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Insider Signaling and Insider Trading with Repurchase Tender Offers

Jesse M. Fried[†]

Cash distributed to public shareholders is distributed through three mechanisms: dividends, open market repurchases (OMRs), and repurchase tender offers (RTOs). The leading explanation for why a corporation would distribute cash through an RTO rather than an OMR or a dividend is the “signaling theory”—that managers use RTOs to signal that the stock is underpriced.

The Article has three main purposes: (1) to challenge the signaling theory, by exposing a flaw in one of its key assumptions and presenting empirical data suggesting that the theory cannot account for most RTOs; (2) to show that the same empirical data are consistent with insiders using RTOs to engage in insider trading with public shareholders; and (3) to propose that insiders be (a) required to disclose their tendering decision before the close of the RTO and (b) forbidden from selling stock outside of the RTO until six months after the announcement date. The Article explains how this “disclose/delay” rule would substantially reduce insiders’ ability to use RTOs for insider trading, without interfering with the use of RTOs for any other purpose (including signaling).

Share repurchases have become a popular method of distributing cash to U.S. shareholders.¹ This Article examines an important mechanism for repurchasing shares: repurchase tender offers (“RTOs”)—offers by corporations to buy back their own stock, usually at a premium over the market price.

RTOs have become much more common over the last twenty-five years: while there were 2 or 3 per year in the U.S. in the early 1970s, there are now 20 to 30 annually.² Until 1981, almost all RTOs were fixed price: the repurchasing corporation specified in advance the price that it would pay for its shares. Since then, an increasingly large number of RTOs have been conducted as “Dutch auctions,” in which

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¹ See Part I.A.

² See Sreenivas Kamma, George Kanatas, and Steven Raymar, *Dutch Auction versus Fixed-Price Self-Tender Offers for Common Stock*, 2 J Fin Intermediation 277, 282 (1992) (providing statistics on the number of RTOs in the late 1980s); Larry Y. Dann, Ronald W. Masulis, and David Mayers, *Repurchase Tender Offers and Earnings Information*, 14 J Acct & Econ 217, 221 (1991) (providing statistics on the number of RTOs in the early 1970s). Among the major U.S. companies that have conducted RTOs in the last ten years are General Dynamics, Capital Cities/ABC, Reebok, and Browning Ferris.

the corporation offers a range of prices and shareholder tendering determines the final repurchase price. Together, fixed price and Dutch auction RTOs are used to distribute approximately \$4 billion to shareholders each year.³

Because of their increasing importance, RTOs have attracted considerable attention from academic commentators.⁴ RTOs are often associated with hostile takeovers because they were used as a defensive tactic in a number of high-profile takeover battles in the 1980s.⁵ However, empirical studies suggest that only 15 to 20 percent of RTOs are related to the threat of a hostile takeover bid.⁶ Thus, most of the academic literature (and this Article) focuses on RTOs that are not takeover-related and, in particular, on why managers conduct “nondefensive” RTOs.

The most widely accepted explanation is that managers conduct nondefensive RTOs in order to signal that the stock is underpriced.⁷ According to the “signaling theory,” managers who have private information indicating that the stock price is underpriced and wish to credibly signal that the stock is underpriced can do so by conducting

³ See David Ikenberry, Josef Lakonishok, and Theo Vermaelen, *Market Underreaction to Open Market Share Repurchases*, 39 J Fin Econ 181, 182 & n 1 (1995). Although a repurchase tender offer is an offer to buy stock from shareholders (which shareholders may decline) and not the repurchase itself, I use the term “RTO” to mean either a repurchase tender offer or the resulting repurchase.

⁴ See, for example, Laurie Simon Bagwell, *Dutch Auction Repurchases: An Analysis of Shareholder Heterogeneity*, 47 J Fin 71 (1992); David T. Brown and Michael D. Ryngaert, *The Determinants of Tendering Rates in Interfirm and Self-Tender Offers*, 65 J Bus 529 (1992); F.H. Buckley, *When the Medium is the Message: Corporate Buybacks as Signals*, 65 Ind L J 493 (1990); Robert Comment and Gregg A. Jarrell, *The Relative Signaling Power of Dutch-Auction and Fixed-Price Self-Tender Offers and Open-Market Share Repurchases*, 46 J Fin 1243 (1991); Dann, Masulis, and Mayers, 14 J Acct & Econ 217 (cited in note 2); Wallace N. Davidson III and Sharon H. Garrison, *The Stock Market Reaction to Significant Tender Offer Repurchases of Stock: Size and Purpose Perspective*, 24 Fin Rev 93 (1989); Michael Hertzel and Prem C. Jain, *Earnings and Risk Changes around Stock Repurchase Tender Offers*, 14 J Acct & Econ 253 (1991); Kamma, Kanatas, and Raymar, 2 J Fin Intermediation 277 (cited in note 2); Josef Lakonishok and Theo Vermaelen, *Anomalous Price Behavior around Repurchase Tender Offers*, 45 J Fin 455 (1990); Robert M. Lawless, Stephen P. Ferris, and Bryan Bacon, *The Influence of Legal Liability on Corporate Financial Signaling*, 23 J Corp Law 209, 215–16, 230–31 (1998); Erik Lie and John J. McConnell, *Earnings Signals in Fixed-Price and Dutch Auction Self-Tender Offers*, 49 J Fin Econ 161 (1998); Steven B. Perfect, David R. Peterson, and Pamela P. Peterson, *Self-Tender Offers: The Effects of Free Cash Flow, Cash Flow Signaling, and the Measurement of Tobin's q*, 19 J Banking & Fin 1005 (1995); John C. Persons, *Signaling and Takeover Deterrence with Stock Repurchases: Dutch Auctions versus Fixed Price Tender Offers*, 49 J Fin 1373 (1994); R. Richardson Pettit, Yulong Ma, and Jia He, *Do Corporate Insiders Circumvent Insider Trading Regulations? The Case of Stock Repurchases*, 7 Rev Quantitative Fin & Acct 81 (1996); Theo Vermaelen, *Repurchase Tender Offers, Signaling, and Managerial Incentives*, 19 J Fin & Quantitative Analysis 163 (1984).

⁵ See Michael Bradley and Michael Rosenzweig, *Defensive Stock Repurchases*, 99 Harv L Rev 1377, 1423–24 (1986).

⁶ See Part I.B.1.

⁷ See Part I.C.

an RTO at a premium to the market price and committing not to tender their shares.⁸

This Article begins by critically analyzing the signaling theory. First, it explains why the use of an RTO coupled with a no-tender announcement is not, by itself, a credible means of signaling that the stock is worth at least the repurchase price. The Article then examines insiders' tendering, trading, and disclosure behavior around the time of the RTO. It presents data suggesting that most RTOs are not motivated by signaling.

After challenging the signaling theory, the Article explains why the same insider tendering, trading, and disclosure data are consistent with insiders using RTOs for "insider trading": that is, to exploit their access to inside information to make profits at the expense of public shareholders.¹⁰ As will be explained, an RTO has the same distributional consequences for shareholders as a transaction in which tendering shareholders (as a group) sell their shares at the repurchase price to the remaining shareholders (as a group). Thus by setting the repurchase price below the stock's actual value, and not tendering, insiders can use an RTO to buy shares tendered by the public at a low price. And by setting the repurchase price above the actual value, and then tendering, insiders can sell their stock to nontendering public shareholders at a high price.¹¹ The Article shows how insiders can achieve a substantially similar result to tendering into a high price RTO by announcing a high price RTO and (rather than tendering) selling their stock outside of the RTO after the announcement has caused the stock price to rise.

⁸ See Part I.C.

⁹ This Article generally uses the term "insiders" to mean all of the officers, directors, and large shareholders required to file trading reports under Section 16(a) of the Securities Exchange Act of 1934. 15 USC § 78p (1994). However, the decision to conduct an RTO is made by the few insiders who actually control the corporation (i.e., a controlling shareholder or, in the absence of a controlling shareholder, the highest-level officers). Thus when discussing insiders' incentive to conduct an RTO, the Article uses the term "insiders" to refer only to those insiders in control of the corporation.

¹⁰ For purposes of this Article, "inside information" means nonpublic information that is available to insiders by virtue of their positions within the corporation, whether or not that information would be considered legally "material." Insiders, through their positions in the firm, have access to inside information relating to the value of the firm's shares. See Jesse M. Fried, *Reducing the Profitability of Corporate Insider Trading Through Pretrading Disclosure*, 71 S Cal L Rev 303, 317-29 (1998) (surveying evidence of widespread corporate insider trading). Indeed, the signaling theory is based on this very assumption.

¹¹ As Dean Clark and Professor Brudney have pointed out, any form of share repurchase that is not pro rata can be used by insiders with private information to transfer value from public shareholders. See Robert Charles Clark, *Corporate Law* 633 (Little, Brown 1986); Victor Brudney, *Equal Treatment of Shareholders in Corporate Distributions and Reorganizations*, 71 Cal L Rev 1072, 1109-14 (1983). One of the contributions of this Article is to show that RTOs are especially well suited for this type of insider trading.

It is important to emphasize that insiders' use of RTOs to exploit inside information does not necessarily violate the securities laws.¹² These laws impose liability on insiders (as well as the corporation itself) if they buy or sell stock without disclosing "material" inside information.¹³ However, internal projections and other forms of "soft" information are not considered legally material, even if the information would be extremely valuable to investors.¹⁴ As a result, insiders are free to conduct RTOs and trade in the market without disclosing a wide range of valuable but "sub-material" information.¹⁵

This Article does not claim that most (or even many) nondefensive RTOs are used exclusively for insider trading purposes. There may well be RTOs that are not used for insider trading.¹⁶ And many RTOs that are used for insider trading may also have another purpose (such as distributing unneeded cash to shareholders¹⁷). The Article's descriptive claims are simply that (1) insiders have the ability and incentive to use RTOs for insider trading; and (2) insider tendering,

¹² Insiders conducting an RTO must first file a Schedule 13E-4 with the SEC disclosing information "regarding activities or transactions which are to occur after" the RTO and which "would result in" mergers, asset sales, or other "extraordinary corporate transaction[s]." 17 CFR § 240.13e-100 (1999). Insiders are also subject to the general antifraud provisions of 10(b) of the Securities Exchange Act, and Rule 10b-5, which (among other things) prohibits trading on "material" inside information. 15 USC § 78j(b) (1994); 17 CFR § 240.10b-5 (1999).

¹³ See *United States v O'Hagan*, 521 US 642, 643 (1997).

¹⁴ See John Coates, *Fair Value as an Avoidable Rule of Corporate Law: Minority Discounts in Conflict Transactions*, 147 U Pa L Rev 1251, 1315 (1999); Mitu Gulati, *When Corporate Managers Fear a Good Thing is Coming to an End: The Case of Interim Nondisclosure*, 46 UCLA L Rev 675, 682 (1999) (reporting that recent case law and the SEC's position is that companies are not obligated to disclose forecasts). For example, in *Walker v Action Industries, Inc.*, 802 F2d 703 (4th Cir 1986), insiders conducted an RTO for \$4.00 per share and three months later the market price rose to \$15.75. The court found that there was no violation of the securities laws even though at the time of the RTO there were undisclosed forecasts predicting a substantial increase in orders and sales.

¹⁵ See Fried, 71 S Cal L Rev at 310 (cited in note 10); Clark, *Corporate Law* at 507-08 (cited in note 11) (noting that insiders may have access to bits of information that individually are not important enough to be considered legally "material" but that in aggregate are very valuable); Donald Langevoort, *Rereading Cady, Roberts: The Ideology and Practice of Insider Trading Regulation*, 99 Colum L Rev 1319, 1335 (1999) (observing that "[i]nsiders at almost all times have the advantage of superior insight and a sense of which way things are going even if they do not possess a fact that a court would call material and nonpublic"). Compare Dale Arthur Oesterle and Jon R. Norberg, *Management Buyouts: Creating or Appropriating Shareholder Wealth?*, 41 Vand L Rev 207, 218 & n 54 (1988) (noting the difficulty of policing the use of inside information in the management buyout context since the totality of "immaterial" inside information will likely be meaningful for managers).

There may also be cases where insiders conduct RTOs without disclosing legally material inside information. Although the penalty for violating the securities laws can be severe, there may be many situations in which insiders are not deterred because the probability of apprehension and punishment is low. See Fried, 71 S Cal L Rev at 331-35 (cited in note 10) (explaining why insiders might not be deterred from trading on material inside information).

¹⁶ Part I.B.2 describes and briefly analyzes various other explanations for nondefensive RTOs.

¹⁷ See Part I.B.2.a.

selling, and disclosure behavior is consistent with the widespread use of RTOs for this purpose.

There is a substantial body of literature analyzing the economic implications of "ordinary" insider trading (insiders' use of private information to trade directly with public shareholders on the open market). This literature investigates how personal insider trading affects managerial incentives,¹⁸ price efficiency,¹⁹ and the cost of capital.²⁰ All of these effects, which flow from insiders' ability to use inside information to transfer value from public shareholders, are also present when insiders use RTOs to trade indirectly with public shareholders.

However, insider trading through RTOs is different from personal insider trading in two important respects. First, insider trading through RTOs is more coercive. Public shareholders can protect themselves from expropriation through personal insider trading by not trading their shares. In contrast, public shareholders cannot protect themselves from expropriation through an insider trading RTO. If public shareholders do not tender, they may be forced to (indirectly) buy back insider shares at a high price. If public shareholders do tender, they may (indirectly) sell their shares to insiders at a low price. In effect, insiders can use an RTO to force less informed public shareholders to trade with them.

The second important difference between personal insider trading and using an RTO for insider trading is that the latter may give rise to two additional efficiency costs. First, to the extent that insiders would not have undertaken the RTO otherwise, insiders conducting an RTO force the corporation to incur substantial transaction costs. The corporation will typically hire investment bankers to structure the RTO, securities lawyers to register the offering with the SEC, and an outside firm to administer the repurchase.²¹ Second, to the extent that the corporation would not have distributed the cash otherwise (such as through a dividend), insiders conducting an RTO may cause the corporation to distribute cash that would be better invested in the

¹⁸ See Fried, 71 S Cal L Rev at 306-07 (cited in note 10) and sources cited therein. The prospect of insider trading profits can discourage managerial effort by enabling insiders to profit even if they generate bad news; encourage insiders to invest in projects that are difficult for outsiders to assess, whether these projects are otherwise desirable or not, in order to increase the information asymmetry between themselves and public shareholders; and induce insiders to engage in overly risky projects in order to generate large price swings.

¹⁹ See *id* at 315 & n 54 (the prospect of insider trading gives insiders an incentive to delay disclosing information to the market or to deliberately provide the market with misleading information).

²⁰ See *id* at 307 & n 11 (the prospect of insider trading increases the cost of equity capital).

²¹ See Michael J. Barclay and Clifford W. Smith, Jr., *Corporate Payout Policy: Cash Dividends Versus Open Market Repurchases*, 22 J Fin Econ 61, 71 (1988); Indudeep S. Chhachhi and Wallace N. Davidson III, *A Comparison of the Market Reaction to Specially Designated Dividends and Tender Offer Stock Repurchases*, 26 Fin Mgmt 89, 93-94 (1997).

corporation.²² Indeed, the substantial costs associated with RTOs may be one reason why insiders do not use them more often.²³

Taking as its premise that the use of RTOs for insider trading is undesirable, the Article proposes a rule that would substantially reduce insiders' ability to use RTOs for insider trading and the resulting efficiency costs. The rule, which I call the "disclose/delay" rule, would require insiders to disclose whether and to what extent they are participating in the offer (and, in the case of Dutch auction RTOs, the price(s) at which they are tendering their shares), and would forbid insiders from selling stock outside of the RTO for six months starting with the announcement of the RTO.²⁴ The disclose/delay rule would not impair managers' use of RTOs for any other purpose, including takeover-defense or signaling.

The remainder of the Article is organized as follows. Part I describes RTOs in more detail, surveys the nonsignaling explanations for RTOs, and then presents and critically analyzes the signaling theory. Part II offers the insider trading explanation for RTOs. Part III puts forward the "disclose/delay" rule.

I. THE SIGNALING EXPLANATION FOR REPURCHASE TENDER OFFERS

This Part first describes RTOs in more detail and the nonsignaling theories that have been advanced to explain them. It then presents and critically analyzes the widely accepted signaling theory for RTOs. Section A describes the two types of RTOs—fixed price and Dutch auction—and the most common form of share repurchase, open market repurchases ("OMRs"). Section B examines nonsignaling explanations for why managers would use an RTO rather than an OMR or a dividend to distribute cash, and explains why these theories are unlikely to account for most RTOs. Section C presents the signaling theory. Section D provides a critique of the signaling theory.

²² As Part I.B.2.a will explain, RTOs may serve a useful purpose by distributing "excess cash" to shareholders—cash that is better invested outside of the corporation. However, there are likely to be cases where the corporation's cash is better invested inside the corporation—that is, the corporation's investment opportunities are better (not worse) than those available to its shareholders.

²³ To the extent that insiders retain shares in the post-RTO corporation, they will not have an incentive to initiate a value-reducing RTO if their insider trading profits from the RTO are less than their pro rata share of the costs imposed on the corporation.

²⁴ Elsewhere, I have argued that insiders should be required to disclose all of their intended trades in advance. See Fried, 71 *S Cal L Rev* at 348–64 (cited in note 10) (proposing and analyzing a pretrading disclosure rule). The disclosure requirement of the disclose/delay rule can be seen as a transaction-specific application of that more general proposal.

A. Share Repurchases

Most of the cash distributed by public corporations to their shareholders still takes the form of dividends. However, an increasingly large proportion of this cash is distributed by repurchasing shares from public shareholders.²⁵

There are two common explanations for the growing use of repurchases. First, share repurchases are usually more tax efficient for shareholders than dividends.²⁶ Second, share repurchases are less likely than dividends to reduce the value of managers' stock options.²⁷ However, the fact that most cash is still distributed through dividends suggests that share repurchases are not superior to dividends in all respects.²⁸

²⁵ Repurchases averaged 25.6 percent of total cash distributions during 1992–1996, compared to 7.1 percent during 1975–1979. See Christine Jolls, *Stock Repurchases and Incentive Compensation*, NBER Working Paper 6467, *1 (1998). See also Laurie Simon Bagwell and John B. Shoven, *Cash Distributions to Shareholders*, 3 *J Econ Perspectives* 129, 131 (1989) (reporting that the amount distributed annually through share repurchases (in real dollar terms) rose ninefold, from \$5.7 billion to \$52.6 billion, between 1977 and 1987).

²⁶ There are three reasons why share repurchases are generally more tax efficient than dividends for most shareholders. First, while dividends are 100 percent taxable for many taxpayers, cash paid in a stock repurchase is not taxed to the extent that it represents a return of the initial investment (basis) in that stock. (In order not to be considered a dividend for tax purposes, the share repurchase cannot be essentially equivalent to a dividend—that is, it cannot be pro rata.) See 26 USC § 302(b) (1994). Second, any payment in excess of basis is considered capital gains and will usually be taxed at one of the capital gain rates, which in many cases will be lower than the ordinary income tax rate to which dividends are subject. See Buckley, 65 *Ind L J* at 516 (cited in note 4). Third, in a share repurchase shareholders have the option of avoiding tax altogether by not selling their shares back to the corporation. For evidence that the decision to repurchase shares rather than issue dividends is partially tax-driven, see Chhachhi and Davidson, 26 *Fin Mgmt* at 93–94 (cited in note 21).

²⁷ Cash dividends reduce the per-share value of the firm, which in turn lowers the market price of the stock. The value of stock options depends on the difference between the exercise price (the price at which the manager may purchase the stock) and the market price (the price at which the manager may sell the purchased stock). Thus, unless the options' exercise price is lowered to take dividends into account, the effect of dividends will be to reduce the options' value. Repurchases do not reduce the per-share value of the firm (and hence the stock price) to the extent the outflow of value is matched by a corresponding reduction in the number of outstanding shares. See Jolls, NBER Working Paper 6467 at *18–19 (cited in note 25).

Although the shareholder tax and managerial option hypotheses may explain why a firm would distribute cash through a share repurchase rather than through dividends, neither of these theories can explain why corporations distribute cash in the first instance, either through an RTO or an OMR. Nor does either theory explain why a corporation would choose an RTO over an OMR. Thus, neither of these theories alone can explain why a corporation would conduct an RTO.

²⁸ Although share repurchases may be more tax efficient than dividends and have less of an adverse impact on the value of managers' stock options, there are countervailing considerations that may make dividends a more attractive mechanism for distributing cash in some cases. Dividends allow corporations to distribute cash more cheaply when the stock is overvalued. See Bhagwan Chowdhry and Vikram Nanda, *Repurchase Premia as a Reason for Dividends: A Dynamic Model of Corporate Payout Policies*, 7 *Rev Fin Stud* 321 (1994). Dividends might also enable the corporation to attract value-increasing institutional monitors. See Franklin Allen, Anto-

A corporation that wishes to repurchase shares can do so either through an RTO or an OMR.²⁹ There are two types of RTOs: (1) "fixed price," and (2) "Dutch auction." This Section describes both types of RTOs and then compares RTOs to OMRs.

1. Repurchase tender offers.

In an RTO, the corporation makes a time-limited offer (typically expiring in a month³⁰) to purchase a specified amount of stock. In a fixed price RTO, the corporation specifies a single price that it will pay for the shares. The offer price is usually above the pre-announcement market price.

The offer price of fixed price RTOs has been on average 15 to 20 percent higher than the pre-offer market price, and the fraction of outstanding shares sought has been on average 15 to 20 percent.³¹ There are abnormal stock price increases averaging 8 percent around the time of the announcement.³²

In a Dutch auction RTO, the corporation does not specify in advance the price at which it will buy back those shares. Instead, it indi-

nio Bernardo, and Ivo Welch, *A Theory of Dividends Based on Tax Clienteles*, Rodney L. White Center for Financial Research Working Paper (1998). Finally, to the extent that payout policies are designed to protect public shareholders, dividends reduce the risk of shareholder expropriation by insiders. See Deborah J. Lucas and Robert M. McDonald, *Shareholder Heterogeneity, Adverse Selection, and Payout Policy*, 33 J Fin & Quantitative Analysis 233, 234 (1998).

²⁹ There are two other types of share repurchases: (1) offers targeted only to odd-lot holders (those holding fewer than one hundred shares), which are designed to save servicing and transaction costs by reducing the number of shareholders; and (2) private repurchases (purchases of stock from select shareholders, for example, insiders or greenmailers). See Nikos Vafeas, *Determinants of the Choice Between Alternative Share Repurchase Methods*, 12 J Acct, Auditing & Fin 101, 103 n 3 (1997). However, both odd-lot and private repurchases are relatively small in dollar magnitude.

³⁰ The offer period must last at least twenty business days. See 17 CFR § 240.13e-4(f)(i) (1999).

³¹ See Comment and Jarrell, 46 J Fin at 1251-58 (cited in note 4) (reporting that the average percentage of outstanding shares sought in a sample of 65 fixed price RTOs from 1984 to 1989 was approximately 19 percent, and the average premium offered was approximately 21 percent); Hertz and Jain, 14 J Acct & Econ at 261-62 (cited in note 4) (finding the average percentage of shares sought to be 14.8 percent and the average premium offered to be 16.7 percent in a study of 127 fixed price RTOs between 1970 and 1984); Lakonishok and Vermaelen, 45 J Fin at 458 (cited in note 4) (finding the average percentage of shares sought to be 17.06 percent and the average premium to be 21.79 percent in a study of 221 fixed price RTOs from 1962-1986).

³² See Lie and McConnell, 49 J Fin Econ at 170-76, 185 (cited in note 4) (finding average cumulative abnormal returns of 8 percent around announcements of fixed price RTOs between 1981 and 1994). Before 1980, the abnormal returns were higher. See Theo Vermaelen, *Common Stock Repurchases and Market Signalling*, 9 J Fin Econ 139, 150-52 (1981) (finding cumulative average abnormal returns of 17.5 percent around the time of 131 fixed price RTO announcements between 1962 and 1977). In some cases, the stock price has fallen on the announcement of the RTO. See Vermaelen, 19 J Fin & Quantitative Analysis at 174-76 (cited in note 4) (reporting that 11 percent of firms conducting RTOs from 1962-1977 showed negative returns following the announcement).

cates a range of prices over which it is willing to repurchase the shares. The minimum price is usually slightly above the pre-announcement market price; the maximum represents a premium similar to those offered in fixed price RTOs.³³ Each tendering shareholder indicates the minimum price for which she would sell her shares.³⁴ The corporation constructs a supply curve based on the shareholders' tenders and pays the lowest price that will repurchase the number of shares sought. The same price is paid for all of the shares tendered at or below the repurchase price.³⁵

Example: ABC Corp. offers to repurchase 100 of its 200 shares for any price between \$9 and \$10. Suppose 50 shares are tendered at \$9, 50 shares are tendered at \$9.50, and 50 shares are tendered at \$10. ABC would then purchase 100 shares for \$9.50—the lowest price sufficient to purchase the number of shares sought.³⁶

An average of approximately 15 percent of outstanding shares are sought in Dutch auction RTOs and an average of approximately 15 percent of outstanding shares are tendered in Dutch auction RTOs at or below the final repurchase price.³⁷ The final repurchase price is usually higher than the pre-offer market price. The average premium paid to shareholders tendering into Dutch auction RTOs is 10 to 15 percent, slightly lower than the average 15 to 20 percent premium paid to shareholders tendering into fixed price offers.³⁸ There are abnormal

³³ See Comment and Jarrell, 46 *J Fin* at 1247 (cited in note 4).

³⁴ She can tender shares at as many prices as she wants, but for ease of exposition I will assume that if she tenders, she tenders all of her shares at the same price. This assumption does not affect the analysis.

³⁵ See note 44. If the Dutch auction RTO is oversubscribed at the repurchase price, all of the shares tendered at the repurchase price or below are bought back pro rata. See note 42.

³⁶ This example illustrates a situation in which (1) shareholders offer to sell at least as many shares as are being sought and (2) the number of shares tendered at or below the repurchase price does not exceed the number of shares sought.

If the number of shares tendered falls short of the target, the corporation must repurchase all of the shares at the highest price at which any share is tendered, unless it has indicated in advance that it has the right to withdraw the offer should too few shares be tendered.

If the number of shares tendered at or below the repurchase price exceeds the number of shares sought, then all of the shares tendered at or below the repurchase price must be repurchased pro rata. Suppose, for example, that ABC shareholders tender 50 shares at \$9 and 100 shares at \$9.50. In this case, ABC would pay \$9.50 per share to repurchase 2/3 of the 150 shares tendered at \$9.50 or below.

³⁷ See Comment and Jarrell, 46 *J Fin* at 1257 (cited in note 4) (finding that in 63 Dutch auction RTOs between 1984 and 1989, the average percentage of shares sought was 16 percent and the average percentage of shares tendered at or below the repurchase price was 16 percent).

³⁸ See *id.* at 1257 (reporting average premia of 20.6 percent for fixed price RTOs and 12.8 percent for Dutch auction RTOs in a study of 128 RTOs from 1984–1989); Kamma, Kanatas, and Raymar, 2 *J Fin Intermediation* at 281–84 (cited in note 2) (reporting average premia of 19.2 percent in fixed price RTOs and 13.2 percent for Dutch auction RTOs in a study of 120 RTOs from 1985–1989); Lie and McConnell, 49 *J Fin Econ* at 168 (cited in note 4) (reporting average

stock price increases averaging 8 percent in response to announcements of Dutch auction RTOs,³⁹ the same as the stock price reaction to fixed price announcements.

In conducting either type of RTO, the repurchasing corporation must comply with rules similar to those that apply in connection with third-party tender offers. For example, forms must be filed with the SEC,⁴⁰ the solicitation must be made to "all security holders,"⁴¹ the offer must be prorated if the number of shares tendered exceeds the number of shares repurchased,⁴² tendering shareholders must be given the right to withdraw their shares prior to the expiration of the offer,⁴³ and all shares must be repurchased at the same price.⁴⁴

A shareholder facing a fixed price RTO must choose between tendering and not tendering.⁴⁵ The decision will turn on the shareholder's reservation value—the price at which she is willing to part with her shares. She will tender if, and only if, her reservation value is below the offer price.

In almost all fixed price RTOs, some shareholders tender and some do not,⁴⁶ which means that shareholders have different reservation values for the same stock (at the time of the RTO). The variation

premia of 16.8 percent for fixed price RTOs and 13.4 percent for Dutch auction RTOs in a study of 232 RTOs from 1981–1994).

³⁹ See Lie and McConnell, 49 J Fin Econ at 170–76, 185 (cited in note 4) (reporting that in a sample of 102 Dutch auction RTOs from 1981 to 1994, there were abnormal price increases averaging 8 percent on the announcement of an RTO).

⁴⁰ Issuers are required to file ten copies of Schedule 13E-4 "prior to or as soon as practicable on the date of commencement" of the tender offer. After filing the Schedule 13E-4, the issuer must report any material changes by "promptly filing" ten copies of an amended Schedule 13E-4. Within ten days after the termination or close of a tender offer, the issuer must file a final amended Schedule 13E-4 stating the results of the tender offer. See 17 CFR § 240.13e-4(c) (1999).

⁴¹ See 17 CFR § 240.13e-4(f)(8)(i) (1999).

⁴² See 17 CFR § 240.13e-4(f)(3) (1999). The corporation may also buy additional shares. See Vafeas, 12 J Acct, Auditing & Fin at 102 (cited in note 29).

⁴³ See 17 CFR § 240.13e-4(f)(2)(i) (1999). The corporation may also reserve the right to cancel the RTO if it is sufficiently undersubscribed. See Vafeas, 12 J Acct, Auditing & Fin at 102 (cited in note 29).

⁴⁴ See 17 CFR § 240.13e-4(f)(8)(ii) (1999).

⁴⁵ The shareholder could of course tender some shares but not others. For ease of exposition I will assume, however, that each shareholder either tenders all of her shares or does not tender. This assumption does not affect any of the analysis.

⁴⁶ There apparently have been very few RTOs in which either (1) fewer than 10 percent of shares are tendered or (2) most of the shares are tendered. See Vermaelen, 9 J Fin Econ at 155 (cited in note 32) (finding that only two RTOs had tendering rates of less than 10 percent in a study of 131 RTOs from 1962–1977); Ronald W. Masulis, *Stock Repurchase by Tender Offer: An Analysis of the Causes of Common Stock Price Changes*, 35 J Fin 305, 308 (1980) (finding that only a small fraction of 199 RTOs from 1963–1978 were heavily oversubscribed). The average percentage of shares tendered is approximately 25 percent. See Brown and Ryngeart, 65 J Bus at 543 (cited in note 4) (reporting an average tendering rate of 25.9 percent in a study of 103 RTOs from 1978–1986). See also Comment and Jarrell, 46 J Fin at 1257 (cited in note 4) (reporting an average tendering rate of 25 percent for 65 fixed price RTOs from 1984–1989).

may arise because shareholders have different subjective valuations for the stock, different tax situations, and/or different transaction costs.⁴⁷

In a Dutch auction RTO, as in a fixed price RTO, a shareholder's tendering decision will depend on her reservation value. If her reservation value is within the offer range, the shareholder should tender her shares at that price;⁴⁸ if her reservation value is lower than the minimum price, she should tender at the minimum price;⁴⁹ and if her reservation value is higher than the maximum price, she should not tender her shares.⁵⁰ Shareholders responding to Dutch auction RTOs typically tender along the entire price range,⁵¹ further evidence that shareholders have different reservation values for their stock (at the time of the RTO).⁵²

From the perspective of the remaining shareholders, the advantage of a Dutch auction RTO is that it may repurchase the same number of shares for less than a fixed price RTO.⁵³ Suppose that ABC corporation was planning to conduct a fixed price RTO at \$X per share in order to purchase a maximum of Y shares. If instead ABC conducts a Dutch auction RTO with a maximum price of \$X the corporation may be able to pay less to repurchase Y shares than it would with the fixed price RTO by repurchasing shares from shareholders who are willing to sell the stock for less than \$X per share.

Example: ABC Corp. offers to repurchase 100 of its 200 shares for any price between \$9 and \$10. Fifty shares are tendered at \$9, 50 shares are tendered at \$9.50, and 50 shares are tendered at \$10. ABC purchases 100 shares for \$9.50. In a fixed price RTO at \$10, ABC would attract 150 shares, and repurchase 100 for \$10

⁴⁷ The dispersion of reservation values and its possible causes are discussed in more detail in Part I.B.1.

⁴⁸ If the shareholder tenders below her reservation value, her shares may be repurchased at a price she considers to be too low. If the shareholder tenders above her reservation value, she runs the risk that the final repurchase price will be above her reservation value but below her tender price. If that happens, she will be forced to (indirectly) buy other shareholders' stock at a price that she considers to be too high. This assumes that the shareholder believes that there is only a minimal chance that her tendering decision will affect the final repurchase price, which would be the case if she is a small shareholder. If she were a large shareholder, then she might have an incentive to tender at a higher price.

⁴⁹ If the shareholder tenders at a higher price, she runs the risk that the final repurchase price will be above her reservation value but below her tender price. Again, this assumes that she believes that her tendering decision will not affect the final price. See note 48.

⁵⁰ See Bagwell, 47 *J Fin* at 80 (cited in note 4).

⁵¹ See *id* at 72.

⁵² See *id* at 80. The dispersion of investors' reservation values is discussed in more detail in Part I.B.1.

⁵³ See Kamma, Kanatas, and Raymar, 2 *J Fin Intermediation* at 280 (cited in note 2).

each. Thus ABC Corp. would spend \$50 ($100 \times \0.50) more repurchasing the shares through the fixed price RTO.⁵⁴

The first Dutch auction RTO was conducted in 1981.⁵⁵ By the late 1980s, more than half of the RTOs conducted each year were Dutch auctions.⁵⁶ This trend has continued. In 1998, for example, all of the RTOs reported in the Wall Street Journal were conducted as Dutch auctions.⁵⁷

2. Open market repurchases.

The most common form of share repurchase is the open market repurchase ("OMR"), in which the corporation buys back its own stock on the market, through a broker. In principle, a corporation could use an OMR to achieve the same result as an RTO, both more cheaply and more easily.

Suppose that ABC Corporation is considering conducting a fixed price RTO at a 20 percent premium over the pre-announcement market price in order to purchase a maximum of 10 percent of the outstanding shares. Instead, ABC could initiate an OMR and continue buying until the price had risen 20 percent or 10 percent of the outstanding shares had been repurchased (whichever came first).

If ABC conducts the OMR rather than the RTO it would not need to make any filings with the SEC or hire outside parties to assist it in structuring and implementing the transaction. As a result the

⁵⁴ This example assumes that the shareholder supply curve for stock is not affected by the type of RTO used. However, the supply curve for stock may in part be a function of the type of RTO chosen by the corporation. See Part II.A.3.

⁵⁵ Todd Shipyards was planning to offer \$28 a share for up to 550,000 (of its 5.5 million) shares when Bear Stearns convinced Todd that it could repurchase the shares more cheaply by holding a Dutch auction RTO allowing shareholders to tender their shares at any price up to \$28. Bear Stearns's fee would be 30 percent of the savings. In the auction, 550,000 shares were tendered at \$26.50 or less. Since Todd originally had planned to pay \$28 for up to 550,000 shares, the Dutch auction saved Todd over \$800,000 ($550,000 \times \1.50)—before the fee paid to Bear Stearns. Of course, the Dutch auction "cost" departing shareholders the same amount—\$800,000. When asked how the Dutch auction RTO would affect departing stockholders, Alan "Ace" Greenberg, the senior partner (and now chairman) of Bear Stearns who conceived of the idea of using Dutch auctions to repurchase stock, replied: "Those who are leaving might get a lesser price. But who cares?" See Barbara Ettore, *Make Me an Offer*, *Forbes* 193 (Oct 26, 1981).

⁵⁶ See Kamma, Kanatas, and Raymar, 2 *J Fin Intermediation* at 278 (cited in note 2) (reporting that in 1989 75 percent of RTOs were conducted as Dutch auctions). This figure may have understated their importance because Dutch auction RTOs tend to be undertaken by larger companies. See Pettit, Ma, and He, 7 *Rev Quantitative Fin & Acct* at 85 (cited in note 4) (finding in a study of 69 fixed price RTOs and 45 Dutch auction RTOs between 1980 and 1989 that the average market value of companies conducting Dutch auction RTOs was \$1.924 billion, compared to \$771 million for those conducting fixed price RTOs).

⁵⁷ As Part II.A.3 will explain, one possible explanation for the growing popularity of Dutch auction RTOs is that they make it easier for insiders to engage in indirect insider trading with public shareholders.

OMR's transaction costs would be lower.⁵⁸ In addition, while the RTO would require ABC to repurchase all of the shares at the same high price (a 20 percent premium over the pre-RTO price), in an OMR at least some of the stock—that purchased initially, before the market price increases significantly—may be repurchased at a lower price. For these two reasons the cost of repurchasing shares would be lower with the OMR.

The OMR would also be more flexible. ABC need not announce the OMR in advance,⁵⁹ and may begin, suspend, resume, and terminate the OMR whenever it wishes. If ABC announces the OMR, it may indicate the number of shares it intends to repurchase, but it can make clear that the number of shares repurchased will depend on market conditions. As a result, ABC will not be obligated to repurchase any shares.⁶⁰ In contrast, if ABC conducts an RTO it must first file a Schedule 13E-4 with the SEC in which it commits itself to the terms of the offer, then hold the RTO open for at least 20 business days, and, finally, buy the number of tendered shares it has committed to repurchase.

However, ABC would face two legal risks if it used an OMR to conduct a large open-market buyback of stock in a short period of time. First, a firm buying its own stock in the market might be found liable for violating the anti-manipulation provisions of Section 9(a)(2) of the 1934 Act. Second, the OMR might be considered a “constructive” repurchase tender offer, subjecting the firm to all of the restrictions on RTOs. Both legal risks increase with the size and the speed of the OMR,⁶¹ and can be eliminated or reduced by limiting the price the corporation offers for its stock and the number of shares repurchased each day.⁶²

⁵⁸ See Vafeas, 12 J Acct, Auditing & Fin at 103 (cited in note 29).

⁵⁹ See id at 102.

⁶⁰ On average, companies announcing OMRs repurchase 74–82 percent of the targeted number of shares, although a substantial number of corporations announcing OMRs in fact never repurchase a single share. See Clifford P. Stephens and Michael S. Weisbach, *Actual Share Repurchases in Open-Market Repurchase Programs*, 53 J Fin 313, 314 (1998).

⁶¹ Edward Herlihy, et al, *Financial Institutions Mergers and Acquisitions 1996: Another Successful Round of Consolidation and Capital Management* 393 (PLI-Corporate Law and Practice Handbook Series No B4-7179 1997).

⁶² The risk of anti-manipulation liability can be eliminated by adhering to the price, volume, and other restrictions imposed by Rule 10b-18. See 17 CFR § 240.10b (1999). Rule 10b-18 provides a repurchasing corporation with a safe harbor from liability under the anti-manipulation provisions of the Securities Exchange Act if the corporation (1) limits the number of shares it purchases on the open market each day to 25 percent of the average daily trading volume of the previous month and (2) does not offer a higher price than any other buyer. 17 CFR § 240.10b-18 (1999). Because of the restrictions on price and volume, buybacks conducted under that rule are also not likely to be considered a “tender offer” for the purposes of the securities laws. Herlihy, et al, *Financial Institutions* at 393 (cited in note 61).

Thus corporations have a legal incentive to use RTOs for large buybacks that must be accomplished in a short period of time, and an economic incentive to use OMRs for smaller buybacks that need not be completed as quickly. Not surprisingly, OMRs tend to be both smaller and slower than RTOs. The average percentage of outstanding shares targeted in announced OMRs is 7 percent,⁶³ approximately half the percentage targeted in RTOs. And while RTOs are usually completed in one month, most OMRs last several months to several years.⁶⁴

B. Nonsignaling Explanations for RTOs

This Section describes current (nonsignaling) explanations for RTOs. It first sets out the takeover-defense theory, and then describes three nonsignaling theories that attempt to explain nondefensive RTOs: the excess cash, the agency cost, and the creditor expropriation theories. As we will see, these three theories collectively have not been considered an adequate explanation for the 80–85 percent of RTOs that are nondefensive.

1. The takeover-defense theory.

In order to understand why RTOs are sometimes used to defend against a hostile takeover attempt, it is necessary to consider the “price pressure” effect of RTOs. Until relatively recently, the conventional view among finance economists (and law and economics scholars writing on the securities markets) was that the shareholder supply curve for the stock of publicly traded firms is perfectly elastic (or flat): shareholders would be willing to sell all of their stock for a small increment over the market price because, the view was, the market price reflected what all shareholders perceived to be the value of the stock.

However, over the last 10 to 15 years empirical studies have made it increasingly clear that the shareholder supply curve for publicly traded stock is not flat, but rather upward-sloping.⁶⁵ In other words, to

⁶³ See Ikenberry, Lakonishok, and Vermaelen, 39 *J Fin Econ* at 185 (cited in note 3) (reporting that the average percentage of outstanding shares sought in all of the open market repurchases announced between January 1980 and December 1990 by firms listed on the ASE, NYSE, and NASDAQ was 6.6 percent).

⁶⁴ Vafeas, 12 *J Acct, Auditing & Fin* at 102–03 (cited in note 29).

⁶⁵ For evidence of upward-sloping shareholder supply curves, see, for example, Bagwell, 47 *J Fin* at 75–80 (cited in note 4) (analyzing empirical evidence showing that the supply curves of Dutch auction RTOs are upward sloping); Michael Bradley, Anand Desai, and E. Han Kim, *Synergistic Gains from Corporate Acquisitions and Their Division Between the Stockholders of Target and Acquiring Firms*, 21 *J Fin Econ* 3, 16–19 (1988); Brown and Ryngaert, 65 *J Bus* at 530 (cited in note 4) (finding an upward-sloping supply curve in RTOs); Lawrence Harris and Eitan Gurel, *Price and Volume Effects Associated with Changes in the S&P 500 List: New Evidence for the Existence of Price Pressures*, 41 *J Fin* 815 (1986); Andrei Shleifer, *Do Demand Curves for*

purchase more shares, one must pay a higher price.⁶⁶ An upward-sloping supply curve means that there is so-called “shareholder heterogeneity”: shareholders have different reservation values for the same stock.⁶⁷ The market price is, therefore, the reservation value of the lowest-valuing (or marginal) shareholder. Shareholders with higher reservation values are not willing to sell at the market price. Those with lower reservation values will already have sold their shares.

There are a number of possible explanations for shareholder heterogeneity. Shareholders may have asymmetric information, heterogeneous expectations,⁶⁸ different transaction costs, and/or varying tax

Stocks Slope Down?, 41 J Fin 579 (1986).

For other discussions of the implications of the upward-sloping shareholder supply curve for corporate law, see, for example, Richard A. Booth, *Discounts and Other Mysteries of Corporate Finance*, 79 Cal L Rev 1053 (1991) (discussing upward-sloping shareholder supply curves for stock); Richard A. Booth, *The Efficient Market, Portfolio Theory, and the Downward Sloping Demand Hypothesis*, 68 NYU L Rev 1187 (1993); Lynn A. Stout, *The Unimportance of Being Efficient: An Economic Analysis of Stock Market Pricing and Securities Regulation*, 87 Mich L Rev 613, 688–91 & nn 372–82 (1988) (discussing the relationship between upward-sloping shareholder supply curves for stock and market efficiency); Lynn A. Stout, *How Efficient Markets Undervalue Stocks: CAPM and ECMH under Conditions of Uncertainty and Disagreement*, 19 Cardozo L Rev 475 (1997). The upward-sloping shareholder supply curve may explain why hostile bidders must pay a premium in order to acquire a stake in a target company. See Lynn A. Stout, *Are Takeover Premiums Really Premiums? Market Price, Fair Value, and Corporate Law*, 99 Yale L J 1235, 1259–67 (1990) (explaining the upward-sloping shareholder supply curve’s effect on takeover premia).

⁶⁶ For example, one study of RTOs found that to acquire 15 percent of outstanding shares, it was necessary to pay an average of a 9 percent premium over the pre-offer market price. See Bagwell, 47 J Fin at 72 (cited in note 4).

⁶⁷ One might think that the highest-valuing shareholder should buy out all of the lower-valuing shareholders at a mutually agreeable price. However, because of risk aversion or liquidity constraints, investors do not wish to or cannot buy up all of the securities that are trading below their reservation values. See Brown and Ryngaert, 65 J Bus 529 (cited in note 4) (examining determinants of shareholder reservation values). Transaction costs and capital gains may also cause shareholders to have a higher reservation value for selling than for buying, in which case shareholders might find the market price to be above their buying reservation value but below their selling reservation value. See Gerald D. Gay, Jayant R. Kale, and Thomas H. Noe, *(Dutch) Auction Share Repurchases*, 63 *Economica* 57, 63–66 (1996) (describing the impact of differential tax bases on shareholder reservation values).

⁶⁸ One factor that might cause heterogeneity of belief is the so-called “disposition effect,” which causes investors to overvalue (and be more reluctant to sell) stocks on which they have lost money, and undervalue (and be more willing to dispose of) stocks on which they have made a profit. See Daniel Kahneman and Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 *Econometrica* 263, 286–87 (1979). There is substantial evidence suggesting that the disposition effect influences investors’ trading behavior. See Josef Lakonishok and Seymour Smidt, *Volume for Winners and Losers: Taxation and Other Motives for Stock Tender*, 41 J Fin 951 (1986) (finding that trading volume is higher in stocks that have experienced recent gains than in stocks that have experienced recent losses). Compare George M. Constantinides, *Capital Market Equilibrium with Transaction Costs*, 94 J Polit Econ 842, 842–43 (1986) (suggesting that another explanation for this behavior is that investors are rebalancing their portfolios by selling stock that, as a result of its appreciation, has become too large a fraction of their portfolios).

situations.⁶⁹ However, for the purpose of understanding how RTOs affect the market price, the source of shareholder heterogeneity is not important. All that is important is that shareholder heterogeneity exists.

Given an upward-sloping supply curve, an RTO repurchases shares from those whose reservation values are below the repurchase price, and not from those whose reservation values are higher. The shareholders remaining after the RTO will, therefore, tend to have higher reservation values than pre-RTO shareholders. Most importantly, the post-RTO marginal shareholder—the shareholder with the lowest reservation value after the RTO—should have a higher reservation value than that of the pre-RTO marginal shareholder.⁷⁰ Everything else equal, an RTO should thus increase the trading price of the stock through this “price pressure” effect.

Example: ABC Corp. has 200 shareholders, each owning 1 share, 50 with a reservation value of \$10.50, 50 with a reservation value of \$10, 50 with a reservation value of \$9.50, and 50 with a reservation value of \$9.00. The stock is trading for \$9, the reservation value of the marginal shareholder. ABC Corp. offers to repurchase 100 of its 200 shares for any price between \$9 and \$10. As a result, 50 shares are tendered at \$9, 50 shares are tendered at \$9.50, and 50 shares are tendered at \$10. ABC purchases 100 shares for \$9.50. The repurchase eliminates the shareholders with the lowest reservation values. After the RTO, the stock trades for \$10, the reservation value of the post-RTO marginal shareholder.

Indeed, economists believe that much of the approximately 8 percent increase that greets Dutch auction RTO announcements results from movement up the supply curve.⁷¹

Because the RTO creates price pressure it can be used to defend against a hostile takeover threat. The price pressure effect increases the cost to a potential acquirer of acquiring a controlling interest, without increasing the value of the target. This makes the takeover less worthwhile to the potential acquirer. If the price pressure effect is large enough, the acquirer might be convinced to abandon the hostile bid.⁷²

⁶⁹ See Lakonishok and Vermaelen, 45 *J Fin* at 459 (cited in note 4); Gay, Kale, and Noe, 63 *Economica* at 63–66 (cited in note 67). There is evidence that differences in public shareholders' tax costs associated with tendering make tendering on an after-tax basis worthwhile for some shareholders but not others. See Brown and Ryngaert, 65 *J Bus* at 530 (cited in note 4).

⁷⁰ See Bagwell, 47 *J Fin* at 72–73 (cited in note 4) (describing evidence that Dutch auction RTOs change the marginal shareholder).

⁷¹ See *id.* at 97.

⁷² The RTO can reduce the likelihood of a successful takeover through other mechanisms as well. First, an RTO can increase the relative cost of acquiring the target in other ways. For ex-

Not surprisingly, target managers sometimes conduct RTOs in response to a hostile takeover bid. But these transactions appear to account for only 15 to 20 percent of the total number of RTOs.⁷³ Thus takeover defense cannot be the sole explanation for RTOs.

ample, the market price prior to the offer may not reflect the full value of the cash held by the corporation, if shareholders believe that the managers are likely to invest the cash in low-value projects. (That is, the corporation has "excess" cash. See Part I.B.2.a.) In such a case, the distribution of cash that accompanies the RTO should reduce the value of the corporation to an acquirer by more than it reduces the market price of the stock.

Second, an RTO can make the acquisition of a control block not only more expensive but also much more difficult. To the extent that insiders own and retain a substantial number of shares, an RTO reduces the percentage of shares held by public shareholders, making it more difficult for a hostile bidder to acquire sufficient shares to take control of the firm. See Bagwell and Shoven, 3 J Econ Perspectives at 134 (cited in note 25) (arguing that RTOs skew the distribution of reservation values so that a potential acquirer faces a more expensive pool of shares). However, to the extent that insiders do not own many shares, a repurchase can make it easier for a hostile bidder to acquire sufficient shares to take control of the firm by reducing the number of shares needed for control. See Buckley, 65 Ind L J at 522-23 n 105 (cited in note 4).

Like RTOs, OMRs can also reduce the likelihood of a successful takeover by creating price pressure, see Booth, 79 Cal L Rev at 1089 (cited in note 65) (observing that open market share repurchases also put upward pressure on the price by eliminating the lowest-valuing shareholders), distributing excess cash and increasing the percentage of shares held by insiders. However, when the target managers wish to repurchase a large number of shares in a short period of time while minimizing the risk of legal liability for manipulation or conducting a constructive tender offer, see Part I.A.2, they have an incentive to use an RTO rather than an OMR. There are of course situations where an OMR might be more useful as a defensive tactic. For example, if a hostile bid is made with no warning, the target managers may wish to begin an OMR immediately (rather than wait for an RTO to be arranged), because the expected cost to managers of a hostile takeover is higher than the risk of legal liability for conducting an RTO-like OMR.

There is evidence that both RTOs and OMRs are generally quite effective at repelling unwanted bidders. See, for example, Larry Y. Dann and Harry DeAngelo, *Corporate Financial Policy and Corporate Control: A Study of Defensive Adjustments in Asset and Ownership Structure*, 20 J Fin Econ 87, 99-106 (1988) (finding that, in a study of 33 takeover contests where defensive restructurings took place, the bidder was unsuccessful in all 8 cases where a repurchase was used, and successful in obtaining a substantial stake and board representation in 10 of the remaining 25 contests where repurchases were not used). For a debate of whether the use of RTOs for this purpose is desirable, compare Bradley and Rosenzweig, 99 Harv L Rev at 1412-17 (cited in note 5) (arguing that defensive RTOs are necessary to protect shareholders against value-decreasing takeover bids by corporate raiders), with Jeffrey N. Gordon and Lewis A. Kornhauser, *Takeover Defense Tactics: A Comment on Two Models*, 96 Yale L J 295, 306-11 (1986) (questioning Bradley and Rosenzweig's claim that RTOs are desirable takeover defenses).

By contrast, a dividend can neither make a takeover more difficult for the acquirer by increasing managers' proportional ownership nor make the takeover less worthwhile by creating price pressure. It is useful as a defensive tactic only to the extent that it makes the takeover less worthwhile by reducing the value of the corporation by more than it reduces the market price.

⁷³ See D. Scott Lee, Wayne H. Mikkelson, and M. Megan Partch, *Managers' Trading Around Stock Repurchases*, 47 J Fin 1947, 1948-49 (1992) (finding that 27 of 146 RTOs between 1977 and 1988 were connected to takeover activity). The authors determined that an RTO was connected to a takeover if (1) there was an offer in the twelve months prior to the RTO or (2) there were published rumors of a possible takeover or the firm was the target of a toehold investment in the twelve months prior to the RTO. *Id.* at 1949. See also Kamma, Kanatas, and Raymar, 2 J Fin Intermediation at 281-82 (cited in note 2) (finding 7 of 57 Dutch auction RTOs and 11 of 63 fixed price RTOs between 1985 and 1989 were defensive based on comments of management or outsiders, large share positions by outsiders, or proxy contests); Lie and McCon-

2. Explanations for nondefensive RTOs.

Three (nonsignaling) theories have been offered to explain the motivation for the 80 to 85 percent of RTOs that do not appear to be takeover related: (1) RTOs are intended to distribute unneeded cash to shareholders (the excess cash theory); (2) corporations conduct RTOs in order to improve managers' incentives (the agency cost theory); and (3) RTOs are conducted in order to transfer value from creditors (the creditor expropriation theory). Although each of these theories identifies a possible benefit to shareholders from an RTO, all of these benefits could be achieved by an OMR and most could be achieved by a dividend. Thus these theories have been criticized for failing to explain why managers would seek to achieve these benefits through an RTO rather than through one of the other two mechanisms.

a) *The excess cash theory.* The excess cash theory is the leading nonsignaling explanation for nondefensive RTOs.⁷⁴ According to the excess cash theory, insiders have a tendency to re-invest too much of the cash generated by their firms because their perks, power, prestige, and compensation increase with the size of their firms.⁷⁵ By conducting an RTO and returning unneeded funds to shareholders, managers reduce their ability to waste free cash in this manner. The distributed funds can then be profitably invested in projects outside the corporation.

There is some evidence that RTOs distribute excess cash.⁷⁶ And to the extent that RTOs distribute excess cash, an unexpected announcement of an RTO should cause the stock price to rise. The excess cash theory could therefore explain the market's generally positive reaction to announcements of RTOs.

nell, 49 J Fin Econ at 182 (cited in note 4) (finding that 16 of 116 fixed price RTOs and 8 of 91 Dutch auction RTOs between 1981–1994 were related to takeovers based on the content of the RTO announcement or published takeover rumors in the preceding three months). These methodologies might understate the number of RTOs that have been undertaken in response to a hostile takeover bid because some hostile takeover attempts may have been aborted before they became known to the public, or publicly disclosed only after the RTOs took place.

⁷⁴ See Tom Nohel and Vefa Tarhan, *Share Repurchases and Firm Performance: New Evidence on the Agency Costs of Free Cash Flow*, 49 J Fin Econ 187 (1998); Vafeas, 12 J Acct, Auditing & Fin 101 (cited in note 29).

⁷⁵ Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporation Finance, and Takeovers*, 76 Am Econ Rev 323 (1986).

⁷⁶ See Nohel and Tarhan, 49 J Fin Econ at 216 (cited in note 74) (finding that RTOs are used to distribute excess cash). But see Keith M. Howe, Jia He, and G. Wenchi Kao, *One-Time Cash Flow Announcements and Free Cash-Flow Theory: Share Repurchases and Special Dividends*, 47 J Fin 1963, 1965 (1992) (finding no empirical support for the free cash flow benefits of RTOs). Compare Perfect, Peterson, and Peterson, 19 J Banking & Fin at 1006–07 (cited in note 4) (criticizing Howe, He, and Kao and finding some empirical support for the free cash flow benefits using a different methodology).

However, both OMRs and dividends would appear to be more suitable methods for distributing cash. OMRs have lower transaction costs. The shares are repurchased at the market price, rather than at a premium, reducing the cost to remaining shareholders.⁷⁷ And OMRs can be conducted over time, as excess cash accumulates.⁷⁸ Special or continuing dividends—still the most common mechanism for paying out cash to shareholders—would also be a cheaper and more flexible method for distributing excess cash.⁷⁹ Thus, although there is evidence that RTOs distribute excess cash, this theory is not seen as adequately explaining why managers would use RTOs for this purpose rather than one of the alternative mechanisms.⁸⁰

b) *The agency cost theory.* There are two ways in which RTOs might reduce agency costs by improving managerial incentives. First, there may be a “leverage effect”: if the RTO is funded with new debt, the obligation to make (additional) regular interest payments may encourage managers to focus harder on generating revenues and cutting costs, making the corporation more efficient.⁸¹ Second, there may be an “ownership effect”: to the extent that the RTO increases managers’ proportional ownership of the corporation (by reducing the number of shares outstanding), the RTO may encourage them to work harder by giving them a larger fraction of the value they create.⁸²

If RTOs improve managerial incentives for the benefit of equity holders, an RTO announcement would be expected to increase the market price of the stock. Thus the agency cost theory, along with the

⁷⁷ See Vafeas, 12 J Acct, Auditing & Fin at 105 (cited in note 29).

⁷⁸ Id.

⁷⁹ See Brudney, 71 Cal L Rev at 1109 (cited in note 11) (arguing that dividends make the use of share repurchases to distribute excess cash unnecessary); Clark, *Corporate Law* at 627 (cited in note 11) (same). However, because of shareholder-tax considerations or the effect of dividends on the value of managerial options, see Part I.A, managers may not view dividends as a substitute for either of the share repurchase mechanisms.

⁸⁰ See Buckley, 65 Ind L J at 520–21 (cited in note 4). It is possible to imagine a situation in which an RTO would be the most suitable means of distributing a significant amount (15–20 percent of the corporation’s value) of excess cash: that in which (1) the managers believe that the benefit to distributing the excess cash more quickly than is possible with an OMR outweighs the costs associated with an RTO (transaction expenses and the premium repurchase price) and (2) a special dividend is not an adequate substitute for the RTO because of shareholder-tax or managerial options considerations. See notes 26–27 and accompanying text. However, this situation may not arise frequently outside of the hostile takeover context, where delay could be very costly for the target’s managers. See note 72.

⁸¹ See Buckley, 65 Ind L J at 521 (cited in note 4). In addition, to the extent that new debt is issued, the new creditors might be better suited for monitoring managers than the existing shareholders. Id at 521–22.

⁸² See Comment and Jarrell, 46 J Fin at 1250 (cited in note 4); Buckley, 65 Ind L J at 521 (cited in note 4); Nohel and Tarhan, 49 J Fin Econ at 213 (cited in note 74). But see Vafeas, 12 J Acct, Auditing & Fin at 108 (cited in note 29) (arguing that an increase in their ownership may entrench managers, reducing their performance incentives).

excess cash theory, is consistent with the fact that stock prices increase around RTO announcements.

However, a corporation could re leverage more cheaply with an OMR or by issuing dividends. In fact, the leverage adjustments associated with RTOs and OMRs appear to be very similar.⁸³ And increasing managerial ownership can be much more easily accomplished by either issuing new stock or buying back stock on the open market and giving it to managers.⁸⁴ Thus, although the *effect* of an RTO may be to reduce agency costs somewhat, the agency cost theory is unlikely to explain why insiders would choose an RTO over the other cash distribution mechanisms.

c) *The creditor expropriation theory.* An RTO can also benefit shareholders by transferring value from creditors. When there is a positive probability that a corporation will fail, distributing cash to shareholders—everything else equal—transfers value from creditors to equity holders.⁸⁵ Thus managers may conduct RTOs in order to distribute cash to shareholders at creditors' expense.⁸⁶

Although there is not much evidence on whether RTOs transfer substantial value from creditors,⁸⁷ the stock price would tend to rise upon an RTO announcement if value is transferred from creditors to shareholders. Thus, the creditor expropriation theory, like the excess cash and agency cost theories, is consistent with the stock market's reaction to these announcements.

However, the creditor expropriation theory suffers from the same problem as the other two nonsignaling theories: it cannot easily explain why managers would seek to achieve this benefit for sharehold-

⁸³ See Vafeas, 12 J Acct, Auditing & Fin at 118 (cited in note 29).

⁸⁴ See Buckley, 65 Ind L J at 521–22 (cited in note 4). If managers own 10 percent of outstanding shares, and the board desires to increase managerial ownership to 15 percent, the corporation would need to conduct an RTO for almost 40 percent of the firm's shares. Alternatively (and more easily), the corporation could either (a) purchase 5 percent of outstanding shares through an OMR and give those shares to managers, or (b) issue (approximately 6 percent) more shares and give those shares to managers.

⁸⁵ See *id* at 496; Dan Galai and Ronald W. Masulis, *The Option Pricing Model and the Risk Factor of Stock*, 3 J Fin Econ 53, 71 (1976).

⁸⁶ To the extent that the RTO is used to re leverage the corporation in conjunction with issuing debt, the re leveraging of which the RTO is a part will also transfer value from taxing authorities to shareholders by reducing the taxable income of the corporation. See Buckley, 65 Ind L J at 518 (cited in note 4).

⁸⁷ See *id* at 505. The only available evidence, a study that examined RTOs from the 1960s and 1970s, suggests that neither RTOs nor OMRs are used to transfer value from bondholders. See Larry Y. Dann, *Common Stock Repurchases: An Analysis of Returns to Bondholders and Stockholders*, 9 J Fin Econ 113, 137 (1981) (finding no evidence of expropriation of bondholders in study of pre-1981 RTOs and OMRs). But compare *One Year Ago in Bondweek*, Bondweek 10 (Aug 4, 1997) (reporting that Standard & Poor's had lowered Reebok's rating to BBB on September 5, 1996, citing the company's "significantly weakened financial measures following its recently completed Dutch auction self-tender offer").

ers through an RTO rather than through a (cheaper and more flexible) OMR or dividends.⁸⁸

3. Summary.

The literature offers four nonsignaling theories to explain why managers conduct RTOs. Commentators widely agree that some RTOs are conducted to ward off a potential hostile acquirer. But this explanation appears to account for at most 15 to 20 percent of RTOs. To account for the 80 to 85 percent of RTOs that are nondefensive, the literature offers three other nonsignaling theories: the excess cash theory, the agency cost theory, and the creditor expropriation theory. Each of these three theories identifies a potential benefit that an RTO can confer on shareholders. However, these benefits would also be conferred by an OMR, which is cheaper and more flexible than an RTO, and in most cases by a dividend as well. Thus these three theories have been criticized by signaling theorists for failing to explain satisfactorily why a corporation would use an RTO, rather than an OMR or a dividend, to achieve these benefits.⁸⁹

C. The Signaling Explanation for RTOs

Let us now turn to the signaling theory, the leading explanation for why insiders conduct (nondefensive) RTOs.⁹⁰

Managers often have inside information that is not reflected in the stock price.⁹¹ This information may indicate that the stock is underpriced. For example, managers may know, based on internal reports, conversations with other insiders, and their own experience, that earnings are likely to increase, or that a new product is likely to be very successful, or that they are about to win over an important cus-

⁸⁸ See Buckley, 65 Ind L J at 521 (cited in note 4).

⁸⁹ See, for example, id at 505–22.

⁹⁰ See, for example, id at 539 (arguing that managers use RTOs to signal underpricing); Comment and Jarrell, 46 J Fin at 1243–44 (cited in note 4) (“Dann (1981) and Vermaelen (1981) identified *information signalling* as the main motivation for premium self-tender offers. Since then, this signalling explanation has been accepted among academics.”); Laurie Simon Hodrick, *Does Stock Price Elasticity Affect Corporate Financial Decisions?*, 52 J Fin Econ 225, 230 (1999) (“Since Dann (1981) and Vermaelen (1981) it has been commonly argued that firms repurchase stock in tender offers to signal their undervaluation.”); Lawless, Ferris, and Bacon, 23 J Corp Law at 231 (cited in note 4) (describing the empirical literature as implying that stock repurchases represent an assertion by management that the firm’s stock is undervalued and that for the signal to be effective the repurchase must be conducted as an RTO); Perfect, Peterson, and Peterson, 19 J Banking & Fin at 1005 (cited in note 4) (“While several alternative sources of [the market’s favorable reaction to RTO announcements] . . . have been hypothesized, managerial signalling of asymmetric information appears to be the most widely accepted interpretation.”).

⁹¹ See Buckley, 65 Ind L J at 528, 536 (cited in note 4) (explaining that insiders have better information than public shareholders); Fried, 71 S Cal L Rev at 317–29 (cited in note 10) (describing evidence that insiders have inside information not reflected in the stock price).

tomers. Managers may wish to disclose this information to shareholders.⁹² However, the information may not consist of discrete facts that could be easily communicated to shareholders.⁹³ Thus, managers may consider making a more general announcement that the stock is underpriced.

According to the signaling theory, however, there is no cost to a manager who falsely announces that the stock is underpriced.⁹⁴ Thus, an announcement that the stock is underpriced is not credible. To credibly signal underpricing, managers must act in a way that imposes substantial costs on them if the stock is not actually underpriced. In fact, these costs must be so high that a would-be false signaler would find the signal too costly to send.⁹⁵

An RTO, according to the signaling theory, makes it possible to send such a credible signal. In particular, by offering to repurchase shares at a premium over the market price and committing not to tender their shares, insiders can credibly signal that the stock is worth more than the repurchase price.

To understand this claim, it may be helpful to think of an RTO not as a single-step transaction (a sale of Q shares to the corporation by tendering shareholders at the repurchase price $\$P$) but as the following two-step transaction: In the first step, tendering shareholders (as a group) sell Q shares at the price $\$P$ directly to the remaining shareholders⁹⁶ (as a group). Call this the "trading" step of the RTO. In the second step, the corporation distributes a dividend of $Q \times \$P$ to the remaining shareholders (the amount paid by remaining shareholders to tendering shareholders in the first step of the transaction). Call this the "dividend" step of the RTO. The results of this two-step transaction are identical to those of the single-step transaction. In both cases, (1) tendering shareholders sell all of their shares for $Q \times \$P$, (2) the corporation distributes $Q \times \$P$ in cash, and (3) the remaining shareholders now own 100 percent of the corporation.

The signaling theory is based on the "trading" effect of the RTO. In particular, if the actual value of the stock is below the repurchase price, the nontendering insiders (and other remaining shareholders) will suffer a financial loss because the remaining shareholders will repurchase the tendered shares at a high price.⁹⁷ The insiders' loss will be

⁹² See Buckley, 65 *Ind L J* at 526 (cited in note 4).

⁹³ See *id.* at 536-37 (explaining the nature and relevance of "soft" information). Alternatively, there may be business reasons for keeping this information confidential. See *id.* at 537.

⁹⁴ See *id.* at 527.

⁹⁵ See *id.*

⁹⁶ If the offer is oversubscribed, and some shares are returned to tendering shareholders, then the remaining shareholders will consist of both tendering and nontendering shareholders.

⁹⁷ See Vermaelen, 9 *J Fin Econ* at 160 (cited in note 32) (asserting that RTOs impose a personal cost on insiders who do not have inside information indicating that the actual value of the

in proportion to the insiders' percentage ownership of the remaining shares. In this way, the signaling theory goes, insiders can use RTOs to credibly signal that they believe that the actual value of the stock is above the repurchase price.⁹⁸

The cost to insiders of false signaling increases with the size of the repurchase and the percentage of insider ownership. Thus, the larger the repurchase amount, and the higher the percentage of insider ownership, the more credible is the signal.

The signaling theory can explain why a firm would conduct an RTO rather than an OMR. In particular, an OMR does not send as precise a signal as an RTO. While insiders who do not sell their shares when the firm is conducting an OMR also signal that they believe that the stock is worth more than the market price, they do not signal the extent to which they believe the stock is underpriced. An RTO enables insiders to better demonstrate the extent to which the stock is underpriced by allowing them to set the offer price equal or closer to its actual value.⁹⁹

The signaling theory can also explain why managers would choose an RTO over dividends. A dividend cannot signal insiders' beliefs in the same way as an RTO or an OMR because it does not force insiders to (in effect) purchase stock at a particular price.¹⁰⁰

stock is lower than the repurchase price); Comment and Jarrell, 46 *J Fin* at 1245 (cited in note 4) (asserting that RTOs in which the premium significantly exceeds the actual value of the stock are costly to nontendering managers).

⁹⁸ Consider the following example: ABC has 200 shares outstanding, 100 of which are owned by Carl and 100 of which are owned by public shareholders. The public knows that the actual value of ABC stock is either \$8 or \$10 per share, with equal likelihood. That is, ABC is worth \$1600 or \$2000. ABC shares are currently trading at \$9 per share. Carl knows that ABC is worth \$10 per share. Carl initiates an RTO for \$10 per share, offering to buy back 50 shares, and announces that he will not tender.

If the stock were worth only \$8 per share, then a fully subscribed RTO would reduce the value of the corporation from \$1600 to \$1100. Carl would be left with 100/150 of ABC, or \$732, \$68 less than the current value of his shares (\$800).

If the stock were worth \$10 per share, then an RTO at \$10 would not make Carl worse (or better) off. A fully subscribed RTO would reduce the value of ABC from \$2000 to \$1500. Carl would again be left with 100/150 of ABC, or \$1000, the value of his current holdings. Because the public understands that Carl would not conduct an RTO at \$10 unless the stock is worth \$10 per share, the RTO signals that the stock is worth \$10 per share.

⁹⁹ An RTO also is a more reliable signal than an OMR. Unless managers commit to buying a certain number of shares during the OMR, there is no assurance that the firm will, over the coming months and years, actually meet the repurchase target. See Comment and Jarrell, 46 *J Fin* at 1246 (cited in note 4); Stephens and Weisbach, 53 *J Fin* at 314 (cited in note 60) (reporting that a "substantial number" of firms announcing OMRs do not purchase a single share). If the firm buys only a few shares, then very little cost will be imposed on insiders even if the repurchase prices are above the actual value of the shares. See Vafeas, 12 *J Acct, Auditing & Fin* at 103 (cited in note 29).

¹⁰⁰ Although dividends cannot be used for signaling much information about the value of the stock relative to the market price, they may be used to signal firm "quality." In particular, a dividend imposes a larger cost on poor quality firms than on high quality firms to the extent that

Some data appear to support the signaling theory. The two most important findings concern the tendering behavior of insiders and the stock market's reaction to RTO announcements. In almost 90 percent of RTOs, insiders do not tender their shares.¹⁰¹ This is consistent with the signaling theory's assumption that insiders commit not to tender their shares. And, as noted earlier, there are abnormal stock price increases averaging 8 percent when RTOs are announced, which is consistent with shareholders' belief that the announcement conveys positive information. In contrast, OMR announcements are greeted by abnormal price increases averaging only 3.5 percent.¹⁰²

There are also abnormal stock price increases following the termination of RTOs, suggesting that RTOs are followed by good news.¹⁰³

the dividend forces the corporation to return to the financial markets for additional financing. This cost, in turn, is borne pro rata by insiders. Thus insiders of high-quality firms can use dividends to signal the high quality of their firms. See Buckley, 65 *Ind L J* at 538 (cited in note 4); Sudipto Bhattacharya, *Imperfect Information, Dividend Policy, and "The Bird in the Hand" Fallacy*, 10 *Bell J Econ* 259 (1979) (discussing how cash dividends function as a signal of expected cash flows); Merton H. Miller and Kevin Rock, *Dividend Policy Under Asymmetric Information*, 40 *J Fin* 1031 (1985); Paul M. Healy and Krishna G. Palepu, *Earnings Information Conveyed by Dividend Initiations and Omissions*, 21 *J Fin Econ* 149 (1988) (arguing that investors interpret dividend changes as managers' forecasts of future earnings changes). However, an RTO of the same dollar magnitude as a dividend would send the same quality signal as the dividend and signal the degree to which insiders believe the stock is underpriced. Thus managers wishing to signal that the stock is underpriced would tend to choose an RTO over a dividend. See Buckley, 65 *Ind L J* at 538-39 (cited in note 4).

¹⁰¹ See Vermaelen, 9 *J Fin Econ* at 160 (cited in note 32) (reporting that, in a sample of 131 fixed price RTOs from the 1960s and 1970s, insiders tendered in only 18, and the amounts tendered in those cases were generally trivial). This pattern does not appear to have changed over time. See Comment and Jarrell, 46 *J Fin* at 1249 (cited in note 4) (reporting that, in a sample of 165 fixed-price and Dutch auction RTOs between 1984-1989, there were nine cases where insiders announced plans to tender into the offer, and another ten cases where insiders sold stock back to the corporation outside of the offer). See also Brown and Ryngeart, 65 *J Bus* at 552 (cited in note 4) (reporting that, in a sample of 103 fixed price RTOs from 1978 to 1986, insiders on average tendered only 4.4 percent of their shares).

¹⁰² See Ikenberry, Lakonishok, and Vermaelen, 39 *J Fin Econ* at 206 (cited in note 3) (reporting that the average market response for open market repurchases announced between January 1980 and December 1990 by firms listed on the ASE, NYSE, and NASDAQ was 3.5 percent). A possible explanation for this relatively small market reaction is that many of the shares repurchased in open market repurchases are used for executive and employee stock-option plans and thus do not reduce the number of shares outstanding. See Greg Ip, *When a Stock Buyback Isn't a Buyback*, *Wall St J C1* (Feb 10, 1997).

¹⁰³ See Lakonishok and Vermaelen, 45 *J Fin* at 470 (cited in note 4) (reporting that in a sample of RTOs between 1980-1986, there were abnormal stock price increases averaging 5 percent over the 22 months following RTOs). Some of these post-RTO abnormal returns may be attributable to subsequent open market repurchases. See, for example, *American President Buyback*, *Wall St J C8* (June 8, 1992) (American President Co. announced a one million share open market repurchase program upon conclusion of a two million share Dutch auction); *Business Brief, Equifax Raises Payout, Sets Stock Buyback of up to \$75 Million*, *Wall St J C6* (Jan 28, 1993) (announcing a \$75 million buyback over two years following an undersubscribed Dutch auction in which the company bought back 6.6 million shares); Scott Ritter, *Sun Co. to Slash Dividend, Trim Its Workforce*, *Wall St J B2* (June 14, 1995) (company plans a \$100 million repurchase to follow a Dutch auction for 6.4 million shares).

And there is some evidence indicating that the public understands that RTOs are used to signal underpricing. In particular, tendering rates are lower for RTOs than for third-party tender offers, holding the premium constant.¹⁰⁴ Finally, firms conducting RTOs tend to have larger-than-average insider ownership positions.¹⁰⁵ Since a no-tender announcement cannot send a credible signal of underpricing unless insiders own a considerable percentage of the corporation's shares, large insider ownership positions are consistent with the use of RTOs for signaling.¹⁰⁶

D. Critique of the Signaling Theory

As we saw in Section C, the signaling theory could explain why corporations not facing a takeover threat would conduct an RTO rather than conduct an OMR (or issue a dividend). This Section shows, however, that the signaling theory is unlikely to account for most nondefensive RTOs. It explains why the use of an RTO coupled with a no-tender commitment by insiders is not a credible signal that the stock is worth more than the repurchase price. It then presents empirical data on insiders' tendering, trading, and disclosure behavior suggesting that signaling is not the motive for most nondefensive RTOs.

¹⁰⁴ See Brown and Ryngaert, 65 *J Bus* at 531 (cited in note 4).

¹⁰⁵ See note 169.

¹⁰⁶ However, the data on pre-RTO price and post-RTO earnings changes, which were consistent with signaling at the time the signaling theory was developed, appear to have become much less consistent with the theory over time. Price movements prior to RTOs were consistent with the signaling theory before 1980 but not after. Fixed price RTOs in the 1970s were generally preceded by a period of negative abnormal stock returns, suggesting that the stock may have become underpriced prior to the RTO. See Dann, Masulis, and Mayers, 14 *J Acct & Econ* at 224 (cited in note 2) (reporting -4.7 percent average cumulative excess returns for the 120-day period prior to 122 fixed price RTOs between 1969 and 1978). But see Lakonishok and Vermaelen, 45 *J Fin* at 475 (cited in note 4) (finding no prior periods of negative abnormal stock returns in a sample of 1980-1986 RTOs); Comment and Jarrell, 46 *J Fin* at 1256-57 (cited in note 4) (finding abnormal price movements before OMRs, but not RTOs during the period 1984-1989).

Similarly, the data on earnings changes have become less consistent with the signaling theory. The signaling theory would predict that there would be unexpected positive changes in earnings following RTOs. There is evidence of unexpected increases in earnings in pre-1980 RTOs, which is consistent with using RTOs to signal good news. See Dann, Masulis, and Mayers, 14 *J Acct & Econ* 217 (finding that in a sample of 122 RTOs from 1969 to 1978, tender offer announcements on average precede unexpected increases in firms' earnings). Compare Hertz and Jain, 14 *J Acct & Econ* at 260-65 (cited in note 4) (finding in a sample of 226 RTOs from 1970 to 1984 that RTO announcements caused analysts to upwardly revise short-term earnings estimates). However, a more recent study does not find that earnings unexpectedly increase after RTOs, but that they decrease at a slower rate than expected. See Lie and McConnell, 49 *J Fin Econ* at 185 (cited in note 4) (describing a study of fixed price and Dutch auction RTOs from 1981 to 1994 that did not find unexpected earnings improvements relative to historical earnings or industry-adjusted earnings but found that companies undertaking RTOs were superior-performance firms prior to their RTOs, and remained superior performers longer than similar superior-performance firms that did not conduct RTOs).

1. Insiders' no-tender commitment is not a credible signal.

Two key premises of the RTO signaling theory are: (1) that signals are not credible unless there is a sufficiently large penalty for false signaling;¹⁰⁷ and (2) that an RTO in which the repurchase price¹⁰⁸ exceeds the actual value of the stock imposes a penalty on nontendering insiders by reducing the value of their shares.¹⁰⁹

As will be explained, however, the second premise—that conducting an RTO at a high price necessarily hurts nontendering insiders—is false. A high price RTO does reduce the actual value of the remaining shares.¹¹⁰ As a result, insiders not tendering into a high price RTO suffer a loss if they hold their shares until information indicating the actual value of the shares emerges and becomes reflected in the stock price.

However, insiders who have committed not to tender their shares are free to sell their stock *outside of the RTO, in the market or elsewhere*, shortly after, or even during, the RTO. To the extent that insiders can sell their stock outside the RTO before the market realizes that the RTO's signal is "false," nontendering insiders will not be penalized for false signaling. In fact, if public shareholders believe that an RTO signals good news, insiders can profit by conducting a high price RTO and then selling their stock after the stock price has risen in response to the "good news" signal sent by the RTO.¹¹¹

¹⁰⁷ See, for example, Buckley, 65 Ind L J at 527 (cited in note 4) (explaining bases of signaling theory).

¹⁰⁸ In a fixed price RTO, the repurchase price is the offer price. In a Dutch auction RTO, the repurchase price is determined by shareholders' tendering decisions, and can be no higher than the maximum repurchase price.

¹⁰⁹ The signaling theory has another important premise: that insiders with private information indicating that the stock is underpriced and the ability to signal this credibly with an RTO will have the incentive to do so. For now, I will assume this to be the case. But insiders in this situation may not have an incentive to use an RTO to signal underpricing. To the extent insiders seek to maximize their own insider trading profits, they will have an incentive not to reveal inside information immediately but rather to use it directly (through personal trading) or indirectly (through an OMR or RTO) to buy public stock before the information is revealed. See Part II. And existing shareholders may prefer that the corporation not incur the potentially significant costs associated with an RTO to signal information that will emerge in any event. Thus to the extent that insiders seek to maximize shareholder value, they may also not have an incentive to undertake an RTO.

¹¹⁰ See notes 97–98 and accompanying text.

¹¹¹ Consider the following example: Suppose that ABC stock is worth \$8 per share and is trading at \$9 per share. Insiders must sell their stock for liquidity reasons. Insiders initiate an RTO for \$10 per share and announce that they will not tender. The price of the stock rises to \$10 because the market believes that the RTO signals that the stock is worth at least \$10. Insiders then sell all of their shares on the market two months later, while the price is still \$10. The market eventually realizes that there is no good news and the price of the stock falls to less than \$8. Nontendering insiders not only avoid a loss from the high price RTO, they use the RTO to sell their shares for \$10 each, one dollar more than they would have received from the sale absent the RTO.

Thus an RTO with a no-tender commitment does not signal that insiders believe the stock is worth more than the repurchase price.¹¹² Such a signal could be sent only if insiders also simultaneously pledge not to sell their shares outside of the RTO for a sufficiently long period after the announcement.¹¹³

2. The data suggest that the signaling theory cannot account for most nondefensive RTOs.

Having seen that an RTO with a no-tender commitment is not a credible signal of good news, let us turn to the empirical data on insider tendering, trading, and disclosure behavior, to investigate whether insiders actually use nondefensive RTOs to signal. As we will see, the data suggest that most nondefensive RTOs are not used for signaling.

Before proceeding, I will briefly address the implications for the signaling theory of the increasing popularity of Dutch auction RTOs. As explained in Part I.A, the final repurchase price in a Dutch auction RTO is determined not by insiders but instead by shareholders' response to the offer. Thus, rather than signaling insiders' belief about the stock's actual value, the repurchase price of a Dutch auction RTO reveals only the reservation value of the marginal tendering shareholder.¹¹⁴ Managers who are primarily interested in signaling their beliefs about the value of the stock would therefore not use a Dutch auction RTO. Consequently, the increasing use of Dutch auction RTOs suggests that signaling is not managers' primary goal in conducting RTOs.¹¹⁵ As we will see, insiders' behavior around RTOs suggests that signaling is unlikely to be even a secondary goal in most nondefensive RTOs.

¹¹² There is some evidence that public shareholders understand this. See Kamma, Kanatas, and Raymar, 2 *J Fin Intermediation* at 300 (cited in note 2) (finding that the market reaction to RTO announcements is not affected by insiders' no-tendering announcements).

¹¹³ The no-sale period should, in principle, extend until the stock price reflects its actual value.

¹¹⁴ See Comment and Jarrell, 46 *J Fin* at 1246-47 (cited in note 4).

¹¹⁵ See *id.* at 1248. To be sure, if insiders commit not to tender in a Dutch auction RTO (and they also commit not to sell their shares during or after the RTO) they may signal that they believe that the actual value is greater than the maximum repurchase price. However, in most cases the final repurchase price is lower than the maximum price; thus the risk that the shares will be repurchased at the maximum price is low. In addition, the expected repurchase cost associated with a Dutch auction RTO, and therefore the expected cost of false signaling, is lower than that associated with a fixed price RTO whose offer price equals the maximum price of the Dutch auction RTO. Thus, even if it were common for Dutch auction RTOs to repurchase at the maximum price, Dutch auction RTOs would still be an inferior vehicle for signaling. See John C. Persons, *Signaling and Takeover Deterrence with Stock Repurchases: Dutch Auctions Versus Fixed Price Tender Offers*, 49 *J Fin* 1373, 1384-85 (1994) (explaining why a fixed price RTO is preferred when signaling is the only consideration).

a) *Insiders tender or sell shares in most RTOs.* Under the signaling theory, insiders signal to the market that the stock is worth more than the repurchase price by retaining their shares in the face of a premium offer. As evidence that RTOs are used for signaling, commentators point to the fact that in almost 90 percent of RTOs insiders do not tender their shares.¹¹⁶

While insiders tender their shares in very few RTOs, signaling theorists appear to have overlooked an important fact: insiders *either tender or sell their shares outside the RTO* in almost 40 percent of fixed price RTOs,¹¹⁷ and in more than 50 percent of Dutch auction RTOs, which are now the predominant form of RTO.¹¹⁸ To the extent that trading and tendering decisions reflect insiders' beliefs, the decision to tender stock suggests that insiders believe the actual value is below the repurchase price. And the sale of stock on the market suggests a belief that the actual value is below the market price, which usually remains below the repurchase price throughout (and after) the RTO. Thus, in most RTOs, insiders' behavior does not suggest that the actual value of the stock is above the repurchase price—but rather the opposite.¹¹⁹

¹¹⁶ See note 101.

¹¹⁷ See Kamma, Kanatas, and Raymar, 2 J Fin Intermediation at 285 (cited in note 2) (reporting that insiders (as a group) sold or tendered shares in 19 out of 53 fixed price RTOs between 1985 and 1989).

¹¹⁸ See *id.* (reporting that insiders (as a group) sold or tendered shares in 25 out of 47 Dutch auction RTOs between 1985 and 1989). See also Vafeas, 12 J Acct, Auditing & Fin at 112–13 (cited in note 29) (reporting that the median percentage of insider ownership fell from 18.6 percent to 9.6 percent in a sample of fixed price and Dutch auction RTOs conducted during 1984–1992).

¹¹⁹ The data do not indicate the number of shares tendered or sold by insiders around RTOs. It is possible that insiders indirectly purchased more shares through the RTO than they sold on the market during and after the RTO. To the extent that insiders were net (direct and indirect) purchasers, their behavior would be less inconsistent with signaling.

However, there are two reasons why these data might understate the number of nondefensive RTOs in which insiders sell. First, the sample does not exclude defensive RTOs. See Kamma, Kanatas, and Raymar, 2 J Fin Intermediation at 281–83 (cited in note 2). One would expect insiders to retain their shares when they conduct a defensive RTO to boost their proportional ownership of the firm and make it more difficult for a hostile bidder to seize control. See note 72. If insiders do retain their shares when conducting defensive RTOs, and those RTOs are excluded from the sample, then the percentage of nondefensive RTOs in which insiders sell or tender would be higher.

Second, the researchers may not include all of the RTOs in which insiders sold their shares. The methodology they use to determine whether insiders sold shares is to look at insiders' holdings on the closest reporting date prior to the RTO and the closest reporting date after the RTO. *Id.* at 284. If the number of insiders' shares has decreased, the insiders are considered to have sold stock. But this methodology might not take into account the sale of stock acquired between the reporting dates through the exercise of stock options and sold before the second reporting date. Suppose that at the time of the reporting date closest to the beginning of the RTO, ABC Corp. has 900 shares outstanding, 100 of which are owned by Carl, the sole insider. Suppose that Carl also has the right to purchase 100 shares through the exercise of stock options and sell them immediately. An RTO to repurchase 200 shares is announced. The stock price increases

b) Most nontendering insiders fail to commit not to tender. The fact that insiders sell or tender stock in almost 40 percent of fixed price RTOs and more than 50 percent of Dutch auction RTOs means that insiders *do not* sell or tender shares in more than 60 percent of fixed price RTOs and almost 50 percent of Dutch auction RTOs. That is, they either retain their shares or buy additional shares on the market.¹²⁰ This behavior is consistent with the signaling theory. Thus more than 60 percent of fixed price RTOs and almost 50 percent of Dutch auction RTOs—the RTOs in which insiders retain their shares or purchase additional shares—might appear to be motivated by signaling considerations.¹²¹

However, insiders' behavior during the RTOs in which they retain their shares or purchase more shares suggests that most of these RTOs are not intended to signal underpricing. In particular, if the insiders conducting these RTOs wished to signal that the actual value is above the repurchase price, they would commit in advance not to tender their shares.¹²² But insiders announce their intention to refrain from tendering in only 24 percent of fixed price RTOs and 9 percent of Dutch auction RTOs.¹²³ In the overwhelming majority of RTOs, insiders decline to announce their tendering intentions.¹²⁴

These no-tender announcements may not all occur in connection with RTOs in which insiders retain their shares. Insiders may make no-tender announcements and then *sell* their shares outside of the RTO. However, let us assume *arguendo* that the no-tender announcements were made in connection with the RTOs in which insiders retained all of their shares (or purchased additional shares).¹²⁵ That is, in-

and Carl exercises his options, acquires 100 shares, and sells them on the open market. At the time of the reporting date closest to the end of the RTO Carl owns 100 shares, the number that he owned before the RTO. Thus the insiders of ABC Corp. are not reported as selling their shares. Taking into account the option-related stock, however, Carl has sold 100 out of 200 (or 50 percent) of his shares during the RTO.

¹²⁰ In many of the RTOs in which insiders did not sell or tender their shares they purchased stock on the open market. See Kamma, Kanatas, and Raymar, 2 J Fin Intermediation at 285 (cited in note 2).

¹²¹ For the reasons explained in note 119, these figures might overstate the number of non-defensive RTOs in which insiders retain their shares.

¹²² They would also announce that they did not intend to sell shares outside of the RTO, which is substantially the same as tendering. See Part I.D.1.

¹²³ See Kamma, Kanatas, and Raymar, 2 J Fin Intermediation at 285 (cited in note 2) (reporting that in 15 out of 63 fixed price RTOs and 5 out of 57 Dutch auction RTOs from 1985–1989 insiders indicated that they would not tender).

¹²⁴ See *id* (reporting that in 41 out of 63 fixed price RTOs and 49 out of 57 Dutch auction RTOs from 1985–1989 insiders did not reveal their tendering intentions).

¹²⁵ If any of these no-tender announcements are made in connection with RTOs in which insiders sell their shares, this suggests that these insiders, by publicly committing not to tender, are (falsely) signaling to the market that the stock is underpriced in order to sell their shares on the market at a higher price than would otherwise prevail.

siders made no-tender announcements only when they did not tender or sell their shares. Under this assumption, insiders made no-tender announcements in only 40 percent of the fixed price RTOs and 18 percent of the Dutch auction RTOs in which they retained their shares.¹²⁶ To the extent that this assumption is not correct (that is, in some RTOs insiders made no-tender announcements and then sold shares in the market), these figures are even lower. Thus, in at least 60 percent of the fixed price RTOs and 82 percent of Dutch auction RTOs in which insiders retained their shares they did not make a no-tender announcement. This suggests that signaling was not the purpose of most of the RTOs in which insiders did not tender or sell their shares.

Finally, even when insiders commit not to tender their shares (and in fact retain all of their shares) they do not send an unambiguous signal at the time of their announcement that they believe that the stock's value is above the offer price. The public could not know from the no-tender announcement that the insiders would in the end retain their shares—that is, that the insiders would not *sell* their shares outside of the RTO. If insiders had intended to use the RTO to signal their beliefs about the value of the stock, they would have committed in advance not to tender their shares into the RTO *and* committed in advance not to sell their shares outside of the RTO. Their failure to do so suggests that even the RTOs in which insiders made no tender announcements and retained their shares were not intended to signal underpricing.¹²⁷

c) *Much of shareholders' behavior is inconsistent with the signaling theory.* If RTOs signal that the stock's value is above the repurchase price, then this information should be reflected in public shareholders' reactions to RTOs. As we saw in Section C, shareholders' behavior is somewhat consistent with the signaling theory. Most impor-

¹²⁶ Insiders retain their shares in approximately 60 percent of fixed price RTOs (50 percent of Dutch auction RTOs) and make no tender announcements in 24 percent of fixed price RTOs (9 percent of Dutch auction RTOs). Thus, if all of the no-tender announcements are made in connection with the RTOs in which insiders retain their shares or purchase more shares, insiders make no-tender announcements in connection with 40 percent (24 out of 60) of the fixed price RTOs (18 percent (9 out of 50) of the Dutch auction RTOs) in which they retain their shares, and fail to make no-tender announcements in connection with the rest.

¹²⁷ One might argue that insiders signal underpricing by conducting an RTO and, after it expires, announcing (either directly to the public or indirectly through SEC filings) they have not tendered or sold. This would enable insiders to repurchase more of the public's shares at a cheap price and thereby give the insiders an incentive to conduct a "signaling" RTO in the first instance.

However, this version of the signaling theory cannot account for the many RTOs in which insiders sell or tender their shares. In contrast, the insider trading explanation advanced in the next Part can explain both (1) why insiders sometimes conduct an RTO without announcing their tendering plans and then not tender, and (2) why insiders sometimes conduct an RTO and tender or sell their shares in the market.

tantly, there are abnormal stock price increases averaging 8 percent when RTOs are announced. In addition, shareholder tendering in RTOs is lower than in third-party tender offers (holding the premium constant), suggesting that (at least some) shareholders believe that RTOs signal underpricing. However, upon closer examination, shareholders' behavior is not as consistent with the signaling theory as it might appear at first glance.

To begin, the stock market's reaction to RTO announcements, while positive, falls short of what the signaling theory would predict. If a (fixed price) RTO signals that the stock's value is above the repurchase price, the market price would rise above the repurchase price following the announcement and remain there.¹²⁸ But this rarely happens: in the overwhelming majority of fixed price RTOs, the post-announcement market price remains below the repurchase price, and it is very rare for the post-RTO expiration price to exceed the repurchase price.¹²⁹ This suggests that even fixed price RTOs do not signal that the stock's value is above the repurchase price.¹³⁰

In addition, while shareholders tender less in RTOs than in third-party tender offers (as would be expected if RTOs signal that the stock is underpriced), the signaling theory would predict that shareholders would not tender at all. If an RTO signals that the stock is worth more than the repurchase price, public shareholders should not be willing to give up their shares for that price. Yet, a substantial number of shareholders tender into most RTOs. In fact, most fixed price RTOs are oversubscribed.¹³¹ On average, 25 percent of outstanding shares are tendered in fixed price RTOs. In Dutch auction RTOs, an average of 16 percent of outstanding shares are tendered at or below the final repurchase price.¹³² This suggests that many shareholders believe that the repurchase price (and in the case of Dutch auction RTOs the final repurchase price) exceeds the stock's actual value. This

¹²⁸ Since it is unclear what signal is sent by a Dutch auction RTO, it is also unclear how much the stock price should rise in response to such an announcement.

¹²⁹ See Buckley, 65 *Ind L J* at 503 (cited in note 4); Lakonishok and Vermaelen, 45 *J Fin* at 467 (cited in note 4) (describing how shareholders can profit by tendering their shares into the offer and then using the cash proceeds from the sale to repurchase the stock at a lower price after the RTO expires).

¹³⁰ Interestingly, an RTO by a firm does not affect the stock price of related firms. See Michael G. Hertz, *The Effect of Stock Repurchases on Rival Firms*, 46 *J Fin* 707, 715 (1991). In contrast, other types of announcements, such as earnings forecasts, merger proposals, and product recalls, do affect the stock price of related firms. *Id.* Hertz interprets this result to mean that all of the information communicated by RTOs is firm-specific (and thus does not affect the market's perception of other firms' values). Another plausible reading of the paper's results is that an RTO's effect on the stock price is not due to signaling but rather to price pressure, the distribution of excess cash, and/or other non-signaling factors. See Part I.B.

¹³¹ See, for example, Kamma, Kanatas, and Raymar, 2 *J Fin Intermediation* at 283-84 (cited in note 2) (reporting that most fixed price tender offers from 1985-1989 were oversubscribed).

¹³² See Comment and Jarrell, 46 *J Fin* at 1258 (cited in note 4).

belief is not consistent with signaling but, as we will see in Part II, it is consistent with the insider trading explanation put forward by this Article.

3. Explaining the market's favorable reaction to RTO announcements without the signaling theory.

As we saw in Section C, the two most important data supporting the signaling theory are that (1) insiders do not tender in 90 percent of RTOs; and (2) stock prices experience abnormal positive returns around the time of RTO announcements.

In light of the insider tendering, trading, and disclosure behavior described above, it should be clear that the first of the two pieces of evidence—the 90 percent no-tendering rate—is highly misleading: while in 90 percent of RTOs insiders do not tender, in most RTOs insiders either tender or sell shares outside the RTO. In most of the remaining RTOs, those in which insiders retain their shares, insiders do not disclose their tendering/selling intentions in advance. And even when insiders announce that they do not intend to tender, the no-tender announcements are not credible signals about the stock's value because insiders leave themselves free to sell the stock outside the RTO. Thus, it appears that most RTOs are not motivated by signaling considerations.

There is no question, however, that stock prices do experience positive abnormal returns around RTO announcements. One might therefore argue that, even if insiders do not undertake most RTOs for the *purpose* of signaling market underpricing (as proponents of signaling claim¹³³), the price increases following RTO announcements mean that RTOs have the *effect* of signaling that the stock is underpriced.

But the fact that stock prices increase in reaction to RTO announcements does not mean that RTOs have even the effect of signaling that the stock is underpriced. As we saw in Section B, there are many possible explanations for the abnormal stock price increases accompanying RTO announcements, including the price pressure effect, the distribution of excess cash, improved managerial incentives, and creditor expropriation. Any of these could account for part or all of the observed increase in price.¹³⁴ Indeed, price pressure alone may ac-

¹³³ See Buckley, 65 *Ind L J* at 523 (cited in note 4).

¹³⁴ See Wallace N. Davidson III, Indudeep Chhachhi, and John L. Glascock, *A Test for Price Pressure Effects in Tender Offer Stock Repurchases*, 31 *Fin Rev* 25 (1995) (finding strong evidence for the price pressure effect around RTOs); Nohel and Tarhan, 49 *J Fin Econ* at 190 (cited in note 74) (finding that price increases around RTOs reflect the effects of distributing excess cash more than signaling).

count for much of the price increase.¹³⁵ Thus, the fact that there are abnormal stock price increases in response to RTO announcements is consistent with, but does not demonstrate, the existence of signaling, intentional or unintentional.

Finally, even if some or all of the increase in price is due to an unintentional or “incidental” signaling effect,¹³⁶ we are forced to return to the original question that the signaling theory was developed to address: why do firms conduct nondefensive RTOs in the first instance? As we will see in Part II, the same insider tendering, trading, and disclosure data that cast doubt on the (intentional) signaling theory suggest that insiders conduct at least some RTOs for insider trading.

II. INSIDER TRADING WITH REPURCHASE TENDER OFFERS

In Part I we examined the various explanations for RTOs that have been put forward in the academic literature. About 15 to 20 percent of RTOs appear to be undertaken to defend against a hostile takeover threat. The signaling theory, the leading explanation for why corporations undertake nondefensive RTOs, cannot easily explain most of them. Some evidence supports the hypothesis that RTOs distribute excess cash,¹³⁷ but there is no accepted explanation for why insiders would choose an RTO over an OMR for that purpose.¹³⁸ Thus existing explanations do not appear to account adequately for all RTOs.

This Part puts forward another explanation for RTOs and the insider behavior around them that is more plausible and more consistent with the data than the signaling theory: insiders use many fixed price and Dutch auction RTOs for insider trading. As we saw in Part I.C, an RTO is equivalent to tendering shareholders selling their shares to the remaining shareholders at the repurchase price (the “trading” effect), followed by a dividend to the remaining shareholders (the “dividend” effect). Thus, by conducting an RTO with a repurchase price *below* the stock’s actual value, and not tendering, insiders can indirectly buy the public’s shares at a low price. And by conducting an RTO with a repurchase price *above* the actual value, and ten-

¹³⁵ See Bagwell, 47 J Fin at 72 (cited in note 4) (concluding that price pressure may account for much of the market’s reaction to Dutch auction RTO announcements).

¹³⁶ The Article explores this possibility further in Part II.B.2. As we will see, incidental signaling could explain why the stock market may react favorably to RTO announcements even if many (or indeed all) RTOs are undertaken for insider trading purposes.

¹³⁷ See note 76. The evidence on the use of RTOs for distributing excess cash comes from a study that does not exclude defensive RTOs. See Nohel and Tarhan, 49 J Fin Econ at 194–95 (cited in note 74). Defensive RTOs may distribute excess cash. See note 72. Thus there may be overlap between defensive RTOs and those used to distribute excess cash.

¹³⁸ Dividends might not be an adequate substitute for an RTO because of shareholder-tax or option compensation considerations. See notes 26–27.

dering, insiders can indirectly sell their stock to the nontendering public at a high price. As will be explained, insiders can achieve substantially the same result as tendering by selling their stock in the market after the RTO is announced.

Insiders using RTOs for insider trading will not disclose their tendering and selling intentions. For example, if insiders announce that they are tendering their shares during a fixed price RTO, public shareholders will infer that the repurchase price is above the actual value of the stock and tender their shares, converting the RTO into a pro rata (and therefore non-value-transferring) distribution. If insiders announce that they are not tendering or selling their shares, public shareholders will infer that the repurchase price is below the actual value of the stock and not tender their shares, preventing the insiders from buying public shares at a low price.

The ability to conduct insider trading RTOs is likely to affect insiders' use of RTOs in three ways. First, insiders may use for insider trading an RTO that they would have conducted even absent insider trading considerations. For example, suppose insiders have decided to conduct an RTO in order to increase leverage. If the insiders wish to buy low they can set the repurchase price below the actual value and thereby transfer value from tendering public shareholders. Call this RTO an "opportunistic" insider trading RTO.

Second, insiders who would otherwise distribute cash through an OMR or dividends (say, to distribute excess cash) may use an RTO instead because, as will be explained, RTOs are better suited for insider trading than either OMRs or dividends.¹³⁹ Since this RTO is initiated for insider trading purposes (unlike opportunistic insider trading RTOs) but also serves at least one other purpose, call this a "dual purpose" insider trading RTO.

Third, insiders who would not otherwise distribute cash, through an RTO, OMR, or dividends, may initiate an RTO solely for insider trading purposes. Call this a "pure" insider trading RTO. Although its only *purpose* is insider trading, this RTO might have other (incidental) *effects* such as exerting price pressure or expropriating value from creditors. The point is that this RTO is motivated only by insider trading considerations; in their absence, insiders would not conduct this RTO or distribute cash through any other mechanism.

The insider trading theory can explain why insiders may conduct RTOs even if they are not defending against a hostile takeover or signaling underpricing. It can also explain why insiders who wish to distribute excess cash may use RTOs rather than cheaper and more

¹³⁹ For an explanation of why RTOs may be more useful for insider trading than OMRs, see Part II.C.

flexible OMRs or dividends. Finally, the insider trading theory is consistent with a number of RTO-related phenomena that are inconsistent with signaling: (1) the use of Dutch auction RTOs; (2) the fact that insiders sell or tender stock almost as frequently as they retain their shares or buy additional shares; and (3) the fact that insiders rarely disclose in advance their tendering (or selling) plans.

Section A shows how insiders can use both fixed price and Dutch auction RTOs to (indirectly) buy stock at a low price from and (indirectly) sell stock at a high price to public shareholders. Section B shows that insiders can achieve substantially the same result as tendering into a high price RTO by selling their shares in the open market after the RTO is announced. It also explains why share prices might increase around RTO announcements even if all RTOs are used for insider trading. Section C identifies the situations in which an RTO is likely to be more useful for exploiting inside information than an OMR or personal insider trading. Section D shows that the insider trading theory is consistent with the empirical data.

A. Insider Trading with RTOs

This Section explains how insiders may use fixed price and Dutch auction RTOs for insider trading. It first explains how insiders can use both types of RTOs to (indirectly) buy stock from public shareholders at a low price. It then explains how insiders can use both types of RTOs to (indirectly) sell stock to the public at a high price. The Section concludes by describing public shareholders' dilemma when faced with an RTO that insiders may be using to sell high or buy low.

1. Using RTOs to buy low.

We saw in Part I.C that an RTO is distributionally equivalent to a transaction in which tendering shareholders sell shares at the repurchase price to the remaining shareholders. If the insiders set the repurchase price below the stock's actual value, then value is transferred from tendering shareholders to the remaining shareholders. The value transferred to remaining shareholders is shared pro rata among them. Nontendering insiders therefore capture a fraction equal to their proportional interest in the post-RTO corporation. The following example illustrates the mechanics of value transfer in a low fixed price RTO.

Example: The controlling shareholder of publicly traded ABC Corp., Carl, owns 100 of its 200 shares. The other 100 shares are owned by public shareholders. There are two types of shareholders: Alpha shareholders (who believe the stock is worth less than \$10) and Beta shareholders (who believe the stock is worth more

than \$10). At the time of the RTO, 50 shares are owned by Alpha shareholders and 50 are owned by Beta shareholders. The market price is \$9. Carl has inside information indicating that the stock is actually worth \$15 per share (or that ABC is worth \$3000 in total). ABC initiates a fixed price RTO for 100 shares at a price of \$10 per share. As a result, Alpha shareholders tender their 50 shares and ABC repurchases all of them. Since each share is purchased for \$5 less than its actual value ($\$15 - \10), the RTO transfers \$250 ($50 \times \5) from Alpha shareholders to nontendering shareholders. Of the \$250 transferred to nontendering shareholders, Carl captures a fraction equal to his pro rata ownership in post-RTO ABC, $2/3$ ($100/150$ shares) or approximately \$167.

Similarly, insiders can buy low with a Dutch auction RTO by setting the maximum repurchase price below the actual value of the stock and not tendering. This ensures that the final repurchase price will also be below the actual value of the stock.

As explained in Part I.A, a Dutch auction RTO repurchases shares from the lowest-valuing shareholders. This means that the corporation does not pay any more than is necessary to attract the desired number of shares. In contrast, the offer price in a fixed price RTO may be set higher than is necessary. Thus a Dutch auction RTO may be able to transfer more value from tendering shareholders to remaining shareholders (including insiders).

Example: ABC Corp. wishes to buy back 50 of its 200 shares. Insider Carl, who knows that the actual value is \$15 per share, owns 100 shares. The other 100 shares are divided equally between Alpha shareholders and Beta shareholders. Alpha shareholders value their shares at \$9.50 each and Beta shareholders value their shares at \$10 each.

A fixed price RTO at \$10 will attract 100 shares, 50 of which will be repurchased. The RTO will transfer \$250 from tendering shareholders to the remaining shareholders, of which Carl captures $100/150$ or approximately \$167.

A Dutch auction RTO with a range of \$9–\$10 will lead to the repurchase of 50 shares from Alpha shareholders at the price of \$9.50 each, leading to a transfer of \$275 to remaining shareholders, of which Carl captures $100/150$ or approximately \$183.¹⁴⁰

¹⁴⁰ This assumes that the supply curve is invariant to the type of RTO used. However, if shareholders believe that the use of a Dutch auction RTO signals that insiders are attempting to buy stock at a low price, they may be less willing to tender their shares into a Dutch auction RTO. See Part II.A.3.

2. Using RTOs to sell high.

Since an RTO is equivalent to a sale of stock by tendering shareholders to remaining shareholders, followed by a dividend, a high price RTO will transfer value from the remaining shareholders to the tendering shareholders. Tendering insiders will capture a fraction of the value transferred to tendering shareholders equal to the number of shares tendered by the insiders divided by the total number of shares tendered.¹⁴¹

However, to the extent that insiders continue to own shares after the RTO, the insiders (as remaining shareholders) will indirectly purchase stock at a high price. Thus, insiders give up a fraction of the value transferred to tendering shareholders equal to their proportional ownership of the post-RTO corporation. The insiders will profit if their proportional participation in the offer (as sellers) is greater than their post-RTO proportional ownership of the corporation.¹⁴²

The following example illustrates the mechanics of value transfer in a high fixed price RTO.

Example: The controlling shareholder of publicly traded ABC Corp., Carl, owns 100 of its 200 shares. The other 100 shares are owned by public shareholders. There are two types of shareholders: Alpha shareholders (who believe the stock is worth less than \$10) and Beta shareholders (who believe the stock is worth more than \$10). At the time of the RTO, 50 shares are owned by Alpha shareholders and 50 are owned by Beta shareholders. The market price is \$9. Carl knows that the stock is actually worth \$5 per share (or that ABC is worth \$1000 in total). ABC initiates a fixed price RTO for 75 shares at a price of \$10 per share. As a result, Alpha shareholders tender their 50 shares and Carl tenders 100 shares. Of the 150 shares tendered, 75 (one half) are repurchased.

Since each share is purchased for \$5 more than its actual value (\$10 – \$5), the RTO transfers \$375 (75 x \$5) from the remaining shareholders. Of the \$375 transferred to tendering shareholders, Carl will capture a fraction equal to his pro rata participation in the offer: 2/3 (100/150 shares), or \$250. However, a portion of the value transferred to tendering shareholders is transferred from Carl qua remaining shareholder. Since Carl owns 40 percent of the remaining shares (50/125), he gives up 40 percent of the \$375

¹⁴¹ If insiders tender all of their shares and all of their shares are repurchased (the offer is not prorated), the RTO achieves the same result as selling their stock to public shareholders at the repurchase price.

¹⁴² Insiders can easily achieve this by tendering 100 percent of their shares, since on average only 15–25 percent of the public's shares are tendered in RTOs. See Part I.D.2.c.

transferred to tendering shareholders, or \$150. Thus Carl's net gain is \$100 (\$250 - \$150).

It should be emphasized, however, that, after a high price RTO, insiders may sell their remaining shares on the market before the actual (low) value becomes reflected in the price of their shares. To the extent that insiders who have conducted a high price RTO sell their remaining shares in the market at a price above their actual value, the insiders will avoid the loss that would occur if they were to retain their shares.

Insiders who wish to sell high can do so in a Dutch auction RTO by setting the minimum repurchase price above the actual value and tendering their shares. An insider who wishes to sell shares in the RTO would tender at the minimum price to ensure that his shares are repurchased.¹⁴³

3. The public shareholders' dilemma.

Insiders cannot use a fixed price RTO to transfer value from public shareholders if public shareholders know whether the offer price is high or low. However, without access to the same information as insiders, public shareholders will not know whether the offer price

¹⁴³ However, if the insiders own a sufficiently large number of shares, their bid is likely to determine the final price, and they may therefore have an incentive to tender at a higher price. See, for example, *Kahn v Tremont Corp*, 694 A2d 422 (Del 1997). This case involved an RTO in which the controlling shareholder tendered in the middle of the price range. Valhi Corp. (which was 90 percent owned by industrialist Harold Simmons) owned 68 percent of NL Industries, which had 63.4 million outstanding shares in August 1991. NL Industries announced a Dutch auction self-tender for 10 million shares at a price between \$14.50 and \$17 when the stock was trading for \$16 (with an option to purchase an additional 1.3 million shares if more than 10 million shares were tendered at or below the sale price). Valhi announced that it would probably tender, but that it had not determined how many shares or at what price. See *NL Industries Sets Buy-Back Auction for 15.8 percent of Stock*, Wall St J A12 (Aug 7, 1991) (reporting on the situation before the close of the Dutch auction). The Delaware Supreme Court reported:

On the date the Dutch auction was announced, Valhi owned approximately 68 percent of the 63.4 million outstanding shares of NL. Valhi tendered all of its shares, at \$16, recognizing that with proration it would sell, at most, approximately 10 million shares. At the close of the Dutch auction, \$16 per share proved to be the lowest price within the range at which NL could purchase the shares. On September 12, 1991, NL accepted for purchase 11,268,024 shares, 10,928,750 of which were acquired from Valhi. Shortly following the close of the Dutch auction, NL's stock price fell from \$16 to around \$13.50.

Kahn, 694 A2d at 425.

The pre-offer and post-offer prices can be used to form an estimate of the value transferred from public shareholders to Valhi. Suppose that the post-offer price reflects the actual value of NL stock after the Dutch auction. In other words, NL was worth \$703 million (52.1 million shares worth \$13.50 each) after the Dutch auction. Since \$181 million was distributed during the course of the Dutch auction to tendering shareholders, NL was worth \$884 million prior to the offer. Valhi's 68 percent share of the \$884 million was \$601 million. Following the auction, Valhi had \$174 million in cash and shares worth \$436 million (62 percent of \$703 million), or \$610 million. Thus the effect of Dutch auction was to transfer \$9 million from public shareholders to Valhi.

is high or low. As a result, some public shareholders will tender when the offer price is low and others will not tender when the offer price is high.¹⁴⁴ It is from these public shareholders that the insiders transfer value.

In the absence of better information, there is nothing public shareholders can do to ensure that they are not exploited. If public shareholders always tender, then insiders will not transfer value from them when the repurchase price is high but will transfer value from them when the repurchase price is low. Indeed, if public shareholders adopted a strategy of always tendering, insiders would conduct only low price RTOs and transfer value from public shareholders in every RTO. If public shareholders adopt a strategy of never tendering, then insiders will not transfer value when the repurchase price is low but will transfer value from them when the repurchase price is high. Eventually, insiders would conduct only high price RTOs.

The dilemma faced by public shareholders is illustrated by the following example:

Example: Carl owns 1 share of ABC Corp. and the public owns 1 share. ABC conducts an RTO at a price of \$25 per share for 1 share. ABC's shares have two possible values: \$20 and \$30. Carl knows the actual value; public shareholders know only that there is a 50 percent chance that the value is \$20 and a 50 percent chance that it is \$30. Assume that public shareholders will collectively decide whether to tender or not tender their 1 share.

If the public tenders its share, there are two possibilities. The first is that the actual value is \$20, and Carl tenders his 1 share. In that case the RTO becomes a pro rata distribution, leaving the public with \$12.50 in cash and equity worth \$7.50. The second possibility is that the actual value is \$30, and Carl does not tender his 1 share. In that case the public receives \$25 for its 1 share. The expected value of tendering is thus \$22.50.

If the public does not tender, there are again two possibilities. The first is that the actual value is \$20, and Carl tenders his 1 share. In that case Carl sells his \$20 share to the public for \$25, leaving the public with 1 share worth \$15. The second is that the actual value is \$30, and Carl does not tender his 1 share. In that case the public still owns 1 share worth \$30. The expected value of not tendering is therefore also \$22.50.

¹⁴⁴ Each public shareholder will determine her own reservation value for the stock and, based on that valuation, decide whether to tender.

Whether public shareholders tender or not, the expected value of their 1 share is \$22.50, \$2.50 less than the expected value of their pro rata share of ABC. In either case, public shareholders can expect to be worse off than if the RTO had not taken place.

Shareholders facing a Dutch auction RTO also cannot protect themselves from expropriation. If they tender at any price, they risk selling their shares at a low price to insiders. If, on the other hand, they do not tender, they may be forced to buy the insiders' shares (and the shares of other tendering shareholders) at a high price.

Since a Dutch auction RTO may transfer more value from tendering shareholders than a fixed price RTO,¹⁴⁵ shareholders facing a Dutch auction RTO may infer from the choice of a Dutch auction RTO that insiders are attempting to buy low, and therefore refrain from tendering their shares. However, the strategy of not tendering into Dutch auction RTOs would increase the loss to public shareholders whenever insiders use Dutch auction RTOs to sell their shares back to the corporation at a high price. Indeed, to the extent that public shareholders tender fewer shares in Dutch auction RTOs, insiders are more likely to use Dutch auction RTOs to sell high. Interestingly, insiders sell or tender more frequently in Dutch auction RTOs than in fixed price RTOs.¹⁴⁶

Finally, it is worth noting that an announcement by insiders that they will tender a certain number of shares conveys much less information in the context of a Dutch auction RTO than it does in the context of a fixed price RTO. In a fixed price RTO, the offer price is equal to, below, or above the actual value of the stock. If insiders announce that they will tender most or all of their shares, they reveal all of the information that is necessary for public shareholders to defend themselves against expropriation. Public shareholders will then know that they face a high price RTO. This should cause them to tender most or all of their shares, making the payout pro rata.

In a Dutch auction RTO, in contrast, an announcement by insiders that they will tender most or all of their shares reveals only that insiders believe that the actual value is below the maximum repurchase price.¹⁴⁷ If the public tenders at the maximum price, they risk being excluded from a high price repurchase at a lower price along the auction range. If, on the other hand, the public tenders at the minimum price, they risk selling their shares back to the insiders at a low price. If the public tenders at any other price, it faces both risks.

¹⁴⁵ See Part II.A.1.

¹⁴⁶ See text accompanying notes 117–18.

¹⁴⁷ I am unaware of any Dutch auction RTO where the insiders have announced the price at which they would tender their shares.

B. The Use of RTOs to Sell Stock at a High Price Directly to Public Shareholders

In Section A we saw how insiders can use RTOs to indirectly transfer value from public shareholders. This Section explains that insiders can also use an RTO to directly transfer value from public shareholders. In particular, insiders can set the repurchase price high and sell their stock into the market after the RTO announcement has caused the stock price to rise above its actual value.¹⁴⁸ This Section also explains why there are abnormal positive stock returns around RTO announcements even though many RTOs might be used for insider trading.

1. Selling in the market following an RTO announcement.

The stock prices of firms announcing RTOs experience abnormal positive returns around the time of the announcement averaging 8 percent. The announcement reaction is highly correlated with the repurchase premium.¹⁴⁹ Average daily trading volume around the time of the announcement increases by 250 to 300 percent.¹⁵⁰ Although stock prices experience abnormal negative returns averaging 1 to 2 percent upon expiration of the offer,¹⁵¹ the post-expiration market price usually exceeds the pre-announcement market price.

Insiders can therefore profit from a high price RTO by selling their stock directly to public shareholders after the RTO has caused the stock price to rise. To the extent that the insiders sell their shares at a price above their actual value, they profit at the expense of the buyers. However, to the extent that insiders continue to own shares in the corporation, they bear part of the cost associated with paying tendering shareholders a high price for their shares.

Example: The controlling shareholder of publicly traded ABC Corp., Carl, owns 100 of its 200 shares. The other 100 shares are owned by public shareholders. There are two types of shareholders: Alpha shareholders (who believe the stock is worth less than \$10) and Beta shareholders (who believe the stock is worth more than \$10). At the time of the RTO, 50 shares are owned by Alpha

¹⁴⁸ See Kamma, Kanatas, and Raymar, 2 *J Fin Intermediation* at 285 (cited in note 2) (finding that insiders sold their shares in 25 out of 47 Dutch auction RTOs and 19 out of 53 fixed price RTOs). There are reduced sales prior to, and higher sales after, RTOs. See Pettit, Ma, and He, 7 *Rev Quantitative Fin & Acct* at 89 (cited in note 4) (studying 69 fixed price RTOs from 1980–1989 and reporting substantially below-normal insider sales in the year before the announcement of a fixed price RTO and substantially above-normal sales in the year after). This is consistent with insiders using RTOs to boost the stock price before selling their shares.

¹⁴⁹ See Bagwell, 47 *J Fin* at 97 (cited in note 4).

¹⁵⁰ *Id* at 91.

¹⁵¹ *Id* at 81.

shareholders and 50 are owned by Beta shareholders. The market price is \$9. Carl knows that the stock is actually worth \$5 per share (or that ABC is worth \$1000 in total). ABC initiates a fixed price RTO for 75 shares at a price of \$10 per share. The market price rises to \$9.50 per share. Alpha shareholders tender their 50 shares and Carl sells 50 shares on the market for \$9.50 each (to new Beta shareholders). All 50 of the tendered shares are repurchased.

Carl transfers \$225 (50 x \$4.50) from the Beta shareholders he trades with on the market. However, Carl suffers a loss because he remains a shareholder of ABC Corp. Since ABC Corp. purchases each share for \$5 more than its actual value (\$10 - \$5), the RTO transfers \$250 to Alpha shareholders. Of the \$250 transferred to tendering shareholders, 50/150 (or 1/3) is transferred from Carl qua remaining shareholder. Carl's portion of the \$250 loss is therefore \$83. Thus Carl's net gain is \$142 (\$225 - \$83).

2. The market's reaction to RTO announcements.

Insiders cannot profit by conducting a high price RTO and then selling their stock in the market unless the market price increases in reaction to the RTO announcement.¹⁵²

However, the widespread use of RTOs for insider trading would tend to cause stock prices to fall when RTOs are announced, not to rise.¹⁵³ That is because public shareholders would know, upon announcement of an RTO, that they face expected losses whether they tender or not.¹⁵⁴ Thus, the abnormal stock price increases that occur when RTOs are announced appear to be inconsistent with the use of RTOs for insider trading.

As we will see, however, prices may abnormally increase following RTO announcements even if many RTOs are used for insider trading. In fact, there could be abnormal price increases surrounding RTO announcements even if *all* RTOs are used for insider trading.

Recall that we have divided insider trading RTOs into three types: (1) "opportunistic," RTOs that would be conducted anyway that insiders exploit for insider trading; (2) "dual purpose," RTOs initiated for insider trading purposes that distribute cash that would have

¹⁵² The market price must not only increase, but also move higher than the actual value of the stock. Otherwise, insiders selling into the market would be selling at a low price.

¹⁵³ The Appendix provides a numerical example showing that when the only effect of an RTO is to transfer value from public shareholders, the stock price falls upon announcement of the RTO.

¹⁵⁴ See Part II.A.3.

been distributed anyway through an OMR or a dividend; and (3) "pure," RTOs that distribute cash that, absent insider trading considerations, would not have been distributed otherwise.

Imagine a world in which every RTO is a pure insider trading RTO. Even in such a world stock prices might react positively to RTO announcements. The reason is that even an RTO whose only *purpose* is insider trading will have other *effects* that are likely to boost the stock price. If these price-boosting effects more than offset the price-depressing effects of insider trading, then stock prices will react favorably to RTO announcements.

There are at least three possible types of price-boosting effects associated with RTOs. First, as we saw in Part I.B, RTOs create price pressure. The increase in price due to price pressure will offset or even outweigh the decrease in price due to expected loss from insider trading. If this price-increasing effect is great enough, then price pressure alone could cause the stock price to increase even upon announcement of a pure insider trading RTO.

Second, RTOs may (insider trading effects aside) increase the actual value of shareholders' interests in the corporation (rather than just the price of the stock). As was explained in Part I, RTOs can increase the value of shares in three different ways: by distributing excess cash to shareholders, by improving managerial incentives, and by transferring value from creditors. These effects would tend to offset, and could outweigh, the price-depressing effects of insider trading.¹⁵⁵

Third, insiders may be more likely to conduct an insider trading RTO when the actual value of the stock is above the market price than when it is below.¹⁵⁶ As a result, although the insiders initiating the

¹⁵⁵ See the Appendix for a numerical example.

¹⁵⁶ There are three reasons that insiders are more likely to conduct an RTO when the actual value of the stock is above the market price than when the value is below the market price.

First, initiating an RTO when the actual value is above the market price can be used either to buy low (by setting the offer price above the market price but below the actual value) or to sell (tender) high (by setting the offer price above both the market price and the actual value of the stock). On the other hand, initiating an RTO when the actual value is less than the market price can be used only to sell at a high price (assuming that the offer price is above the market price). Everything else equal, this makes it more likely that insiders will conduct RTOs in which the actual value is above the market price.

Second, there may be adverse tax consequences for insiders who tender or sell shares. On the other hand, there are no (immediate) adverse tax consequences to buying shares indirectly at a low price through the corporation, which is what insiders would do when the actual value is greater than the offer price (and therefore the market price). Thus, everything else equal, insiders might be more likely to use low price RTOs to buy than high price RTOs to sell.

Third, insiders might not want to reduce their holdings for fear of losing control of the corporation. As a result, they might be less likely to use a high price RTO to sell than a low price RTO to buy.

Most of the evidence that is put forward to support the signaling theory is also consistent with incidental signaling (for example, tendering rates are much lower for self-tenders than inter-

RTO are not motivated by signaling, the use of an RTO incidentally signals to the public that the stock is likely to be underpriced. I call this the “incidental signaling” effect.¹⁵⁷ If the incidental signaling effect is large enough to outweigh the negative insider trading effect, the price will rise, even if all RTOs are used for insider trading.¹⁵⁸

In summary, there are three potential price-boosting effects of RTOs: price pressure, the creation of value for (or distribution of value from creditors to) shareholders, and incidental signaling. Even in a world where every RTO is a pure insider trading RTO—that is, the RTOs are intended to be used only for insider trading—these price-boosting effects (on average) could exceed the price-depressing insider trading effects (on average). This in turn would cause stock prices to increase around RTO announcements.

Of course, in our world it is even more likely that the average price-boosting effects of RTOs would exceed the average price-depressing effects of insider trading. First, in our world it is unlikely that all insider trading RTOs are pure insider trading RTOs. Many insiders trading RTOs are likely to have some other purpose—such as distributing excess cash. These RTOs, which are undertaken to benefit shareholders, are likely to have greater price-boosting effects than pure insider trading RTOs, where any such benefits are incidental. Second, and perhaps more importantly, not all RTOs are insider trading RTOs. To the extent that RTOs are not used for insider trading, the price-depressing effect of insider trading is reduced. In short, the fact that stock prices show abnormal increases around RTO announcements is not inconsistent with the use of many RTOs for insider trading, given all of the other, price-boosting, effects of RTOs.

C. Why Insiders Are Likely to Initiate RTOs for Insider Trading

As we saw in Sections A and B, insiders have the ability to use RTOs to engage in insider trading. Thus if insiders would conduct a particular RTO in any event, they have an incentive to use that RTO for insider trading. This in turn suggests that at least some RTOs are “opportunistic” insider trading RTOs.

However, this analysis alone cannot explain why insiders would *initiate* RTOs for insider trading. It cannot explain why insiders who would otherwise distribute cash through an OMR or a dividend have

firm tenders, holding the premium over the market price constant; there are abnormal price increases following RTOs; and the market price rises in response to RTO announcements).

¹⁵⁷ This is different from the signaling theory described in Part I.C because it is not insiders' intention to signal the underpricing of the stock. See Buckley, 65 *Ind L J* at 527 (cited in note 4). The signaling is incidental to the main purpose of the RTO, which is to transfer value from public shareholders.

¹⁵⁸ See the Appendix for a numerical example.

an incentive to distribute the cash through an RTO. That is, it cannot account for an incentive to conduct "dual purpose" insider trading RTOs. Nor can it explain why insiders who would not have otherwise distributed cash have an incentive to conduct a "pure" insider trading RTO.

To account for these two types of insider trading RTOs, we must identify situations in which insiders will prefer to use RTOs to exploit their inside information rather than an OMR or personal insider trading. For if OMRs are better suited for insider trading than RTOs, insiders will not have an incentive to initiate either "dual purpose" or "pure" insider trading RTOs. And if RTOs are not as well suited for exploiting inside information as personal insider trading, insiders will not have incentive to initiate "pure" insider trading RTOs. However, as this Section will explain, there are likely to be a number of situations in which an RTO might be more useful for exploiting inside information than personal insider trading or an OMR. In these situations, insiders will have an incentive to initiate insider trading RTOs. This Section first considers the potential advantages of using RTOs over the two other insider trading mechanisms for selling at a high price, and then the potential advantages of using RTOs for buying at a low price.

1. Using RTOs to sell high.

There are situations in which an RTO is a better vehicle for selling high than either personal insider trading or OMRs. Consider first personal insider trading. Insiders attempting to sell their shares at a high price in the market face two possible problems. First, there might not be sufficient liquidity in the market to absorb the insiders' shares at the market price. To the extent there is insufficient liquidity, insiders would be forced to sell their shares at a discount.¹⁵⁹ Second, even if the market is sufficiently liquid that it can absorb all of the insiders' shares at the market price, insiders may wish to sell at a higher price.

An RTO increases the stock's liquidity by creating a large (albeit temporary) demand for the firm's shares.¹⁶⁰ Thus in situations in which the market is relatively illiquid, an RTO (even if it is at the market price) should enable insiders to sell their shares at a higher price than they could otherwise. Whether or not there is sufficient liquidity, an RTO at a premium over market can also be used to boost the market

¹⁵⁹ The insiders could sell gradually over a longer period. But this alternative is not available if the insiders need to raise cash soon. In addition, selling over a longer period of time increases the risk that prices will fall before the selling is completed (because negative inside information emerges, the insiders' selling is detected, or for some other reason).

¹⁶⁰ See Bagwell, 47 *J Fin* at 81 (cited in note 4) (describing the increase in trading volume accompanying RTO announcements).

price of the stock above its pre-RTO level, again enabling insiders to sell the stock for a higher price than would otherwise be possible, either by tendering into the premium offer or selling their stock directly to public investors outside of the RTO after the RTO announcement has caused the market price to rise.

As we saw in Part I.A, an OMR in principle can accomplish the same result as an RTO if the corporation aggressively buys back stock on the open market, forcing the price to rise. To the extent that a corporation is willing to conduct such an OMR, there would be little reason for insiders seeking to sell high to prefer an RTO over an OMR. However, as Part I.A explained, there are legal risks associated with buying back many shares in the market over a short period of time. To reduce these risks, corporations conducting OMRs tend to limit the number of shares repurchased per day and the price at which the shares are repurchased.

To the extent that OMRs are conducted less aggressively, they are not as well suited for selling high as RTOs. First, the smaller, slower OMRs will not be as liquidity-increasing as RTOs. Second, such OMRs will not increase the price at which the insiders' shares can be sold as much as RTOs, in part because they exert much less price pressure than RTOs. Thus insiders seeking to sell their shares at a high price are more likely to choose an RTO than an OMR. In fact, finance economists have found evidence consistent with the hypothesis that RTOs are used more than OMRs to sell stock at a high price.¹⁶¹

2. Using RTOs to buy low.

There are three reasons why insiders might prefer RTOs over personal insider trading to buy low. First, the insiders may not have enough money to make large-scale stock purchases for their personal accounts. Second, even if they have the funds, insiders may be reluctant to purchase many shares on the open market because of fear of personal liability under Rule 10b-5.¹⁶² Finally, even if the insiders have sufficient funds and are not concerned about liability under the securities laws, the market might not be sufficiently liquid to allow them to buy anonymously. That is, their purchases may be large enough relative to average trading volume to signal unusual interest in the stock,

¹⁶¹ See Vafeas, 12 *J Acct, Auditing & Fin* at 112-13 (cited in note 29) (reporting that the reduction in median insider holdings is much greater following RTOs than following OMRs).

¹⁶² Large purchases, if followed shortly by a sharp rise in price, may trigger an SEC investigation. See Fried, 71 *S Cal L Rev* at 333 (cited in note 10). The insiders might therefore be concerned about the possible Rule 10b-5 liability associated with trading personally. In addition, if the insiders need to sell stock within a six-month period following the purchases, Section 16(b) will force them to disgorge the difference between the purchase price and the sale price if the sale price is higher. See 17 *CFR* § 240.16b (1999).

causing the stock price to increase substantially before they can finish buying stock at a low price.¹⁶³

An OMR offers the first two advantages of an RTO: it makes corporate funds available for purchasing the public's shares at a low price and reduces the risk of personal insider trading liability. In addition, an OMR allows insiders to repurchase public shares at a lower price than is possible with a (premium) RTO. An OMR conducted at the prevailing market price will transfer value to insiders to the extent the market price is below the actual value. In contrast, an RTO enables insiders to transfer value from public shareholders only to the extent that the offer price is below the actual value. Since the offer price is usually higher than the pre-announcement market price, the OMR should transfer more value per share repurchased than the RTO. Everything else equal, the OMR should thus transfer more value to insiders. Not surprisingly, there is some evidence that OMRs are used to buy low from public shareholders.¹⁶⁴

However, there will be situations in which insiders may prefer to use an RTO rather than an OMR. If the OMR is conducted in a way to minimize legal liability,¹⁶⁵ it will repurchase shares much more slowly than an RTO. As a result, repurchasing the same number of shares will take longer. During this time, the private information held by insiders might emerge, moving the market price of the stock closer to its actual value. As a result, when inside information is likely to emerge within several months, insiders seeking to buy low are likely to

¹⁶³ To the extent that the low price RTO is at a premium to the market, the RTO does not transfer as much value per share as personal buying on the open market. However, the premium price allows the insiders, through the corporation, to purchase more shares. Depending on the supply curve, an RTO might therefore be able to transfer more total value than personal buying. In other words, even if insiders were not liquidity constrained and not concerned about insider trading liability, there might still be cases where they would prefer to use an RTO to purchase shares at a low price.

¹⁶⁴ Data on bid-ask spreads during OMRs suggest that insiders sometimes use OMRs to repurchase shares at a low price. See Barclay and Smith, 22 *J Fin Econ* at 66, 71 (cited in note 21) (concluding that in OMRs the bid-ask spread widens, liquidity is reduced, and the firm suffers on average a reduction in equity value of 8 percent because insiders use OMRs to transfer value from public shareholders). But see Ajai K. Singh, Mir A. Zaman, and Chandrasekhar Krishnamurti, *Liquidity Changes Associated with Open Market Repurchases*, 23 *Fin Management* 47, 53 (1994) (finding no increase in bid-ask spreads upon announcements of OMRs for over-the-counter National Market System stocks).

Other evidence that OMRs are used to transfer value from selling shareholders is the correlation between pre-buyback insider buying, the level of pre-buyback insider ownership, and subsequent abnormal returns. See Elias Raad and H.K. Wu, *Insider Trading Effects on Stock Returns Around Open-Market Stock Repurchase Announcements: An Empirical Study*, 18 *J Fin Res* 45, 57 (1995) (showing that abnormal returns following OMRs are positively related to pre-buyback insider buying and the level of pre-buyback management ownership). See also Ikenberry, Lakonishok, and Vermaelen, 39 *J Fin Econ* 190 (1995) (cited in note 3) (reporting large price increases following OMRs).

¹⁶⁵ See note 62.

have an incentive to use an RTO over an OMR. Indeed, there is some evidence consistent with the hypothesis that RTOs are used more than OMRs by insiders to indirectly buy public shares at a low price, namely that higher insider ownership (which increases the potential value transfer from an RTO or an OMR¹⁶⁶) increases the likelihood that insiders will choose an RTO over an OMR.¹⁶⁷

D. Evidence of Insider Trading RTOs

This Section explains why the available empirical data is consistent with the insider trading explanation for RTOs.

First, insiders' relatively large ownership positions in firms conducting RTOs is consistent both with the use of RTOs to buy the public's stock at a low price and to sell stock at a high price. Since insiders profit from low price RTOs only to the extent that they own shares in the post-RTO corporation, small insider ownership positions would suggest that RTOs are not likely to be motivated by a desire to buy low. In firms where insiders own only a small percentage of the shares, a high price RTO is also less likely. First, insiders desiring to sell a relatively small number of shares are unlikely to face a liquidity problem selling into the market. Second, the benefit of raising the stock price through an RTO is proportional to the value of the shares to be sold. Although a small percentage of a large firm may be worth much more than a large percentage of a small firm, smaller insider ownership positions will on average be worth less than larger ownership positions, everything else equal. Thus insiders owning a small percentage of the corporation are, everything else equal, less likely to spend time designing and conducting an RTO.¹⁶⁸ In fact, insider ownership positions in corporations conducting RTOs tend to be larger than those conducting OMRs.¹⁶⁹

Second, in RTOs insiders sell or tender their shares as frequently as they maintain or increase their stock positions, which is consistent with the use of RTOs both to buy low and sell high. In many cases, insiders own a larger number of shares after the RTO than they did before the RTO. This indicates that in many RTOs insiders not only retain their shares (presumably on the belief that the offer price is less than the value of the stock), but also buy stock on the open market

¹⁶⁶ See Part II.D.

¹⁶⁷ See Vafeas, 12 *J Acct, Auditing & Fin* at 113 (cited in note 29).

¹⁶⁸ Insiders' incentive to conduct an RTO to sell high will depend on the value of the shares to be sold.

¹⁶⁹ See Vafeas, 12 *J Acct, Auditing & Fin* at 112-13 (cited in note 29) (reporting that the average insider ownership of corporations conducting RTOs between 1984-1989 was 22 percent, compared to 15.7 percent for corporations conducting OMRs, and that median inside ownership was 18.6 percent for RTOs, compared to 8.7 percent for OMRs).

before, during, or after many RTOs, which is consistent with the use of RTOs to buy low.¹⁷⁰ And insiders tender or sell shares in almost 50 percent of RTOs, which is consistent with the use of RTOs to sell high.

Third, insiders' frequent failure to disclose their tendering intentions is consistent with the use of RTOs for insider trading. As we saw in Part I.D.2, there are many RTOs in which insiders fail to indicate that they will retain their shares. If insiders were to indicate their intention to retain their shares, public shareholders would infer that the insiders believe that the repurchase price is below the value of the stock. As a result, fewer public shareholders would tender their shares, and insiders would not be able to buy as many public shares at a low price. And in 70 percent of the fixed price RTOs and 90 percent of the Dutch auction RTOs where insiders tender or sell shares they do not reveal their intentions to tender (or sell).¹⁷¹ In other words, insiders avoid signaling to public shareholders that the actual value is below the offer price. Such signaling would cause public shareholders to tender more shares, reducing insiders' participation in the high price RTO. Insiders' announcement that they plan to tender or sell shares would also cause public shareholders to bid up the price of the stock less, or even to bid down the price of the stock, reducing the price at which the insiders could sell their shares outside of the RTO.¹⁷²

¹⁷⁰ See Lee, Mikkelsen, and Partch, 47 J Fin at 1958-60 (cited in note 73) (finding abnormal insider trading activity six months prior to fixed price RTOs during 1977-1988); Kamma, Kanatas, and Raymar, 2 J Fin Intermediation at 285 (cited in note 2). There is also anecdotal evidence suggesting that insiders use both Dutch auction and fixed price RTOs to buy shares at a low price. For example, seven months prior to RJR Nabisco's announcement in October 1988 that management would seek to acquire the company in a leveraged buyout ("LBO") at \$75 per share, RJR conducted a Dutch auction self-tender for about 10 percent of its outstanding shares at a price between \$52 and \$58 per share. The company completed the tender offer by repurchasing 21.2 million shares at a price of \$53.50 per share. In a subsequent lawsuit, the plaintiffs—including shareholders who had tendered their shares—alleged (among other things) that the defendant insiders had conducted the Dutch auction in order to reduce the number of shares that they would be required to purchase at \$75 per share. The defendants settled the case. See *In re RJR Nabisco, Inc Securities Litigation*, 1992 US Dist LEXIS 12702, *2-6 (S D NY 1992). See also *Pittiglio v Michigan National Corp*, 906 F Supp 1145 (E D Mich 1995) (refusing to dismiss fraud claim against company's directors based on their failure to tender into a Dutch auction that was soon followed by a tender offer from a friendly bidder at a substantially higher price); *Coyne v MSL Industries, Inc*, 1976 US Dist LEXIS 16620, *11, 15 (N D Ill 1976) (denying defendants' motion for summary judgment on claim that management failed to disclose expectation of substantial earnings increase, but granting summary judgment for defendants on claim that tender offer was not in the best interests of the company); *Lessner v Casey*, 681 F Supp 415, 418 (E D Mich 1988) (denying motion for partial summary judgment brought by shareholders who had tendered their shares in connection with a fixed price RTO for \$52.50 per share three weeks before insiders sold firm to an acquirer for \$77.50 per share).

¹⁷¹ See Kamma, Kanatas, and Raymar, 2 J Fin Intermediation at 285 (cited in note 2).

¹⁷² Although the data are consistent with the insider trading explanation, additional evidence could more clearly show the extent to which insiders use RTOs for insider trading. In particular, it would be useful to investigate whether the path of post-RTO (market-adjusted) stock prices correlates with insiders' tendering, trading, and disclosure decisions at the time of the RTO. If insiders are using RTOs for insider trading, one would expect to find lower price paths

III. REDUCING THE SOCIAL COSTS OF INSIDER TRADING RTOs WITH A DISCLOSE/DELAY RULE

This Part puts forward a rule that would reduce insiders' ability to use RTOs for insider trading and the resulting efficiency costs: requiring insiders to disclose their tendering intentions and forbidding them from selling into the market for six months after the announcement date.

Section A describes the operation of this "disclose/delay" rule. Section B examines the effects of the rule. It explains how the disclose/delay rule would reduce insiders' ability and incentive to (1) initiate a "pure" insider trading RTO solely for insider trading purposes and (2) conduct "dual purpose" insider trading RTOs—choose an RTO to distribute cash rather than an OMR or dividend in order to transfer value from public shareholders at the same time. It would also reduce insiders' ability to opportunistically transfer value from public shareholders during RTOs that are being conducted for some purpose other than insider trading. Section B explains why the disclose/delay rule would not interfere with the use of RTOs for defending against takeovers, signaling, or distributing excess cash to shareholders. Section C considers the possibility that insiders discouraged from using RTOs for insider trading by the disclose/delay rule will increase their level of personal insider trading and/or use OMRs for insider trading.

Of course, the most effective means of preventing insiders from using RTOs for insider trading would be to prohibit RTOs altogether.¹⁷³ But there may be unknown costs to a blanket prohibition of RTOs. The disclose/delay approach would achieve most of the benefits of a prohibition, without giving rise to any of the costs that might be associated with that solution.

However, the Article does not claim that the disclose/delay rule is better than prohibiting RTOs. If there are no costs to prohibiting RTOs, it would clearly be better to prohibit RTOs altogether. The Article's claim is that if RTOs are permitted, as is currently the case, the disclose/delay rule should be adopted.

A. The Mechanics of the Disclose/Delay Rule

Under the proposed rule, officers, directors, and large shareholders—the same group of "statutory" insiders who are already required

for firms in which insiders sell or tender (without revealing their intention to sell or tender) than for firms in which insiders retain or buy additional shares (without revealing their intention to do so).

If the stock prices did not move as predicted, it would appear less likely that RTOs are widely used for insider trading.

¹⁷³ Compare Brudney, 71 Cal L Rev at 1090–91 (cited in note 11) (advocating prohibition on all non pro rata share repurchases).

to file trading reports under Section 16(a)¹⁷⁴—would be required to disclose, when they tender into an RTO, the details of their tenders. In particular, insiders would state the number of shares tendered, and if it is a Dutch auction RTO, the price(s) at which the shares are tendered.¹⁷⁵ Insiders would be required to tender at least five business days before the close of the RTO. This should give public shareholders sufficient opportunity to submit, withdraw, or modify their tenders after the insiders' tenders are made public.¹⁷⁶ Insiders who tender more than five days in advance would be permitted to modify or cancel their tenders (with the appropriate announcement) up until five business days before the expiration of the offer.¹⁷⁷

In addition, the rule would forbid insiders from selling into the market for a six-month period beginning with the announcement date. A sale-delay period is necessary because if insiders are allowed to sell into the market then they will have an incentive to conduct an RTO at a high price, make a no-tender announcement in order to falsely signal that the stock is underpriced, and then sell their shares into the market after the price rises.

Insiders will still be able to initiate an RTO, announce that they do not intend to tender their stock, and then sell after the six month period has ended. Thus insiders may still contemplate using a high price RTO to increase the stock price above the actual value and then, after the six-month period has ended, selling at a high price. However, the six-month delay subjects insiders to the risk that the ultimate sale price will be below the current market price (at which they could sell their stock without an RTO), because negative inside information emerges or there is some other change of circumstances during the six-month period.

¹⁷⁴ Under Section 16(a) of the Securities Exchange Act of 1934, policymaking officers, directors, and shareholders owning more than 10 percent of any class of outstanding shares must file trading reports with the SEC. See 17 CFR § 240.16a.

¹⁷⁵ Large passive shareholders, who are unlikely to possess inside information and who do not exercise control, could be exempted from the rule.

¹⁷⁶ Most shares are tendered in the last few days of the offer period. See Bagwell, 47 *J Fin* at 75 (cited in note 4).

¹⁷⁷ Insiders might consider falsely announcing that they intend to tender or intend to tender a given number of shares, and then not tender (or tender a different number of shares), in order to mislead public shareholders about the value of the stock. To ensure that insiders do not engage in this type of manipulation, the SEC should impose penalties on insiders who announce their intention to tender and then fail to do so. The penalty might be a fraction (say, 10 percent) of the number of shares that insiders failed to tender. Similarly, the SEC should impose penalties on insiders who tender without giving notice. At the very least, they should have their tenders voided.

Insiders might consider announcing that they are tendering X shares in the hope that this will cause the market price to fall and give them an opportunity to buy additional shares at a lower price. But this is unlikely to work because of Section 16(b) and the fact that there might be tax costs to selling.

The costs of such a rule to insiders are likely to be relatively small. Insiders are currently subject to Section 16(b), which forces insiders to return to the corporation short swing profits if they sell stock at a higher price than they buy stock in any six-month period. Many insiders are also subject to employer-imposed trading windows, which substantially limit the times during the year when they can trade. In contrast, the disclose/delay rule applies only if there is an RTO. And if insiders must liquidate some shares they are free to tender into the offer.¹⁷⁸

The choice of six months for the delay period is, of course, arbitrary. The optimal period might be shorter or longer, depending on how the costs imposed on insiders balance against the benefits of delaying insiders' sales.

B. The Effect of the Disclose/Delay Rule on RTOs

As Part II.A.3 explained, insiders can use RTOs to engage in insider trading only if the public is unaware of their tendering or trading decisions. The disclose/delay rule provides the public with this information before they must make their own tendering decisions. As a result, using RTOs for insider trading will be more difficult.

If public shareholders know that insiders are not tendering their shares, they may infer that the actual value is above the offer price and be less inclined to tender their shares.¹⁷⁹ As a result, less value will be transferred from public shareholders to insiders in low price RTOs.¹⁸⁰

If, on the other hand, public shareholders know that insiders are tendering their shares, they will be more likely to tender into the offer. To the extent that all of the shareholders tender their shares into an RTO, the RTO becomes similar to a pro rata dividend with no wealth transfer effects. As a result, insiders will have greater difficulty transferring value from the public through high price RTOs.¹⁸¹

¹⁷⁸ Insiders are also free to borrow against their shares.

¹⁷⁹ The public currently cannot make such an inference because insiders who have committed not to tender are free to sell their shares outside of the RTO. See Part I.D.1.

¹⁸⁰ Insiders' ability to use inside information to engage in post-RTO sales that transfer value from public shareholders would in principle be eliminated if insiders were subject to a pretrading disclosure rule requiring them to disclose their intentions to trade several days in advance. See Fried, 71 S Cal L Rev at 349-53 (cited in note 10).

¹⁸¹ Insiders may still be able to use high price RTOs to transfer value from those public shareholders who do not follow their stocks and are unaware of the RTO. But there are unlikely to be enough such shareholders to make the use of an RTO for insider trading worthwhile. In the absence of transaction (and other possible) costs borne by the corporation, insiders would benefit from any high price RTO in which public shareholders tender a lower percentage of their shares than insiders. However, the RTO will impose costs on the corporation, a portion of which insiders will bear to the extent that they remain shareholders after the RTO. Thus insiders will undertake a high price RTO only if they could transfer enough value from (nontendering) public shareholders to offset their pro rata share of the costs imposed by the RTO.

Since the disclose/delay rule reduces insiders' ability to make insider trading profits with RTOs, it will reduce insiders' incentive to conduct "pure" insider trading RTOs and their incentive to use RTOs rather than OMRs (or dividends) to distribute cash. This in turn will reduce the efficiency costs associated with the excessive use of RTOs, as well as (in the case of pure insider trading RTOs) the distribution of cash better left in the corporation. The rule will also reduce insiders' ability to make profits from "opportunistic" insider trading RTOs.

At the same time, the rule does not interfere with the use of RTOs for other purposes: that is, defending against hostile takeovers, signaling, distributing excess cash or improving managerial incentives. None of these functions requires that insiders hide their tendering intentions from shareholders.

C. Substituting OMRs and Personal Insider Trading for RTOs

Although the disclose/delay rule should make it difficult for insiders to use RTOs for insider trading, one might argue that insiders who would have conducted an insider trading RTO absent the rule will exploit their inside information through personal insider trading or insider trading OMRs (to which the disclose/delay rule put forward in this Article would not apply). However, the disclose/delay rule should reduce the total cost associated with all types of insider trading.

First, insiders may find it difficult to substitute personal insider trading or insider trading OMRs for insider trading RTOs. As Part II.C explained, there are likely to be many situations in which insiders can transfer more value from public shareholders through an RTO more easily than through an OMR or personal insider trading. In these situations, preventing insiders from using RTOs for insider trading should reduce the amount of insider trading.

Second, to the extent that insiders are able to make insider trading profits by substituting personal insider trading and insider trading OMRs for insider trading RTOs, there will be a reduction in the efficiency costs associated with insider trading because these other two forms of insider trading impose lower efficiency costs than insider trading RTOs. To the extent that insiders use more insider trading OMRs, there should be a net reduction in transaction costs (since OMRs are cheaper) as well as the costs associated with distributing too much cash (since OMRs are smaller). And to the extent that insiders substitute personal insider trading for insider trading RTOs, the corporation itself will not incur any transaction costs or any costs associated with distributing cash that would be better invested inside the corporation.

CONCLUSION

This Article has challenged the conventional view that insiders conduct repurchase tender offers (RTOs) in order to signal underpricing. It exposed a flaw in a key assumption of the signaling theory and presented empirical data on insider tendering, selling, and disclosure behavior suggesting that signaling cannot account for most RTOs. The Article put forward another explanation for managers' use of RTOs that is both more plausible, and more consistent with the empirical data, than the signaling theory: namely, that insiders use RTOs for insider trading.

The Article showed that an RTO has the same distributional consequences as a sale of stock by the tendering shareholders to the remaining shareholders at the repurchase price. Thus if the repurchase price is above the actual value of the stock, the RTO transfers value from the remaining shareholders to the tendering shareholders. If, on the other hand, the repurchase price is below the actual value of the stock, the RTO transfers value from the tendering shareholders to the remaining shareholders. Thus by setting the repurchase price above the actual value of the stock, and tendering, insiders can sell their stock at a high price to the remaining shareholders. And by setting the repurchase price below the actual value of the stock, and not tendering, insiders can buy stock at a low price from tendering public shareholders. Insiders can also use an RTO to boost the market price of the stock before selling their stock in the market.

The Article concluded by proposing that these insiders be (1) required to disclose the details of their tenders at least five business days before the close of the RTO and (2) forbidden from selling their shares for a six-month period beginning with the announcement of the RTO. This disclose/delay rule would reduce insiders' ability to use RTOs for insider trading and the resulting efficiency costs. At the same time, the rule would impose little cost on insiders and would not interfere with the use of RTOs for any socially beneficial purpose.

APPENDIX

The purpose of this Appendix is to use a simple model to show how stock prices might increase in response to an announcement of an RTO even in a world where all RTOs are used for insider trading.

Example 1 considers the case in which the only effect of an RTO is to transfer value from public shareholders to insiders. In such a case, the stock price will decline upon announcement of an RTO.

Example 2 considers the case in which the only effects of an RTO are to (1) transfer value from public shareholders to insiders and (2) increase the amount of value available to shareholders as a group by distributing excess cash, improving managerial incentives, and/or transferring value from creditors to shareholders. In this case, the stock price could increase upon an RTO announcement.

Example 3 considers the case in which the only effects of an RTO are (1) to transfer value from public shareholders to insiders and (2) to signal that the stock is underpriced. In this case as well, the stock price might increase upon announcement of an RTO.

Example 1: An RTO with only insider trading effects. ABC Corp. is a publicly traded firm. Insiders own 1 share; the public owns another. ABC stock may have one of two liquidation values: \$20 or \$30 per share, each with 50 percent likelihood. There are three periods, Period 1, Period 2, and Period 3. In Period 1, nobody knows whether the liquidation value is \$20 or \$30. In Period 2, insiders (but not the public) learn the actual value of the stock. There is a 10 percent probability that the insiders will conduct an RTO in Period 2 at a price of \$25. In this Example, the likelihood of an RTO is independent of the value of the stock. In Period 3, ABC is liquidated and its assets distributed pro rata to shareholders.

In the absence of the possibility of an RTO (or any insider trading by insiders), the stock would trade at \$25 in Period 1, which reflects its expected liquidation value.¹⁸² However, the stock will trade at less than \$25 in Period 1 because of the possibility that in Period 2 insiders will undertake an RTO that transfers value from public shareholders. The discount will depend on the extent to which insiders will transfer value from public shareholders in the RTO. Suppose that in the event of an RTO public shareholders face an expected loss of \$2.50.¹⁸³ In that case, the market price in Period 1 will be \$24.75 (\$25 - \$.25), to reflect the 10 percent chance that public shareholders will lose \$2.50 in Period 2.

Consider the market price in Period 2, when the public learns whether or not insiders will conduct an RTO. If in Period 2 public

¹⁸² I assume that investors are risk neutral. This assumption is not critical to the analysis.

¹⁸³ This expected loss corresponds to the expected loss in the example in Part II.A.3.

shareholders learn that the insiders will not conduct an RTO, the market price should rise from \$24.75 to \$25, the expected value of the distribution in Period 3. If, on the other hand, public shareholders learn that insiders will conduct an RTO, the market price should decline from \$24.75 to \$22.50. This example shows how in a world where RTOs have only insider trading effects an RTO announcement should cause the stock price to fall.

Example 2: An RTO with insider trading and other efficiency/distributional effects. The following example illustrates the potentially positive effect of an RTO announcement on market price when the gains to shareholders from the RTO (distribution of excess cash, improved managerial incentives, and creditor expropriation) outweigh the loss from insider trading.

Example 2 uses the same facts as Example 1. However, assume that the RTO also creates for all shareholders (or transfers from creditors) \$3 per share. Thus, if there is an RTO, the two possible share liquidation values will increase by \$3 to \$33 and \$23 respectively. The expected loss from insider trading is still \$2.50 per share.

In this case, the market price in Period 1 will be greater than \$25, to reflect the possibility that there may be an RTO in Period 2 that, on balance, increases the expected value of the stock by \$.50 per share (\$3 - \$2.50). In particular, the market price in Period 1 will be \$25.05, to reflect the 10 percent chance that public shareholders will gain \$.50 per share.

Now let us examine the market price in Period 2, when the public learns whether or not insiders will conduct an RTO. If in Period 2 public shareholders learn that the insiders will not conduct an RTO, the market price should fall \$.05 to \$25. If, on the other hand, public shareholders learn that insiders will conduct an RTO, the market price should increase \$.45 to \$25.50.

Thus, if all RTOs are used to transfer value from shareholders as well as to create value for shareholders, the market price could rise following an announcement of an RTO.

It should be emphasized that the fact that the price rises following the announcement does not mean that using RTOs for insider trading is desirable. The shareholders still would have been better off without the insider trading. Absent the insider trading, they would have benefited \$3.00 from the RTO, rather than only \$.50.

Example 3: An RTO with insider trading effects and incidental signaling. This example illustrates how incidental signaling can cause the stock price to rise in response to announcements of RTOs that the public knows to be insider trading motivated.

Same facts as in Example 1. However, suppose an RTO is not as likely to take place when the liquidation value is \$20 as when the liq-

liquidation value is \$30. Suppose that if the value is \$20, there is only a 4% chance that insiders will conduct an RTO, but that if the value is \$30, there is a 16% chance that insiders will conduct an RTO. And suppose that the expected loss by shareholders is now not \$2.50 but rather \$1.60.¹⁸⁴

In that case, an announcement of an RTO means that there is an 80% chance that the liquidation value of the stock is \$30 and a 20% chance that the liquidation value of the stock is \$20.¹⁸⁵ The RTO will be at \$28, the expected liquidation value of a share, given that the insiders have decided to conduct an RTO. Since the expected loss faced by the shareholders in the event of an RTO is \$1.60, an RTO announcement should move the price to \$26.40 (\$28 - \$1.60). In Period 1, before the RTO is announced, the expected value (and therefore the market price) of the public's share is \$24.84 (because the expected (pre-transfer) value of the share is \$25 and there is a 10% chance that the public will face a loss with an expected value of \$1.60). Thus, the announcement of the RTO causes the stock price to increase from \$24.84 to \$26.40, even though at the same time public shareholders learn that they face an expected loss from insider trading of \$1.60. This example shows how the incidental signaling effect can more than offset the negative insider trading effect when an RTO is announced.

¹⁸⁴ \$1.60 is the maximum expected loss faced by shareholders given the new probability distribution. The expected loss declines because shareholders face less uncertainty.

¹⁸⁵ The likelihood that the value is \$30 given the fact that insiders have chosen to initiate an RTO may be computed as follows. $\Pr(\$30|RTO) = \Pr(\$30 \text{ and } RTO)/\Pr(RTO) = (50\% \times 16\%)/(10\%) = 80\%$. See Morris H. DeGroot, *Probability and Statistics* 60 (Addison Wesley 2d ed 1986).