. \end{cases}$$

The distribution of V conditional on $Y = y$ and R_1 is defined analogously. The marginal distribution of V can thus be written as the convex combination of the conditional distributions of $(V, 0)$ and (V, y).[13]

A two-period model is sufficient to indicate the nature of management resistance. The reservation value used by the target in period 2 then is to accept the offer S_2 if $V + aY \leq S_2$ and otherwise to reject it, so $R_2(S_2) = S_2$. The expected return $N_2(w_2, S_2)$ of the bidder is[14]

$$N_2(w_2, S_2) = \int_{R_1}^{\min\{S_2, V^0\}} \gamma(w_2 + V - S_2)\, dV/D + \int_{\max\{R_1 - ay, 0\}}^{\min\{S_2 - ay, V^0\}} (1-\gamma)(w_2 + V - S_2)\, dV/D. \tag{3}$$

[13] If $R_1 < ay$, the posterior distributions are

$$f(V, 0 \mid R) = \begin{cases} 0 & \text{if } 0 \leq V \leq R_1 \\ \gamma/D^0 & \text{if } R_1 < V < V^0 \end{cases}$$

and

$$f(V, y \mid R_1) = (1-\gamma)/D^0 \quad \text{if } 0 < V < V^0,$$

where $D^0 \equiv V - \gamma R_1$. If $R_1 \geq V^0$, only types with $Y = y$ can remain, so the posterior distribution is $f(V, y \mid R) = 1/(V^0 - ay)$ for $V - ay < V < V^0$. The expressions for N_2 are then modified accordingly and will not be presented here.

[14] The cost of making an offer is assumed to be zero.

The first integral represents the return from those types of the target with $Y = 0$ that will accept S_2, and the second integral represents the types of the target with $Y = y$ that will accept S_2. Note that the types of the target adversely select against the offer so that only those types with lower V accept the offer. Bidders take this into account in making their bids, and bid lower than they otherwise would. The optimal period 2 offer $S_2^*(w_2, R_1)$ is defined as the value of S_2 that equates N_2 to zero. The optimal offer is a strictly increasing function of w_2 and of R_1, since higher values of R_1 imply that only more valuable types of the target are possible in period 2.

To determine the optimal reservation level for the target in period 1, consider a type with $Y = 0$. If an offer S_1 is made, target management will accept it only if that offer exceeds its expected return $EX(V, 0)$ from rejecting the offer and acting optimally in the next period. That expected return for a type $(V, 0)$ is defined as

$$EX(V, 0) = E_{w2}[S_2^*(w_2, R_1) \mid S_2^*(w_2, R_1) > V]\,Pr[S_2^*(w_2, R_1) \geq V] + VPr[S_2^*(w_2, R_1) < V], \tag{4}$$

where E_{w2} denotes expectation with respect to w_2 and V is realized if no offer is accepted. This expected return is increasing in V as is the expected return for a type with $Y = y$. Furthermore, the relationship between the expected returns for types $(V, 0)$ and (V, y) is

$$EX(V, y) = EX(V + \alpha y, 0). \tag{5}$$

The optimal reservation level $R_1^*(S_1)$ is determined by the type $(V, 0)$ (and (V, y)) that is indifferent between accepting an offer S_1 and rejecting it, so $R_1^*(S_1)$ is defined by

$$S_1 \equiv EX(V, 0) \mid_{V=R_1^*(S_1)} = EX(V, y) \mid_{V+\alpha y=R_1^*(S_1)} \tag{6}$$

All types $(V, 0)$ such that $V > R_1^*(S_1)$ will reject S_1 and all types such that $V \leq R_1^*(S_1)$ will accept it. Similarly, all types (V, y) such that $V + \alpha y > R_1^*(S_1)$ will reject S_1 and those with $V + \alpha y \leq R_1^*(S_1)$ will accept it. Hence, $R_1^*(S_1)$ defined in (6) constitutes an equilibrium among the types.

The expected gain $N_1(w_1, S_1)$ of the investor in period 1 with valuation w_1 is given by

$$N_1(w_1, S_1) = \int_0^{\min\{R_1^*(S_1), V^0\}} \gamma(w_1 + V - S_1)\, dV/V^0 + \int_0^{\max\{0, \min(R_1^* - \alpha y, V^0)\}} (1 - \gamma)(w_1 + V - S_1)\, dV/V^0, \tag{7}$$

and the optimal offer $S_1^*(w_1)$ is such that N_1 equals zero.

An equilibrium in this model is a quadruple of functions $(S_1^*(w_1), R_1^*(S_1), S_2^*(w_2, R_1), R_2^*(S_2) = S_2)$, where at each point in the extensive form of this sequential game the strategy of each player maximizes the player's expected payoff for the remainder of the game, investors' beliefs about (V, Y) are consistent with their information sets, and investors' conjectures about R_1 are correct in

equilibrium. This is a sequential equilibrium in the sense of Kreps and Wilson [13]. The equilibrium cannot be stated in closed form when $y > 0$, but for the case in which $y = 0$ the equilibrium is derived and characterized in [2].

The market value of the target can be determined at four points: 1) when an offer S_2 is outstanding, 2) at the beginning of period 2 prior to any period 2 offer, 3) when an offer S_1 is outstanding, and 4) at the beginning of period 1 prior to any period 1 offer. The market value at the fourth point is relevant for the efficiency analysis of target resistance, but it is useful to characterize the other values as well. If the market knew that $Y = 0$, the market value $V_2(S_2, 0)$ of the target when an offer $S_2 > R_1$ is outstanding would be

$$V_2(S_2, 0) = \int_{R_1}^{\min\{S_2, V^0\}} S_2 \, dV/(V^0 - R_1) + \int_{\min\{S_2, V^0\}}^{V^0} V dV/(V^0 - R_1). \quad (8)$$

The value $V_2(S_2, y)$ is defined similarly with S_2 in the bounds of the integrals replaced by $S_2 - ay$ and the lower bound on the first integral replaced by $\max\{0, R_1 - ay\}$. The market value $V_2(S_2)$ when S_2 is outstanding is thus

$$V_2(S_2) = Pr[Y = 0 \mid R_1]V_2(S_2, 0) + Pr[Y = y \mid R_1]V_2(S_2, y). \quad (9)$$

The market value $V_2^0(R_1)$ at the beginning of period 2 is

$$V_2^0(R_1) = E_{w2} V_2(S_2^*(w_2, R_1)). \quad (10)$$

If the market knew that $Y = 0$, the market value $V_1(S_1, 0)$ when an offer S_1 is outstanding would be

$$V_1(S_1, 0) = \int_0^{\min\{R_1^*(S_1), V^0\}} S_1 \, dV/V^0 + \int_{\min\{R_1^*(S_1), V^0\}}^{V^0} V_2^0(R_1) \, dV/V^0. \quad (11)$$

The value $V_1(S_1, y)$ is defined analogously with $R_1^*(S_1)$ in the bounds of the integrals replaced by $\max\{R_1^*(S_1) - ay, 0\}$. The market value $V_1(S_1)$ is then

$$V_1(S_1) = \gamma V_1(S_1, 0) + (1 - \gamma) V_1(S_1, \gamma). \quad (12)$$

The market value V_1^0 at the beginning of period 1 is thus

$$V_1^0 = E_{w1} V_1(S_1^*(w_1)). \quad (13)$$

Since the equilibrium in this model cannot be characterized in closed form, a numerical example will be used to develop intuition into the economics of the model and to illustrate results that are likely to hold more generally. The parameters in the example are chosen so that the process that generates valuations for the bidders is stationary with $W_1 = W_2$. The equilibrium is summarized in Table 1 which presents for selected values of w_1 the resulting offer S_1, the reservation level chosen by the target, the market value when the offer is outstanding, and the market value if the offer is rejected. For period 2 Table 1 presents for selected combinations of R_1 and w_2 the resulting offers and market values.

Table 1 can be used to illustrate both the outcomes of the tender offer process and the rationales for rejecting an offer. For low valuations w_1 no offer is made

Table 1

Example of an Equilibrium

w_1	$S_1^*(w_1)$	$R_1^*(S_1)$	$V_1(S_1)$	$V_2^0(R_1^*)$
0	0	0	+	4.45
1	0	0	+	4.45
2	0	0	+	4.45
3	0	0	+	4.45
3.5	0	0	+	4.45
3.75	4.75	2.07	4.70	4.68
4	5.09	2.52	4.86	4.76
4.25	5.58	3.21	5.17	4.84
4.5	6.66	5.30	6.42	5.24
4.75	6.97	5.70	6.77	5.40
5	7.5	7	7.5	++

$V_1^0 = 4.863$

Period 2

R_1	w_2	$S_2^*(w_2, R_1)$	$V_2(S_2, 0)$	$V_2(S_2, y)$	$V_2(S_2)$
0	0	0	+	+	2.5
0	1	2.00	2.90	2.50	2.70
0	2	3.14	3.67	3.27	3.47
0	3	5.14	5.14	4.74	4.94
0	4	6.35	6.35	6.13	6.24
0	5	7.50	7.50	7.50	7.50
2	0	0	+	+	2.88
2	1	0	+	+	2.88
2	2	4	4.17	3.7	3.88
2	3	5.57	5.57	5.20	5.34
2	4	6.83	6.83	6.77	6.79
2	5	7.875	7.875	7.875	7.875
4	0	0	+	+	3.75
4	1	0	+	+	3.75
4	2	5.45	5.45	4.82	4.97
4	3	6.65	6.65	6.43	6.48
4	4	7.75	7.75	7.75	7.75
4	5	8.75	8.75	8.75	8.75

+ No offer, so there is no market value conditional on S_i.

++ All types accept the period 1 offer.

Parameter specification: $W_1 = W_2 = V^0 = 5$; $a = 100$; $y = 0.02$.

because all types of the target would reject any offer justified by those valuations. When an offer is made, the target may reject it for three reasons, which may be illustrated by considering an offer $S_1(3.75) = 4.75$ which results in a reservation level $R_1(4.75) = 2.07$. First, types of the target with $V > 4.75$ and no preference for control prefer to reject the offer in favor of realizing the true value of the target. In this case rejection may be said to be due to the inadequacy of the offer. Second, types of the target with no preference for control and $2.07 < V \leq 4.75$ prefer to reject the offer not because it is inadequate but instead because they hope to receive a higher offer in the next period. Third, types of the target with a preference for control and a true value V such that $0.07 < V \leq 2.07$ reject the offer because of their preference for control in the sense that a type with the same true value V but no preference for control would accept the offer. The

presence of these three rationales for rejecting an offer complicates any empirical test intended to establish the cause of resistance to a tender offer. Over time, however, the target may establish a reputation for having a preference for control.

This reputation can be interpreted in terms of the relationship between the posterior probability of $Y = y$ and the prior probability $Pr[Y = y] = (1 - \gamma)$. From (2) the ratio of the probabilities is

$$Pr[Y = y \mid R_1]/Pr[Y = y] = (V^0 - R_1 + ay)/(V^0 - R_1 + (1 - \gamma)ay) > 1, \quad (14)$$

so in period two it is more likely that the target is of a type that has a preference for control. This property would continue if the model were extended to more periods, so as offers are made in successive periods and accepted by the types with lower $(V + aY)$ the probability that the remaining types have a preference for control increases. Such targets will accept an offer only when their true value V is low, and this adverse selection reduces the potential gains to prospective bidders. Consequently, the bidding process will generate lower and less frequent offers over time which will further reduce the probability of acceptance. The market value of the remaining types would then decrease over time.

The effect of a reputation for a preference for control can be indicated by examining the market values of the target. In period 1 the market value falls from $V_1(S_1)$ to $V_2^0(R_1)$ when S_1 is rejected, since the probability that the target has a preference for control has increased. Because second period offers are more likely to be rejected, the market value $V_2^0(R_1)$ is less than $V_1(S_1)$ even though the expected period 2 offer, conditional on an offer being made, is higher than the period 1 offer.[15] The market value $V_1(S_1)$ is thus less than S_1 when there is a positive probability that the offer will be rejected.[16] The greater is the preference for control the lower is the expectation of the true value of the types that will accept the offer and hence the lower will be the offer. Consequently, the greater is ay the lower will be the initial market value of the target.[17]

In period 2 the reputation effect can be indicated by comparing the market value $V_2(S_2)$ and the conditional market values $V_2(S_2, 0)$ and $V_2(S_2, y)$ reported in Table 1. For example, when $R_1 = 2$ and $w_2 = 3$, the resulting offer is $S_2(3, 2) = 5.57$. The market value of the type with $y = 0$ would be 5.57, since all types would accept the offer. The market value of the type with $Y = y$ would be 5.20, since only those types with $V > 3.37$ would accept the offer. Because these types are pooled together given the information available to investors, the market value when an offer $S_2(3, 2) = 5.57$ is outstanding is the expectation of the two conditional market values using the posterior probabilities in (2). The market value of the types that reject an offer of 5.57 would be 4.29, which is less than

[15] The offer S_1 may be below the initial market value if unfavorable information, i.e., low w_1 is revealed, but the offer is always greater than the market value of the target, conditional on that information, if the offer is rejected.

[16] These predictions are not contrary to the observations that the market value of targets is at times greater than an outstanding offer, since that in all likelihood indicates that the bidding process has not yet been completed while the model here looks at the process only after it has been completed.

[17] If the bidding process were not competitive, the effect of a preference for control can result in an increase in the initial market value of the target by forcing higher offers.

the market value $V_2^0(R_1^* = 2) \approx 4.68$ and less than the initial value $V_1^0 = 4.863$ at the beginning of period 1. In this case the target that rejects both a period 1 and a period 2 offer has a negative cumulative return, since that target is no longer perceived by investors to be pooled with as attractive a group of other potential types.[18] Consequently, as more information about the type of the target becomes available, the types with a preference for control would be expected to incur a decrease in their market value. This theory thus provides an explanation of the finding that targets of unsuccessful tender offers that receive future offers maintain their announcement date gains, while those that do not receive future offers lose those gains.

The effect of a preference for control on the market value of the firm can be decomposed into two parts: the value y of control and the parameter a. As previously indicated, the greater is the share ownership of target management the lower is a and hence the smaller is the effect of a preference for control on the part of target management. This suggests that resistance to tender offers would be greater by target managements that have small ownership proportions than by those that have larger ownership proportions.

One means of dealing with the preference for control is for target shareholders to offer to management incentive contracts that provide payments conditional on the accepted offer. If the shareholders of the target were to offer target management an incentive contract with payment $Z(S_1)$ conditional upon acceptance of an offer S_1, the upper bounds on the two integrals in (7) would be changed to $\min\{R_1(S_1 + Z(S_1)), V^0\}$ and $\min\{R_1(S_1 + Z(S_1)) - ay, V^0\}$, respectively. An incentive contract has two effects on the equilibrium. First, it may cause some types with a preference for control to accept an offer S_1 when it is market value maximizing to do so. Second, it may induce some types of the target to accept S_1 when it would be market value maximizing to reject S_1. Such an incentive contract thus can either increase or decrease the market value of the firm. It can be shown that for this example there exists a contract that increases the initial market value V_1^0 of the target. Consequently, incentive contracts contingent on the acceptance of a tender offer would be expected to arise endogenously in a market for the control of firms when target management may have a preference for maintaining its control. Such contracts have been referred to as "golden parachutes," although there are explanations for such contracts in addition to the one considered here.

II. Value-Maximizing Resistance

If Y were equal to zero for all types of the target, the interests of target management and target shareholders would coincide, and the optimal resistance strategy would maximize the initial market value V_1^0. This value-maximizing resistance strategy is characterized in [2] and will be contrasted with the case in which target management may have a preference for control. The period 2 offer

[18] If the resistance measures adopted in period 1 were sufficiently clear to identify the target as a type with a preference for control as in the case cited in footnote 5, the value of the target would fall even more.

is lower when target management may have a preference for control than the offer that results from a value-maximizing resistance strategy given the same reservation level R_1 in period 1. This results because the types of the target that remain in period 2 include not only those with $V > R_1$ and $Y = 0$ but also those with $Y = y$ and $V > R_1 - ay$, and hence the acquisition is worth less to bidders. Because the period 2 offers are greater with a value-maximizing resistance strategy than when management may have a preference for control and optimally resists, the target is more willing to reject a period 1 offer and await a period 2 offer. The reservation level R_1 chosen by target management is thus greater with a value-maximizing strategy. Consequently, the period 1 offers that result are lower under a value-maximizing resistance strategy than when management resists optimally but may have a preference for control. The initial market value V_1^0 is, of course, greater with a value-maximizing resistance strategy and for the example is $V_1^0 = 5.066$.

III. A Passivity Rule

A passivity rule such as that proposed by Easterbrook and Fischel would prevent the target from doing anything other than making statements to its shareholders about the value of the offer and the value of the target itself. Since no claim about the value of the target would be credible unless some verification or signalling mechanism existed that would confirm the true value V without revealing information that would reduce that value, shareholders would be forced to act in both periods with only their prior information about V. Consequently, if shareholders rejected an offer S_1, no information would be revealed about V, so both shareholders and potential bidders would use their prior information in the next period. Furthermore, the extent of target management's preference for control would be irrelevant, since target management would not be allowed to resist an offer.

Since the offer in period 1 and its acceptance or rejection provides no information, in period 2 bidders will bid their valuation plus the expected value of V, so the resulting offer would be $(w_2 + V^0)/2$. In period 1 target shareholders would accept any offer greater than the expected period 2 offer, which is $(W_2 + V^0)/2$, so $R_1 = (W_2 + V^0)/2$. A period 1 offer is then made only when $w_1 > W_2/2$.

In [2] it is shown that the market value of the target under a passivity rule is strictly greater than when the target is allowed to optimally resist using a value-maximizing objective as considered in Section II. For the example presented in Table 1, the initial market value of the firm would be 5.625 if a passivity rule were in effect. A passivity rule is superior to value-maximizing resistance because the latter results in two "externalities" that make target shareholders worse-off. First, with value-maximizing resistance the types of the target adversely select against the offer so that lower value types accept the offer and higher value types reject it, while with a passivity rule no adverse selection is possible. Second, in period 1 the choice of a strategy by the true type of the target is affected by the strategies that would be chosen by the other types of the target that investors believe are possible. The superiority of a passivity rule is even greater when

compared to the case in which target management may have a preference for control.[19]

For the model considered here a passivity rule can be shown to be equivalent in terms of the initial market value to the first-best market value that would result if investors had perfect information about V and there were no preference for control. That is, if investors knew V, the market value of the firm would be the same as with a passivity rule in effect. The first-best case and the solution under a passivity rule would, however, result in different distributions of wealth.

IV. Conclusions

The model of target resistance to tender offers developed here is based on the private information of target management about the true value of the firm and about its own preference for control. Target management may reject an offer for any of three reasons in the context of this model. First, the offer may be inadequate compared to the true value of the target. Second, the offer may be adequate in this sense, but target management may prefer to await a possibly higher offer in the next period. Third, target management may reject an offer in order to maintain its control over the target. As offers are made and rejected, however, some targets develop a reputation for having a preference for control and their market value falls. This theory thus provides one explanation of the findings that information is revealed at the outcome date and that the market values of targets of unsuccessful tender offers separate as indicated in the studies of Sokol and Bradley, Desai, and Kim. The possibility of a preference for control reduces the initial market value of the firm below what it would be if there were no such possibility. A passivity rule can eliminate both the effect of a preference for control and the externalities present in a value-maximizing resistance strategy. Furthermore, a passivity rule results in the first-best market value.

The model considered here suffers from three principal weaknesses that need to be dealt with to clarify the resistance issue. First, resistance undertaken to cause delay in order to provide adequate time to allow bidding competition to develop needs to be incorporated into the analysis. Second, the development of information about and the search for attractive targets should be endogenized. Third, the assumption of symmetrically informed investors should be relaxed.

[19] Since a passivity rule is superior from the point of view of prospective targets, one might ask why potential targets do not voluntarily adopt a passivity rule by pledging not to resist a tender offer. A voluntary passivity rule, however, would not be an equilibrium because some high V types of the target would have an incentive to violate its terms by rejecting certain offers.

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DISCUSSION

J. FRED WESTON*: My emphasis will be on the "big picture" implications of Professor Halpern's broad survey. While the motives and effects of individual mergers may be complex, some generalizations may be drawn.

1. *Value Maximization vs. Managerialism*

The preponderance of the empirical evidence assembled by Professor Halpern supports the judgment that merger activity is rational value-maximizing behavior. On average the residuals, measured as rates of return or in absolute amounts, associated with the merger events are positive. Furthermore, the residuals do not decline significantly after the merger events. Thus the evidence does not support the managerialism theory of mergers which holds that managements merge primarily to increase the size of firms to augment their own compensation.

The empirical finding of value creation by mergers is reinforced by additional considerations. The Schipper-Thompson studies suggest that for firms engaged in merger programs, expectations may be capitalized into stock prices at the time of early merger activity. They also demonstrate that legislation adverse to merger activity had unfavorable effects on acquirers.

Another downward bias in the estimates of the value added by merger may arise in the application of the market model. Acquiring firms on average have experienced positive abnormal performance in earlier periods while acquired firms have experienced the opposite. Hence, the market model parameters may

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