THE UNIVERSITY OF CHICAGO
THE LAW SCHOOL
1111 EAST 60TH STREET
CHICAGO • ILLINOIS 60637

April 12, 1983

David B.H. Martin, Jr.
Secretary
Advisory Committee on Tender Offers
Securities and Exchange Commission
Washington, D.C. 20549

Dear David:

I enclose the report of the Economics Subcommittee.

Gregg Jarrell and I would appreciate it if you would arrange to have this duplicated and distributed to every member of the full Committee. Since time is short, Friday morning will have to do.

We would also like to distribute, as a separate document, the Jensen & Ruback study mentioned in the subcommittee's report. Gress says that you have a copy of this.

Finally, Gregg will prepare a table and graph for distribution on Friday, as the report's first footnote discusses.

My plane arrives at LaGuardia at 9:15 on Friday, so I could be a bit late. Gregg will start the discussion and I'll pick up.

Sincerely,

Frank H. Easterbrook
Professor of Law

ECONOMICS SUBCOMMITTEE — FIRST REPORT

The Economics Subcommittee has spent the past month making an initial assessment of the state of the evidence that capital markets supply. We have been greatly assisted by the fact that two scholarly conferences, held in during March and April, involved ambitious efforts by the leading scholars to assemble and interpret all of the available data. The conference held in March at the University of California at Berkeley was attended by Dean LeBaron, who provided the Subcommittee's members with the conference materials. The conference held in April at the University of Rochester was attended by Frank Easterbrook.

One of the papers presented at the Rochester conference was especially helpful. Michael C. Jensen & Richard S. Ruback, The Market for Corporate Control: The Scientific Evidence, draft of March 1983, forthcoming in 11 J. Financial Economics (1983), pulls together the results of dozens of other studies, assesses the strengths and weaknesses of each, and provides summary tables. Much of what follows digests this work still further. We will ask the staff to duplicate copies of Jensen and Ruback's paper for the members of the Advisory Committee.

We organize this report as follows: Part I provides an introduction to the economic methodology used to evaluate corporate control transactions. Part II digests the findings of the tests using this methodology. Part III then asks whether and how these findings are pertinent to the Advisory Committee's work. The answer to the question "Do they help us?" depends almost wholly on a further set of questions about the right perspective from which to evaluate tender offers. Part III therefore explores some of the implications of choosing different points of reference for evaluation.

I. INTRODUCTION

The work we summarize in this report draws on movements in the price of stock. A large data base compiled by Merrill Lynch and the University of Chicago contains daily

price movements for every stock traded on the New York and American Stock Exchanges for the last 20 years. This makes it possible to do two things: learn how much a given stock's price changed, and learn how much other stocks of a similar degree of risk changed at the same time. By subtracting the latter from the former, one can deduce the price movements net of market movements, that is, the changes that are attributable to facts pecuiliar to the firm being studied rather than attributable to the economy, the market as a whole, or even the industry in which the firm competes.

Returns. In studying a given transaction, the researcher focuses on the extent to which the change in the price of a stock is attributable to firm-specific events, rather than economy- or market-specific events. The firm-specific price movements, called "residuals" or "returns" in the scholarly literature, automatically account for the ordinary rate of return on investment, any general social changes in that return, and similar matters. Thus it is possible to say with great confidence that if a firm has a positive residual over some period of time, something good has happened (at least as shareholders see things) in the interim. If the market (or the industry) is rising, a firm with a positive return has risen faster. If the market is falling, a firm with a positive return has fallen less than comparable stocks. Because use of residuals (returns) entails comparative judgments — which are, after all, what investors really care about — the analysis can be much more informative than one focusing on unadjusted or even "discounted" prices, such as those reported in the Kidder, Peabody study distributed to the Advisory Committee.

Assumptions. The studies we summarize here all examine the movements in residuals at and around the time of critical control events, such as the announcement of tender offers, announcement (and adoption) of shark repellant amendments, going private, and so on. Thus there is an important assumption underlying the findings. They assume that markets react quickly to any new information about the stock, and also that the reaction is "unbiased" — meaning that if sometimes the reaction proves to be too great in light of subsequent events, other times it proves to be too little, so that when we

look at large numbers of reactions to similar events we can see a fairly accurate picture of the real gains or losses incurred in the transaction.

The price reaction to any one event may be slow, or the new price may be mistaken in light of subsequent events. These possibilities are troublesome in evaluating isolated cases, but they are not obstacles to evaluating large numbers of cases, where the differences average out. The available data overwhelmingly show that prices change quickly and without bias. Professional traders cannot afford to delay in taking advantage of new information (hence the quick movement) and are generally astute about the meaning of new information (hence the unbiased movement).

Efficiency. It is sometimes said that studies of residuals also assume that the market is "efficient" in the sense that prices correctly reflect all of the available information, and this is a controversial assumption. Everyone on the Advisory Committee knows of many occasions on which prices of stocks turned out to be quite unjustified in light of impending events. Sometimes the price does reflect the probabilities of these events, so that big price changes reflect new information about the probabilities rather than earlier "mistakes." But the important point is that market efficiency is not an assumption of this work. It assumes only that the degree of efficiency does not change dramatically over short spans of time.

Conoco's acquisition by DuPont illustrates the point. Mobil and DuPont both said in bidding for Conoco that Conoco's reserves of oil were systematically undervalued in the market, so that the shares were trading for less than the real value of the reserves. Whether this is true or not does not affect the reliability of the results of the methodology, so long as investors that undervalue the reserves in the hands of Conoco also undervalue them in the hands of DuPont. If investors make the same error consistently, and the acquisition does not create some real gains, any premium paid for Conoco will be exactly offset by a reduction in the value of DuPont's stock. To the extent we see a different pattern we can infer that there was good news somewhere in the process. (In

Conoco-DuPont, the shareholders of Conoco received a premium of about $3.2 billion, while the residual for DuPont reflected a capital loss of roughly $800 million. Shareholders evidently did not have the same perception of the value of Conoco's assets after the deal as they did before. Prices reflect a real gain of about $2.4 billion, which inured to the benefit of Conoco's shareholders and thus to the economy as a whole.)

Similarly, even if the price changes at the time of a tender offer can be said to be "too much" in light of real values, these are still prices that can be realized by the shareholders. They may cash out anytime they want. So long as price rises are not followed by price declines, we do not need to know that "the price is right" in order to conclude that shareholders have gained from the deal.

Aggregation. In order to reduce, to the extent possible, any consequences of sluggish price responses, erroneous initial judgments, and similar problems, the studies we discuss below all employ portfolios of similarly situated firms. The mistakes and conundrums of case-by-case studies do not degrade the results of these pooled studies. Moreover, the studies all evaluate the residuals for some time (usually 20 days) before and after the events in question, so that any leakage of information to the market before hand, or price corrections afterward, will be caught.

II. EMPIRICAL STUDIES OF TENDER OFFERS

A. Returns to Targets

Average Gains. When offers are announced, all shares of targets appreciate approximately 30% relative to the immediately prior price. These positive returns simply measure the size of tender offer premiums: the larger the premium, the larger the return. The returns at the time of the offer are not as large as the premiums offered, though, because (a) the bidder may not seek all of the stock, and (b) traders may anticipate some risk that the offer will not be successful, and hence they do not bid up the market price to the offer price.

For successful offers, the bidders pay a premium averaging 50% for the shares they acquire. But the remaining unacquired shares do not return to the pre-offer price. They continue to trade at approximately a 30% premium relative to the pre-offer price. This premium reflects investors' belief that either (a) the acquiring firm will effect a merger at a premium, or (b) the value of the acquired firm is greater, for whatever reason, under the new control than the old.

Auctions and Defense. There is a difference in the size of the premium according to the degree of rivalry among bidders. Single-bidder offers do not produce premiums as high as multiple-bidder (auction) contests. The auction contests bring targets' shareholders about 4% more on average. Note, however, that this does not necessarily show that auctions are beneficial: the prospect of an auction may affect prospective bidders' decisions to initiate a takeover contest, and if the prospect of auctions discourages initial bids the wealth of the investors in would-be targets will decrease.

Targets that litigate in response to a hostile tender offer, but that are eventually acquired, account for nearly all of the multiple-bidder contests. Litigation apparently adds time and bargaining chips to the Williams Act delay, thus producing auctions. But the auction strategy also produces disparate results. When the auction ends in an acquisition, these litigating targets gain relative to the initial bid. Targets that defeat all offers (about a fourth of the litigating targets) lose the entire premium.

Unsuccessful Bids. When a tender offer is unsuccessful, the initially large returns that accompany the announcements are dissipated. The dissipation does not come all at once, for traders anticipate that defeat is sometimes just a waystation in an extended auction. Targets that receive other offers within two years retain some, but not all, of the initial gains. The retention rate appears to be about two-thirds. Targets that do not receive such offers (i.e., targets that demonstrate a willingness and ability to remain independent) lose the entire gains.* Investors in both categories of target (the later-acquired and the never-acquired) do worse than investors in targets acquired on the initial bid (single or auction).

B. Returns to Bidders

Average Gains. Investors in bidders, like investors in targets, gain from tender offers. Bidders earn much lower percentage returns than do targets, however. While targets' shares appreciate some 30% at the time offers are announced, bidders' shares appreciate only about 4%.

The fact that bidders gain, on average, shows that the tender offer business is not just a transfer of funds from one set of puckets to another. It is not just managerial self-aggrandizement. Real values are being created. If they were not, targets' gains would be offest by identical losses for bidders' investors. We do not see this. Tender offers thus must be beneficial for bidders, targets, and society alike.

Explanations. The difference in the size of the gains is initially surprising, however, because both bidders and targets are essential ingredients of the gains. There are several possible explanations. Two stand out.

One is that there is substantial competition to be a bidder. If many different firms are able to do whatever produces the gains in an acquisition, they would compete (in searching for targets, learning what to do with them, and offering higher bids) until the returns were driven down. The lion's share of the gains would end up with investors in targets.

The other is that bidders are much larger than targets. Many bidders are diversified firms, and a given acquisition is not a large part of the bidder's operation. We would expect a smaller percentage change than when the bid affects the whole business (as it does for the targets). If the stock market returns are converted into dollar amounts, the data show that on average the bidders receve one-third of the total gains from takeovers.

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* This statement rests on several studies using the methodology we have described. Gregg Jarrell reevaluated the list of targets in the recent Kidder, Peabody study using the same methodology. He found that these targets, which defeated offers and remained independent at least for a time, showed a positive return of about 30% on the announcement of the offers, but that these gains are entirely dissipated within 90 days after the initial offers. The Subcommittee will have a table and a chart reflecting these results available for the full Committee's use.

Some Bidders Lose. "On average" is especially important in dealing with gains to bidders. Targets' investors always receive gains from successful tender offers. Bidders' investors do not always receive gains. By some accounts, bidders' investors lose in approximately one-third of all offers. The large stock market losses that DuPont, Allied, and U.S. Steel incurred at the time of their recent acquisitions of Conoco, Bendix, and Marathon are illustrative. But they are also in the minority. These losses are outweighed by gains to other bidders (thus the 4% gain on average) and by gains to targets' shareholders (as the DuPont-Conoco example in Part I showed).

Acquisition Programs. There is also evidence that diversified firms gain when they announce, or the market infers, that they plan to undertake a program of acquisitions. These gains appear to be about 10% of the value of the acquiring firms, and they are realized without regard to the outcome of a particular bid. The existence of these gains may show that the market views acquisitions as beneficial and capitalizes the gains before a particular bid. This may be why gains are small (or even negative) when a particular bid is announced: the proposed acquisition was no better than (or worse than) what had been expected. The small or even negative size of returns to bidders thus may show only that the gains are small (negative) relative to expectations, even though they are positive in absolute terms.

C. Sources of Gains

The data we have summarized show that the acquiring and acquired firms, taken as a unit, have a market value 6% to 10.5% higher after (and because of) the acquisition than before. The data do not, however, establish the source or sources of the gains, and there is no scholarly consensus on that subject. Bafflement is the best description of current views.

The gains may derive from improved management of the target, from improved use of information, from "synergy", from tax advantages, or from other sources. None of these can be ruled out. The data permit us, however, to rule out two sources of gain that have sometimes been advanced.

Undervalued Targets. The first of these is that targets are just "undervalued" by the market — perhaps because they have lucrative projects that have not been announced, or perhaps because they have assets the value of which is not appreciated (Marathon's oil reserves), or perhaps because the market does not recognize the value of long-term projects on the way to fruition. On this view, the bidder is just trying to take advantage of the fact that the future price will be higher than the current one when the market wises up. The acquisition creates no real gains; it just pays part of the future appreciation as a premium and appropriates the rest for the bidder's investors. This explanation of the gains implies that if an offer is defeated by the target, the target's investors will get all of the impending appreciation. But the data we have discussed above establish that if the offer is defeated, and there is no acquisition within two years, there is no appreciation at all (relative to the market). Thus bidders' taking advantage of future appreciation is not the source of gain.

Monopoly power is the second suggested source of gains. It was suggested, for example, in connection with Mobil's bids for Marathon and Conoco, and LTV's bid for Grumman. This probably is not a potent source of gain. Note that DuPont and U.S. Steel paid huge premiums for Marathon and Conoco without any colorable monopoly advantage.

The stock price data also offer tests of the monopoly hypothesis. One approach is to examine gains in horizontal versus conglomerate acquisitions. The monopoly explanation implies higher gains in the horizontal acquisitions, but this does not happen. Another approach: If an acquisition leads to monopoly prices, than other sellers in the market should experience gains — they can sell their goods at the higher prices set by the monopolists. Three recent studies search for such gains by rivals in cases that pose the greatest risk of monopoly, the ones investigated by the FTC or Antitrust Division. They generally find rivals' stock returns unaffected or negative, thus undermining (but not conclusively disproving) a monopoly explanation even in these questionable cases.

D. The Economic Effects of Regulation

The Williams Act and the many state anti-takeover statutes provide a basis for assessing some of the consequences of regulation. The data support the following conclusions:

(1) The frequency of defensive and preemptive litigation rises as the time needed to obtain control rises.

(2) The frequency of auctions rises, again dramatically, with the length of delay.

(3) The more extensive the regulation (i.e., the longer the waiting periods; the more regulatory hurdles, such as illegality of short tenders, lining up warehousers, and making advance purchases of shares via creeping tender offers or bloc purchases; and the greater the uncertainty), the higher the average positive return for targets. The mean return to targets has doubled since the Williams Act was passed and is higher still in states with additional regulation.

(4) The more extensive the regulation, the lower the average positive return for bidders. The mean return to acquirers has halved since the Williams Act was passed.

(5) The more extensive the regulation, the fewer bids are made, taking account of the other economic factors that call forth bids.

(6) The more extensive the regulation, the lower the price of prospective bidders falls. Firms engaged in acquisition programs had negative returns of about 6% when the Williams Act was enacted and experienced further negative returns when additional regulations were added.

These facts taken singly may be coincidental. One cannot confidently attribute them to regulation. But taken together they suggest that regulation has had substantial effects in altering the distribution of gains and losses from offers, in permitting defensive or auctioneering tactics (which help some targets and hurt others), and decreasing the number of offers. Targets and bidders affected by state laws, which provide the greatest arsenal of devices, show all of these effects to the greatest degree, suggesting direct causation.

There is substantial difficulty in evaluating these changes in premiums. The market method we have been using says volumes about returns (percentage changes in price) but very little about absolute prices. We cannot be certain from this data whether regulation helps, hurts, or is indifferent to investors.

One possibility is that regulation raises the returns without offsetting loss. The data appear to suggest losses, but it is difficult to estimate the size of loss.

Another possibility, more congruent with the data but not compelled, is that regulation transfers benefits from investors in bidders to investors in targets. It is conceivable that the transfer is accomplished without reducing the number of offers, but data seem to support the contrary view that as the price of anything, including the price of tender offer acquisitions, rises, less is purchased.

A third possibility is that regulation causes the average return to targets to rise, and the average return to bidders to fall, not by changing the premium in any given offer but by discouraging or eliminating low-premium offers.* The acquisitions that occur, do so at an unaffected price, but because there are fewer low-premium offers the average gains to targets rise and the average gains to bidders fall.

III. INTERPRETING THE RESULTS

What the Advisory Committee makes of these results depends almost entirely on how we answer two questions. **First,** are we interested in how rules affect the number of offers, or do we care only about maximizing the gains once an offer takes place? **Second,** are we interested in the welfare of investors in bidders and targets, taken to-

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* Jensen & Ruback, supra, typescript at 31, put it as follows (emphasis in original): "Suppose that regulations have no effect whatsoever except to eliminate the low valued offers. By raising transaction costs and imposing restrictions on takeovers, the regulations could simply truncate the distribution of takeovers that actually occurs. This truncation of less profitable takeovers reduces the returns to shareholders of firms that do not become targets and has no effect on the returns of those that do become targets; but it increases the measured average abnormal returns for targets of completed takeovers."

gether, or are we interested only in maximizing the wealth of shareholders in targets given that an offer is on the table? The answers to these questions determine how (if at all) the Advisory Committee will use these results. The answers influence, as well, the kind of rules we will want to recommend.

A. THE VIEW OF INDUCEMENTS TO MAKE BIDS

Throughout the data we have surveyed runs a theme: Waiting periods, auctions, defensive tactics, and so on, on average raise the returns received by the target's shareholders. Although they also lead to the failure of some offers, and defeating a bid unambiguously makes the target's investors worse off, the targets' gains from auctions exceed the losses from defeated bids. (We discuss immediately above whether higher returns are the same as higher prices.)

On the other hand, the data also show that waiting periods, auctions, defensive tactics, etc., on average cut in half the returns received by the bidders' shareholders. This reduces the number of offers, for two reasons. First, as the profitability of any business strategy decreases, other things equal, managers turn to other things. Second, the regulatory systems put first bidders at a disadvantage. Before the Williams Act, first bids almost always succeeded. Now about half of all first bids fail. The initial bidders do not recover the costs of searching for targets that they incur; it pays to be a second bidder rather than a first bidder.

If the Advisory Committee decides that the appropriate focus of regulation is on offers that in fact are made, rather than on offers than could be made, it appears to follow from the data that rules should provide generous waiting periods and not interfere with targets' efforts to create auctions. They should, in contrast, interdict outright defenses.

If, however, the Committee decides that regulation must consider both the treatment of existing offers and the incentives to make new offers, the data suggest that regulations must be written with the realization that anything that raises the return to

targets also reduces the return to bidders and hence the number of bids. Every offer deterred is a lost opportunity to make real gains — and, if targets' higher premiums attributable to regulation are just offset by lower returns to bidders, these lost tender offers are not offset by any real gains.

B. EMPHASIS ON TARGETS' INVESTORS VS. ALL INVESTORS

The questions raised above concerning premiums versus number of offers present a further problem: whose interests does regulation protect? The customary answer to this question is "the interests of investors in targets". The Williams Act and implementing regulations seem to assume both (a) that bids arrive exogenously, and (b) that the point of the rules is to do the best one can for the target's shareholders.

None of the existing legal rules is designed to assist anyone other than the shareholders of a firm subject to an offer. This is clear enough if one recalls that even the most simple regulation, a short waiting period, inevitably creates some auctions, making tender offers more risky and less profitable for bidders and their shareholders. Similarly, targets and their shareholders have private rights of action to enforce the Act and regulations; bidders do not.

From this perspective, the data showing that certain regulations reduce the number of auctions and reduce the returns to bidders are irrelevant.

From a different perspective, however, the economic data take on significance. Firms are not born as targets. Price data suggest that the prices of firms that end up being targets do not begin to move upward until very shortly before the bids are announced. Thus the market does not easily distinguish potential targets from bidders and non-targets.

One could pose the following question: What rules are most beneficial for a shareholder under a veil of ignorance, not knowing whether the firm in which he holds stock will be a bidder, a target, or a bystander? This shareholder wants to get the maximum value of his shares. From his perspective, a rule that simply raises returns to targets and

lowers returns to bidders is harmful. He loses just as much money if he turns out to hold a bidder as he gains if he turns out to hold a target. Higher returns do not bring him benefit. At the same time, if higher bid prices reduce the number of bids, as the data indicate, he loses whenever a potentially beneficial acquisition does not occur.

Is it appropriate to view shareholders in this way? It is if they seek only higher average gains from investing. There are problems of equal distribution of the gains, though. Shareholders who own stock in only one or ten firms might miss out on the gains. This is not necessarily more unfair, though, compared with situations we routinely accept. Some firms are targets and others not. Shareholders who do not hold targets miss out on gains. Moreover, some firms succeed in the product market and others fail, and so on. We do not insist that profits in the computer industry be distributed fairly among all firms so that all investors will get a share, no matter how few firms they hold. The philosophy of the securities laws is to let investors hold as many or as few firms as they want, and so select how much risk they want to take. Shareholders who want to avoid these risks can hold diversified portfolios, which are sure to include both bidders and targets. An attempt to reduce risk stock-by-stock may well end up reducing the number and amount of gains for all to share.

The treatment of the economic data thus also must depend on the role and meaning of fairness in securities regulation. One view of fairness emphasizes the investors' return transaction-by-transaction. Another view treats a market as fair if it is a fair game, if everyone knows the odds and takes the risks accordingly. The fair-game approach underlies almost all of the disclosure rules of the 1933 and 1934 Acts. The Williams Act appears, however, to have a contrary view, emphasizing transaction-by-transaction equal returns.

The fair game perspective suggests the relevance of data showing that longer waiting periods and the like reduce the number of offers. The reduction deprives shareholders of returns without making the game any fairer. The equal-returns view suggests,

in contrast, that regulation should strive to ensure identical treatment of investors in a target given that an offer has been made. The equal-returns view favors, say, inhibition of two-part offers without regard to the effect such inhibition may have on the number of offers and the premiums. On an equal-returns view, we should strive to identify regulations that would prefer every shareholder getting, say, an equal 20% premium whenever there is an offer, compared with 51% obtaining a 40% premuim and 49% a 15% premium; the fair game approach takes the contrary view because the expected value is higher, especially if the fair game approach leads to additional offers.

C. THE BRITISH SYSTEM AS AN EXAMPLE

The differences in these perspectives, and the way they bring the data into play, may be illustrated by a very brief examination of the British system. This system makes defensive tactics by targets' managers very difficult; it also requires bidders to pay a single price for all shares purchased and to offer to acquire all of the equity in a corporation if they acquire more than some trigger amount, such as 30%.

One thing the economics tells us is that the notion of price in the British system is simpleminded. To require acquisition at the same money price may overlook the fact that between the time of the acquisition of the initial bloc and the clear-up acquisition, the market as a whole, or the target's industry, may have experienced substantial price changes. If the market has risen in the interim, the same money price would not give the invsetors in the second tier the equivalent of those in the first (who meanwhile have reinvested in the rising market and thus have more). Similarly, if the market has fallen, paying the same money price would overcompensate the second tier shareholders relative to the first.

But one can put such practical difficulties to one side. The point for now is that the requirement of purchasing all shares, at the highest price paid for any share, would substantially increase the cost to bidders of acquiring firms. One can confidently predict from existing data that under the British system the average premium would be larger

than currently and the number of offers smaller. Whether this is desirable depends wholly on the point of view.

The British system is desirable if it is first decided, on other grounds, that the appropriate objective of regulation is increasing fairness under an equal-returns approach and disregarding costs to bidders. The British system is based, in other words, on a wholly target-centered view of the beneficiaries of regulation and on a belief that returns must be equal, case-by-case, rather than that returns should be maximized in the average case and shareholders left to play a fair game (by holding a diversified portfolio, so they win either way, or by gambling by holding an undiversified portfolio). The British approach assumes that shareholders are undiversified, hold only targets, and want equal share of smaller pies. The economic data cannot tell the Committee whether this is an appropriate view of the regulatory assumptions and objectives, but the data do indicate that adopting such a view would have substantial costs.

Frank H. Easterbrook

Gregg A. Jarrell