

Open Market Repurchases: Signaling or Managerial Opportunism?

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Managers conduct open market repurchases ("OMRs") for many different reasons, including to distribute excess cash. However, the most widely discussed explanation for OMRs is the "signaling theory": that managers announce OMRs to signal that the stock is underpriced. The first purpose of this paper is to show that the signaling theory is theoretically problematic—in part because it assumes managers deliberately sacrifice their own wealth to increase that of shareholders—as well as inconsistent with much of the empirical evidence. The second purpose of the paper is to put forward an alternative explanation for managers' use of OMRs: the managerial-opportunism theory. This theory, which assumes that managers seek to maximize their own wealth, predicts that managers announce OMRs both when the stock is underpriced and when it is not. When the stock is underpriced, managers may announce and conduct an OMR to transfer value to themselves and other remaining shareholders. When managers wish to sell a large portion of their shares, they announce an OMR to boost the stock price before selling their shares. The paper shows that managerial opportunism is not only a more plausible motive for OMRs than is signaling, it is also more consistent with

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the empirical data. The paper concludes by describing some testable predictions of the theory.

INTRODUCTION

Since the early 1980s, the use of share buybacks by U.S. firms has grown considerably. Between 1980 and 1998, share repurchases rose from \$1.4 billion to \$220 billion annually, accounting for more than 50% of the cash distributed by publicly traded U.S. firms in 1998.¹ More recently, as other countries have begun removing tax and regulatory impediments to share repurchases, there has also been a dramatic increase in the use of buybacks outside the U.S.²

The overwhelming majority (90%-95%) of stock repurchases take the form of an open market repurchase ("OMR"), in which a corporation buys back stock in the open market, usually through a broker, over a period ranging from several months to several years.³ The average percentage of shares sought is approximately 7%.⁴

In the U.S., stock exchanges require firms to announce the establishment

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- 1 See Gustavo Grullon & David L. Ikenberry, *What Do We Know About Stock Repurchases?*, 13 J. Applied Corp. Fin. 31, 33 (2000); Scott Weisbenner, *Corporate Share Repurchases in the 1990's: What Role Do Stock Options Play?* 1 (Fed. Reserve Sys., Fin. & Econ. Discussion Series Paper No. 2000-29, Apr. 2000).
 - 2 See, e.g., Peter Goldstein, *European Concerns Start to Warm Up to Share Buybacks: Firms Seek Outlets for Cash As Earnings Improve, Interests Rates Decline*, Wall St. J. Eur., June 23, 1998, at 17 (noting that announced European buyback plans increased to \$42.7 billion in 1997 from \$14.2 billion in 1996, in response to current and anticipated liberalizing of share repurchase laws).
 - 3 See Grullon & Ikenberry, *supra* note 1, at 33-34. Most of the remaining repurchases take the form of a repurchase tender offer ("RTO"), in which the corporation makes a time-limited offer to purchase a specified number of shares, usually at a premium over the market price. For an examination of managerial behavior around RTOs and a proposal for regulating these transactions to prevent managers from using them to engage in insider trading, see Jesse M. Fried, *Insider Signaling and Insider Trading with Repurchase Tender Offers*, 67 U. Chi. L. Rev. 421 (2000).
 - 4 See David Ikenberry et al., *Market Underreaction to Open Market Share Repurchases*, 39 J. Fin. Econ. 181, 185 (1995) (reporting that the average percentage of outstanding shares sought in all of the OMRs announced between January 1980 and December 1990 by firms listed on the American Stock Exchange, New York Stock Exchange, and NASDAQ was 6.6%).

of open market buyback programs.⁵ Such announcements are usually greeted favorably by the market, and they are associated with short-term "abnormal" (i.e., market-adjusted) share price increases averaging 3%-4%.⁶ Additional abnormal price increases averaging 12% occur over the forty-eight months following the announcement.⁷

Researchers have offered a number of explanations for why managers⁸ conduct OMRs. For example, managers may use OMRs as a tax-efficient alternative to dividends⁹ for distributing "excess" (or "free") cash¹⁰ and for increasing leverage.¹¹ Because OMRs also reduce the number of outstanding shares, managers may use them to defend against hostile takeovers,¹² to reduce

5 See Matthew J. Gardella, *Stock Buybacks: Legal Issues Under the Federal Securities Laws and Other Practical Considerations*, 13 *Insights* 2 (1999).

6 See Ikenberry et al., *supra* note 4, at 190 (reporting that the average market reaction to OMR announcements in all of the OMRs announced between January 1980 and December 1990 by firms listed on the American Stock Exchange, New York Stock Exchange, and NASDAQ was 3.54%).

7 See *id.* at 184.

8 I use the term "managers" to refer to both the firm's executives and the controlling shareholder, if any, that appoints them.

9 When a firm issues a dividend, tax-paying shareholders generally pay taxes on the full amount of the dividend. When the firm conducts a repurchase, non-selling shareholders have no taxable income; those who sell shares are taxed only to the extent the sale price exceeds their basis in the shares; and any profit is treated as capital gains income, which tends to be taxed at a lower rate than dividend income. See Amy K. Dittmar, *Why Do Firms Repurchase Stock?*, 73 *J. Bus.* 331, 334 (2000). For evidence that the decision to repurchase shares rather than issue dividends is partially tax-driven, see Indudeep S. Chhachhi & 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).

10 See, e.g., Dittmar, *supra* note 9, at 333-35.

11 See, e.g., *id.* at 335. Cf. Armen Hovakimian, *The Role of Target Leverage in Security Issues and Repurchases* (Working Paper, 2001) (concluding that firms do not conduct equity repurchases to change their leverage).

12 By reducing the number of shares, an OMR can increase managers' proportional ownership. Thus, managers can use an OMR to make it more difficult for the hostile bidder to acquire a majority of the shares. For a description of the various ways in which either an OMR or an RTO can reduce the likelihood of a successful hostile takeover bid, see Fried, *supra* note 3, at 436.

the dilutive effect of stock and option compensation plans,¹³ and to preserve the value of their stock options.¹⁴

However, the most widely discussed explanation¹⁵ for managers' use of OMRs is the "signaling theory": that managers announce OMRs for the purpose of credibly communicating that firm value exceeds the stock price.¹⁶ The signaling theory is based on the OMR's inter-shareholder distributional effects. An OMR, like any share repurchase, is distributionally equivalent to a transaction in which selling shareholders sell their shares at the repurchase price directly to remaining shareholders (instead of to the firm itself).¹⁷ Thus,

13 See J. Nellie Liang & Stephen A. Sharpe, Share Repurchases and Employee Stock Options and their Implications for S&P 500 Share Retirements and Expected Returns (Fed. Reserve Sys., Fin. & Econ. Discussion Series Paper No. 1999-59, Nov. 1999); Weisbenner, *supra* note 1, at 5-6.

14 Cash dividends reduce the per-share value of the firm, lowering the stock price. The value of stock options depends, in large part, 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 can sell the purchased stock). Thus, unless the options' exercise price is lowered to take dividends into account (that is, the options are "dividend-protected"), 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 that the outflow of value is matched by a corresponding reduction in the number of outstanding shares. See George W. Fenn & Nellie Liang, Corporate Payout Policy and Managerial Stock Incentives (Fed. Reserve Sys., Fin. & Econ. Discussion Series Paper No. 1999-23, Mar. 2000); Christine Jolls, Stock Repurchases and Incentive Compensation (NBER Working Paper No. 6467, 1998).

15 See Grullon & Ikenberry, *supra* note 1, at 35 (describing the signaling theory as the most widely discussed explanation for managers' use of OMRs).

16 See Francis H. Buckley, *When the Medium Is the Message: Corporate Buybacks as Signals*, 65 Ind. L.J. 493, 516 (1990); Robert Comment & 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, 1245 (1991); William J. McNally, *Open Market Stock Repurchase Signaling*, 28 Fin. Mgmt. 55, 57-58 (1999).

As will be explained, OMR announcements may reveal that firm value exceeds the stock price, even though managers' purpose in conducting an OMR is not to signal underpricing. In other words, the *effect* of the OMR announcement may be to reveal underpricing, even when the *purpose* is not. However, I use the term "signaling" to refer to explanations of OMRs in which the *purpose* of announcing an OMR is to communicate to the market managers' belief that firm value exceeds the stock price.

17 As I explain elsewhere, a share repurchase is equivalent to a three-step transaction in which: (1) selling shareholders sell the repurchased shares directly to remaining shareholders at the repurchase price; (2) the firm issues a dividend to remaining shareholders equal to the amount spent repurchasing the shares; and (3) the firm effects a reverse stock split. Jesse M. Fried, *The Uneasy Case for Share Repurchases* (Working Paper, 2001) (on file with author).

according to the signaling theory, managers who commit (a) to have the firm buy shares through an OMR *and* (b) not to sell their own shares, in effect commit to buying their pro-rata fraction of the repurchased shares at the repurchase price. If the stock were in fact overpriced, the OMR would impose a cost on these managers as well as on other remaining shareholders. Managers, by conducting an OMR in this manner, can therefore credibly signal that the stock is underpriced.¹⁸ The signaling theory is consistent with the fact that stock prices rise in reaction to OMR announcements.¹⁹

The first purpose of this paper is to critically examine the signaling explanation for OMRs. As the paper will show, signaling is both theoretically problematic and inconsistent with much of the empirical data. There are two conceptual problems with the signaling story. First, managers do not need to commit to retain their shares *and* conduct an OMR to signal underpricing; to signal underpricing, managers need only commit to retain their shares until the uncertainty over the value of the shares is resolved. Second, the OMR-signaling theory cannot explain why managers would ever signal in this manner. In fact, OMR-signaling is generally inconsistent with managers' self-interest. It imposes flexibility costs on managers by forcing them to hold their shares for an indefinite period of time. In addition, signaling prevents managers from fully exploiting their private information that the stock is underpriced. Specifically, signaling prevents managers from buying the stock for themselves and other remaining shareholders at the lowest possible price.²⁰

The signaling theory also is inconsistent with much of the empirical evidence. When announcing OMRs, managers do not in fact commit to repurchase any shares, and in a substantial number of cases, they do not repurchase a single share.²¹ Furthermore, managers never commit to retain their own shares, and in a significant number of OMRs, managers sell a larger fraction of their own shares than the fraction of outstanding shares repurchased by the firm, thereby reducing their proportional ownership of the firm.²²

18 See *infra* Part I.B.1.

19 See *supra* note 6.

20 See *infra* Part I.B.1.

21 See *infra* Part I.B.1.

22 See *infra* Part II.B.2. In a recent working paper, Utpal Bhattacharya & Amy Dittmar, *Costless Versus Costly Signaling in Capital Markets: Theory and Evidence* (Working Paper, Nov. 2000), available at SSRN Electronic Paper Collection, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=250049, the authors offer a different OMR-signaling theory, which avoids some of the problems with the "classic" and widely discussed signaling theory on which this paper focuses. In their model, firms that are slightly underpriced engage in "costly" signaling by

The second purpose of this paper is to put forward an alternative explanation for OMRs: the managerial-opportunism theory. While the signaling theory and other explanations for the use of OMRs begin with the assumption that managers conduct OMRs for the benefit of public shareholders, the managerial-opportunism theory starts from a very different, and arguably more realistic, assumption: that managers, in using OMRs, seek to maximize their own wealth, even at the expense of public shareholders.²³

The managerial-opportunism theory predicts managers use OMRs in two situations. First, when the stock is underpriced, managers might use an OMR to buy shares for themselves and other remaining shareholders at a low price. Under the signaling theory, managers also announce and conduct an OMR when the stock is underpriced. However, there is an important difference: The signaling theory predicts that managers attempt to credibly communicate that the stock is underpriced. The managerial-opportunism theory predicts that managers try not to reveal that the stock is underpriced, in order to minimize the repurchase price and maximize the transfer of value from selling shareholders.

The second situation in which managers might announce an OMR is when they intend to sell shares. As noted earlier, OMR announcements tend to boost stock prices.²⁴ Thus managers wishing to sell shares—for liquidity or diversification reasons or because they know the stock is overpriced—might announce an OMR in order to boost the stock price prior to selling their shares.

Note that when managers seek to use an OMR to buy stock at a low price, they cannot benefit unless the firm actually repurchases shares. However, when managers seek to sell shares at a higher price, they can benefit simply by announcing an OMR. If the stock is underpriced, managers who continue to own shares can reap an additional benefit by having the firm repurchase

announcing and conducting OMRs that, by depriving the firm of cash better used for investment, destroy firm value; firms that are highly underpriced engage in "costless" signaling by announcing and not conducting an OMR. Their model is thus consistent with managers not committing to repurchase shares and firms not always repurchasing shares. Although a complete analysis of the "costless" signaling model is beyond the scope of this paper, it is worth noting that the predictions of the model appear to be inconsistent with studies showing that the shares of firms that actually repurchase shares outperform the shares of firms that announce OMRs but do not repurchase any stock. *See, e.g.,* Konan Chan et al., *Do Firms Knowingly Repurchase Stock for Good Reason?* 25 (Working Paper, Aug. 2000).

23 There is considerable evidence that managers seek to maximize their own wealth, even when it is at the expense of public shareholders. For example, managers trade on inside information (*see infra* Part II.A.1.a.).

24 *See supra* note 6.

stock. If, in contrast, the stock is overpriced, it will be in these managers' interest not to have the firm repurchase any shares.

The managerial-opportunism theory is not only grounded in a more realistic assumption about managerial behavior, it is also more consistent with the empirical data than is the signaling theory. As we will see, the theory explains why managers announcing OMRs: (1) do not commit to repurchase shares; (2) often do not repurchase shares; (3) do not commit to retain their own shares; and (4) frequently sell their own shares.²⁵

The managerial-opportunism theory does not suggest that value-transfer is the sole purpose of all, or even most, OMRs. As noted earlier, there are a number of reasons why managers might undertake OMRs—such as to distribute excess cash or to increase leverage in a more tax-efficient manner than a dividend. Thus, there may well be many OMRs that are not motivated by managerial opportunism.²⁶ In addition, OMRs that are motivated by managerial opportunism may also be partially motivated by one of these other purposes. Finally, even those OMRs whose sole purpose is to transfer value from shareholders to managers will inevitably have economic "side" effects, such as moving capital from firm projects to investments outside

25 Of the theories that have been developed to explain the use of OMRs, the managerial-opportunism theory is closest in spirit to the option theory put forward in David Ikenberry & Theo Vermaelen, *The Option to Repurchase Stock*, 25 *Fin. Mgmt.* 9 (1996). Ikenberry and Vermaelen present a model in which an OMR announcement, by giving the firm the right to buy back shares at a low price from (asymmetrically-informed) liquidity sellers and noise traders, creates an "option" that is valuable to long-term shareholders. The option can only be exercised if at some point in the future, the stock becomes underpriced. The theory predicts that upon the announcement of an OMR, the stock price will increase to reflect the creation of this valuable option.

Like the managerial-opportunism theory, the option theory suggests that managers use OMRs to repurchase shares for themselves and other remaining shareholders at a low price. And the option theory also can explain why managers do not commit to repurchase shares, why managers do not commit to retain their shares, and why firms announcing OMRs often do not repurchase shares.

However, the theories differ in important respects. Unlike the managerial-opportunism theory, the option theory does not predict that managers also use OMRs to sell shares and, therefore, does not predict that managerial percentage ownership often decreases following an OMR announcement. Nor does the option theory predict that managers sometimes announce OMRs when the shares are overpriced.

26 See, e.g., Gustavo Grullon & Roni Michaely, *The Information Content of Share Repurchase Programs* 20 (Working Paper, 2000) (concluding that many OMRs are motivated by the need to distribute cash).

the firm. In short, there are unlikely to be many OMRs whose sole purpose and sole effect are to transfer value from shareholders to managers in the manner described by the managerial-opportunism theory.

The remainder of the paper is organized as follows. Part I describes and critically examines the signaling theory. Part II presents and sketches out the basic elements of the managerial-opportunism theory, shows that it is more consistent with the empirical evidence than the signaling theory, and briefly describes some testable predictions of the theory.²⁷

I. THE SIGNALING THEORY AND ITS LIMITATIONS

The purpose of this Part is to examine the signaling theory, the most widely discussed explanation for OMRs. Section A describes the signaling theory, and Section B explains why it is both conceptually problematic and inconsistent with the empirical data.

A. The Signaling Theory

Much information pertaining to a firm's value is made publicly available by the firm through announcements, press conferences, and filings with regulatory agencies. Nevertheless, it is well understood that managers still have important private information that bears on firm value by virtue of their positions within their firms.²⁸

This private information may sometimes indicate that firm value is higher than that reflected in the stock price. For example, managers may have information indicating that long-run profits will be higher than expected by the market. Or they may know that future cash flows will be less volatile and therefore that the systematic risk of the stock will decline.²⁹ To the extent that managers seek to maximize shareholder wealth, they will wish to communicate the good news to the market to boost the stock price.

27 For a discussion of the normative and policy implications of the managerial-opportunism theory, see Fried, *supra* note 17.

28 See Buckley, *supra* note 16, at 528, 536 (explaining that managers have better information than public shareholders); Jesse M. Fried, *Reducing the Profitability of Corporate Insider Trading through Pretrading Disclosure*, 71 S. Cal. L. Rev. 303, 317-29 (1998) (describing evidence that managers have inside information not reflected in the stock price).

29 Cf. Grullon & Michaely, *supra* note 26 (reporting that OMR announcements convey information about, among other things, declining firm-specific risk (beta)).

To transmit the news, the managers could disclose it directly. However, explicit disclosure might be harmful to the firm for competitive reasons or might be prohibited by a confidentiality agreement.³⁰ In other cases, it might be too difficult to communicate all of the facts on which the managers' conclusions are based.³¹ Thus, direct disclosure of good news is not always possible.

When direct disclosure is not feasible, the managers could instead simply announce that the stock is underpriced. Under the signaling theory, however, a signal of underpricing is not credible unless it imposes substantial costs on managers when the stock is not actually underpriced.³² And according to signaling theorists, there is no cost to a manager who falsely announces that the stock is underpriced.³³ An announcement that the stock is underpriced would therefore not be credible. Consequently, such an announcement would be ignored or at least highly discounted.

The signaling theory suggests that OMRs can be used to credibly signal that the stock is worth more than the repurchase price. As briefly noted in the Introduction, any share repurchase, including an OMR, is distributionally equivalent to a transaction in which remaining shareholders collectively buy the repurchased stock directly from the selling shareholders at the repurchase price. Thus, managers who commit to (1) repurchase shares and (2) not sell their own shares effectively commit to buy their pro-rata share of the repurchased shares at the repurchase price. If firm value is in fact *less* than the repurchase price, the OMR makes managers worse off by causing them to overpay for the shares.³⁴ Thus, the signaling theory goes, by committing to repurchase shares and to not sell their own shares, managers send a credible signal that firm value exceeds the repurchase price. The cost to managers of false signaling increases with the size of the repurchase and insiders' proportional interest in the firm. Thus, the larger the repurchase amount and the higher the percentage of managerial ownership, the more credible the signal.³⁵

30 See Buckley, *supra* note 16, at 536-37.

31 *Id.*

32 *See id.*

33 *See, e.g., id.* at 527.

34 *Cf.* Comment & Jarrell, *supra* note 16, at 1245 (asserting that RTOs in which the premium significantly exceeds the actual value of the stock are costly to nontendering managers). An OMR, by distributing cash, also increases the riskiness of the firm, imposing an additional risk-bearing cost on managers. *See* McNally, *supra* note 16, at 56.

35 McNally, *supra* note 16.

Note that for the signaling to impose a cost on false signalers and thereby be credible, managers must pledge to retain their shares until the uncertainty over the value of the shares is resolved. For example, suppose that in January the market knows that the actual value of ABC Corporation's stock is equally likely to be either \$5 or \$15 per share and that by June the public will learn its actual value. Suppose that in January, when the stock is trading at \$10 (its expected value), managers learn that the actual value is \$15. The managers commit to conduct an OMR and pledge to retain their shares until June, when the market will know the stock's value. If the stock were in fact worth \$5 per share, managers (through the OMR) would be paying the post-announcement price (tentatively denoted as \$X) for shares that they could sell for only \$5 in June. This would impose a cost on managers of $$(X-5)$ per share. Thus, the OMR credibly signals that the stock is actually worth \$15, and the post-announcement price, \$X, will be \$15.

Now suppose that in the same situation managers conduct an OMR and pledge to retain their shares only until April, two months before the market will learn the actual value of the shares. In that case, if the stock were in fact worth \$5 per share, managers (through the OMR) would be paying the post-announcement price (tentatively denoted as \$Y) for shares that they could sell for the same price (\$Y) in April. Thus, if the stock were in fact worth \$5 per share and managers could sell the shares in April before the market learns the actual value of the shares, there would be no cost imposed on managers conducting an OMR and pledging to retain their shares until April. Because there would be no cost to false signaling, the OMR announcement would not credibly signal any information about the value of the stock and the post-announcement price, \$Y, would be the same as the pre-announcement price, \$10.

The signaling theory is in fact consistent with some of the empirical evidence. Most importantly, it predicts that OMR announcements will tend to boost stock prices—which they in fact do.³⁶ In addition, among firms announcing OMRs, there are negative abnormal returns in the period preceding the announcement, which suggests that the stock of many of the firms conducting repurchases had become underpriced prior to the repurchase announcement.³⁷

36 See *supra* note 6. The fact that there are subsequent abnormal price increases suggests, however, that the market under-reacts to the information communicated by the repurchase announcement. See Ikenberry et al., *supra* note 4, at 183-84.

37 See Comment & Jarrell, *supra* note 16, at 1262.

B. The Limitations of the Signaling Theory

Although the signaling theory has some logic to it and predicts some of the empirical facts associated with OMRs, it is neither conceptually coherent nor consistent with much of the empirical data. Each of these problems is explored in turn.

1. Conceptual Problems with the OMR Signaling Theory

As this subsection explains, there are at least two theoretical problems with the OMR signaling theory. First, to credibly signal that the stock is underpriced, managers need not (1) pledge to conduct an OMR and (2) pledge to retain their shares. As will be explained, they need only pledge to retain their shares. The OMR is likely to be unnecessary. Second, and more important, signaling will usually make managers worse off. In particular, signaling reduces managers' financial flexibility and limits the profits they can reap from their private information. The subsection concludes by considering a potential benefit to managers of signaling underpricing with an OMR. One might think that by boosting the stock price, OMR-signaling could make managers better off by enabling them to sell their shares at a higher price. As we will see, however, managers cannot benefit by using OMR-signaling to boost the price at which they sell their shares.

a. Credible signaling does not require an OMR. The first conceptual problem with OMR-signaling is that credible signaling is unlikely to require the use of an OMR. It likely requires only that managers pledge to retain their existing shares until their private information emerges.

Returning to the preceding example, suppose that in January the market knows that the value of ABC Corporation's stock is either \$5 or \$15 per share and that by June the market will know the correct value. Suppose that in January, when the stock is trading at \$10, managers learn that the actual value is \$15. The managers could then pledge to retain their shares until June. If the stock were in fact worth \$5 per share, the pledge to retain their shares would deprive managers of the ability to sell the stock for \$10 per share before the bad news emerges in June and it becomes clear that the stock is worth only \$5 per share. Thus, if the stock were worth \$5 per share, the pledge to retain their shares would impose a cost on the managers of \$5 per share. If, on the other hand, the stock were worth \$15 per share, this pledge would not impose a cost on the managers. Thus, the pledge to retain shares credibly signals that the stock is actually worth \$15, and after such pledge is made, the price should rise to \$15. In short, there is no need to

incur the administrative expense of an OMR³⁸ (and perhaps distribute cash that is better invested in the firm) to send a credible signal that the stock is underpriced.

To be sure, one could argue that if managers also were to pledge to conduct an OMR, they would send a "stronger" signal that the stock is worth \$15. The signal would be even stronger because the cost of false signaling would be higher. To see why this is the case, suppose that managers were both to retain their own shares until June and to indirectly purchase shares through an OMR at the post-announcement price (which is, say, \$15). And suppose that the stock were worth only \$5 per share. In that case, managers would not only give up the ability to sell their current shares for \$10 (\$5 more than they are worth), they would also (indirectly) purchase additional shares at an inflated price. However, OMRs target on average only 7% of a firm's shares.³⁹ An OMR therefore increases the cost to managers of false signaling by a relatively small amount. It is highly unlikely that this additional cost would make the difference between credible and non-credible signaling.

b. Signaling is inconsistent with managers' self-interest. A second problem with the signaling theory is that it fails to explain managers' incentive to engage in OMR-signaling. Signaling usually requires managers to act contrary to their self-interest. To begin with, the commitment to retain shares required by signaling imposes a liquidity constraint on managers. Managers' stock in their own firms may well constitute a large fraction of the managers' assets. From time to time, managers might have liquidity needs that can be met only by selling large amounts of these shares. Thus, the commitment to retain shares that is required by the theory for credible signaling⁴⁰ could impose a liquidity cost.

In addition, signaling hurts managers by reducing their ability to profit from their private information when they know that the stock is underpriced. By not signaling, managers can keep the stock price temporarily low. The low stock price enables managers to profit by buying shares for themselves, either directly or indirectly through an OMR, at a price below their actual value. If the managers were to use an OMR to signal that the stock is underpriced, the market would bid up the stock price. This, in turn, would make it more difficult for managers to buy shares for themselves at a low price. To be sure, managers signaling underpricing with an OMR could still

38 The firm must incur certain expenses before announcing an OMR. See *infra* Part II.A.2.

39 See *supra* note 4.

40 As will be explained shortly, managers can credibly signal without pledging to retain all of their shares. However, they must pledge to retain most of their shares.

profit to the extent the market fails to bid the stock price up to its actual value. However, the managers would be better off not signaling underpricing and buying the shares at an even lower price.

For example, suppose again that everyone knows the value of ABC Corporation's shares is equally likely to be \$5 per share or \$15 per share. The stock trades at \$10 per share. Managers subsequently learn that the actual value of the stock is \$15. The signaling theory suggests that ABC's managers would commit to repurchase (for example) 10% of outstanding shares and pledge not to sell their shares until the good news emerges and ABC's actual value is revealed. That OMR announcement, coupled with the pledge, would credibly signal that the stock is worth \$15. The market would respond by immediately bidding the stock price up to \$15. ABC would then repurchase 10% of its shares in the market at \$15 per share, their actual value. Because the OMR is distributionally equivalent to a transaction in which managers purchase shares directly from selling shareholders for \$15 per share—their actual value—managers do not profit from the OMR.

Now consider an alternative use of the same information. After managers learn that the stock is worth \$15, they enter the market (where, recall, the stock is trading for \$10) and anonymously buy as much stock as they can for their own accounts.⁴¹ The managers then conduct an OMR to indirectly buy more stock at a low price. When announcing the OMR,⁴² however, the managers commit neither to buy shares nor to retain their own shares. Because there would be no cost to managers to make the same announcement if the stock were worth \$5, the OMR announcement is not a credible signal that the stock is worth \$15. In the absence of such a signal, investors do not bid the price up to \$15. Suppose, instead, that investors cannot draw any inference from the announcement and therefore the price remains at \$10. ABC then repurchases shares for \$10 per share, \$5 less than their actual value, transferring value from selling shareholders to managers and other remaining shareholders. When the good news later emerges and the stock price increases to \$15, managers can sell their shares for \$15 each. Thus by not credibly signaling underpricing, managers can profit by (1) buying shares in the market at a low price and (2) then using an OMR to indirectly buy additional shares for themselves at a low price. As we will see in Part II, this is precisely what the managerial-opportunism theory suggests managers do.

41 As will be explained, however, managers might not always be able to purchase stock for their own accounts. *See infra* Part II.A.1.

42 Recall that managers must announce an OMR in advance. *See Gardella, supra* note 5, at 2.

Of course, this is a highly simplified example. In the real world, a commitment by ABC's managers to repurchase shares and retain their own might not necessarily cause the stock to rise exactly to its "correct value." And to the extent that the stock continues to be underpriced, managers could still personally benefit even while using the OMR to signal. However, the example should make clear that managers seeking to benefit themselves are better off *not* credibly signaling that the stock is underpriced, because not doing so enables them to buy underpriced shares at an even lower price.

c. Signaling as a means of selling shares at a higher price. We have just seen that OMR-signaling hurts managers by constraining their financial flexibility and reducing their ability to buy shares at a low price. Let us now consider the possibility that OMR-signaling can benefit managers by boosting the stock price, thereby enabling managers to sell their shares at a higher price than would otherwise be possible. As the analysis below will make clear, OMR-signaling cannot benefit managers in this manner.

Consider the previous example. For OMR-signaling of the fact that the stock is worth \$15 to be credible, the OMR must impose a cost on managers if, in fact, the stock is worth only \$5. And, as we saw in Part I.A., the OMR would not impose such a cost unless managers were to continue to hold their shares until the uncertainty over the actual value of the shares is resolved. Thus, for the OMR to credibly signal the existence of good news, the managers must pledge to retain their shares until the good news itself emerges. Because managers must retain their shares until the good news is revealed, they cannot use OMR-signaling to sell their shares at a higher price beforehand. Whether or not they engage in OMR-signaling, managers must wait until the good news itself emerges before they can sell their shares at a higher price.

To be sure, for OMR-signaling to be credible under the theory, managers need not commit to retain *all* of their shares. Rather, they need only commit to retain enough shares so that if the stock is overpriced, the OMR is costly for them. The remainder of the shares can be sold at the higher, post-announcement price. In other words, the managers need only be *net* buyers at the repurchase price.

But if managers must be net buyers at the repurchase price for the signal to be credible, they are better off *not* credibly signaling that the stock is underpriced, selling shares in the market at a lower price, and indirectly buying a greater number of shares through an OMR. That is, the managers are better off being net buyers at a lower price than at the higher, signaling-induced price.

Suppose, for example, that ABC has 100 shares outstanding. Managers

own 21 shares and wish to sell 1. Again, the stock is trading at \$10 and managers know the stock is worth \$15.

Consider the case in which managers announce an OMR for 10 shares and, forced to sell 1 share to raise cash, commit to purchasing 10 shares and retaining 20 of their 21 shares. The announcement sends a credible signal that the stock is worth \$15, which boosts the stock price to \$15. The signal is credible because managers are net buyers of the stock. Thus, if actual per share value turns out to be \$5, the managers lose money. Specifically, while managers sell 1 share in the market for \$15, as remaining shareholders owning 20/90 of post-OMR ABC, they in effect buy 22% of the 10 repurchased shares (2.2 shares) for \$15 each and thus are net buyers of 1.2 shares for \$15 each. If the shares are worth only \$5 each, they lose a total of \$12. Thus, were managers to commit to repurchase 10% of the firm's shares and to retain 20 of their 21 shares until their private information emerges, they could credibly signal that the stock is worth \$15 and sell 1 share at that price.⁴³ Because the managers sell and indirectly buy shares at the correct price, they are made neither richer nor poorer by the two transactions.

But because these managers are *net buyers*, they would be even better off *not* signaling that the stock is underpriced and purchasing and selling the stock at a lower price. Suppose that managers announce an OMR, but do not commit to repurchase any shares or retain their own, and the stock price remains at \$10. The actual value is in fact \$15. Managers sell a single share in the market for \$10.⁴⁴ ABC repurchases 10 shares for \$10 per share. As remaining shareholders owning 20/90 of post-OMR ABC, managers in effect buy 22% of the 10 repurchased shares (2.2 shares) for \$10 each. Managers are thus net buyers of 1.2 shares for \$10 each. If the shares are worth \$15 each, they make \$6 in profit, \$6 more than had they signaled that the stock is actually worth \$15.

2. Empirical Problems with the Signaling Theory

Having seen that the signaling theory is inconsistent with managers acting in their self-interest, we now turn to the empirical evidence. As we will see, the signaling theory is similarly inconsistent with the empirical evidence.

To begin with, the signaling theory requires firms announcing OMRs to

43 It is easy to see, however, that if managers were to commit to retain (for example) only 18 of their 21 shares, the managers would be net sellers and the announcement would not send a credible signal that the stock is worth \$15.

44 Assume, for ease of exposition, that \$10 satisfy the managers' liquidity needs.

commit to repurchase a certain number of shares. However, when making OMR announcements, managers never commit to purchase a minimum number of shares.⁴⁵ Although an OMR announcement might specify a target number of shares, the announcing firm makes clear that the actual number of shares repurchased will depend on market conditions and on managers' discretion.⁴⁶

To be sure, there might be a good reason for not explicitly committing to repurchase a specific number of shares. Were the stock price to shoot up unexpectedly after the OMR announcement, the firm might find itself obligated to buy back shares for more than they are worth. However, if managers wish to use an OMR for credible signaling, they could attempt to solve this problem. For example, managers could make the repurchase commitment conditional on the stock remaining below a certain target price. Managers' failure to try to use OMR announcements to make more binding commitments to repurchase stock suggests either that managers have no interest in using OMRs for credible signaling or that OMRs are inherently unsuited for this purpose.

One might believe that managers who announce an OMR and do not repurchase any shares suffer some form of reputational cost (unless the failure to repurchase can be explained by, for example, a sharp increase in the price immediately after the announcement). If so, an OMR announcement might represent an implicit commitment by managers to repurchase shares unless circumstances make such a repurchase undesirable. However, 25% of firms announcing OMRs *do not repurchase a single share*.⁴⁷ It is highly unlikely that in most of these cases, a sudden change in conditions immediately after the OMR announcement thwarted managers' intention to repurchase shares. Thus, as other researchers have also concluded, OMR announcements cannot be considered credible commitments to repurchase shares.⁴⁸

Not only do managers announcing OMRs fail to commit to repurchase shares, they also fail to commit to retain their own shares. Consequently, even if there were an explicit or implicit commitment by the firm to repurchase shares, the OMR announcement would not be a credible signal of underpricing. Indeed, managers often sell shares in the market around an OMR. Managerial share ownership (as a fraction of outstanding shares) actually declines around as many OMRs as it increases—an important fact

45 See Ikenberry & Vermaelen, *supra* note 25, at 10.

46 See *id.*; Clifford P. Stephens & Michael S. Weisbach, *Actual Share Repurchases in Open-market Repurchase Programs*, 53 J. Fin. 313 (1998).

47 See Bhattacharya & Dittmar, *supra* note 22, at 4.

48 See Ikenberry & Vermaelen, *supra* note 25, at 9-10.

that appears to have been overlooked not only by signaling theorists but also by other researchers as well. In fact, at least one study reports that both mean and median insider ownership (as a percentage of outstanding shares) drop around the time of OMRs.⁴⁹ This decline in insider ownership means that in at least 50% of OMRs, managers sell more shares in the market than they indirectly buy through the OMR.

II. TOWARD AN ALTERNATIVE EXPLANATION FOR OPEN MARKET REPURCHASES: THE MANAGERIAL-OPPORTUNISM THEORY

This Part sketches out an alternative explanation for the use of OMRs—the "managerial-opportunism" theory—that is both more plausible and more consistent with the empirical data than signaling: that managers use OMRs not for the benefit of shareholders, but, rather, to maximize their own wealth, even at the expense of public shareholders. Section A puts forward the managerial-opportunism theory. Section B shows how the theory is more consistent with the data than is signaling and describes some of the theory's testable predictions.

A. The Managerial-Opportunism Theory

The managerial-opportunism explanation starts from a different premise than the signaling theory: that managers act not to maximize shareholder wealth, but instead to maximize their own. This Section first shows how managers can use OMRs to increase the value of their shares when they know that firm value exceeds the stock price. It then explains that managers intending to sell shares may use OMRs to boost the stock price before selling their shares. Finally, the Section puts forward several possible explanations consistent with the managerial-opportunism theory for why OMR announcements boost stock prices.

1. Using OMRs to Buy Stock at a Low Price

Consider the situation in which managers know that firm value exceeds the stock price. As explained in Part I.A., an OMR is distributionally equivalent

⁴⁹ See Nikos Vafeas, *Determinants of the Choice between Alternative Share Repurchase Methods*, 12 J. Acct. Auditing & Fin. 101, 112-13 (1997) (finding that following 156 OMRs from 1985 to 1991, mean and median insider percentage ownership dropped from 15.7% to 15% and 8.7% to 7.7%, respectively).

to a transaction in which the remaining shareholders buy shares directly from selling shareholders at the repurchase price. Thus when managers' private information indicates that firm value exceeds the stock price, managers can, by conducting an OMR and retaining their shares, indirectly "buy" the shares of selling shareholders at a low price.⁵⁰ Managers capture their pro-rata share of the value transferred to remaining shareholders. The value transferred to managers from selling shareholders is thus increasing in the number of shares repurchased and managers' post-OMR percentage ownership.⁵¹

Under the signaling theory, managers also retain their shares and conduct an OMR when the stock is underpriced. Thus, the signaling and managerial-opportunism theories might seem difficult to distinguish, at least when the stock is underpriced. There is, however, an important difference. Under the signaling theory, managers, seeking to maximize shareholder value, attempt to boost the stock price by credibly communicating that the stock is underpriced. The managers credibly signal that the stock is underpriced by committing both to conduct an OMR and to hold on to their own shares. Under the managerial-opportunism theory, managers, seeking to maximize their own wealth, attempt to conceal the fact that the stock is underpriced so that they can buy shares indirectly through the OMR at the lowest possible price. Consequently, the managers commit neither to repurchase shares nor to retain their own.

Below, I explain (a) why, despite restrictions on insider trading, managers sometimes can indirectly trade on their private information through OMRs and (b) why managers purchase shares at a low price indirectly through OMRs rather than, or in addition to, purchasing shares in their personal accounts at an even lower price.

50 As will be explained shortly, a proposal to conduct an OMR must be brought to the board, discussed, and approved before the firm announces the OMR. It is thus possible that after managers decide to conduct a repurchase because the stock is underpriced, but before the firm announces the OMR, the good news might emerge or the stock price might increase for other reasons, reducing or even eliminating the underpricing. During this time period, the firm's circumstances also could change in such a way as to make it more worthwhile for managers to invest or spend the cash rather than use the cash to repurchase shares. In such a case, the firm might not repurchase any shares after the OMR announcement. However, one would expect that most managers intending to conduct OMRs to buy stock at a low price actually do so.

51 Among firms conducting OMRs, managers' percentage ownership before the OMR is 15%-20%. McNally, *supra* note 16, at 59; Vafeas, *supra* note 49, at 112-13. These figures suggest that managers can capture a substantial fraction of the value transferred from selling shareholders to remaining shareholders.

a. Managers' ability to engage in indirect insider trading with OMRs. As is well known, there are legal restrictions that apply to managers and firms trading on inside information. The most important is Rule 10b-5, which was promulgated by the SEC under section 10 of the Securities Exchange Act of 1934.⁵² Rule 10b-5 requires that any insider (including the corporation itself) with a fiduciary duty to those with whom the insider would trade refrain from trading if in possession of "material" inside information.⁵³ Rule 10b-5 thus appears, on its face, to prevent managers from repurchasing shares when they know the stock is underpriced.

However, as I have shown elsewhere,⁵⁴ there are likely to be many cases in which Rule 10b-5 cannot prevent or deter insiders from trading profitably on inside information. First, Rule 10b-5 might not be able to deter all illegal insider trading. Because the SEC is severely understaffed and substantial resources are needed to convict an insider for violating Rule 10b-5, the SEC focuses on the cases that are easiest to prove—those in which the insider engages in an unusually large trade only days before the release of information that substantially affects the stock price.⁵⁵ Thus, in many situations, the likelihood of detection and punishment of illegal trading is low, making it unlikely that managers will be deterred from unlawful trading, either directly or through the firm.

Second, Rule 10b-5 does not prohibit insiders from trading on "sub-material" inside information that is important but does not meet the strict legal standard of materiality.⁵⁶ In insider trading cases, courts have been reluctant to find information "material" unless it concerns a "bombshell event"—such as the definite existence of a takeover offer—whose announcement dramatically changes the stock price.⁵⁷ Thus, the threshold of materiality is such that insiders can easily profit by trading on information that, while price-sensitive, is not legally material.⁵⁸ Because of these two limitations to Rule 10b-5, managers are unlikely to always be prevented from engaging in indirect insider trading with OMRs.⁵⁹

52 17 C.F.R. § 240.10b5 (2000).

53 See Fried, *supra* note 28, at 330 (discussing Rule 10b-5).

54 See Fried, *supra* note 28.

55 See *id.* at 331-35.

56 See *id.* at 335-37.

57 See *id.* at 336.

58 See Dennis W. Carlton & Daniel Fischel, *The Regulation of Insider Trading*, 35 *Stan. L. Rev.* 857, 886-87 (1983).

59 There is considerable evidence that managers continue to exploit private information about firm value to enhance their personal trading profits. To begin, managers increase their selling before releasing "bad news" and increase their buying

b. Why don't managers simply buy the underpriced shares themselves?

I now turn to the question of why managers would buy shares at a low price through the firm when they could purchase those shares directly on the market at an even lower price. On average, stock prices increase when OMRs are announced.⁶⁰ This suggests that when managers know firm value exceeds the stock price, they should buy shares directly in the market for their personal accounts rather than conduct an OMR and buy the shares indirectly at the higher, post-announcement price. However, there are a number of reasons why managers may be "buying-constrained"—that is, limited in their ability or willingness to engage in personal stock-purchasing.

First, managers might not be able to buy shares, or buy as many shares as they would like, due to liquidity constraints. Such liquidity-constrained managers would purchase shares in the market to the extent permitted by their liquidity constraints and, after they have reached those constraints, conduct an OMR. In fact, managers frequently buy shares for their own accounts before announcing OMRs.⁶¹

Second, there might be managers who do not wish to trade themselves because of potential liability under section 16(b) of the Securities Exchange Act of 1934, which prohibits managers (but not the firm) from making "short swing profits."⁶² A corporate insider is considered to make a short-swing profit if he or she buys stock and sells stock within a six-month period and

before releasing "good news." See Fried, *supra* note 28, at 317-20 (collecting and summarizing studies). For example, corporate insiders sell heavily in the five-month period preceding a bankruptcy announcement. See Thomas Gosnell et al., *Bankruptcy and Insider Trading: Differences Between Exchange-Listed and OTC Firms*, 47 J. Fin. 349, 350-53 (1995); H. Nejat Seyhun & Michael Bradley, *Corporate Bankruptcy and Insider Trading*, 70 J. Bus. 189 (1997). Corporate insiders also tend to frequently exercise options shortly before there are declines in the stock price. See Steven Huddart & Mark Lang, *Information Distribution Within Firms: Evidence from Stock Option Exercises* (Working Paper, Jan. 2001), at SSRN Electronic Paper Collection, http://papers2.ssrn.com/paper.taf?ABSTRACT_ID=256446. Finally, corporate insiders as a group consistently earn excess returns in their personal trading. See Fried, *supra* note 28, at 321-23 (collecting and summarizing studies). One study found that in their personal trading between 1984 and 1989, which includes, presumably, trades not based on inside information (e.g., liquidity-driven sales), managers annually earned excess returns averaging 7%. See H. Nejat Seyhun, *The Effectiveness of Insider Trading Sanctions*, 35 J.L. & Econ. 147, 158-60 (1992).

60 See *supra* note 6.

61 See Elias Raad & 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).

62 15 U.S.C. § 78p(b) (2001).

the purchase price is lower than the sale price. The rule applies not only when the purchase precedes the sale, but also when the sale precedes the purchase. A manager who either has sold shares at a higher price within the previous six months or expects to sell shares at a higher price within the next six months will expect to face section 16(b) liability if he buys stock on the market. However, indirect purchases of stock through a share repurchase are not subject to section 16(b). Thus, such a manager will not face section 16(b) liability if he indirectly buys stock through an OMR.

Third and finally, many firms restrict the trading of managers and directors through the use of "trading-windows" and "blackout" periods, which permit corporate insiders to trade only during certain prescribed periods throughout the year.⁶³ Thus some manager may be subject to firm-imposed trading restrictions at a time when they believe the stock to be underpriced and wish to purchase shares. Because of these three types of restrictions, managers may often prefer (or be forced) to buy shares indirectly through an OMR in addition to, or instead of, buying shares for their own accounts.

2. Using OMR Announcements to Sell Shares at a Higher Price

Having seen that managers can use OMRs to purchase shares from public shareholders at a low price, let us now consider their use of OMRs to sell shares at a higher price. I will shortly offer several possible explanations consistent with the managerial-opportunism theory for why OMR announcements tend to boost the stock price. For now, however, let us simply take this effect as given and consider the circumstances under which managers might use these announcements to sell their shares at a higher price.

Managers may wish to sell shares for a number of reasons. They may wish to diversify their holdings. They may have liquidity needs. Or they may know "bad news" and wish to sell before that news emerges and drags down the stock price.⁶⁴ Once managers have decided to sell shares, they will wish to sell those shares at the highest possible price.

63 See J. Carr Bettis et al., *Corporate Policies Restricting Trading by Insiders*, 57 J. Fin. Econ. 191 (2000). These trading windows usually begin after quarterly earnings reports are released and last between a week and a month. "Blackout" periods prohibit insiders from trading around the release of price-sensitive information, but allow them to trade at other times.

64 For an explanation of the limited effect insider trading laws have on managers' ability to trade on inside information, see *supra* Part II.A.1.a. For a summary of empirical studies finding that managers sell before the release of bad news, see Fried, *supra* note 28, at 317-20.

To the extent that OMR announcements boost stock prices, managers intending to sell shares may attempt to boost the stock price before selling those shares by announcing an OMR. To be sure, given that stock price reactions to OMR announcements average 3%-4%,⁶⁵ the stock-price increase might be fairly modest. But for managers selling millions of dollars worth of shares, as well as managers exercising options whose strike price is close to the pre-announcement market price, the ability to sell shares at even a slightly higher price may well be significant. Indeed, there is evidence consistent with the use of OMRs to boost the stock price before managers sell shares: as noted earlier, at least one study reports that mean and median insider percentage ownership fall around the time the OMR is announced.⁶⁶

It is useful to distinguish between "information-motivated" sellers (managers who wish to sell shares because they know the stock is overpriced) and "non-information-motivated" sellers (managers who wish to sell for liquidity or diversification reasons). Information-motivated sellers will wish to sell only when the stock is overpriced. Non-information-motivated sellers may wish to sell both when the stock is overpriced and when it is not. Thus managers wishing to sell shares will announce OMRs to boost the stock price both when the stock is underpriced and when it is overpriced.

Managers using an OMR announcement to boost the stock price need not actually repurchase any shares. If the stock is underpriced and managers continue to own shares in the firm, they have an incentive to repurchase shares after making the announcement. If, on the other hand, the stock is overpriced, managers continuing to own stock in the firm have a strong incentive *not* to repurchase any shares. Thus, one would expect that managers using OMRs to boost the stock price do not always repurchase shares.⁶⁷

Managers, most of whom receive stock options through executive compensation plans, will frequently wish to sell shares. Thus, one might ask why managers do not repeatedly announce OMRs to boost the stock price. As I explain below, (a) there are various limitations on managers'

65 See *supra* note 6.

66 See Vafeas, *supra* note 49. At least one market commentator also has concluded that managers use share repurchases to boost stock prices before selling. See Michael Sivey, *When Buybacks Make No Sense*, Money, Mar. 1999, at 35, 36.

67 If the managers do not have a *bona fide* intention to repurchase shares when they announce the repurchase, they could be subject to market manipulation charges under the federal securities laws. See Gardella, *supra* note 5. However, it would be extremely difficult to prove that the managers making an OMR announcement do not actually intend to repurchase shares.

willingness and ability to sell shares and (b) when managers do sell shares, there are constraints on managers' use of OMR announcements.

a. *The existence of "selling constraints."* As Part II.A.1.a. explained, there are a number of reasons why managers might be "buying-constrained"—limited in their ability or willingness to engage in personal stock-purchasing. For some of the same reasons, managers might also be "selling constrained"—limited in their ability or willingness to sell their shares in the market.

First, managers might avoid selling stock in the market because of potential liability under section 16(b). Recall that section 16(b) of the Securities Exchange Act of 1934 prohibits managers from making "short swing profits."⁶⁸ A short-swing profit arises when a manager buys stock and sells stock within a six-month period and the purchase price is lower than the sale price. Just as a manager who has sold shares within the previous six months will be deterred by section 16(b) from buying shares at a lower price, a manager who has bought shares within the previous six months will be deterred by section 16(b) from selling shares at a higher price.

Second, as noted earlier, managers are often subject to employer-imposed trading restrictions, such as "trading windows" and "blackout" periods. These restrictions significantly limit the number of days during the year when managers are permitted to trade. Managers in firms with such restrictions will thus frequently be both buying-constrained and selling-constrained.

Third, stock sales can generate taxable gains. A manager who purchased her shares at a low price might have a large built-in gain at the time she is considering whether to sell her shares. If the tax liability created by the sale were sufficiently high, the manager may be unwilling to sell her shares.

b. *Why don't managers announce an OMR whenever they do sell their shares?* Although managers might often be selling-constrained for the reasons just identified, they nevertheless sell a large number of shares.⁶⁹ Thus one might wonder why managers don't announce an OMR whenever they intend to sell stock. As will be explained, however, announcing an OMR to boost the stock price before selling shares would be worthwhile only if the managers were intending to sell an unusually large amount of stock.

First, there is a direct cost, primarily in terms of managers' time, to announcing an OMR. Managers must develop, perhaps in consultation with the firm's investment bankers⁷⁰ and lawyers, a specific proposal to conduct

68 15 U.S.C. § 78p(b) (2001). See *supra* Part II.A.1.b.

69 See Seyhun, *supra* note 59.

70 See Gardella, *supra* note 5, at 2.

the OMR. The proposal would then be brought to the board, discussed, and voted on.⁷¹ Thus, it will not be worth announcing an OMR when managers plan to sell only a modest number of shares.

Second, and most important, there is likely to be a significant opportunity cost to announcing an OMR. In particular, managers may well lose the ability to announce another OMR (and boost the stock price) for a significant period of time. Suppose managers are considering announcing an OMR in order to boost the price before selling their shares. However, the managers anticipate selling an even larger amount of shares in one year, when many of their options will become exercisable. They thus know that they can benefit from announcing another OMR in the future. If the managers announce an OMR now, they will not be able to announce another OMR until (a) the first OMR has been completed (or, if the first OMR is time-limited, until the first OMR has expired) and (b) the firm has sufficient cash reserves to make the announcement of the second OMR credible.⁷² Even if the firm were to begin repurchasing shares immediately after announcing the first OMR, the first OMR might take a year or longer to complete.⁷³ And the managers might not wish to begin repurchasing shares immediately, especially if the stock is initially overpriced. Thus, there could be a significant opportunity cost to announcing an OMR for the purpose of boosting the stock price, and it is higher when the stock is overpriced. Accordingly, managers are unlikely to announce an OMR unless they are planning to sell a large amount of shares.

3. Accounting for the Price-Boosting Effects of OMR Announcements under the Managerial-Opportunism Theory

Until now, we have assumed for purposes of describing the managerial-opportunism theory that OMR announcements boost stock prices. What is needed to complete the managerial-opportunism theory is to explain *why* OMR announcements have this modest but persistent effect on stock prices.

There are a number of possible explanations for the price-boosting effects of OMRs consistent with the managerial-opportunism theory. I will briefly describe three possible explanations, each based on a different assumption about the "universe" of OMRs and the effect managerial-opportunism OMRs have on shareholder wealth. The first explanation assumes that in the universe

71 *Id.*

72 If the firm does not have sufficient cash to repurchase shares, an OMR announcement might be ignored. Indeed, if the market fears that the firm will distribute cash that would be better used to fund the firm's operations, the OMR announcement might cause the stock price to fall.

73 See Vafeas, *supra* note 49, at 102-03.

of OMRs, there are both OMRs motivated by managerial opportunism and OMRs motivated by other purposes. The second explanation assumes that all OMRs are motivated by managerial opportunism, but that these OMRs have positive economic "side" effects that make them, on balance, value-creating for shareholders. The third explanation assumes that all OMRs are motivated by managerial opportunism and that these OMRs are not, on balance, value-creating for shareholders. Under this third explanation, the stock price rises in response to an OMR announcement only because the announcement reveals that the stock is likely to be underpriced.

a. Managerial opportunism might not be the sole purpose of OMRs. As I noted in the Introduction, many OMRs are likely to be motivated by reasons other than managerial opportunism. One such reason is managers' desire to distribute excess cash to themselves and other shareholders in a tax-efficient manner. Suppose that among firms announcing OMRs, there are two types of firms: (1) firms whose managers are motivated by opportunism; and (2) firms whose managers, seeking to maximize shareholder value, use the OMR to distribute excess cash. Suppose that the opportunistically-motivated OMRs create no value for shareholders (and in fact transfer value from shareholders to managers), but the others do create enough value so that on average, OMRs create value for shareholders. To the extent that investors cannot discern between the different types of OMRs, they will bid up the price of the stock when there is an OMR announcement because the expected effect of the OMR on shareholders is positive.

b. OMRs motivated by managerial opportunism might have beneficial economic "side" effects. We just saw that in a world where some OMRs are motivated by managerial opportunism and the purpose of others is to create shareholder value (say, by distributing excess cash), the market is likely to respond favorably to all OMR announcements to the extent that on average, OMRs increase shareholder value and the market is unable to distinguish one type of OMR from the other. Now consider a universe in which all OMRs are motivated by managerial-opportunism, but on balance, these OMRs increase shareholders' wealth. Suppose, for example, that firms conducting OMRs have excess cash they would not otherwise distribute and that the distribution of this excess cash creates more value for shareholders than the amount of value transferred from shareholders to managers. In such a case, the announcement of an OMR should generate a positive stock price reaction.⁷⁴

⁷⁴ These OMRs could also boost the stock price in other ways. For example, the OMRs could exert temporary or permanent price-pressure, *see* Dittmar, *supra* note 9, at 335, or transfer value from creditors to shareholders.

c. *A possible informational explanation for the price-boosting effects of OMRs.* Now suppose that (contrary to the assumption underlying the first explanation) all OMRs are motivated by managerial opportunism and that (contrary to the assumption underlying the second explanation) these OMRs do not have any beneficial economic effects for shareholders as a group. Announcements of these opportunistic OMRs could still boost the stock price to the extent they reveal that *expected* firm value exceeds the stock price (that is, they reveal the stock is likely to be underpriced). An OMR announcement would communicate that expected firm value exceeds the stock price if managers are more likely to announce an opportunistic OMR when the stock is underpriced than when it is overpriced. I will briefly describe one explanation why, in a world where all OMRs are motivated by managerial opportunism, managers might be more likely to announce an OMR when the stock is underpriced: the "selling-constraints" explanation.

For simplicity, suppose that managers do not sell shares for liquidity or diversification reasons, but, rather, only because they know the stock is overpriced.⁷⁵ Thus, managers use OMRs only (1) to indirectly buy stock at a low price and (2) to boost the stock price before selling their shares when they know the stock is overpriced. Suppose also that shares are as likely to be underpriced as overpriced.

When the stock is underpriced, managers will wish to conduct an OMR (an "underpriced OMR") to indirectly purchase shares at a low price. To the extent an OMR announcement boosts the stock price, when the stock is overpriced, managers will wish to announce an OMR (an "overpriced OMR"), sell their shares after the price rises, and then not repurchase any shares.

Because the shares are as likely to be underpriced as overpriced, if managers were free to conduct both types of OMRs, there would be an equal number of each type of OMR. However, there is likely to be an asymmetry in managers' ability to conduct OMRs in each of these situations. Managers profit from an underpriced OMR simply by retaining their shares—that is, without any buying or selling. In contrast, managers profit from an overpriced OMR only by selling their shares. And while there are no constraints on managers' ability to retain their shares, as we saw earlier there are constraints on managers' ability to sell their shares. For example, firm-imposed restrictions on managerial trading might prevent a manager from selling her shares except during several

⁷⁵ This assumption is made only for convenience and is not critical to the "selling-constraints" explanation.

short "trading-windows" throughout the year;⁷⁶ the manager might have a large built-in gain on which she wishes to avoid paying capital gains tax; or the manager might have purchased shares at a lower price within the previous six months and thus would face section 16(b) liability were she now to sell her shares. Because there are constraints on selling but no constraints on managers retaining their shares, they are likely to conduct more underpriced OMRs than overpriced OMRs. Thus, investors would correctly infer from an OMR announcement that the stock is more likely to be underpriced than overpriced. If the expected firm value communicated by the OMR announcement exceeds the pre-announcement stock price by more than the expected transfer from shareholders to managers, the stock price will rise in response to the OMR announcement.⁷⁷

B. The Explanatory Power of the Managerial Opportunism Theory

We saw in Parts I.A. and I.B. that the signaling theory can explain some of the relevant empirical data but is inconsistent with much of it. This Section first shows that the managerial-opportunism theory can explain both the evidence that is consistent with the signaling theory and the evidence that is inconsistent with it. It then puts forward several testable empirical predictions of the theory.

1. Managerial Opportunism versus Signaling

As we saw in Part I.A., the signaling theory can explain some of the stylized

⁷⁶ See Bettis et al., *supra* note 64, at 192.

⁷⁷ Essentially, managers of overpriced firms who wish to sell shares attempt, by announcing an OMR, to "mimic" (or "pool" with) managers of underpriced firms who are using OMRs to buy stock at a low price. To the extent that the market cannot distinguish between the different types of firms, the OMR announcement boosts the stock price, enabling the mimicking managers of overpriced firms to sell their shares at a higher price. Cf. Bhattacharya & Dittmar, *supra* note 22, at 27 (reporting that there is no difference in market reaction between OMR announcements followed by repurchases and OMR announcements not followed by repurchases). The presence of overpriced firms in the pool of firms announcing OMRs dampens the price reaction to OMR announcements. This price-dampening inures to the benefit of managers of underpriced firms by enabling them to buy shares for themselves and other remaining shareholders at a lower price. Thus, mimicking by managers of overpriced firms benefits all managers announcing OMRs. For a formal model of the effects of selling-constraints on managerial behavior and the stock-price reaction to OMR announcements, see Jesse M. Fried, *Managerial Opportunism, Selling Constraints and the Effect of OMR Announcements on Stock Prices* (Working Paper, 2001) (on file with author).

facts associated with OMRs. Specifically, the signaling theory—because it suggests that firms conduct OMRs to reveal that the stock is underpriced—can explain why OMR announcements boost stock prices and why there are, on average, negative abnormal returns prior to OMR announcements.

Both of these facts can also be explained by the managerial-opportunism theory, if, as I suggested, due to selling constraints or for some other reason, there are more underpriced OMRs than overpriced OMRs. As we saw in Part II.A.3., when there are more underpriced than overpriced OMRs, an OMR announcement will reveal that expected firm value exceeds the stock price, and this in turn should boost the stock price. And the over-representation of underpriced firms among those firms announcing opportunistic OMRs could explain why there are abnormal negative stock returns prior to OMR announcements.

As we saw in Part I.B.2., much of the empirical evidence is inconsistent with the signaling theory. The signaling theory predicts that in at least some OMRs—those motivated by signaling—managers will commit to repurchase a certain number of shares. However, such explicit commitments are never made. Nor is there even an implicit commitment: in a substantial number of cases, no shares are repurchased. The signaling theory predicts that managers will commit to retain their shares. Again, there is no such commitment: in fact, in many OMRs, managers sell their shares.

All of the empirical evidence that is inconsistent with the signaling theory is easily explained by the managerial-opportunism theory. The managerial-opportunism theory predicts that when the stock is underpriced and managers wish to buy shares, managers announcing an OMR will not clearly signal that the stock is underpriced, because such a signal would boost the stock price and thereby reduce managers' ability to transfer value from selling shareholders to themselves and other remaining shareholders. The theory therefore predicts that when the stock is underpriced, managers will not commit to buy a certain number of shares, will not pledge to retain their shares, and will not reveal when the firm actually repurchases shares. Nor can managers make a commitment to repurchase shares and retain their own when the stock is overpriced and the purpose of the OMR announcement is to boost the price before selling their shares. Thus the managerial-opportunism theory suggests that managers will never commit to repurchase shares and retain their own.

The managerial-opportunism theory also explains why firms do not always repurchase shares. In some cases, managers intending to use an OMR to buy low might find that the stock is no longer underpriced by the time they can actually repurchase shares. More importantly, managers intending to sell shares may have an incentive to announce an OMR to boost the stock price even when the pre-announcement price exceeds firm value. In such a

case, managers continuing to own shares will not have the firm repurchase any shares. Finally, the managerial-opportunism theory—by positing that managers use OMRs both to increase their holdings and to sell shares—can explain why managers are net buyers of shares in some OMRs and net sellers of shares in others.

2. Some Testable Implications of the Managerial-Opportunism Theory

Because the managerial-opportunism theory appears to be consistent with much of the data, it would be worth examining whether the theory has further empirical support. To that end, I now briefly describe some testable implications of the theory.

The managerial-opportunism theory predicts that among firms conducting OMRs, there are (at least) two distinct groups of OMRs: "buying OMRs" and "selling OMRs." "Buying OMRs" are those OMRs in which managers are seeking to buy their firms' shares at a low price. Among buying OMRs, one would predict: (1) that (unconstrained) managers buy shares for their own accounts before the OMR and perhaps afterward; (2) that managers generally do not sell shares shortly after the OMR announcement; (3) that most firms repurchase shares shortly after the OMR announcement;⁷⁸ and (4) that there are significant positive abnormal returns after the short-term abnormal price increases surrounding the OMR announcement.

"Selling OMRs" are OMRs announced by managers intending to sell large amounts of stock (for liquidity or diversification reasons or because they know the stock is overpriced), with the hope that the OMR announcement will boost the stock price before they sell their shares. In selling OMRs, one would thus expect to see heavy managerial selling shortly after the OMR announcement.

Because of the mixture of motives in selling OMRs, some of the firms will be overpriced at the time of the announcement while others will be underpriced. Liquidity- and diversification-motivated managers may sell both when the stock is underpriced and when it is overpriced. Information-motivated managers will sell only when the stock is overpriced. Thus, among selling OMRs, the stock is likely to be, on average, overpriced.

Whether the firm repurchases any shares will depend, in part, on whether the stock is overpriced or underpriced after the announcement. Firms that are overpriced before the OMR announcement will not repurchase

⁷⁸ Consistent with this prediction, firms that announce OMRs and subsequently purchase stock tend to do most of the purchasing in the first year. See Stephens & Weisbach, *supra* note 46, at 319.

any shares shortly after the announcement, when the stock is likely to be even more overpriced.⁷⁹ But among the firms whose managers are selling shares for liquidity or diversification purposes, there may be firms whose stock remains underpriced after the OMR announcement. And some of these firms may repurchase shares. For example, consider an underpriced firm whose managers intend to sell a portion of their shares for liquidity reasons. These managers might announce the OMR to boost the stock price before selling their shares and then have the firm buy back stock after the announcement so that they can profit indirectly by buying stock at a low price.

Among selling OMRs, one can therefore predict: (1) that managers do not buy shares for their own accounts before the OMR or shortly after the OMR; (2) that managers sell significant amounts of stock shortly after the OMR announcement; (3) that some firms repurchase shares shortly following the OMR announcement, but many do not; and (4) that there are, on average, negative abnormal returns following the price boost associated with the OMR announcement.

CONCLUSION

While there are a number of reasons why managers may conduct open market repurchases ("OMRs"), the most widely discussed explanation for OMRs is the signaling theory: that managers announce OMRs to signal that the stock is underpriced. This paper has shown, however, that the signaling theory is both conceptually flawed and inconsistent with much of the empirical data.

The paper has also put forward for consideration an alternative explanation for the use of OMRs, the managerial-opportunism theory: that managers use OMRs to transfer value from public shareholders. In particular, when managers' private information indicates that firm value exceeds the stock price, managers may conduct an OMR to transfer value to themselves and other remaining shareholders. And when managers wish to sell shares, because they know the stock is overpriced (or for liquidity or diversification reasons), managers may announce an OMR to boost the stock price before selling their shares. The paper has shown that the managerial-opportunism theory is consistent with many of the stylized facts associated with OMRs and has described some testable predictions of the theory. It is hoped that this work will be of use to researchers seeking to better understand the purposes and effects of open market repurchases.

⁷⁹ The price could subsequently fall below the stock's actual value, at which point managers might repurchase shares.