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When the Medium is the Message: Corporate Buybacks as Signals

F.H. Buckley*

Share repurchases, or buybacks, are distributions of cash by a firm in exchange for a portion of its outstanding common stock. In recent years, buybacks by public firms have become an important technique for distributing earnings to shareholders. In 1987, over $54 billion was distributed through repurchases, as compared to $83 billion through dividends.¹ There were a particularly large number of buyback announcements in the period immediately following the 1987 stock market crash, and they have been credited as a major factor arresting stock price declines at that time.²

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¹. See Bagwell & Shoven, Cash Distribution to Shareholders, J. Econ. Persp., Summer 1989, at 129, 131. The comparable 1977 figures were $3.4 billion through repurchases and $29.5 billion through dividends. Id. For a six week period near the end of 1989, buybacks of up to $20 billion were announced. See Donnelly, The Lowdown on Buy-Backs Isn't Upbeat, Wall St. J., Dec. 8, 1989, at Cl, col. 2; see also Salwen, Share Buy-Back Plans Proliferate, Wall St. J., Jan. 4, 1988, at 8B, col. 4; Williams, Corporate America Buys Itself Back, N.Y. Times, Aug. 17, 1986, at Fl, col. 2.

². The value of buybacks announced on Monday, October 19 and Tuesday, October 20, 1987 exceeded $6 billion, two-thirds more than the dollar value of all 1981 buybacks. The Dow Jones Industrial Average recorded a net gain of more than 100 points that afternoon, its largest increase ever. Report of the Presidential Task Force on Market Mechanisms, 101st Cong., 1st Sess. III-26 (1988) [hereinafter Brady Report]. According to the Securities and Exchange Commission (SEC) study of the crash, 129 of the Standard & Poor’s 500 (S & P 500) firms repurchased stock during the week of October 19-23. Division of Market Regulation, Securities and Exchange Commission, The October 1987 Market Break 6-3 (1988). Overall, the market price of repurchasing firms declined 15%, or 1.5% less than the decline in the price of nonpurchasing firms. Id. at 6-5; see also Netter & Mitchell, Stock-Repurchase Announcements and Insider Transactions After the October 1987 Stock Market Crash, 18 Fin. Mgmt. 84 (1989) (significant positive returns on the average upon repurchase announcements). Buyback announcements were also reported to have had a short-term positive effect on the market price of nonpurchasing firms in addition to purchasing firms. See Williams, The Big Board’s Battle to Contain the Damage, N.Y. Times, Oct. 25, 1987, at F8, col. 1 (buybacks reported to have “brought a great deal of confidence back to the market”); Blue Chips Snap Back on Big Board; Firms’ Own Stocks Offer Bargains, Wall St. J., Oct. 21, 1987, at 3, col. 3. There is no reason to suppose that the salutary effects of buybacks must be confined to equity markets. See Mitchell, Junk Market Could Stay in Disarray—But Buy-Backs Are Ray of Hope, Wall St. J., Feb. 20, 1990, at Cl, col. 1 (recent bargain prices seen as attracting repurchases by issuers of junk bonds).
Buybacks are reverse stock issuances. When it requires additional capital, a firm may respond with an issue of stock. The same firm might subsequently announce a buyback if it has surplus cash flow, or earnings which exceed those needed to finance positive net present value investment opportunities. Though their effects are opposite in kind, as financing devices the two transactions are fundamentally similar, with the choice between them depending upon a comparison of the firm's cash flow and its available investment opportunities.

Public firms typically repurchase shares in one of three ways: self-tenders, open market repurchases, or private repurchases. Self-tenders must be made in accordance with regulations similar to those governing ordinary tender offers, including the solicitation of "all shareholders," with proration if an offer is oversubscribed. Open market and private repurchases are not subject to these regulations, because they may be structured so as not to constitute "tender offers" under the Williams Act. Open market repurchases are

3. Cash buybacks that are financed by an issue of debt resemble exchange offers in which shareholders swap equity for debt securities of the issuer. The announcement of a debt-for-equity exchange offer is greeted with significant positive abnormal returns for shareholders, and normal returns for non-convertible debtholders. See Cornett & Travlos, Information Effects Associated with Debt-for-Equity and Equity-for-Debt Exchange Offers, 44 J. Fin. 451, 466-67 (1989).

Because they are consensual, cash and exchange buybacks can be distinguished from reorganizations which bind dissenters, subject to majoritarian approval. The financial effect of a reorganization may however be very similar to a buyback. For example, in "public leveraged buyouts" outside shareholders receive a payout of cash and new equity interests in exchange for their old equity interests. See Melloan, Why FMC Let Shareholders Do the Diversifying, Wall St. J., Aug. 16, 1988, at 29, col. 3. Because these transactions are financed with an issue of debt, they resemble a debt-for-equity buyback. A further similarity between the two transactions is that management ownership of the firm increases under both when, as is customary, managers retain their stock in the buyback. See infra note 40 and accompanying text.


5. The Williams Act, see supra note 4, is part of The Securities Exchange Act of 1934, 15 U.S.C. § 78a-78lll (1988) [hereinafter "Exchange Act"]). Tender offers are not defined by the Exchange Act, but courts have crafted a definition common to both purchases and repurchases of stock. An open market purchase made at the then-prevailing market price will generally not be held to constitute a statutory tender offer. See generally Wellman v. Dickinson, 475 F. Supp. 783, 823-24 (S.D.N.Y. 1979) (discussing eight-factor test used to determine whether a tender offer exists), aff'd on other grounds, 682 F.2d 355 (2d Cir. 1982), cert. denied, 460 U.S. 1069 (1983). Other factors that may lead a court to conclude that an open
made on secondary markets at the then-prevailing price, while private or "targeted" repurchases are made from a few sellers at a price which usually exceeds market value. This Article will examine self-tenders and open market repurchases, but not private repurchases, because the latter give rise to special distributional concerns because of the premium price offered to the favored shareholders. For similar reasons, the special concerns regarding buybacks made to defend a tender offer are beyond the scope of this Article. Narrowing the focus to open market repurchases and self-tenders market transaction is exempt from regulation include the absence of a general solicitation of shareholders, a limit on the number of shares to be acquired, nonnegotiable contract terms, an offer which is not conditional on a certain number of shares being tendered, and an offer which can be accepted over a lengthy period of time. *Id.* The same criteria will be applied on an open market repurchase where an exemption from Rule 13e-4 is sought. See SEC v. Carter Hawley Hale Stores, 587 F. Supp. 1248 (C.D. Cal. 1984), aff'd, 760 F.2d 945 (9th Cir. 1985) (defensive open market repurchases exempt from regulation under Wellman criteria).

Open market repurchases will also escape the antimanipulation sanctions of § 9(a)(2) of the Exchange Act, 15 U.S.C. § 78a(a)(2), and Rule 10b-5, 17 C.F.R. § 240.10b-5 (1989), if made pursuant to the conditions of Rule 10b-18, 17 C.F.R. § 240.10b-18 (1989). Rule 10b-18 provides issuers with a safe harbor for open market repurchases which follow market price rather than lead it. The rule requires that the repurchases be made at the then market price and not constitute more than 25% of average daily volume. The SEC adopted the new rule because "issuer repurchase programs are seldom undertaken with improper intent, may frequently be of substantial economic benefit to investors, and ... undue restriction of these programs is not in the interest of investors, issuers, or the marketplace." Exchange Act Release No. 19,244 [1982 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 83,276, at 85,478 (Nov. 17, 1982).

Private repurchases may be held not to constitute tender offers if the seller does not need legislative protection. A court will thus be unlikely to require compliance with Rule 13e-4 if the sellers are sophisticated market intermediaries. *Cf.* Hanson Trust PLC v. SCM Corp., 774 F.2d 47, 56-57 (2d Cir. 1985) (purchase of target stock through a street sweep from arbitragers and other institutional investors upheld). For this reason, attempts to impeach demands for greenmail payments as manipulative devices under Rule 10b-5 have met with little success. See Dan River, Inc. v. Icahn, 701 F.2d 278, 284 (4th Cir. 1983). Rule 13e-4 is thus inapplicable in cases where distributional effects are most to be feared. However, this result is consistent with the frequently expressed view that the purpose of the Exchange Act is to prevent fraud, not expropriation. See, *e.g.*, Poser, *Stock Market Manipulation and Corporate Control Transactions*, 40 U. MIAMI L. REV. 671, 717-22 (1986) (coercion distinguished from misrepresentation).

6. A further reason for cleaving off private repurchases is that, when made from a possible tender offeror as on a greenmail payment, they may be seen as a defensive tactic. Greenmail has also been defended on efficiency grounds, with the greenmailer's purchase of stock signalling that the firm is in play as a target. *See* Macey & McChesney, *A Theoretical Analysis of Corporate Greenmail*, 95 YALE L.J. 13 (1985).

Buybacks are more controversial when they constitute an initial move in a more general strategy aimed at eliminating outside shareholders. Such buyouts may give rise to heightened distributional concerns, but also appear to result in efficiency gains not available on an ordinary buyback. One study, for example, reported shareholder wealth gains of 30.4% associated with buyout announcements. *See* DeAngelo, DeAngelo & Rice, *Going Private: Minority Freezeouts and Stockholder Wealth*, 27 J.L. & ECON. 367, 388-89 (1984). Because of these special concerns, buyouts are also beyond the scope of this Article.

where control is not contested permits a more discriminating analysis of arguments for and against buybacks.

Open market repurchases and self-tenders are both greeted on announcement with significant stock price increases. It is important to identify the source of these gains, for if they arise merely through a wealth transfer from another class of claimholders, restrictions on buybacks might reasonably be sought. Buyback gains might thus be attributed to four different wealth transfer or distributional effects. On expropriation theories, a premium price repurchase benefits selling shareholders at the expense of retaining claimholders, who might include both equity and debt holders. Like expropriation theories, manipulation explanations also assume that offer price is excessive, though here the wealth transfer comes from future claimholders through an artificially inflated stock price. Offer price is assumed inadequate on insider trading theories, with post-offer stock price expected to increase beyond offer price. The wealth transfer is then from selling to retaining shareholders. Finally, on tax theories, buyback gains are attributed to wealth transfers from the state through reduced personal or corporate taxes.

It is unlikely that buyback gains can be explained on distributional theories, and among competing efficiency theories, signalling explanations are the most plausible. On signalling theories, the repurchase reveals the firm to be undervalued, dissipating informational asymmetries between the firm and outside investors. When a repurchase corrects market mispricing in this way, buyback policies increase the allocative efficiency of stock markets through prices which better reflect firm value. In addition, buyback signals economize on the screening or information production costs which investors incur in valuing the firm. With more information provided by the firm, less need be produced by investors.

Signalling theories today provide a leading account of financial structures and strategies, and yet have had little impact on the corporate law

8. See infra note 24 and accompanying text.
10. An investor's screening costs are the obverse of the issuer's signalling costs. Where the firm bears all costs associated with the production of information concerning firm claims, as it would in efficient markets, it will adopt disclosure policies which minimize total screening and signalling costs.
11. The seminal article is Spence, Job Market Signaling, 87 Q.J. ECON. 355 (1973), and a wide variety of financial decisions have been subsequently explained on signalling theories. See, e.g., Bhattacharya, Imperfect Information, Dividend Policy, and "the Bird in the Hand" Fallacy, 10 BELL J. ECON. 259 (1979) (signalling through dividend payouts); Leland & Pyle, Informational Asymmetries, Financial Structure, and Financial Intermediaries, 32 J. FIn. 371 (1977) (signalling through managerial stock ownership); Miller & Rock, Dividend Policy Under Asymmetric Information, 40 J. Fin. 1031 (1985) (signalling through dividend and investment
The reluctance of corporate theorists to buy into signalling is perhaps understandable, for it may be thought to provide an explanation of last resort. The determination of a signal's content is a complex, dynamic process, and on many models plausible experimentation with the signal may lead to its collapse. This does not establish the impossibility of buyback signalling, and on other models it may survive. Nevertheless, signalling theories are often ad hoc, and might be discounted if buyback gains could be attributed to rival efficiency theories. This Article therefore seeks to show that non-signalling efficiency explanations of buybacks are unpersuasive. If the stock price increase on a buyback announcement does not result from a signal of hidden value, what causes the increase is a genuine puzzle. Unlike tender offers, buybacks do not result in synergistic gains or in changes in firm management. In addition, other efficiency theories are unable to account for the special features of self-tenders: the premium payout to tendering shareholders, non-tendering by insiders and the substantial wealth gains for non-tendering shareholders. “The challenge becomes thus to explain why the price jump we see is not signalling; and that may be even harder to explain than why it is.”

Even given signalling efficiencies, however, buyback critics may argue that other strategies will accomplish the same goals without giving rise to distributional concerns at the same time. For example, if firm claims are...
undervalued by the market because material information is withheld from it, disclosing the information might be an inexpensive substitute for a buyback. The firm might also signal hidden firm value by increasing the dividend payout, because this too will be taken to indicate hidden value. The availability of benign substitutes might be thought to argue for restrictions on buybacks. 19

These criticisms suggest two different ways in which buybacks may be defended. 20 A soft defense of the institution would show that, notwithstanding the absence of formal equality, the distributional consequences of buybacks are not troubling. If a consciously selected institution is distributionally neutral, it should be presumed wealth maximizing unless inefficiencies are clearly demonstrated. 21 On a hard defense, (1) buybacks are seen to serve efficiency goals, creating an increase in net claimholder wealth, and (2) buyback gains are not duplicated by substitute strategies, such as

19. See R. CLARK, supra note 9, at 629 (disclosure as adequate substitute); Brudney, supra note 9, at 1109-12 (firms are already obliged to disclose material information, and dividends provide more informative signals than buybacks do); cf. Easterbrook, Two Agency-Cost Explanations of Dividends, 74 AM. ECON. REV. 650, 651-52 (1984) (disclosure and monitoring strategies as substitutes for dividend signals).

20. In some circumstances, buybacks by public firms are innocuous, and do not require a defense. A repurchase may, for example, be made of small lots of shares or of fractional stock without giving rise to any great concern. Such repurchases likely result in efficiency gains because they reduce the costs associated with mandatory disclosure requirements. At the same time, the de minimis nature of these transactions should calm distributional fears.

The buyback may also be required by a court order in minority shareholder litigation, or may be triggered by an assertion of the shareholder appraisal remedy. In addition, the firm may seek to redeem its preferred shares after a fall in interest rates increases the burden of the promised dividend payout. The firm may then refinance with a new issue of preferred stock at lower dividend rates, thereby reducing the firm's net cost of capital. Such buybacks may be troubling if made by a firm on the verge of insolvency, because creditor claims may be destroyed. For this reason, the repurchases must be effected in compliance with a solvency bar. See MODEL BUSINESS CORP. ACT § 66 (1974) [hereinafter MBCA]; DEL. CODE ANN. tit. 8, § 160 (1981); N.Y. Bus. CORP. LAW § 513 (McKinney 1986); Canadian Business Corp. Act, Can. Stat., c. 33, § 32(2) (1974-75). This apart, however, the transactions may reasonably be presumed benign, and they are beyond the scope of this Article.

21. See infra text accompanying notes 129-38. Few buyback critics have suggested that stock repurchases will reduce firm value. One exception to this is Victor Brudney, who has argued that, in light of the possibility of managerial judgment biases and stock price manipulation, it is not irrational to prefer that stock prices be set without buybacks. Brudney suggests that managers will overestimate firm value because of a "home town" bias, and this is consistent with evidence that on average self-tender offer prices exceed post-offer stock values. See infra note 25. As suggested in Part II, however, self-tender premiums may also be explained on signalling theories, under which managers are assumed to be informationally advantaged. In addition, a tendency toward overvaluation would not impeach signalling explanations of buybacks if, in spite of the judgment bias, managerial estimates of stock value were still superior to those of outside investors. There is in fact every reason to suppose that insiders are informationally advantaged, because they have been found to outperform the market on their reported trades. See Seyhun, Insiders' Profits, Costs of Trading, and Market Efficiency, 16 J. FIN. ECON. 189, 198-99 (1986) (insiders reported to earn significant 10-month returns of 3.1%). Manipulation explanations of buybacks are considered, and largely discounted, in Part I of this Article.
disclosure policies and dividend payouts. Hard defenses are so called because they do not require distributional neutrality. Even if the defense succeeds, then, winners and losers might still emerge. However, a hard defense would show that losses borne by losers are exceeded by gains received by other classes of claimholders. On this basis, buybacks would be upheld if they are Kaldor-Hicks efficient, with gains to winners exceeding losses to losers.

Part I of this Article considers distributional objections to open market repurchases and self-tenders by public firms. Distributional explanations of buybacks are unpersuasive, and efficiency theories are reviewed in Part II. Buyback gains may plausibly be thought to result from signalling efficiencies, which cannot be duplicated through substitute signals. Part III then considers the argument that, in order to boost the signal's power, false buyback signals should trigger liability under reinforced antimanipulation sanctions. This cannot be justified on signalling theories, because it would likely result in too few signals being sent.

I. Soft Defenses

It is not difficult to imagine ways in which wealth transfers might be effected through a buyback. However, distributional theories must assume substantial wealth transfers, for the increase in shareholder wealth on a buyback is remarkable. The two-day announcement return for a self-tender is 16.2%, and for an open market repurchase is 3.6%. In part, the

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22. A distinction between soft and hard defenses of secured lending was made in Buckley, The Bankruptcy Priority Puzzle, 72 Va. L. Rev. 1393, 1403-04 (1986).

23. Efficiency criteria, including the Kaldor-Hicks test, are discussed in Coleman, Efficiency, Utility, and Wealth Maximization, 8 Hofstra L. Rev. 509 (1980).

24. See Smith, Investment Banking and the Capital Acquisition Process, 15 J. Fin. Econ. 3 (1986) (aggregating four prior studies of self-tenders and two prior studies of open market repurchasers). In three of the self-tender studies an effort was made to exclude from the sample those firms which had repurchased stock as part of a buyout scheme, and substantial increases were reported in each case. Offers with a stated intention of going private were excluded in Vermaelen, Common Stock Repurchases and Market Signalling, 9 J. Fin. Econ. 139 (1981), and A. Rosenfeld, Repurchase Offers: Information Adjusted Premiums and Shareholders' Response 38-39 (Ph.D., University of Rochester 1982), and the two studies reported significant six-day returns of 17.2% for 131 self-tenders from 1962-77, and significant three-day returns of 16.0% for 119 self-tenders from 1969-78, respectively. A study conducted by Masulis excluded offers where the firm delisted within one trading day following expiration of the offer and found significant two-day returns of 16.4% for 199 self-tenders from 1963-78. Masulis, Stock Repurchase by Tender Offer: An Analysis of the Cause of Common Stock Price Changes, 35 J. Fin. 305 (1980). This suggests that buyback efficiencies cannot be attributable simply to buyout gains. In addition, Rosenfeld's study excluded defensive buybacks. It may, however, be difficult to screen off all buybacks motivated by defensive concerns, because a repurchase might be aimed at shoring up a control position even if no bid is in the offing. In such cases, it is possible that a portion of the announcement effect results from a signal that the firm is a potential target, or from the possibility of a higher tender offer price.
announcement gains on a self-tender are temporary. When shareholders tender more shares than the firm takes up, the price increase during the offer period is a blended figure, composed in part of permanent gains and in part of the right to participate in the premium self-tender. The offer price is on average 22% more than pre-offer market price, and on expiration of an overtendered offer the stock price experiences a significant "ex dividend" decline. However, the major portion of the announcement

It is nevertheless unlikely that self-tender gains are primarily attributable to defensive considerations. See infra text accompanying notes 105-18.

In recent years, shareholder gains on the announcement of a self-tender have lessened. A study of 38 self-tenders from 1985 to 1989 revealed three-day returns of 8.3%. Salomon Brothers Inc., Common Stock Repurchases: The Impact on Shareholder Wealth, table 4 (1989) [hereinafter Salomon Brothers]. For 179 open market repurchases from January 1988 to May 1989, the three-day returns were 2.5%. Id. Table 5. A study of open market repurchases in 1989 however was unable to detect significant evidence of abnormal returns. See Donnelly, supra note 1; letter from Praveen Gottipalli to author (January 5, 1990).

On average, firms seek to acquire about 17% of their stock in a self-tender, and about 5% in an open market repurchase. See Dann, Common Stock Repurchases—An Analysis of Returns to Bondholders and Stockholders, 9 J. Fin. Econ. 113, 121-22 (1981); J. Lakonishok & T. Vermaelen, Anomalous Price Behavior Around Repurchase Tender Offers 5 (1989) (unpublished manuscript on file at the Indiana Law Journal) (sample of 221 self-tenders from 1962-86); Masulis, supra, at 308; Vermaelen, supra, at 144. The mean amount of stock acquired on a self-tender is 16.4% of the shares outstanding. J. Lakonishok & T. Vermaelen, supra.

Self-tenders are a comparatively infrequent event for any firm. Among the firms in Dann's sample, only 17 of 122 had made more than one self-tender in the fifteen year period of the study. Dann, supra at 113, 121. In another study of 1983-86 distributions of New York Stock Exchange firms, on average only 0.8% of the firms carried out a self-tender in any one year. By contrast, an average 10.7% of the firms used open market repurchases, and 80.7% paid out dividends. See Barclay & Smith, Corporate Payout Policy: Cash Dividends versus Open Market Repurchases, 22 J. Fin. Econ. 61, 62 (1988).

25. J. Lakonishok & T. Vermaelen, supra note 24, at 5 (21.8% premium over market price five days before announcement). Dann reported a mean offer price of 22.5% more than market price on the day preceding the offer. Dann, supra note 24, at 121-22; see also Masulis, supra note 24, at 308 (23% premium); Vermaelen, supra note 24, at 144 (offer price found to be 22.8% higher than market price five days before the self-tender).

One reason for managerial caution in setting a buyback premium is that heavy tendering by shareholders might be anticipated with a relatively large premium, and this may lead other firms to infer that the firm is in play. See Cowan, Gillette Buyback: Playing it Safe, N.Y. Times, Sept. 8, 1988, at D2, col. 1. Heavy tendering may also give potential acquirers useful information about the supply curve for the firm's stock. Shareholders will face differing opportunity costs of tendering, because not all of them will incur the same tax liability, see infra note 37 and accompanying text, and not all of them will have the same need for cash, see infra note 176. Differing opportunity costs imply a positively sloped supply curve for the stock on a self-tender or an interfirm offer, with shareholders with the lowest opportunity costs tendering first.

26. Dann reported that fully subscribed or oversubscribed offers registered a statistically significant decline of 2.9% on expiration, with no statistically significant declines for under-subscribed offers. Dann, supra note 24, at 129 n.32. A like ex dividend effect for oversubscribed offers was reported by Masulis, supra note 24, at 312-13 (significant -2.5% two day return). Lakonishok and Vermaelen found significant -1.8% one-day abnormal returns for 71 1962-79 oversubscribed offers, but insignificant (-.43) one-day returns for 50 1980-86 oversubscribed offers. J. Lakonishok & T. Vermaelen, supra note 24, table VIII.
effect represents a permanent stock price change. Among issuer-initiated financing strategies, there are few transactions which are greeted as favorably as a self-tender.

27. Lakonishok and Vermaelen reported that non-tendering shareholders earned an abnormal return of 12.5%. J. Lakonishok & T. Vermaelen, supra note 24, at 6. Similarly, Vermaelen found that post-expiration price was approximately 13% above preoffer prices. See Vermaelen, supra note 24, at 151 (cumulative average residual of 13.2% from day -5 to day +60); see also Salomon Brothers, supra note 24, tables 3, 5 (for days -20 to +60, 7.4% returns for 1985-89 self-tenders and 4.3% for 1988-89 open market repurchases). In determining shareholder gains on a self-tender, however, the relevant figure is not post- but rather pre-expiration price. In other words, shareholder gains include not merely the increase to post-expiration price, but also the right to participate in a premium self-tender. The gains are therefore approximately 16%, the abnormal stock price increase on announcement. See Smith, supra note 24. There is evidence of further significant gains in the months after a self-tender. For the period from month three to month 24 after the repurchase, Lakonishok and Vermaelen reported significant cumulative abnormal returns of 8.8%, adjusted for size and beta. J. Lakonishok & T. Vermaelen, supra note 24, table IX. For the first subperiod of 1962-79, the returns were 10.0%, significant at the 5% level. Id. table X. For the following subperiod of 1980-86, however, the returns were 6.8%, and not significantly different from zero. Id. table XI. The 1962-79 findings are remarkable because they are inconsistent with market efficiency. The dissipation of arbitrage opportunities in the second subperiod might then be attributed to market learning. However, another study of 60 1970-84 repurchasing firms that were not subject to a second repurchase or a control change thereafter found average returns of 21.3% in the first year after the repurchase, and no significant abnormal returns in the following two years. See L. Dann, W. Mikkelson & M. Partch, Stock Repurchases by Tender Offer, Permanent Stock Price Effects, and Changes in Corporate Control 12-14 (1989) (unpublished manuscript on file at the Indiana Law Journal).

A third study of firms which from 1974 to 1983 reacquired at least 4% of their shares in one of those years through a self-tender or an open market repurchase, and which remained publicly held at the end of 1984, found subsequent average annual returns of 22.6%, as compared to 14.1% returns for the S & P 500. See Loomis, Beating the Market by Buying Back Stock, Fortune, April 29, 1985, at 42, 45. The study measured returns from the end of the month in which the announcement was made in an effort to exclude announcement gains. Id. at 45. The reliability of Loomis' findings is, however, considerably weakened by a sampling error. Loomis' sample of repurchasing firms included both large and small firms, with firms that failed excluded from the sample. Higher returns would then be anticipated for the smaller firms than for the S & P 500 firms with which they were compared as a consequence of the survivorship bias. For evidence of the small firm effect, see J. Lakonishok & T. Vermaelen, supra note 24, tables XIII-XIV.

28. For example, a significant two-day 0.9% return for a dividend increase was reported in Smith, supra note 24, at 8 (aggregating two previous studies), while a significant two-day 3.7% return was associated with a dividend initiation for firms which had either never paid a dividend or had not done so for at least 10 years. See Asquith & Mullins, The Impact of Initiating Dividend Payments on Shareholders' Wealth, 56 J. Bus. 77, 85-89 (1983). It might be suggested that the announcement effects of a dividend payout are smaller than those of a self-tender because a smaller cash payout is made in the former case. But size of payout is not the only important factor, because higher returns are reported on a dividend initiation than on the distribution of a greater amount of money through a specially designated dividend. See Brickley, Shareholder Wealth, Information Signaling and the Specially Designated Dividend: An Empirical Study, 12 J. Fin. Econ. 187, 193, 195, 198-99 (1983) (significant two-day 2.1% increase); Jayaraman & Shastri, The Valuation Impacts of Specially Designated Dividends, 23 J. Fin. & Quant. Analysis 301, 306-09 (1988) (significant three-day 1.6% increase). Among issuer-initiated financing decisions, only buyouts have been found to have a higher announcement effect. See DeAngelo, DeAngelo & Rice, supra note 6, at 400-01. Like buybacks they feature a substantial cash payout on a non-pro rata basis in order to retire equity interests.
A. Claimholder Expropriation

Expropriation theories assume that the firm pays more for the shares than they are worth, more at least than management thinks them to be worth. In such cases, the right to tender is valuable in itself. Thus, if the tender rights are in substance restricted to favored shareholders, the buyback is a form of self-dealing not dissimilar from an issue of watered stock. When shares are issued at an undervalue, the favored shareholder buys in at a bargain price. In the reverse transaction, the same shareholder resells his shares on terms not available to other shareholders. In both cases, wealth is transferred from non-trading to trading shareholders. Apart from the shareholders, buyback losers might include debt holders, whether consensual or non-consensual.

1. Shareholder Expropriation

When offer price exceeds the prevailing market price, distributional theorists may complain that the buyback will expropriate wealth from non-selling shareholders. However, there is little likelihood of shareholder expropriation when the repurchase is made at market price. Because this is how open market repurchases are conducted, they will ordinarily not transfer wealth to selling shareholders. Shareholder expropriation theories therefore offer an explanation for SEC Rule 10b-18, which conditions the availability of a safe harbor for open market repurchases on the absence of a premium offer price.

29. A non-premium repurchase might still benefit insiders by increasing the price paid to them on a sale of their shares. Block sales of stock by insiders depress stock price, likely through the negative signal about firm value. See, e.g., Mikkelson & Partch, Stock Price Effects and Costs of Secondary Distributions, 14 J. Fin. Econ. 165, 176, 185 (1985) (significant two-day announcement effect of -2.9% for all insiders, with a 3.4% decline if seller was a director or officer). Facilitating insider block sales might then benefit shareholders by lowering barriers to control changes, with insiders more willing to leave a firm when given an opportunity to sell their shares in it. This may explain the failure to detect stock price decreases on a targeted repurchase of insider stock. See Bradley & Wakeman, The Wealth Effects of Targeted Share Repurchases, 11 J. Fin. Econ. 301, 322-23 (1983) (three-day returns of 1.2% not statistically different from zero). These findings contrast significantly with the evidence of shareholder losses on insider sales in secondary markets reported in Mikkelson & Partch, supra.

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Unlike open market repurchases, self-tenders are made at a substantial premium over both market price and post-offer expiration value. In addition, the stock price decline on the expiration of an oversubscribed offer might appear to suggest a wealth transfer from non-tendering to tendering shareholders. Whether a soft defense of the institution will succeed then depends upon whether shareholders are adequately protected by the requirement that the tender be made to all shareholders of the class sought, with proration if the offer is oversubscribed. Unless shareholders are prevented from tendering, equal tender rights will ordinarily prevent management from expropriating shareholder wealth on a buyback. Suppose, for example, that a firm with 100 shares offers to purchase twenty of them for $120 each at a time when their market value is $100, and all shareholders believe market price to be accurate. All shareholders will tender to obtain the higher offer price, with the twenty shares taken up on a pro rata basis. After the take-up, firm value (formerly $10,000) will decline to $7600 (subtracting the repurchase price of $2400). At the same time, share value will decline to ($7600/80 =) $95. One who held ten shares before the self-tender announcement will sell two shares for $240, with the eight remaining shares worth (8 x $95 =) $760, for a total value of $1000. Because this is what the block of ten shares was worth prior to the announcement, the buyback will be distributionally neutral, with the decline in stock value at the take-up offset exactly by the opportunity to participate in the premium self-tender.

The distributional theorist might nevertheless claim that the requirement of formal equality provides inadequate protection if an offer, which on its terms is open for acceptance by all members of the class, is in substance restricted to a favored group. However, it is unlikely that outside shareholders face any special obstacles in tendering their stock. The offer must be adequately publicized, and must remain open for twenty business days.

31. See supra note 25. In such cases, the offer is said to be "front-end loaded." Though front-end loading may give rise to distributional concerns, no shareholder would tender unless offer price exceeded anticipated post-expiration price. See Grossman & Hart, Disclosure Laws and Takeover Bids, 35 J. Fin. 323 (1980).

32. See supra note 26.

33. See supra note 4.

34. In the same way, equality of opportunity minimizes distributional concerns on an offer of rights at a bargain price. A rights offering may nevertheless be unfair where shareholders are required to come up with large amounts of money on short notice if they are to avoid dilution. See Browning v. C & C Plywood Corp., 248 Or. 574, 434 P.2d 339 (1967) (issued share capital increased from 1,000 to 500,000 shares, and period of time given to plaintiff to take up 152,000 shares at $1 each known by management to be insufficient). Liquidity problems of this kind would not arise on a premium self-tender, where the shareholder sells rather than buys stock.

35. 17 C.F.R. § 240.13e-4(e) (1989) requires either publication of material information in a newspaper or a mailing to all shareholders.
The more significant barrier is likely a tax burden which is unequally borne by selling shareholders. While retention of the stock will not give rise to tax liability, selling shareholders may be liable to pay capital gains tax. The individual shareholder's decision to tender will therefore be made by balancing the anticipated tax liability against the premium offered by the firm. Not all shareholders have the same need for liquidity, and they will react differently to the choice. Nevertheless, each group would still be maximizing its wealth, net of taxes. Even were this not the case, it is difficult to see on what theory managers might be said more loyal to that group of shareholders least concerned with capital gains tax. If anything, managers may be presumed to be more closely allied to retaining than tendering shareholders, because the sale reduces the latter's voting power in the firm.

There is little evidence of shareholder expropriation on a buyback. Such theories predict that, on the termination of a self-tender, stock price will fall below preoffer levels. However, post-expiration share price remains about 13% above preoffer price, and this appears to represent a permanent gain for retaining shareholders. Even the ex dividend decline on expiration of the offer is unobjectionable if, as suggested in Part II, the permanent wealth gains result from the signal of undervaluation provided by a premium offer price. The evidence that insiders do not tender their shares on a self-tender is also inconsistent with shareholder expropriation theories, which assume that insiders will regard the buyback as an opportunity to bail themselves out. Insiders usually commit not to tender their stock on a self-tender, which would be entirely self-defeating if motivated by shareholder...

36. See supra note 4.
37. See I.R.C. §§ 301(c)(2), 302 (1989). This likely explains why, notwithstanding the premium, relatively few shareholders tender. See, e.g., Dann, supra note 24, at 122 (mean percentage of shares tendered is 18.0%). Apart from tax considerations, signalling gains on a buyback also reduce the incentive to tender. For any shareholder, the relevant comparison on a self-tender is not that between offer price and preoffer price, but that between offer price and expiration price. On one study, for example, the adjusted offer premium was found to be only 4.5%. See Rosenfeld, supra note 24, at 55. In addition, insider retention of stock on a self-tender, see infra note 40, will reduce the number of tendering shareholders, because insider holdings in repurchasing firms are frequently substantial. See Vermaelen, supra note 24, at 161 (mean insider holdings of repurchasing firms found to be 17.5%).
38. Efficiency gains aside, shareholders will, therefore, prefer that the distribution take the form of a dividend. If all shareholders stand an equal chance of being able to participate in the premium self-tender when they purchase their shares, there will still be considerable uncertainty about who will do so. Once missed, the opportunity to tender will not soon come again, because self-tenders are unlikely to be repeated for a considerable period of time. See supra note 24. The uncertainty about who will share in the premium distribution is then eliminated when the same amount of moneys are paid out as a dividend. While this does not establish the shareholder expropriation thesis, it does point to the need for an alternative explanation for premium self-tenders, such as the signalling theories discussed in Part II.
39. See supra note 27.
expropriation.\textsuperscript{40} Indeed, if managers seek to transfer wealth to themselves from outside shareholders, a self-tender is a cumbersome method of doing so. Because of the requirement that the premium offer price be shared with outsiders who tender, managers may loot a firm more easily through secret side payments to themselves.\textsuperscript{41}

The shareholder expropriation thesis also proves too much. If buybacks are objectionable because tax barriers prevent some shareholders from tendering, then dividend reinvestment plans which permit shareholders to elect between cash and stock dividends are also suspect. Under such plans, a corporation creates two classes of common shares which are convertible into each other, with cash dividends paid on one and stock dividends on the other. This gives the firm two classes of holders, with the shareholder’s choice between the two plans dictated by personal tax considerations. Notwithstanding the formally different payouts, dividend reinvestment plans have not occasioned great concern, as a consequence of the choice given to shareholders. If equality of opportunity renders such plans benign, there seems no reason why it cannot do the same for buybacks.

2. Creditor Expropriation

On creditor expropriation theories, the repurchase benefits selling shareholders at the expense of non-convertible debt holders, either by reducing anticipated firm value on default or by increasing the probability of default. However, there is little evidence of creditor expropriation on a buyback. Expropriation theories predict that non-convertible debt will decline in value on a buyback announcement. The size of the decline should, moreover, be positively correlated with both the amount of premium offered for the shares and the stock price increase. The greatest decline in debt value would therefore be expected on a self-tender, where offer price represents a premium and where stock price increases most on announcement.\textsuperscript{42} Nevertheless, one study found that returns to non-convertible bondholders in such cases were not significantly different from zero.\textsuperscript{43} In addition, a further
study of bond ratings for firms undergoing a buyback found that none of

holders. See Galai & Masulis, The Option Pricing Model and the Risk Factor of Stocks, 3 J. Fin. Econ. 53, 61-64 (1976) (a greater mean-preserving variance increases residual value at the expense of senior interests). A buyback may then reduce bond value by increasing the probability of bankruptcy, particularly if the repurchase is financed by a new debt issue. In addition, the distribution to shareholders may reduce the assets available to debt holders on default, as a spin-off of assets does. Id. at 69-70.

The bondholder expropriation thesis is, however, speculative. Masulis' returns were generally consistent with those reported by Dann, with non-convertible bondholder returns of 0% for a two-day window around the announcement date, and -0.9% returns when the announcement period is extended from day -4 to day +1. The returns for non-convertible preferred stock were 0.9% and -1.5%, respectively. In light of these unpromising results, stockholder wealth gains cannot be attributed solely to distributional effects.

It might nevertheless be argued that the magnitude of stock price increases on a buyback announcement indicates interclass wealth transfers. See Masulis, supra note 24, at 312. Large shareholder gains, together with unchanged bond prices, are therefore said to support creditor expropriation theories. But even if the increase in firm value is accompanied by greater variance, a strong argument may be made for facilitating buybacks if efficiency and distributional effects are not severable. Self-tenders are not unjust on Kaldor-Hicks norms if the increase in shareholder wealth exceeds the debt holder loss, and any attempt to reduce debt holder losses will result in still greater shareholder losses.

While repurchases are on average benign for bondholders, it is quite possible that wealth transfers may be found in individual cases. See, e.g., Wansley & Fayez, Stock Repurchases and Securityholder Returns: A Case Study of Teledyne, 9 J. Fin. Res. 179 (1986) (significant negative returns for bondholders on repurchase announcements by Teledyne Corp.). Otherwise, a six foot man could not drown in a river whose average depth is five feet. However, individual anomalous returns offer an inadequate basis for legal prescriptions, which must focus on the mean and not the outlier.

Thus far, there has been little evidence of inter-class wealth transfers in related transactions. Unexpected dividend increases have been found to result in significant stock price increases, but not in significant bond price declines. See Handjinicolaou & Kalay, Wealth Redistributions or Changes in Firm Value: An Analysis of Returns to Bondholders and Stockholders Around Dividend Announcements, 13 J. Fin. Econ. 35 (1984). Debt holder expropriation would appear more likely on specially designated dividends (SDDs), where the payout is greater than an ordinary dividend and is labelled "special" or "extra." However, a study of bond prices on SDD announcements found that the null hypothesis of an unchanged bond price could not be rejected. See Jayaraman & Shastri, supra note 28. Similarly, no evidence of debt holder expropriation was found on voluntary spin-offs of corporate divisions to firm shareholders, see Schipper & Smith, Effects of Recontracting on Shareholder Wealth: The Case of Voluntary Spin-offs, 12 J. Fin. Econ. 437 (1983), or the acquisition of a new firm. See Asquith & Kim, The Impact of Merger Bids on the Participating Firm's Security Holders, 37 J. Fin. 1209, 1218-19 (1982). Wealth transfer effects might be expected to be stronger on a leveraged buyout (LBO), because the cash payout is greater and the new debt levels higher. Until now, however, there has been little systematic evidence that shareholder gains on an LBO are to an important extent attributable to bondholder expropriation. See Amihud, Leveraged Management Buysouts and Shareholders' Wealth, in LEVERAGED MANAGEMENT BUYSOUTS 3 (1989) (evidence of small loss by nonconvertible bondholders); Marais, Schipper & Smith, Wealth Effects of Going Private for Senior Securities, 23 J. Fin. Econ. 155, 177-78 (1989) (statistically insignificant bondholder returns for 1974-85 buyouts, but pervasive downgrading of debt ratings following successful buyout proposals). Nevertheless, large bond price declines were reported in the wake of the proposed RJR Nabisco LBO in October 1988, see Winkler, Corporate Finance Blues Are Expected to Continue, Wall St. J., Jan. 3, 1989, at R4, col. 2 (large LBOs said to be disastrous for bondholders), and bondholders may respond to this threat with reinforced covenants. See infra note 46; see also Cornett & Travlos, supra note 3 (no evidence of wealth transfer effects in debt-for-equity exchange offers).
the sample of twenty-four firms experienced a decrease in its rating a year after the repurchase.\textsuperscript{44}

Were interclass wealth transfers anticipated, they would arise through the distribution of cash to shareholders, rather than through the special features of a buyback. There is, then, no reason, in the name of creditor protection, to restrict buybacks to any greater extent than dividend payments, and modern corporate statutes generally subject dividends and buybacks to similar solvency restrictions.\textsuperscript{45} When creditors seek higher protection, they must bargain for it through private solvency bars in loan agreements. To the extent that gaps in these restrictions permit the firm to reduce the value of debt claims, creditors would price them accordingly on issuance. Having paid for the gap, the firm would exploit it. Neither the firm nor its creditors would earn above normal profits, and judicial barriers to such exploitation would amount to shareholder expropriation.

On creditor expropriation theories, then, the absence of blanket antibuyback covenants in loan agreements provides weak evidence of self-tender efficiencies.\textsuperscript{46} If buybacks transfer wealth from debt holders, senior lenders will seek to restrict the firm's ability to repurchase stock. Given the lenders' bargaining clout and sophistication, there is little reason to think that they

\textsuperscript{44} See Vermaelen, \textit{supra} note 24. Vermaelen concedes that these findings do not demonstrate the absence of wealth transfers from bondholders, but argues that some decline in bond ratings would likely be noticed if the substantial shareholder gains on a buyback were attributed primarily to interclass wealth transfers. \textit{Id.}

If bondholders are generally secured creditors, these findings may not be thought to establish the distributional neutrality of buybacks for unsecured creditors. Buybacks critics may thus argue that bondholders are unsuitable proxies for unsecured creditors, for whom an increased risk of default may weigh more heavily. But while the distribution may affect the two classes of creditors differently, a payout which prejudices unsecured creditors might be expected to lower the value of secured claims by reducing the firm's liquidation value. Given the failure to detect any distributional effects for bondholders, then, claims of wealth transfers from unsecured creditors are highly speculative.


\textsuperscript{46} A study of 150 randomly selected trust indentures reported that dividends and repurchases were generally subjected to the same constraints. See Kalay, \textit{Stockholder-Bondholder Conflict and Dividend Constraints}, 10 J. Fin. Econ. 211, 212, 214 (1982).

Evidence that lenders react to threats of dilution is provided by recent responses to the threat of expropriation on a leveraged buyout. Beginning in 1986, some trust deeds adopted poison puts which permitted bondholders to resell their bonds at par value to the firm upon a successful unfriendly takeover. These rights were said to be frequently worthless, because almost all such offers eventually succeeded as friendly ones. However, reports of bondholder losses on leveraged buyouts led lenders to seek greater antidilution protection through "super poison puts" which may be exercised on a wider variety of restructurings. See Winkler, \textit{Harris, Williams Cos. Unit Are First to Offer Super 'Poison Puts,'} Wall St. J., Nov. 16, 1988, at C3, col. 3. One of the triggering events for the new puts is a buyback of 30\% or more of the firm's stock, \textit{id.} at C20, col. 6, a figure which would restrict self-tenders initiated as part of a recapitalization, but not most self-tenders adopted for signalling purposes. See Dann, \textit{supra} note 24, at 121.
would not succeed, unless the restrictions imposed greater losses on residual owners than debt holders would bear were buybacks permitted. Because buybacks are not a new phenomenon, the absence of flat prohibitions in loan agreements, or of a distinction between dividend and buyback distributions, suggests either that self-tenders are distributionally neutral or that, on the creditor expropriation thesis, they are efficient.

B. Stock Price Manipulation

Like expropriation theories, manipulation explanations of buybacks assume an excessive offer price. Here, however, managers expect that the repurchase will result in a permanent increase in stock price. The firm’s present shareholders are then made better off by the repurchase, whether or not they tender. Nevertheless, manipulative buybacks are still troubling from a distributional perspective, because an inflated stock price might transfer wealth from future to existing stockholders. The firm might thus announce a buyback prior to a stock issue or an exchange offer for another firm’s stock.\(^{47}\) Stock price manipulation may also have distributional effects on secondary markets, transferring wealth to those shareholders who expect to sell their shares before the mispricing is revealed.\(^{48}\) Apart from distributional concerns, stock price manipulation may lead to a misallocation of


\(^{48}\) When signalling techniques are costly, there is a conflict of interest at the time of signalling between long and short term investors. See Miller, supra note 18, at 44-47. If the benefit of signalling is the accelerated disclosure of undervaluation, long term investors may prefer the delayed revelation of the discount to costly signalling. Shareholders who will sell in the interim might, however, wish the firm to bear excessive signalling costs. However, this explanation of the motive to manipulate fails to provide a plausible account of why managers will identify with selling shareholders. One reason why they might be thought to do so is because managerial stock holdings in repurchasing firms are non-trivial. See supra note 37. But this will not lead managers to manipulate stock price unless they expect to sell their own shares before the firm’s true value is revealed. For most managers, this may reasonably be thought unlikely. Apart from managerial stock ownership, incentive provisions in management’s compensation agreements might be thought to constitute a side payment to induce false signalling. However, evidence that the portion of managerial compensation not derived from stock ownership is very insensitive to stock market performance is inconsistent with this explanation of manipulative repurchases. However, considerably more of the variance in management compensation in large firms has been found attributable to stock holdings rather than to non-stock compensation. See Benston, The Self-serving Management Hypothesis, 7 J. Accr. & Econ. 67 (1985). The same is likely true of repurchasing firms, because of the large insider holdings in them. See supra note 37.

Managers may have stronger reasons to manipulate stock price in a control contest. In Crane Co. v. Westinghouse Air Brake Co., 419 F.2d 787 (2d Cir. 1969), cert. denied, 400 U.S. 822 (1970), for example, an ally of the target was found to have manipulated its stock price under § 9(a)(2) of the Exchange Act by purchasing a large number of its shares at premium prices, while at the same time arranging to resell many of them at a lower price. The ally’s purpose in this was to increase the target’s stock price in order to defeat the plaintiff’s tender offer, thus facilitating a merger between the ally and the target.
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resources. With an artificially increased stock price, the firm’s cost of capital is reduced, permitting it to obtain more funds through a subsequent issue of shares than it otherwise would. In addition, manipulative signals are parasitic upon honest signals of undervaluation, and weaken signalling efficiencies. The more probable it is that a signal is manipulative, the less credible it becomes.

In several respects, the manipulation hypothesis provides a more plausible explanation for the buyback movement than expropriation theories do. Manipulation theories are consistent with evidence of stock price increases on announcement and insider retention. Manipulation explanations also receive support from the evidence of stock market manipulation even after the passage of securities legislation. In addition, recent studies of stock market bubbles may seem to suggest that opportunities for manipulation are a permanent feature of organized stock markets.

Stock bubbles, where market price is too high (or too low), as compared to measures of fundamental value, are today a “hot” academic topic. The possibility of stock price anomalies is troubling to advocates of market

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49. Evidence of manipulative gains is provided by studies of significant positive returns prior to the discovery of manipulation by securities regulators and the imposition of trading suspensions. See Kryzanowski, Misinformation and regulatory actions in the Canadian capital markets: some empirical evidence, 9 BELL J. ECON. 355 (1978) (5.0% gains for 10-week period prior to suspension).

50. A “bubble” refers to a price on one market which exceeds that for which the goods trade on a second market, with the second price providing a less biased measure of value. On a stock price bubble, share price is excessive as compared to measures of fundamental value, such as the value of underlying assets or the anticipated earnings stream.

51. Much of the recent literature on stock price bubbles is empirical, and focuses on stock price volatility. When compared with measures of fundamental value, stock prices may seem to be excessively volatile. The pioneering studies here include those of Robert Shiller. See, e.g., Shiller, Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?, 71 AM. ECON. RIV. 421 (1981). While these have not passed without criticism, see, e.g., Kleindon, Variance Bounds Tests and Stock Price Valuation Models, 94 J. POL. ECON. 953 (1986), a review of the recent literature concludes that the findings of excess volatility have not been overturned. See West, Fads and Stock Price Volatility Tests: A Partial Evaluation, 43 J. FIN. 639 (1988). On the other hand, this literature does not establish the existence of bubbles, because stock price might provide the best measure of value, with market fundamentals insufficiently volatile as measured against contemporaneous expectations. In particular, traditional models of the firm’s distribution policy assume that dividends are sticky in the short run. See infra note 149. For a skeptical examination of bubbles, see Merton, On the Current State of the Stock Market Rationality Hypothesis, in MACROECONOMICS AND FINANCE: ESSAYS IN HONOR OF FRANCO MODIGLIANI 93 (1987).

Theoretical accounts of bubbles are still at a very preliminary stage. The most serious problem is to explain how the bubble may persist if it represents an opportunity for speculative gain and there are no apparent barriers to arbitrage. On some models, the bubble survives because of noise trading by naïve investors, who might even outperform “rational” arbitragers. For example, judgment biases of the kind suggested by Tversky & Kahneman, The Framing of Decisions and the Psychology of Choice, 211 SCI. 453 (Jan. 1981), might help to explain noise trading. See Arrow, Risk Perception in Psychology and Economics, 20 ECON. INQUIRY 1 (1982); De Bondt & Thaler, Anomalies: A Mean Reverting Walk Down Wall Street, 3 J. ECON. PERS. 189 (1989).
efficiency, and may be an example of crowd psychology. The indeterminacy might thus result from self-fulfilling expectations, with investors who believe that an event will lead to a 20% stock price increase bidding up share value by that amount and no more. The price increase will then reflect investor perceptions about the event as well as market fundamentals. This, in turn, might facilitate market manipulation, because managers need not fear an ex post settling up of stock value if the price increase is permanent.

Even if bubbles do exist, however, it does not follow that they can be self-induced by a firm. While there is some evidence that stock prices may in general be excessively volatile as compared to earnings or dividends, it has not been shown that a bubble may be firm-specific. Before this may happen, the buyback must result in mispricing between securities in the same market on the buyback announcement. A manipulative repurchase may indeed result in stock price increases, as firm managers free ride on the reliability of buyback signals. However, there is no reason to suppose that, more than other forms of fraud, manipulative buybacks are immunized from the corrective impulses of speculatively efficient markets. Put another way, manipulation theories prove too much: If buybacks should be banned because of the possibility of false signalling, then all signalling strategies are suspect. Every signalling device which reveals material information when used honestly, may mislead when used dishonestly.

Opportunities for manipulative gains may thus be lost when markets react to the possibility of false signals. One way this may happen is through a discount applied to stock price on issuance. Outside investors would pay less for their shares, and the firm would in turn manipulate. However, neither the firm nor the investors would earn more than the market rate of return. Stock price discounts of this kind are, however, unlikely, because

52. Stock markets are speculatively efficient when share prices reflect all available public information. There is considerable evidence that, to a very high degree, stock markets are efficient in this way. See Merton, supra note 51.

53. In addition, buybacks may lead to more efficient markets by arresting stock market crashes, as seems to have happened in 1987. See supra note 2. Even if buybacks might, in theory, produce positive bubbles, then, they may be more valuable in curing negative bubbles.

54. The hypothesis that stock markets will react to important changes in corporate legal rules was questioned in Fox, The Role of the Market Model in Corporate Law Analysis: A Comment on Weiss and White, 76 Calif. L. Rev. 1015 (1988), which critically examines a study of the effects of recent Delaware corporate law decisions on the prices of Delaware firms. See Weiss & White, Of Econometrics and Indeterminacy: A Study of Investors' Reactions to "Changes" in Corporate Law, 75 Calif. L. Rev. 551 (1987). Though Fox provides a useful review of problems associated with the aggregation of individual pricing decisions on markets, his most telling objection to market model theories of corporate law is that event studies are unable to identify all important legal changes. Thus, the market model's assumption that legal changes will be reflected in share price may be correct, but the change may not be detectable on the usual tests of statistical significance. Corporate scholars might then be led into the Type II error of failing to reject the null hypothesis that the legal change is unimportant. In this respect, therefore, Fox's arguments are entirely consistent with the assumptions of the
what will ordinarily be discounted is not stock price on issuance, but rather the buyback signal. If repurchases were routinely manipulative, this would be reflected in a smaller buyback announcement effect. The most telling argument against the manipulation thesis is then the persistence of strong stock price increases when buybacks are announced. If buyback gains were temporary, with manipulative price increases wiped out when true value was subsequently revealed, the announcement increases would themselves unwind.\(^5\)

Opportunities for manipulative gains may also be lost ex post facto when the firm issues fresh equity to take advantage of the bubble. The least plausible theory of stock market manipulation assumes that, in buying stock, speculators can increase the price of widely-traded securities merely through a shift in the demand for them.\(^6\) This explanation of stock price manipulation is inconsistent with evidence that the demand for such securities is almost perfectly elastic.\(^7\) Moreover, even with a downward-sloping market model, though they suggest limits to its ability to inform the content of corporate law principles.

Fox's cautionary comments are useful, if only because of the market model's popularity in contemporary corporate law scholarship. However, market studies on changes in legal rules are a relatively new phenomena, and it is premature to predict how informative they will be in the future. As an example of how more sophisticated sampling procedures might sharpen the model's insights, a recent study of the effect of Unocal Corp., 493 A.2d at 946, arrived at results very different from those of Weiss and White through a narrowing of the sample to Delaware firms that appeared to be the targets of hostile takeover bids at the time. See Kamma, Weintrop & Wier, Investors' Perceptions of the Delaware Supreme Court Decision in Unocal v. Mesa, 20 J. Fin. Econ. 419 (1988) (sample of 14 firms for which a 13D filing had been made in the previous two months, and which had been the subject of reports concerning a hostile bid in the wake of the filing). While Weiss and White found significant returns of 3.6% for all Delaware firms over the nine-day period following announcement, Kamma, Weintrop and Wier reported significant -2.4% two-day returns for their smaller sample.

Even if a large number of buybacks are motivated by the prospect of manipulative gains, mean announcement effects may still be positive if the other buybacks in the sample represent efficiency gains. For example, if wealth gains are not anticipated in 50% of the sampled buybacks, and strong wealth gains are expected in the balance, the mean announcement return will be an intermediate figure. When shareholders are unable to distinguish between the two kinds of firms on announcement, they will initially register a similar stock price increase. Some free riding by low quality firms through manipulative repurchases is no doubt possible. However, there is little evidence of large scale manipulation on buybacks. A greater variance in shareholder returns would be anticipated on such theories, but studies of returns for two months after announcement have failed to detect evidence of this. See Dann, supra note 24, at 124. In addition, the magnitude of the stock price increase on a self-tender, see supra note 24, argues against widespread manipulation.

6. See Ellis, Repurchase Stock to Revitalize Equity, 43 Harv. Bus. Rev., July-Aug. 1965, at 119; Guthart, Why Companies Are Buying Back Their Own Stock, 23 Fin. Analysts J. 105 (1967). The firm's offer to repurchase stock will add a new demander, and if the demand curve for the firm's stock is downward sloping, the offer will shift the curve to the right.

demand curve, such theories do not explain how a manipulative firm can increase stock price through its repurchases without decreasing it on a subsequent stock issue. If the scheme depends on a change in consumer demand, then, markets are likely self-arighting, with little need for anti-manipulation prohibitions. A second manipulation theory would attribute stock price changes to the signal of undervaluation emitted when the shares are repurchased. Once again, however, the opportunity for manipulative gains may be lost on the subsequent stock issuance, for if a buyback signals good news about the firm, a stock issuance indicates less sanguine expectations. 58 In fact, stock price declines on issuances are well-documented, 59 and were even thought to provide a justification for exempting market stabilization repurchases from prohibitions of manipulation. 60

C. Insider Trading

Expropriation and manipulation theories assume that the firm pays more for the shares than managers believe them to be worth. By contrast, on insider trading theories the firm pays less for the shares than they are believed to be worth, and the repurchase transfers wealth from selling to non-selling shareholders. Here, post-offer stock value is expected to exceed stock price (because a bargain which remains a bargain is not a bargain), and a shareholder's optimal strategy is to retain his shares. The distributional effects would then arise through insider trading, with firm managers and their allies refusing to tender because they possess better information about hidden firm value than outsiders. 61 Wealth transfer effects would be greatest


59. See, e.g., Smith, supra note 24, at 8, table 2 (finding significant two-day returns of -1.6% for common stock issuances on aggregating five studies). The insight that stock issuances indicate that the firm is overvalued powers the well-known model of Myers and Majluf. Myers & Majluf, Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have, 13 J. Fin. Econ. 187 (1984); see also Myers, The Capital Structure Puzzle, 39 J. Fin. 575 (1984). Here, the issuance of securities provides information about firm value because investors assume that managers seek to transfer wealth to existing shareholders. Thus, if stock price is $100, managers will be more likely to issue new equity if they believe the shares worth $90 than $110. Because of the negative message on a stock issuance, a firm may abandon some net present value opportunities rather than finance them with fresh equity. A firm will then establish a pecking order in issuing new claims, financing from retained earnings and debt before issuing new equity.

60. See infra note 191.

61. Insider trading explanations of buybacks are suggested in Brudney, supra note 9; Brudney, A Note on “Going Private”, 61 Va. L. Rev. 1019, 1046 n.89 (1975) and Guthart, supra note 56, at 108. There is no question but that a firm which repurchases its stock is an insider of itself for the purpose of insider trading sanctions. See, e.g., SEC v. Texas Gulf Sulphur Co., 401 F.2d 833, 848-49 (2d Cir. 1968) cert. denied, 394 U.S. 976 (1969); In re Ward La France Truck Corp., 13 S.E.C. 373 (1943).
when the firm does not offer a premium for the stock, as on an open market repurchase. But even if a buyback is motivated by insider trading, the firm may still make a premium self-tender if it seeks a large number of shares. Although self-tenders are made at a significant premium, this does not guarantee distributional neutrality, for indicated firm value to those in possession of inside information may be higher still.

Evidence of informational asymmetries between management and outside shareholders is consistent with insider trading theories. So too is evidence of insider retention on a self-tender. In addition, findings of significant abnormal stock price increases in the months following a self-tender support insider trading explanations. However, insider trading theories are implausible when the repurchase is publicly announced. If repurchases are made because the stock is undervalued, the repurchases will reveal the undervaluation. Wealth transfers would then be impossible.

Insider trading theories therefore require a failed signal. Such theories may then seem more plausible where the fact of the repurchase is not publicly disclosed, as sometimes happens on open market repurchases. In such cases, however, the outside shareholders would have sold their shares even without the repurchase, and thus are not harmed by it. If stock price has increased because market professionals are aware of the buyback, selling shareholders are indeed better off for it. In addition, egalitarianism would lead one to encourage share repurchases, which offer wider sharing of gains among shareholders. All non-tendering shareholders share in buyback gains, but without the repurchase the benefit accrues solely to purchasers in

62. See supra note 21.

63. See supra note 40. However, there is little question but that premium self-tender offers represent a bargain opportunity for shareholders. Thus, J. Lakonishok & T. Vermaelen, supra note 24, at 6, reported that tendering shareholders received a 22% premium while non-tendering shareholders obtained a 13% rate of return. Given their findings of significant post-expiration returns, at least for pre-1980 self-tenders, see supra note 27, the optimal shareholder strategy, tax and transaction costs apart, is to tender and to apply the proceeds to the purchase of new shares of the same firm. This curious result would appear attributable to an excessively discounted signal of undervaluation.

64. See supra note 27.

65. For this reason, insider trading and signalling theories may closely resemble one another. One example of this is the Myers and Majluf explanation of financing decisions. See Myers & Majluf, supra note 59. Myers and Majluf assume that managers seek to maximize the wealth of existing shareholders through their financing decisions. However, this will not amount to insider trading when all parties are aware of management's bias in favor of existing shareholders, and know that they all know this. The paradox of Myers and Majluf insider trading is then that financing decisions are motivated too by a desire to transfer wealth to existing shareholders, but cannot do so because of the information communicated by the decision.

66. See Vermaelen, supra note 24, at 143. Prepurchase disclosure is said to be made in most cases. See Dann, supra note 24, at 115; see also Loomis, supra note 27, at 45 (news of open market repurchases generally passed along between market intermediaries).

67. This is of course an application of Henry Manne's arguments with respect to insider trading. H. MANNE, INSIDER TRADING AND THE STOCK MARKET 80-90 (1966).
secondary markets. To complain that shareholders receive differential treatment on a buyback is therefore meaningless, because full equality is not possible.

Insider trading theories are also suspect when prepurchase disclosure is made. If buybacks were systematically used to transfer wealth from selling shareholders, an even stronger announcement effect would over time be expected. On insider trading theories, repurchased shares are antilemons. In a "lemons" market, goods are sold by sellers whose knowledge of product quality is not shared by buyers. Sellers know product quality prior to the sale, but buyers know only that the goods are of two possible qualities: they are either lemons or free of defects. Given the informational asymmetry, the market for the higher priced goods could disappear altogether. In a buyback, on the other hand, the informational advantages are possessed by buyers not sellers, and the goods are not lemons but antilemons. This places a reverse spin on the bargain. In a lemons market, buyers realize that, however little they pay for higher product quality, it might be too much. In an antilemons market, whatever the buyer receives might be too little. Thus, if managers systematically regarded offer price as inadequate, the fact of the buyback would communicate this to shareholders. Shareholders would retain their stock on the buyback and wait for the indicated increase in value. In antilemons markets, purchasers are protected through the signal provided by the offer of purchase.

68. See Akerlof, The Market for "Lemons": Quality Uncertainty and the Market Mechanism, 84 Q.J. Econ. 488 (1970). The informational asymmetry is assumed to be impacted, resisting attempts to dissipate it through seller bonding or purchaser screening strategies.

69. This might happen even where some of the goods are high quality ones if the seller, to the buyer's knowledge, could costlessly substitute lemons in their place. The possibility of strategic behavior by the seller would then prevent the buyer from forming a probabilistic estimate of product quality, driving high quality goods out of the market.

70. On distorted choice theories, shareholders might nevertheless feel compelled to tender because the offer is front-end loaded. Suppose that all shareholders believe that their shares are worth $130 each at a time when they are trading at $100. Shareholders might nevertheless be willing to tender on a $120 self-tender if they believe that other shareholders will do so, because failing to tender would leave them with a lower post-expiration price. The collectively rational decision not to tender will then be dominated by the individually rational decision to tender. See, e.g., Gilson, A Structural Approach to Corporations: The Case Against Defensive Tactics in Tender Offers, 33 Stan. L. Rev. 819, 859-62 (1981) (tender decision on a front-end loaded offer analyzed as a prisoner's dilemma problem). However, there is little evidence that distorted choice problems are particularly pressing, either on interfirn or intrafirm offers. Thus, the premium on an any-or-all interfirn offer has been found to be not significantly different from that on a front-end loaded two-tier offer. See Comment & Jarrell, Two-tier and Negotiated Tender Offers: The Imprisonment of the Freeriding Shareholder, 19 J. Fin. Econ. 283, 297-99 (1987). In addition, substantial overtendering would be expected on a self-tender if shareholders felt compelled to tender their shares on a front-end loaded self-tender, and yet on average only 18.0% of the shares are tendered. See Dann, supra note 24, at 122. These findings reveal not an irresistible pressure to tender, but rather an inelastic supply curve for the firm's stock. See supra note 37.
Antilemon theories suggest an explanation for the contours of insider trading liability. Thus, anonymous transactions on stock exchanges, where outsiders are unaware that insiders are trading, may ground a Rule 10b-5 action. Similarly, liability may be imposed under the “special facts” doctrine when shares of closely held firms are traded by insiders who keep their identities a secret. Though the special facts doctrine has been thought applicable primarily in face-to-face transactions, it is precisely when the outsider knows he is dealing with an insider that he is least in need of assistance. For this reason, this is little reason to impeach a stock repurchase when the firm has disclosed its intention to do so as well as all material information known to it. If the announcement effect fails to reflect all undervaluation, the market failure does not imply that the firm is at fault. There is in any event no reason to suppose that market mispricing of this kind would persist.

D. Tax Theories

The possibility that firms may increase their value through financial policies which reduce their tax burden might not sound distributional alarms, but would still undercut rival efficiency theories. It is, however, unlikely that the increase in firm value on a buyback results solely from tax considerations. If a buyback tax preference exists, investors would expect the firm to have adopted financing strategies which minimize the tax burden. Even before the buyback is announced, then, share price would reflect an optimum buyback policy. Investors would in fact be able to predict when

71. See Texas Gulf Sulphur, 401 F.2d at 833 (New York Stock Exchange transactions led to civil liability).
72. In the seminal case on the special facts doctrine, the insider of the firm employed an agent to purchase shares which the insider had reason to think were undervalued. See Strong v. Repide, 213 U.S. 419, 433 (1909) (“[B]y concealing his identity, [the insider] could, by such means, the more easily avoid any . . . actual misrepresentations . . . which he evidently thought were necessary in his case to constitute a fraud.”); see also Broffe v. Horton, 172 F.2d 489 (2d Cir. 1949); Taylor v. Wright, 69 Cal. App. 2d 371, 159 P.2d 980 (1945); Barnes v. Eastern and Western Lumber Co., 205 Or. 553, 287 P.2d 929 (1955); Beggy v. Deike, 413 Pa. 74, 196 A.2d 179 (1963); Nichol v. Sensenbrenner, 220 Wis. 165, 263 N.W. 650 (1936); Gadsden v. Bennetto, 9 D.L.R. 719 (Man. 1913).
73. In some circumstances, however, trades inter praesentes may still be impeached, particularly if outsiders are misled. See e.g., Hotchkiss v. Fischer, 136 Kan. 530, 16 P.2d 531 (1932) (on purchasing shares for $1.25 insider suggested that firm was in difficulties, but $1.00 dividend declared three days later).
74. Disclosure of all material undisclosed information about the firm on a self-tender is mandated by Rule 13e-4(e). See supra note 35.
75. See supra note 27. Antilemon theories suggest that “bargain investment” explanations of related transactions are also unpersuasive. For example, a desire for insider trading gains arising from an undervalued stock price will not explain the management buyout movement if launching the buyout reveals the undervaluation. See Shleifer & Vishny, Management Buyouts as a Response to Market Pressure, in MERGERS AND ACQUISITIONS 87, 96-97 (1988).
the buyback would occur unless it results from an unexpected change in firm value. The significant announcement effects on a buyback therefore suggest that tax explanations provide at best a partial account of the self-tender movement.

1. Personal Tax Theories

Tax theories of buybacks attribute the increase in firm value either to lower personal taxes for shareholders or to lower corporate taxes for the firm. Personal tax theories assume a smaller shareholder tax burden when shares are repurchased on a buyout than when cash is distributed by a dividend payment. Cash dividends in the hands of investors are taxed as income, while moneys received on a share repurchase are taxed as capital gains. Thus, where a higher tax rate is imposed on income than on capital gains, a firm will have an incentive to distribute earnings through buybacks. However, post-1986 distributions are not easily understood on the personal tax hypothesis, because dividends and capital gains received by individuals are now taxed at the same rate. Personal tax theories would indeed have

76. This argument is made in Masulis, The Impact of Capital Structure Change on Firm Value: Some Estimates, 38 J. Fin. 107, 115 (1983).
77. Cash dividends are treated as income under I.R.C. § 301(c)(1) (1988), while buyback distributions in most cases receive capital gains treatment. See I.R.C. §§ 301(c)(2), 302 (1988).
78. Prior to the Tax Reform Act of 1986, Pub. L. No. 99-514, 100 Stat. 2085 (1986), shareholders paid up to a 50% tax on dividends, while the maximum tax on capital gains was 20%. This capital gains tax preference was said to bias distribution policies in favor of buybacks. See, e.g., Bierman & West, The Acquisition of Common Stock by the Corporate Issuer, 21 J. Fin. 687, 690-91 (1966); Brigham, The Profitability of a Firm's Purchase of Its Own Common Stock, 7 Cal. Mgmt. Rev. 69 (Winter 1964); Woods & Brigham, Stockholder Distribution Decisions: Share Repurchases or Dividends?, 1 J. Fin. & Quant. Analysis 15, 21 (1966).
79. Former I.R.C. § 1202, which permitted individual taxpayers to deduct 60% of their net capital gains from their gross income, was repealed by Pub. L. No. 99-514 § 301(a), and in most cases a uniform tax rate of 28% will now be imposed on both capital gains and income. See I.R.C. § 1(j) (1988). Certain features of the post-1986 tax treatment of distributions to individuals may however preserve the capital gains preference, though to a reduced extent. The amount of capital gains to be paid will be computed by reference to the stock's adjusted basis, which might permit the individual to defer tax liability. For example, if the shareholder acquired 100 shares for $100, a take-up of 50 shares on a self-tender at a price of $1.80 each will reduce the adjusted basis of the remaining 50 shares to $80, but will not require capital gains taxes to be paid at that time. Instead, the reduction in the adjusted basis will increase the amount of capital gains tax to be paid when the remaining shares are subsequently sold. If the shareholder retains these shares for a long period of time, deferring the tax liability may be quite advantageous. But if a capital gains preference might in this way remain for individuals, corporations will prefer to receive dividends, because they are permitted to deduct 70% of portfolio dividend income. See I.R.C. § 243(a)(1) (1988). They will then pay an effective tax rate of 10.2% on dividend income, compared to a rate of 34% on capital gains receipts. If anything, then, a dividend preference may now exist in the United States. In other countries, such as Canada, a capital gains preference continues. See R. Brealey, S. Myers, G. SICK & R. WHALEY, PRINCIPLES OF CORPORATE FINANCE 360-74 (1986).
predicted a substantial abatement of the buyback movement after the capital gains tax preference was removed. The significant increase in the number and volume of buybacks in 1987 therefore suggests that other explanations must be sought for buyback gains.80

Apart from difficulties in accounting for post-1986 buyback gains, even pre-1986 gains are something of a puzzle under the personal tax hypothesis. The relative infrequency of buybacks suggests that investors would not have taken their announcement as a signal of a new distribution policy.81 However, unless the buyback represented a change in distribution policy, tax-related gains would not have persisted as they did beyond the offer's expiry. Indeed, had firms sought to alter their distribution policy, the buyback payout might have been impeached by the I.R.S. as a disguised dividend.82 In the only case where an announcement effect would have been predicted on the personal tax hypothesis, the capital gains preference might thus have been lost to the firm. Apart from this, not all investors were taxed more heavily on income than on capital gains prior to 1986, so that once its dividend policy was known a firm might have attracted a particular clientele of investors. With its clientele in place, the firm would have been unable to increase stock price by altering its distribution policies.83 Instead, the change might have led to shareholder discontent, because an investor who preferred the former policy might have had to sell his stock.84

2. Corporate Tax Theories

The corporate tax explanation of buybacks attributes increased firm value to changes in the firm's capital structure. Because a firm cannot deduct the

80. See supra note 1.
81. See supra note 24.
82. This may still be done under I.R.C. § 302(a). See R. CLARK, supra note 9, at 628. When the repurchase is a one-shot transaction, it is unlikely that it could be categorized as essentially equivalent to a dividend payment under I.R.C. § 302(a). In addition, Vermaelen reported that in only three of the 105 self-tenders in his sample was the buyback "substantially disproportionate" under § 302(a)(i), with at least 20% of the stock of tendering shareholders reacquired. See Vermaelen, supra note 24, at 156-57.
84. For a well-known example of such discontent, see V. BRUDNEY & M. CHRELSTEIN, CASES AND MATERIALS ON CORPORATE FINANCE 528-33 (3d ed. 1987) (tax-inspired change in GPU distribution policies from cash to stock dividends resented by many shareholders). The existence of dividend clienteles is, however, controversial. After examining changes in trading volumes following a change in dividend policy, one study concluded that the volume increase is primarily in response to the signal of undervaluation and that clientele adjustments, though significant, are small. See Richardson, Sefcik & Thompson, A Test of Dividend Irrelevance Using Volume Reactions to a Change in Dividend Policy, 17 J. Fin. Econ. 313 (1986).
money it distributes as cash dividends, its ability to deduct interest payments may give it an incentive to finance with debt.\textsuperscript{85} Leverage explanations of buybacks are supported by evidence of stronger announcement effects when a self-tender is financed by an issue of new debt claims.\textsuperscript{86} However, leverage theories would appear not to predict a strong announcement effect when the self-tender is financed from earnings, and the shareholder wealth gains in such cases appear too great to be explained by reference to the single touchstone of leverage.\textsuperscript{87} In addition, were debt levels all that mattered, a similar increase in firm value would be predicted on an issue of non-convertible debt. But while the announcement effects of a buyback are striking, it has not been shown that an issue of non-convertible debt affects firm value.\textsuperscript{88}

II. HARD DEFENSES

A hard defense of an institution requires a demonstration of its efficiency. In Part II, it is argued that buyback gains may most plausibly be attributed to a signal that the firm is under-valued. Even if buybacks do serve signalling efficiencies, this may not satisfy buyback critics, who might argue that the same gains are available through substitute transactions. This argument is, however, unpersuasive, because firms appear unable to mimic self-tender gains through disclosure and dividend strategies.

\textsuperscript{85} Modigliani and Miller first suggested that interest deductibility might result in a debt subsidy in Miller \& Modigliani, \textit{The Cost of Capital, Corporation Finance and the Theory of Investment}, 48 Am. Econ. Rev. 261 (1958), and later refined their analysis in Miller \& Modigliani, \textit{Corporate Income Taxes and the Cost of Capital: A Correction}, 53 Am. Econ. Rev. 443 (1963). Prior to the 1986 Tax Reform Act, the subsidy's existence was not undisputed. For example, under Miller's assumption that all share income comes as unrealized capital gains, equity financing might turn out to be favored. See Miller, \textit{Debt and Taxes}, 32 J. Fin. 261 (1977). Investors would then divide into separate clienteles, with those seeking an annual return taking debt and those willing to defer their returns taking equity. Each firm would attract its own clientele of investors when it determined its leverage policies, but no firm would have an optimal mix of debt and equity claims. Miller's arguments for leverage irrelevancy work best with high rates of personal taxation on interest payments, and are weakened by the 1986 reduction in personal tax rates, which increased the attractiveness of debt financing. See R. Brealey \& S. Myers, \textit{Principles of Corporate Finance} 417-20 (3d ed. 1988).

\textsuperscript{86} See Masulis, supra note 24, at 311 (two-day 21.9\% returns for self-tenders with more than 50\% debt financing, and 17.1\% returns for rest of sample). Masulis found two-day returns of 14.0\% on debt-for-equity exchange offers, with -9.91\% returns on equity-for-debt exchange offers. See Masulis, supra note 76, at 111. In addition, Vermaelen divided his sample into separate classes of debt-financed and cash-financed self-tenders, and reported two-day returns of 23.6\% in the former and 17.8\% in the latter case. See Vermaelen, supra note 24, at 157-58. However, Vermaelen argued that the very strong announcement effects of cash-financed self-tenders were inconsistent with theories which attribute self-tender gains primarily to changes in leverage. \textit{Id.} at 177.

\textsuperscript{87} See Vermaelen, supra note 24.

\textsuperscript{88} See Smith, supra note 24, at 8 (finding a statistically insignificant decline of 0.2\% on aggregating five prior studies).
A. Rival Efficiency Explanations

1. Free Cash Flow Theories

On the first rival efficiency theory, buyback gains are attributed to a return of free cash flow to shareholders. A firm's free cash flow is that portion of its earnings which exceeds all positive net present value investment opportunities available to the firm. Where the firm has taken up all such opportunities and free cash flow remains, distributing it to shareholders will maximize their wealth if they may invest it at rates of return superior to those available to the firm in its remaining investment opportunities. In that case, firms which commit to pay out surplus earnings would be more valuable than those which invest them in order to maximize firm size rather than firm wealth.

Free cash flow theories may explain certain features of the corporate landscape. If free cash flow is not wholly dissipated, its retention by the firm will result in a discounted stock price, as compared to underlying asset value. Evidence that the stock value of conglomerates is less than their 

89. Free cash flow costs are thus the agency costs resulting from inadequate corporate distributions and excessive investments. See Easterbrook, supra note 19 (discussing excessive investments as an incentive cost problem); Jensen, Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, in Papers and Proceedings 76 AM. ECON. REV. 323 (May 1986) (identifying retention of “free cash flow” by targets as inducement to takeover bids). However, the suggestion that managers will maximize firm size rather than firm value has antecedents in managerial accounts of the firm. See Coffee, Shareholders Versus Managers: Strains in the Corporate Web, 85 Mich. L. Rev. 1, 16-24 (1986). In addition, early comments on the buyback movement noted that it permitted firms to distribute surplus cash flow. See, e.g., Guthart, supra note 56, at 106 (buybacks said to be motivated principally by the desire to eliminate excess cash flow); Woods & Brigham, supra note 78 (advantages of repurchases in distributing excess cash flow).

90. Evidence of pervasive stock discounts is reviewed in Kraakman, Taking Discounts Seriously: The Implications of “Discounted” Share Prices as an Acquisition Motive, 88 Colum. L. Rev. 891, 901-20 (1988). Kraakman professes agnosticism as to whether the discount results from the retention of free cash flow, id. at 897-98 (the “misinvestment” hypothesis), or from a negative bubble, id. at 898-901 (the “market” hypothesis). Id. at 939-41. So far as the two theories can be distinguished in practice, only the first kind of discount arises from original management misbehavior. However, management’s subsequent willingness to tolerate the discount by refraining from correcting it through a buyback or a restructuring may constitute misbehavior in itself. Cf. id. at 914-20 (recapitalization movement might be a response to either kind of discount). In spite of this, Kraakman resists a unified discount theory because of the fear of excessive signalling on market theories. Id. at 936-37 (On the market hypothesis, attempts at stock price correction may result in inefficient capital rationing, and may “bias managers towards short-term projects and excessive distributions to shareholders.”). Excessive signalling is not a concern on misinvestment theories: because informational asymmetries do not arise, there is nothing to signal. Whether managers will send excessive signals is considered infra text accompanying notes 129-37.
asset value is thus consistent with free cash flow theories. Further evidence of the costs of free cash flow is provided by the break-up merger and restructuring movements. If firms become too large through a retention of free cash flow, claimholder wealth is increased through a divestiture of assets and distribution of the proceeds of sale. A break-up merger, in which cash is paid out to shareholders in the form of a premium tender offer price and assets are sold off by the acquirers to finance the sale, may then be seen as a delayed distribution of free cash flow.

If the significant stock price increases which occur on the announcement of a break-up merger may seem a consequence of the elimination of free cash flow, a similar explanation might be sought for buyback gains. However, free cash flow theories are unable to account for several of the most prominent features of self-tenders. Managerial stock holdings on a self-tender are on average significant. Such managers would not pass up a premium offer price by retaining their shares on a premium self-tender if the distribution of free cash flow was the only source of gains. Free cash
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flow would be distributed in a non-pro rata manner only if managerial stock holdings were trivial. Free cash flow may be distributed as easily through a dividend, and shareholders would ordinarily prefer this to a non-pro rata distribution. A further explanation for the self-tender movement, which attributes the permanent shareholder gains to the premium payout, must therefore be sought.

2. Monitoring and Incentive Theories

On monitoring explanations, buyback gains are attributed to the reduction in agency costs through the better supervision of managers. If the buyback increases debt levels, efficiency gains might thus result from greater debt-holder monitoring of managers. Monitoring efficiencies might also be attributed to increased dependence by the firm on capital markets. Without distributions of cash, firms would come less frequently to capital markets for new injections of equity, reducing the monitoring performed by underwriters and investment bankers. However, neither of these theories explain why the distribution takes the form of a self-tender, with insider retention and a premium payout. Once again, dividend distributions would dominate premium self-tenders.

Buybacks might also be thought to address incentive cost problems by aligning managerial interests more closely with those of the firm through

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96. Thus, free cash flow estimators of buyout premiums are significant where management holdings are small, but not where they are large. See Lehn & Poulsen, Free Cash Flow and Stockholder Gains in Going Private Transactions, 44 J. Fin. 771 (1989).
97. See supra note 38.
98. Free cash flow theories also predict that the announcement effects of self-tenders will be equal to those for dividends, at least where the payouts are similar in size. The substantially greater announcement effects for a premium self-tender as compared to a dividend distribution, irrespective of payout size, therefore suggests that buyback gains cannot be attributed solely to the elimination of free cash flow. The largest dividend payout is made through a specially designated dividend, and is associated with a smaller announcement effect than a dividend initiation, and a still smaller effect than a buyback. See supra note 28.
99. Creditor monitoring efficiencies might arise because (1) creditors have unique monitoring talents, (2) their monitoring relates primarily to assets-in-place, and promotes economies of specialization, and (3) concentrating monitoring responsibilities in a single monitor permits other claimholders to free ride on its monitoring. Each of these theories has been proffered, without great success, to explain the firm's secured debt decision. See Buckley, supra note 22, at 1441-46.
100. See Easterbrook, supra note 19.
101. In addition, creditor monitoring theories are suspect for the same reason that corporate tax theories were. While there is some evidence that greater announcement effects are associated with debt-financed self-tenders, see supra note 86 and accompanying text, it is unlikely that self-tender gains can be attributed primarily to leverage changes. See supra text accompanying notes 86-88.
the increase in management's proportion of stock ownership.\footnote{102} Incentive cost theories therefore offer an explanation for insider retention and the non-pro rata distribution on a self-tender. In other respects, however, incentive cost theories are unpersuasive. If the announcement effects of a self-tender are attributed to agency theories, and not to a signal of undervaluation, an explanation is required for why inefficient ownership levels were permitted to persist to the point where they could only be cured through a premium payout. In addition, it is likely less expensive to address incentive cost problems through the firm's compensation policies or through stock purchase plans.\footnote{103} Finally, self-tender gains appear too large to be attributed primarily to increased managerial stock ownership.\footnote{104}

3. Managerial Entrenchment Theories

On managerial entrenchment theories, the repurchase is a response to the threat of a hostile takeover bid, with managers seeking to preserve their control of the firm by reducing the number of outside shares.\footnote{105} Employing

\footnote{102} The now-canonical model of how increased managerial ownership reduces agency costs is Jensen & Meckling, \textit{Theory of the Firm: Managerial Behaviour, Agency Costs, and Capital Structure}, 3 Jr Fin. Econ. 305 (1976). A recent study of Fortune 500 firms found that managerial stock ownership is positively related to measures of firm performance, though not monotonically. The relationship was positive as stock ownership rose from 0 to 5%, negative from 5% to 25%, and positive again above 25%. The authors attributed these results to a trade-off between incentive efficiencies and managerial entrenchment, with the latter dominating at ownership levels between 5-25%, but becoming less important at higher ownership levels as the threat of a control contest recedes. Morck, Shleifer & Vishny, \textit{Management Ownership and Market Valuation: An Empirical Analysis}, 20 Jr. Fin. Econ. 293 (1988).

\footnote{103} For example, assume that management owns 10 shares in a 100-share firm, with each share worth $10. Management might then increase its stock holdings to 20% either through an issuance of 12 new shares for $120 or through a repurchase of 50 shares for $500. In addition, it is likely still less expensive to address incentive cost problems through adjustments to managerial compensation provisions.

\footnote{104} Insiders own 17.5% of the stock of repurchasing firms, see Vermaelen, \textit{supra} note 24, at 161; see also \textit{supra} note 37, and firms acquire 16.4% of their shares on a self-tender. See J. Lakonishok & T. Vermaelen, \textit{supra} note 24, at 5. On average, then, insider holdings thus increase approximately 2.5%, to 20%. This may seem a small increase when compared with self-tender stock price increases of 16%, see A. Rosenfeld, \textit{supra} note 24, if the gains result primarily from reduced incentive costs rather than from a signal of undervaluation. The announcement effect of a buyout, where all outside shares are acquired, is reported to be approximately 30%. See DeAngelo, DeAngelo & Rice, \textit{supra} note 6 (though this does not measure the higher gains to retaining shareholders). On incentive cost theories, about half of this gain would come when the first 20% of the outside shares were acquired, and the other half with the balance. Moreover, this would occur even though the firm had not gone private, and was still subject to the governance, reporting and liability rules applicable to public firms.

\footnote{105} It is not always clear that stock repurchases will have this effect. Repurchased shares do not have voting rights, so that buybacks may make the offeror's task easier. If the target has 100 shares, repurchasing 21 of them will reduce the number of shares the offeror must acquire to be certain of control from 51 to 40. Moreover, when the offeror is the highest-valued user of the target assets, he can always outbid the target in any auction for the shares.
a defensive tactic might increase stock price in one of two ways. If the repurchase reduces the likelihood of a successful tender offer, the stock price might nevertheless increase if offerors will have to pay a higher price for the firm. On higher price theories, then, stock price declines resulting from a reduced probability of a successful tender offer are exceeded by increases from a higher offer price. The higher price will not be offered unless the repurchase makes it more difficult to acquire control, so that bids are less likely to be made. Higher price theories may thus be distinguished from increased offer explanations. Here, the repurchase backfires and increases the probability of a hostile tender offer by signalling that the firm is in play. On increased offer theories, the repurchase is a failed defensive strategy.

Insider retention of shares is consistent with higher price theories, and managers may also be prepared to repurchase shares at a premium if they wish to make the firm less attractive to offerors. However, increased price theories cannot easily account for the substantial stock price increases on a self-tender. For most other defensive tactics, the anticipated loss through a reduced probability of an interfirm tender offer exceeds the benefits of a higher offer price.

There is little basis for suggesting that defensive repurchases are an exception to this, and the evidence thus far is inconsistent with this
version of the managerial entrenchment theory. The theory predicts that the greatest increases will occur when the control contest has commenced, because offerors will then be less likely to be deterred by defensive tactics. However, Dann and DeAngelo failed to detect returns which were significantly different from zero in such cases. Again, the theory predicts that returns will be lowest when no control contest is underway, but Rosenfeld reported self-tender gains of 16% with a sample which excluded defensive repurchases.

Insider retention is also consistent with increased offer theories. In addition, the self-tender premium might signal undervaluation, whetting the interest of potential offerors. However, there is little evidence that this version of the managerial entrenchment theory offers the primary explanation of buyback gains. In a study of 198 self-tenders from 1970 to 1984, Dann, Mikkelson and Partch found that thirty-three of the sampled firms underwent a control change within three years of the repurchase. Each of the repurchasing firms were paired with comparable firms which did not repurchase stock, and of this group only eighteen were the subjects of control changes within the three year period. But of the thirty-three repurchasing firms, only three underwent merger activity in the first year after the buyback. During that period, the repurchase appears to have been a successful, not a failed, defensive strategy. Moreover, increased offer theories predict stock price declines if the repurchase is not followed by a control change. Evidence that this does not happen in the three years after the buyback is thus inconsistent with such theories. In addition, considerably more merger activity would have to be seen among the sample of repurchasing firms before defensive theories could be said to provide the principal explanation of buyback gains. Shareholder gains on a self-tender are approximately 50% of target shareholder gains in interfirm tender offers during comparable periods. Self-tender gains are also very substantial when compared with other transactions which might more plausibly be

109. This is because, in weighing the costs of a failed offer, firms will take only prospective expenses into account. Once a bid is underway, many of its costs are sunk, and an offeror will disregard them in deciding whether to pursue the bid in the face of the defensive tactics.
110. See Dann & DeAngelo, supra note 92, at 103. In addition, the bidder was unsuccessful in all eight cases when the target employed a defensive repurchase. Id.
111. See Rosenfeld, supra note 24.
112. See L. Dann, W. Mikkelson & M. Partch, supra note 27, table 2. Control changes were defined as mergers, tender offers or buyouts.
113. Id. The difference is significant at the 5% level. Id. at 9.
114. Id. table 2.
115. See supra note 27; see also Bradley, Desai & Kim, The Rationale Behind Interfirm Tender Offers: Information or Synergy?, 11 J. Fin. Econ. 183 (1983) (tender offer gains on an initial offer are lost when the target firm successfully repels all offerors).
116. Self-tender gains for periods from the 1960s to the 1970s were found to be approximately 16%, see supra note 24, while target shareholder gains from day -20 to day +80 for 1963-84
thought to indicate the likelihood of future tender offers. Finally, defensive theories must explain why managers persist in repurchasing stock to entrench their control when this has precisely the opposite effect. In time, managers could be expected to discover that buybacks are self-defeating on defensive theories, and to adopt other defensive strategies.

While it is unlikely that buyback gains can be explained primarily on the basis of any one of these rival theories, in combination they might be thought more powerful. Insider retention and the control premium might thus be explained on managerial entrenchment theories, with a large portion of the buyback gains arising as a consequence of free cash flow, monitoring or incentive efficiencies. This effort to revive rival theories must however be considered speculative, because the efficiency gains might make the firm a less attractive target for a tender offeror. In addition, the premium payout to tendering shareholders on a buyback must be subtracted from the efficiency gains accruing to non-tendering shareholders. To some extent, therefore, rival theories operate at cross-purposes.

B. Signalling Theories

On signalling theories, the announcement of a buyback reveals the firm to be undervalued, and this accounts for the significant stock price increase. Insider retention and the premium offer price strengthen the signal of undervaluation, and explain why buyback signals are more powerful than

interfirm offers were reported to be 31.3%. See Bradley, Desai & Kim, Synergistic Gains from Corporate Acquisitions and Their Division Between the Stockholders of Target and Acquiring Firms, 21 J. Fin. Econ. 3, 21 (1988).

117. See, e.g., Holderness & Sheehan, Raiders or Saviours? The Evidence of Six Controversial Investors, 14 J. Fin. Econ. 555 (1985) (announcement that a prominent corporate "raider" had acquired 5% of a firm's stock greeted with significant two-day returns of only 1.7%).

118. A repurchase not motivated by defensive considerations might nevertheless facilitate interfirm tender offers as a consequence of incentive effects. Because the managerial share of firm value increases with the buyback, managerial interests are more closely aligned to those of the firms, and managerial resistance to interfirm offers may be reduced. See Walkling & Long, Agency Theory, Managerial Welfare, and Takeover Bid Resistance, 15 RAND J. Econ. 54 (1984) (tender offer resistance inversely related to stock ownership by directors and CEO). But see supra text accompanying notes 102-04.

119. Less persuasive still are theories which attribute wealth gains to accounting changes. Though buybacks reduce the number of outstanding shares and the amount of stated capital, the number of issued shares will not matter much to firms or investors, who must be presumed indifferent as between one $10 share and two $5 ones. In addition, the amount of stated capital is unimportant except to the extent that it affects the restrictive covenants in the firm's banking agreements and trust deeds. If the firm were advantaged by this, through less stringent barriers to distributions to shareholders, the buyback would effect a wealth transfer from debt holders. However, the evidence that bondholders are not harmed by repurchases, see supra note 43, suggests that preferences for buybacks cannot be explained by reference to accounting rules.

120. See supra note 24. Even though the announcement effect is substantial, the signal of undervaluation may have been excessively discounted in the past. See supra note 27.
Unlike rival theories, then, signalling explanations are able to account for the special features of self-tenders. In addition, signalling theories are supported by evidence that repurchasing firms outperform nonrepurchasing ones after the buyback. The size of the announcement effect is also significantly correlated with the size of the future earnings increases.

1. Why Firms Signal

Signalling strategies diminish information costs borne by the firm’s investors, and reduce its cost of capital. A firm will therefore commit to correct market mispricing so long as the costs of doing so are exceeded by anticipated signalling gains. While a firm’s incentive to provide an informative signal is strongest on a public issue of its shares, the firm will wish to signal beyond the primary distribution of shares to the secondary markets where they trade. Without continuous signalling, greater information production or screening costs would be incurred by buyers of shares and ultimately passed on to the firm, in the form of price discounts. Efficient signalling policies would thus be agreed to by all parties ex ante.

The implicit signalling bargain will be one in which information production and revelation duties are assigned to the most skilled signaller. This will ordinarily be management, which is better informed about firm value than outside investors. Information about the firm’s value will come to it


Evidence that stock price declines immediately prior to an open market repurchase is also consistent with signalling explanations, because that is when management would appear most likely to think the shares undervalued. For the three-month period prior to an open market repurchase, Vermaelen reported a significant 7% decline, though no significant change was found prior to a self-tender. Vermaelen, supra note 24, at 149-51. Dann found cumulative returns of -3.1% for the period from 60 to 10 days prior to self-tender announcements. Dann, supra note 24, at 124-25.

122. See L. Dann, R. Masulis & D. Mayers, supra note 121. Evidence that insider holdings are relatively large in repurchasing firms, see supra note 37, is also consistent with signalling theories, because insider holdings have been found to be positively correlated with firm-specific risk. See Demsetz & Lehn, The Structure of Corporate Ownership, 93 J. Pol. Econ. 1155 (1985). With greater firm-specific risk, there is a greater probability of market mispricing. Cf. Demsetz, Corporate Control, Insider Trading, and Rates of Return, in Papers & Proceedings, 76 Am. Econ. Rev. 313 (May 1986) (firm-specific risk a plausible proxy for opportunities for insider trading).

123. For arguments that firms have privately-efficient incentives to disclose, see Diamond, Optimal Release of Information by Firms, 40 J. Fin. 1071 (1985); Easterbrook & Fischel, Mandatory Disclosure and the Protection of Investors, 70 Va. L. Rev. 669 (1984); Grossman & Hart, supra note 31.
as a byproduct of its operations, without a further cost of production. By contrast, outside investors would bear screening costs in valuing the firm. Even if the firm were not the most skilled signaler, however, the hypothetical bargain would still charge it with signalling responsibilities. Without firm signalling, outside investors would have to assume greater screening costs, and because one investor’s search would duplicate that undertaken by other investors, the result would be excessive screening. These costs are reduced by signals from the firm which are readily observable by all investors.\(^1\)

Signals must be distinguished from indicies.\(^2\) Where indicies are merely observable characteristics, signals are messages intentionally sent. The last rose of summer may signal the fall in song, but not in the ordinary sense of the word. Similarly, the subconscious twitches of one who lies may reveal his dishonesty, but he cannot be said to be signalling it. If the intention to send a message is all there is to it, then, signalling may seem trivially easy. But while signalling is not difficult, credible signalling may implicate strategic choices and the willingness to bear non-trivial signalling costs. Unless the recipients of the message can distinguish between high and low quality signalers, a lemons market will develop. Signalling strategies must then be founded on a non-mimicry constraint, in which signalling costs are unequally borne by low and high quality signalers. When these costs are negatively correlated with firm quality, a firm’s willingness to bear them reveals it to be of high quality. All signalling models therefore assume an initial state of investor ignorance, with high quality revealed through a signalling strategy which low quality firms would find too expensive to adopt. The incentive to high quality firms and the disincentive to low quality ones together make the signal credible, permitting investors to identify both high and low quality firms. By signalling, a firm reveals itself to be of high quality; by its omission to signal, it shows itself to be of low quality.

\(^{124}\) See Diamond, supra note 123, at 1078-80.

\(^{125}\) The distinction between signals and indicies is made in Spence, supra note 11, at 357. The buyback message of undervaluation is thus an indicie and not a signal if it is derived from investor perceptions that the firm is in play under managerial entrenchment theories. In addition, on the model of Myers & Majluf, supra note 59, the repurchase decision would amount to an indicie if investors took it as a sign of undervaluation but firm managers were unaware that investors did so. Managers would then be motivated by a desire for insider trading gains, and not by signalling efficiencies.

In a poll of their motives, managers did not report signalling gains as uppermost on their minds in making a repurchase, and this may appear inconsistent with signalling theories. See F. Walsh, Repurchasing Common Stock 5-8 (1975). Of 113 firms responding to the questionnaire, only 20 reported an intention to support market price and nine indicated that the repurchase was a bargain investment. The evidentiary value of such responses is, however, weak. For example, by far the most popular reported reason to repurchase shares was to acquire treasury stock for reissue to managers under incentive compensation programs, a purpose which in most cases appears hopelessly disingenuous or naive. Id. at 6.
Signalling theories assume informational asymmetries, and have therefore been criticized as inconsistent with the efficient capital market hypothesis (ECMH). Under strong versions of the ECMH, market price for a share at any moment reflects all information possessed by any individual about firm value, so that no investor may systematically outperform the market. However, the strong version of the ECMH is now taken as disproven insofar as it predicts that insider trading is merely a fair game. If insiders may outperform outsiders in their reported trades, there is no reason to suppose that they cannot also do so as well on a share repurchase.

There is a further reason why theories of stock market efficiency are not inconsistent with signalling explanation. Market price provides useful information about firm value only because it reflects the search for arbitrage bargains by market professionals. Uninformed investors can then rely on the information contained in the price, free riding on the searches performed by informed investors. But market professionals would not bear search costs without some prospect of covering them in their trading activities. Because these profits will not arise if market price accurately reflects firm value, markets cannot be perfect if information is costly. This is not, however, a fundamental criticism of market efficiency, because markets are uninteresting unless information is costly. Without search costs, a knowledge of market price would be valueless for uninformed free riders. What is important is not perfect efficiency and costless information, but relative efficiency and costly information. In such markets, search costs still represent a deadweight efficiency loss to the extent that they can be reduced by signalling policies. Buyback signals may then reduce search costs for market professionals and permit greater free riding by lay investors.

While buybacks may usefully reveal undervaluation, they may still be inefficient if firms might signal excessively through stock repurchases. Signals are obviously excessive if manipulative, but even undervalued firms might be willing to bear excessive screening costs. The first way in which

126. See R. CLARK, supra note 9, at 628-29.
127. See supra note 21. The role of insiders in initiating buybacks distinguishes them from takeover bids, where shareholders' gains cannot easily be explained on undervaluation theories. See, e.g., Bradley, Desai & Kim, supra note 115 (evidence that tender offer gains are lost when bids are unsuccessful is inconsistent with a hypothesis of hidden information). Again, evidence that tender offer prices exceed expiration prices may be more consistent with synergy than undervaluation explanations of tender offer gains. See Bhagat, Brickley & Loewenstein, The Pricing Effects of Interfirm Cash Tender Offers, 42 J. FIN. 965 (1987). While offer price also exceeds expiration price on a self-tender, see supra notes 24-25, a signalling explanation of why self-tenders are made at a premium is suggested infra text accompanying notes 158-70.
this may happen is through a divergence between the private and social benefits of signalling. The private benefit of signalling for a firm is the stock price increase, to the extent that this occurs more quickly than it would without the signal. A further benefit is the reduction in the firm’s cost of capital through an efficient reduction in investor screening. The social benefit is the increase in stock market efficiency through more accurate pricing. The social value of accelerated revelation of undervaluation might then be zero, even if the private benefits are substantial. For example, the foreknowledge of which animal will win a horse race is privately valuable but socially valueless. In these circumstances, information production costs are a deadweight loss, and all firms will be better off if signalling is prohibited.

The claim of zero social benefits is however highly speculative. Unlike pure foreknowledge gains, there are real social gains from allocatively efficient markets, and there is little basis for concluding that they are exceeded by signalling costs. One might as plausibly argue that firms have inadequate incentives to signal their value. Moreover, excessive signalling costs have a parallel in the excessive search costs which investors might incur absent signalling. Without buyback signals, then, investors might carry out inefficient searches in pursuit of foreknowledge gains. As between excessive search costs and excessive signalling costs, the former are likely more troubling because of the firm’s informational advantages. When the two kinds of inefficiencies are netted in a second- or third-best world, excessive signalling might thus be desirable. Finally, it is unlikely that barriers to excessive signalling are feasible. Were premium self-tenders prohibited, for example, the firm would simply turn to other signalling devices, such as excessive investments. These would be even harder to police than buyback signals, and might be more costly.

129. For this reason, signalling theories of secured lending are criticized in Schwartz, supra note 12.

130. Hirschleifer distinguished discovery from foreknowledge gains. Where the former arise from inventive activity, the latter are derived from information which would be publicly revealed in due course. See Hirschleifer, The Private and Social Value of Information and the Reward to Inventive Activity, 61 AM. ECON. REV. 561, 561-62 (1971). Patentable ideas are an example of the first kind of gain, and prior knowledge of horse race results of the second. The social benefits of foreknowledge gains may then be trivial, and the search costs for such gains a deadweight social loss.

131. This argument is made in Beaver, The Nature of Mandated Disclosure, in REPORT OF THE ADVISORY COMM. ON CORPORATE DISCLOSURE TO THE SEC. AND EXCHANGE COMM’N, 95TH CONG., 1ST SESS. 618, 636 (Comm. Print 1977).

132. For this reason, it has even been suggested that excessive search costs by investors justify the imposition of mandatory disclosure requirements on firms. See, e.g., Coffee, Market Failure and the Economic Case for a Mandatory Disclosure System, 70 VA. L. REV. 717, 733-34 (1984).

133. See infra note 160.
Excessive signalling concerns might also be thought to rest on managerial myopia.\textsuperscript{134} Even if the firm's incentives are efficient, executive compensation provisions might lead managers to maximize firm value in the short run at the expense of long term value. Suppose, for example, that markets will become aware of the undervaluation immediately if a buyback is launched, and that without the buyback the discount will become apparent in a month. In these circumstances, the advantage of the buyback is that the stock price increase occurs a month before it would without the repurchase. If this benefit is trivial and signalling costs are positive, signalling is inefficient.

It is, however, unlikely that managerial myopia will lead to excessive signals. There is little evidence that myopia concerns are troubling in other contexts,\textsuperscript{135} and they are particularly unlikely to result in signalling inefficiencies. Managerial incentives will not diverge from those of the firm in signalling decisions unless the managers expect to resign before the undervaluation would be revealed without the signal. When the no-signalling revelation will occur in a month, for example, managers will have no interest in sending a costly signal. As the period of time when markets adjust without the signal becomes lengthier, managers will be more likely to leave the firm and will have a stronger private incentive to signal. However, with a longer no-signalling revelation period, the benefits of accelerated disclosure for the firm and investors increase as well. Even if managers are myopic, then, it does not follow that signalling will be excessive. Moreover, managers might more plausibly be thought insufficiently motivated to signal. When managers do not tender and retain their shares until ex post revelation of true value, their incentive to signal will rest on non-stock managerial compensation and not on their stock ownership. Non-stock compensation is usually dominated by management stock earnings, and this would be particularly true of repurchasing firms, where managerial holdings are on average substantial. Managerial stock holdings may then provide a significant disincentive to signalling, because managers (as shareholders) will not share in the benefits of accelerated disclosure, but will share in the signalling costs borne by the firm.\textsuperscript{136}

Myopia concerns are therefore best left to the firm itself, which bears the costs of excessive signalling. If prohibitions of share repurchases might

\textsuperscript{134} This is suggested in Kraakman, \textit{supra} note 90, at 936-37. \textit{But see} Jensen, \textit{Takeovers: Their Causes and Consequences,} 2 \textit{J. Econ. Persp.} 21, 26 (1988). While suggesting that managers may be myopic, Jensen notes that "[t]here is much evidence inconsistent with the myopic markets view, and no evidence that it is true." \textit{Id.} In addition, while myopia theorists predict greater emphasis on the long run when the threat of a takeover is lessened, firms were found to reduce research and development expenditures after adopting shark repellents. Meulbroek, Mitchell, Mulherin, Netter & Poulsen, \textit{Shark Repellents and Managerial Myopia: An Empirical Test} (forthcoming 98 \textit{J. Pol. Econ.} ----(Aug. 1990); working paper on file at the Indiana Law Journal).

\textsuperscript{135} \textit{See supra} note 48.

\textsuperscript{136} \textit{See infra} text accompanying notes 158-70.
prevent a hypothetical harm, they are more likely to eliminate signalling efficiencies. Delegating signalling barriers to the firm will permit it to devise more discriminating techniques of addressing the incentive cost problem. For example, managerial compensation might be tied to long term firm performance, realigning managerial incentives with those of the firm. When this is done, the firm may find that the threat of excessive signalling disappears.

2. How Firms Signal

Firms may adopt a broad variety of signalling strategies. For the purpose of analyzing buybacks, however, it is useful to distinguish between signals employing two different kinds of non-mimicry constraints. Under the first, the constraint is endogenous to the signal, in that the cost of adopting the signalling strategy will deter low quality firms from emitting that signal. These may be called self-enforcing signals, for the constraint is featured in the signal itself. The second kind of signal depends for its strength on a sanction supplied from without. Here the non-mimicry constraint is provided by a penalty imposed on the low quality firm at a later time when true firm value is revealed. This sanction might involve legal liability for misrepresentation or simply a depreciation of the firm's reputation as an honest signaler. Unlike self-enforcing signals, however, the signalling device need not impose costs on honest signalers, and for this reason these signals may be called costless.

137. The firm might thus adopt delayed compensation strategies (e.g., pension plans) which postpone a component of compensation until a future period. There is evidence that firms do tailor their compensation strategies with time horizon problems in mind. For example, deferred compensation plans are used more by firms with relatively high investments in research and development, where incentive cost problems would seem more pressing. See Eaton & Rosen, Agency, Delayed Compensation, and the Structure of Executive Compensation, 38 J. Fin. 1489 (1983).

138. Self-enforcing signals were first described in Spence, supra note 11, and are frequently referred to as "Spence" signals.

139. The distinction between self-enforcing and costless signals bears a family resemblance to H.L.A. Hart's categories of content-dependent and content-independent signals. Promising and stating are "independent of content" for Hart because in neither case can the content be inferred from the act of promising or stating. See Hart, Legal and Moral Obligation, in ESSAYS IN MORAL PHILOSOPHY 82, 102 (A. Melden ed. 1958); see also Raz, Voluntary Obligation and Normative Power, 46 PROC. OF THE ARISTOTELIAN SOC'Y 79, 95-98 (Supp. 1972). For example, one may know that another is promising without knowing what he is promising. Self-enforcing signals are then content-dependent, because the medium is the message. Similarly, costless signals are frequently content-independent, resting on a convention that the signal bears a particular meaning. The fit between the two sets of distinctions is not perfect, however, because some signals are costless and content-dependent. When Ajax brandished his sword before the walls of Troy, he had no need to state his intentions. But if the signal was content-dependent, it was also costless, because the non-mimicry constraint rested solely on reputational sanctions. There is also a similarity between the self-enforcing and costless distinction and that between

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Self-enforcing signals impose costs on honest and dishonest signallers alike. To satisfy the non-mimicry constraint, however, there must be an inverse relationship between signalling costs and true value, with the signal’s strength depending on the firm’s willingness to bear the costs.\textsuperscript{140} In some cases, then, it may be difficult to distinguish between self-enforcing signalling and non-signalling investment decisions. A student’s decision to work hard at a course of law studies may be highly correlated with subsequent success in practice, but this need not implicate a signalling strategy if the student would have the same incentives to work hard in a world without informational asymmetries. Suppose, however, that the course of studies is not related to the kind of work performed by the practitioner. Even here, the law student may have an incentive to seek high grades if success in law school comes easier to future high quality practitioners. What matters in this case are not the benefits of a legal education, but rather its costs. When these are disproportionately borne by future low quality practitioners, a course in poetry may be as good as one in property.

For a firm, self-enforcing signals may take the form of financing and investment decisions whose costs exceed those which the firm would bear in a first-best world of full information. As in job-market signalling, the device chosen may not be ostensibly related to the content of the message, provided that the crucial non-mimicry constraint obtains. So long as the costs are perceived as greater for low quality than high quality firms, the firm’s willingness to bear them signals high quality. Among the firm’s financing policies, premium self-tenders are perhaps the most striking example of a self-enforcing signal.

On costless signalling, a press release or even a spoken comment may suffice, and if the signal may at times be more expensive to emit, its power is dependent on something more than the willingness to incur signalling costs. Suppose that a firm knows with perfect certainty what its earnings will be in a future period, but that this information is not shared with outside investors. The firm may then stake its reputation for honest signalling upon an earnings forecast. In addition, the firm might warrant the accuracy of the disclosure, precommitting to a payment of damages if the ex ante and ex post signalling costs. Self-enforcing signals generally impose immediate costs, while costless signals require an ex post sanction, whether in the form of a reputational settling up or legal liability. But costless signals may also be bolstered by an ex ante investment in reputational or bargaining advantages. For example, the firm may precommit to signal honestly by a bond which it will lose on default. Indeed, even the acquisition of a reputation for honest signalling requires precommitment, or the willingness to forego present opportunities for defection in order to acquire a cooperative reputation. See Telser, \textit{A Theory of Self-enforcing Agreements,} 53 J. Bus. 27 (1980) (possibility of future business dealings an incentive to cooperative behavior).

\textsuperscript{140} Without this restriction, low quality firms would mimic the signal, which would then unravel. For a statement of the conditions of informationally-consistent signalling, see Riley, \textit{Informational Equilibrium, supra} note 13, at 334-35.
forecast is false. In both cases, the disclosure may be nearly costless to the high quality firm, and indeed may result in signalling gains if the subsequent revelation of increased earnings strengthens the firm’s reputation as a reliable signaler.\footnote{41}

\section*{C. Inadequacy of Costless Signalling}

Because costless signals may be sent at less cost than self-enforcing ones, a firm will not emit self-enforcing signals unless first-best costless signals are inadequate. The simplest kind of costless signal is one whose sanction for breach is reputational. Where a reputation for honest signalling is a valuable asset, firms will often have a sufficient incentive to signal truly. In dealing with their investors, they are repeat players, and in efficient stock markets their reputations will be communicated to new investors.\footnote{42}

Reputational signals are often relied upon by investors. For example, announcements of stock splits or stock dividends are greeted with significant stock price increases, even though the transactions are essentially paper ones.\footnote{43} The explanation appears to be that they are taken by investors as

\footnote{41. Many signals are mixed, being neither wholly self-enforcing nor wholly costless. For example, a self-enforcing signal has a costless component when the firm's reputation for honest signalling bolsters the signal's strength. Similarly, costless signals may in part be self-enforcing if the costs of disclosure assist in separating high from low quality firms.}

\footnote{42. Apart from the firm's reputation, managers who signal falsely might suffer a reputational loss in human capital markets. Buyback signals would indeed be unnecessary if management's wealth were entirely allied to that of the firm, whether through ex ante incentives or ex post wealth adjustments. Investors would then expect managers to signal truly, whatever signalling device they chose. However, perfect ex ante incentives are generally inefficient where managers are risk averse. Rather than bargaining for all residual value, then, managers will share risks and returns with equity holders, and their compensation scheme will shield them from all losses attributable to a false signal. See Shavell, Risk Sharing and Incentives in the Principal and Agent Relationship, 10 Bell J. Econ. 55 (1979) (risk sharing as a second-best strategy). Similarly, full ex post settling up, through a penalty for manipulative signals, will be impossible if the sanction is inadequate to deter managers, as in cases where the possible losses are very large.}

\footnote{43. Announcement returns of 5.9\% were reported for pure stock dividends and 3.3\% for pure stock splits in Grinblatt, Masulis & Titman, The Valuation Effects of Stock Splits and Stock Dividends, 13 J. Fin. Econ. 461, 472 (1984). Such transactions are not wholly costless, however, because stock splits require shareholder ratification and stock dividends may restrict the firm's ability to pay out cash dividends in the future. The firm's willingness to bear these costs may seem puzzling, for if the sanction is purely reputational the firm might find it less costly simply to issue a press release. An explanation is therefore required for the firm's apparent inability to replicate a stock split convention with a more direct signal of undervaluation. One explanation may be that the signal is mixed, see supra note 141, with the costs of the transaction operating as a non-mimicry constraint. Even if they do, however, it is likely that the signal is in part reputational, because the magnitude of the announcement effect does not appear closely related to the costs borne by the firm. On self-enforcing theories, a greater announcement effect would be predicted for a cash dividend increase than a stock split or stock dividend, but where no cash dividends had been paid for three years, Grinblatt, Masulis and Titman reported two-day announcement returns of 4.3\% for stock splits and dividends,
signals of an unexpected earnings increase. The signal is primarily costless, with the stock price increase resulting from a financial convention which links the transaction with that expectation. Breach of the convention would result in merely a reputational sanction, because no firm could be charged with misrepresentation if the signal were misleading. The survival of significant announcement effects therefore attests to the convention's stability and to the effectiveness of reputational signalling.

The announcement effects of dividends and buybacks might then be attributed to reputational signalling. Under the dividend irrelevance proposition, dividend signals must be costless, and the same is true of buyback signals under buyback irrelevance. In both cases, the non-mimicry constraint would be provided by the firm's stake in its reputation for honest signalling, with false signals punished at a later time when the representation of undervaluation is revealed to be false. On reputational theories, then, dividends and buybacks are taken to signal different messages about firm value. As compared to the substantial undervaluation revealed by a premium

Grinblatt, Masulis & Titman, supra, at 475, as compared to a two-day return of 3.7% where cash dividends were initiated. See Asquith & Mullins, supra note 28. A firm might also prefer to signal with a stock split or stock dividend rather than through press release disclosure if the latter might subject the firm to the risk of an action for misrepresentation. Why a firm might prefer not to assume such risks is discussed in Part III.

144. See infra text accompanying notes 179-90.

145. Reputational theories also explain the use by managers of earnings forecasts as signals. Though liability might follow on a false forecast, managers will in many circumstances be able to invoke the safe harbor of Rule 175, 17 C.F.R. § 230.175 (1989). If so, the signal's power would rest principally on the reputations of management and the firm for honest signalling. See Penman, The Predictive Content of Earnings Forecasts and Dividends, 38 J. Fin. 1181 (1983) (finding that positive forecasts are as informative as dividend increases, and that negative forecasts are more informative than dividend cuts).

146. See supra notes 24, 28. Evidence that dividend signals are reliable is provided by studies showing that subsequent earnings are positively correlated with dividend initiations. See Healy & Palepu, Earnings Information Conveyed by Dividend Initiations and Omissions, 21 J. Fin. Econ. 149 (1988). But see Miller, supra note 18, at 48-50 (reviewing earlier evidence that dividends lag rather than lead earnings). Dividend signals are also taken as credible by financial analysts, who revise their earnings forecasts for a firm after an unexpected dividend change. See Ofer & Siegel, Corporate Financial Policy, Information, and Market Expectations: An Empirical Investigation of Dividends, 42 J. Fin. 889 (1987).

147. On dividend irrelevance, proposed first in Miller & Modigliani, Dividend Policy, Growth and the Valuation of Shares, 34 J. Bus. 411 (1961), firms cannot alter their value through their choice of distribution policy.

148. There is some evidence that dividend signals are backed by reputational sanctions. Costless theories predict that when a promise of an earnings increase is broken, the stock price decline will exceed the initial price increase. This is because the market will discount not merely the stock's present value, but also the firm's future signalling abilities. As predicted by costless theories, then, the decline when earnings fail to live up to dividend signals is asymmetric, with shareholders losing more than they gained on the dividend announcement. Cf. Asquith & Mullins, supra note 28 (3.7% returns on dividend initiation); Dielman & Oppenheimer, An Examination of Investor Behavior During Periods of Large Dividend Changes, 19 J. Fin. & Quant. Analysis 197, 214 (1984) (7.5% decline on 25% dividend cut and 8.5% decline when dividend omitted).
self-tender, dividend increases indicate a more modest mispricing. In addition, dividend increases are by convention taken to promise that the higher payout will be maintained in the future.\textsuperscript{149} Where dividend signals are reserved for a stable, “Joseph” increase in payouts, self-tenders signal a more drastic but one-shot, “Noah” payout.\textsuperscript{150}

The ease with which reputational theories may be applied to explain different financial policies should not be surprising. Because reputational signals are content-independent,\textsuperscript{151} there are no restrictions on the messages which might be sent through a particular signalling device. All that is needed is a convention linking the message to the signal. However, the gain in the scope of reputational theories comes at the expense of explanatory power. If buyback signals are costless, little would be lost were buybacks abolished. Because of their Protean nature, there is no reason why, on one device’s abolition, another could not take its place. With different conventions, a Joseph effect might thus call for an increase in regular dividends, with Noah effects signalled by a specially designated dividend, rather than through a buyback.\textsuperscript{152} No institution is irreplaceable on costless theories.

Reputational signalling is also unlikely to reveal all inside information. If it were, informational asymmetries could be eliminated without antifraud standards, for the addition of penalties for misrepresentation would not strengthen a wholly reliable reputational signal. Because reputational signals will not suffice, then, high quality firms will seek other costless devices to distance themselves from low quality ones. The most obvious such method is indeed to invoke a legal regime which penalizes false signallers, with antifraud sanctions applied in aid of reputational ones. With its lower costs, an antifraud strategy will always dominate a premium self-tender if one signal is as effective as the other.

Informational asymmetries will however remain when all material information is disclosed in an antifraud regime, and “soft information” remains undisclosed.\textsuperscript{153} Some evidence of soft informational advantages is provided

\textsuperscript{149} Under one of the best-known traditional analyses of the dividend decision, managers are more concerned with dividend changes than with the absolute size of the payout. In particular, managers are reluctant to increase dividends on a transitory earnings change if the increase would have to be rescinded in the future. See Lintner, *Distribution of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes*, in *Papers & Proceedings, 46 Am. Econ. Rev.* 97 (May 1956); see also Woods & Brigham, *supra* note 78, at 22 (dividends are “sticky” in the short run). Difficulties with permanent earnings models are however noted in Miller, *supra* note 18, at 50-52.


\textsuperscript{151} See *supra* note 139.

\textsuperscript{152} See *supra* note 28.

\textsuperscript{153} “Soft information” is used to describe different things. In the sense used above, for
by the ability of insiders to outperform the market in their reported trades.\textsuperscript{134} This result may first be attributed to illegal insider trading. However, this assumes that thousands of people each month commit an offense and then report themselves. There can be few other crimes where the criminals turn themselves in to the authorities in such massive numbers. Even if securities commissions may find it difficult to prove a violation of insider trading rules, the easier course for errant insiders will often be to trade offshore without reporting the trade. The systematic profits made on reported trades therefore appear attributable in part to the use of soft information by insiders, with the informational advantage persisting beyond disclosure of all material information.\textsuperscript{135} The proposition that informational asymmetries survive the disclosure of material information cannot easily be verified, but does have a strong intuitive appeal. A material fact is one which, if disclosed, would be likely to affect market price of the stock.\textsuperscript{136} Individual lumps of information whose disclosure does not affect market price are not material, even if in the ensemble they give insiders a privileged view of firm value. In thinking about a firm, then, it is not difficult to imagine cases where the material facts are whitened sepulchers, and the soft information a mass of corruption. In such cases, trades made solely on the basis of material information would be less profitable than insider transactions.

By itself, however, this does not explain why disclosure policies cannot substitute for buybacks. Even if informational asymmetries persist after all material information is disclosed, the firm might seek to extend the scope of its disclosure to non-material facts. Though not required to reveal such example, it may refer to matters which need not be disclosed in regimes of affirmative disclosure. However, disclosure of this type of information in an antifraud regime might effectively substitute for a buyback signal, because the threat of a legal penalty would ordinarily suffice to make the statement credible. When soft information is taken to establish limits to disclosure strategies, then, two things might be meant. Soft information might initially refer to statements which, when disclosed, cannot be impeached as fraudulent even if the speaker is less than honest. These may include mere “puffs” or particularly nebulous statements of opinion. Even if such statements might be characterized as truth-functional, impacted evidential problems suggest that extra-legal sanctions must suffice. Soft information may also refer to statements which would attract a legal sanction if false, but which the firm would find inefficient to disclose. At some point, the marginal benefits of disclosing information will be exceeded by the marginal costs of revealing and processing it. Because of the likelihood of informational overload, firms will seek alternatives to disclosure strategies.

\textsuperscript{134} See supra note 21.

\textsuperscript{135} Evidence that the level of insider trading surrounding specific events of material importance is not significantly different from the level of insider trading at other times is also consistent with the existence of soft informational advantages. See Elliott, Morse & Richardson, The Association Between Insider Trading and Information Announcements, 15 RAND J. ECON. 521 (1984).

\textsuperscript{136} This test is codified in Ontario Securities Act, Ont. Rev. Stat. ch. 466, § 1(1) (1980) (“‘material fact’ . . . means a fact that significantly affects, or would reasonably be expected to have a significant effect on, the market price . . . .”).
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information, the firm may still volunteer it, staking its reputation upon it or precommitting through liability rules. But while some soft information may thus be revealed, much will likely resist disclosure. Private information about senior executives may be worth more to them if kept confidential than it is to investors if disclosed. Beyond this, the enormous volume of soft facts in the possession of insiders would likely be highly expensive for the firm to disclose and for investors to process. The materiality requirement is indeed designed to discriminate between facts which are efficient to reveal and those in which disclosure costs exceed prospective gains.\(^{157}\) Faced with these barriers to disclosure, the firm must seek alternative signalling strategies, such as those provided on self-enforcing theories.

D. Self-enforcing Signalling

On self-enforcing signalling, the costs of the transaction separate low from high quality firms. The most obvious source of such costs is the premium payout. Signalling efficiencies apart, the difference between offer price and anticipated post-expiration price represents money lost to the firm.\(^{158}\) Even with a right to tender, retaining shareholders would prefer a dividend distribution unless a stronger signal is emitted through a non-pro rata payout. Evidence that the announcement effect is positively correlated with the amount of the premium therefore suggests that these costs provide the separation condition.\(^{159}\)

The premium payout will not separate low from high quality firms unless the costs are differentially borne. It is therefore important to note that, without more, the premium is equally costly for the two kinds of firms. Suppose, for example, that the shares of a high quality firm trade at $100.

157. See id. Verrecchia notes that, as disclosure of soft information becomes more expensive, investors will react to its non-disclosure less negatively. Where the information is clearly too costly to reveal, no inference as to its content can be derived from management’s decision to withhold it. See Verrecchia, Discretionary Disclosure, 5 J. ACCT. & ECON. 179, 181-83 (1983).

158. Signalling theories assume that the undervaluation will eventually be revealed to the market. Even without the buyback, then, a significant stock price increase would be anticipated. For this reason, the premium payout may be costly even if the firm anticipates stock price increases in the months following the buyback. See supra note 27.

159. The most recent and comprehensive study of self-tenders obtained an R2 of .80 for the following regression:

\[
A = \alpha + \beta \left( \frac{Pt - Pb}{Pb} \right) + e
\]

where Pt was the tender offer price, Pb was the market price after the offer was made and before expiry, and A was the abnormal return from buying shares one day before expiration and selling the non-repurchased shares two days after expiration. The values of \(\alpha\) and \(\beta\) were -0.008 and 0.847, with a t-statistic of 23.8 for the latter figure. See J. Lakonishok & T. Vermaelen, supra note 24, table IV. In addition, the earlier study of Vermaelen, supra note 121, at 176-78, defined the premium as the difference between post-offer price and stock value five days before the offer, and explained 61% of the variance of the returns. The premium payout was by far the most important independent variable.
Signalling will accelerate the revelation of undervaluation, with share price going up to $109 in period one. Without the signal, share price would have increased to $110 in period two, so that the second period signalling costs are $1. These costs are nevertheless exceeded by the benefits of early disclosure. A low quality firm whose shares track at $100 might also signal in period one, with its stock price increasing to $109. Unlike the high quality firm, however, stock price will decline to $99 in period two when its true value becomes known. For the non-mimicry constraint to be satisfied, then, the high quality firm must conclude that the temporary stock price increase is worth the period two $1 signalling cost, while the low quality firm does not. The opportunity cost of signalling for the high quality firm must be lower than that for the low quality firm, even though the amount is $1 per share in both cases.

The separation condition might however be satisfied if external financing is costly. When the payout exceeds surplus cash flow, it must be financed through costly borrowing or the deferral of positive net present value investment opportunities. A firm's supply curve for buybacks, measuring marginal signalling costs, may then depend on firm quality. For high quality firms, the supply curve will be relatively elastic, because their anticipated future earnings are greater than those of low quality firms. High quality firms may therefore be willing to borrow in period one to finance a self-tender, in the knowledge that they can repay the moneys more easily in future periods than low quality firms can. Their buyback and dividend distributions may thus be dissipative, exceeding those which firms would be willing to make in a first-best world without informational asymmetries. Nevertheless, they may be prepared to bear these costs if doing so permits investors to identify them as high quality firms.

One objection to this model of buyback signalling focuses on the possible ambiguity of the signal. The separation condition assumes that repurchasing firms will generate more free cash flow in future periods than non-repurchasing firms. Instead of signalling high earnings, then, the self-tender might indicate fewer future investment opportunities. In that case, the signal might be no more costly for no-growth firms than it is for high earnings firms.

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160. The costly financing hypothesis underlies the best-known model of dividend signalling. See Bhattacharya, supra note 11. Investment signalling theories may closely resemble costly financing explanations of dividends. In the model of Ambarish, John & Williams, Efficient Signalling with Dividends and Investments, 42 J. Fin. 321 (1987), the dividend-paying firm rejects some net present value investment opportunities in order to top up the payout, with the willingness to pass up the opportunities providing the non-mimicry constraint. See also Miller & Rock, supra note 11.

Apart from financing costs, the tax penalty on dividend and buyback distributions, see supra note 77, might serve as a non-mimicry constraint. A high quality firm might thus distribute a greater amount of cash in a world of taxes than in a tax-free world because of signalling concerns. Tax signalling is suggested in Bhattacharya, supra note 11.

161. See, e.g., Brudney, supra note 9; Ellis, Repurchase Shares to Revitalize Equity, 43
firms. However, this objection is not compelling, because the signal would unwind if the separation condition were not satisfied. The persistence of strong announcement effects for self-tenders is thus inconsistent with no-growth signals. In addition, insider retention of stock on a self-tender is also inconsistent with no-growth signals. If managers foresaw a dearth of investment opportunities, they would be expected to tender their stock.

The second objection to self-enforcing theories of buyback signalling is that dividends might substitute for repurchases. If the signalling costs depend only on a dissipative distribution to shareholders, there is no reason why the payout must take the form of a buyback, and it might as easily be made through a pro rata dividend. However, the two methods of distribution are manifestly not substitutes, because the announcement effects of a self-tender are substantially greater than those of a dividend, even when the size of the payout is similar. On self-enforcing theories, the difference in announcement effects may then be attributed to insider retention and the premium price. Managerial stock holdings in repurchasing firms are non-trivial, and management’s willingness to forego the buyback premium magnifies the portion of the signalling costs which it bears personally. Thus, a higher premium signals greater managerial confidence in a future revelation of high firm value. If managers retain their stock until true value would have been revealed without the signal, they will bear an increased portion of the signalling costs, while obtaining none of the benefits of accelerated disclosure. In addition, for any premium self-tender, management’s temptation to tender increases with the portion of residual firm


162. See supra note 24.

163. See supra note 40.

164. See Brudney, supra note 9, at 1109 (firm could pay out dividends and let shareholders sell stock to each other); R. Clark, supra note 9, at 625-30 (free cash flow may be distributed as easily through a cash dividend).

165. See supra notes 24, 28 (specially designated dividends compared to self-tenders).

166. This explanation of self-tender signalling is suggested in Vermaelen, supra note 121.

167. See Vermaelen, supra note 24.

168. Evidence of greater stock price increases on a premium self-tender than an open market repurchase, see supra note 24 and accompanying text, is therefore consistent with this explanation of signalling policies. Insider retention and a premium offer price in a self-tender also provide the separation condition under the model of Ofer & Thakor, A Theory of Stock Price Responses to Alternative Corporate Cash Disbursement Methods: Stock Repurchases and Dividends, 42 J. Fin. 365 (1987). For large payouts, as on a self-tender or a specially designated dividend, high and low quality firms might find financing equally costly. This explains why weaker price increases are seen as a specially designated dividend rather than as a regular dividend, even though the payout is larger in the former case. However, high quality firms may still repurchase stock because of the signal provided through insider retention on a premium self-tender. See supra note 28.

169. This assumes that managerial non-stock compensation is insensitive to stock performance. See supra note 48.
value which it owns. Evidence that the size of the stock price increase on announcement is positively correlated with both the premium and the level of insider holdings is therefore consistent with this model, and suggests that dividends cannot substitute for self-tenders.

III. IMPLICATIONS FOR LEGAL POLICIES

The principal conclusion of this Article is that self-tenders and open market repurchases should be facilitated for the signalling efficiencies they serve. However, signalling theories of buybacks are incomplete unless attention is paid to legal rules which might strengthen the signal's power. Such rules are of two kinds. Antiexpropriation rules seek to prevent wealth transfers which violate the property interests of claimholders in the firm. Though usually defended on distributional theories, these rules might more plausibly be said to serve allocational purposes, among them signalling efficiencies. Antifraud rules may also promote signalling efficiencies, most obviously when a statement becomes more credible because misrepresentations are subject to a legal sanction. Where antiexpropriation rules strengthen self-enforcing signals, antifraud rules supplement costless signalling strategies.

A. Antiexpropriation Rules

Antiexpropriation rules prevent wealth transfers between classes of claimholders which violate their agreement on the division of firm value. Absent such rules, the ex ante price of the claims would be discounted on efficient markets, eliminating possible distributional effects. But if wealth transfer effects are unlikely, the firm would still find it efficient to provide for

170. See Vermaelen, supra note 121, at 176-78. If managerial stock holdings are relatively high, the incentive to correct market price anomalies may be lost altogether. Increasing the level of managerial stock ownership will thus reduce the likelihood of a premium self-tender, while strengthening the signal for those self-tenders which are made.

High levels of managerial stock ownership may themselves signal undervaluation. Because managers may be presumed risk averse, they will ordinarily not wish to concentrate their wealth in the firm which employs them by adding a large stock holding to their human capital investment in the firm. On the signalling model of Leland & Pyle, supra note 11, high levels of managerial stock ownership may then be seen as a signalling cost indicating greater firm value. The Leland-Pyle theory is consistent with findings of a significant correlation between stock price and changes in management's proportional holdings on an initial stock offering. See Downes & Heinkel, Signaling and the Valuation of Unseasoned New Issues, 37 J. Fin. 1 (1982); see also Masulis & Korwar, Seasoned Equity Offerings: An Empirical Investigation, 15 J. Fin. Econ. 91 (1986) (significantly larger negative announcement effects for combination primary-secondary stock offerings where management holding reduced). However, insider ownership signalling would not easily explain buyback gains, because insider retention on a self-tender does not change management's portfolio of assets. While managers end up owning more of the firm, their mix of investments is unchanged.
antiexpropriation barriers, because the market for the claims would disappear altogether if full expropriation were permitted. Such barriers are then a necessary condition to the existence of securities markets. In addition, firms which employ self-enforcing signals would adopt antiexpropriation rules because of signalling efficiencies they serve.

Antiexpropriation rules supplement self-enforcing signals by reducing the likelihood that the transaction is motivated by a desire for distributional gains. On open market repurchases, for example, the prohibition of premium prices makes it difficult for the firm to advantage insiders. But for barriers such as those of Rule 10b-18, then, the signal on an open market repurchase would be weaker than that of a cash dividend. For self-tenders, rights of equal opportunity to tender under Rule 13e-4 also militate against distributional explanations of the transaction. Because it is difficult for the firm to benefit an identifiable group of shareholders through the offer, it is more likely that the premium payout is motivated by signalling concerns.

A relaxation of certain antiexpropriation rules, however, might serve signalling efficiencies by facilitating non-premium self-tenders. While the premium payout on a self-tender may constitute an effective non-mimicry constraint, some firms might prefer to repurchase their shares at their anticipated post-expiration value. This would not be possible under the price and volume restrictions now governing open market repurchases. As for self-tenders, the relevant legal barrier is the requirement that the offer not exceed twenty days. With a steep supply curve for its stock, there might not be significant tendering within this period unless a premium price is offered. In addition, if the proration requirement were relaxed, the firm might stand ready to repurchase all shares tendered during the course of

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171. See supra note 5.
172. See supra note 4.
173. This leaves aside the issue whether such rules should be mandated or left to firm choice. Mandatory rules would not be required if firms have a sufficient incentive to devise optimal signalling policies. This likely explains why prepurchase notification requirements, see supra note 30, might reasonably be thought unnecessary for open market repurchases. Disclosing an intention to repurchase stock strengthens the self-enforcing signal of undervaluation, because the disclosure increases stock price and the costs of the repurchase. Low quality firms will then find the repurchase signal harder to mimic. High quality firms which propose to repurchase stock for signalling reasons would thus have adequate incentives to make prepurchase notification of their intentions.
174. The price restrictions of Rule 10b-18 are discussed supra note 5. Rule 10b-18 also prevents the firm from repurchasing more than 25% of the average trading volume of the stock, excluding blocks.
175. See supra note 4.
176. At an average premium of 22%, see supra note 25, the mean number of shares tendered is only 18%, see Dann supra note 37. This suggests that on average the supply curve of stock in repurchasing firms is inelastic. Over a greater offer period, however, the supply curve will become flatter as more time-function shareholders come to the market. See H. MANNE, supra note 67, at 95 (time-function trades result in part from changed investment needs).
the offer, like an open-end mutual fund. With no possibility of over-
tendering, then, stock price would be less likely to experience an ex dividend
decline. While there would be heightened concerns about shareholder expropriation in such cases, these might be met through minimum offer period requirements. If some firms might continue to signal through premium self-tenders under Rule 13e-4, then, others might prefer to make non-premium offers under the modified rules suggested here.

B. Antifraud Rules

If antiexpropriation rules bolster self-enforcing signals, antifraud rules strengthen conventional ones. This may be seen most clearly when antifraud rules penalize fraudulent speech acts by the firm, because representations in the firm's disclosure documents would be less credible without liability for misrepresentation. However, non-speech acts may also be fraudulent, and attract antimanipulation liability. The differences between the two kinds of fraud are not fundamental, because misrepresentations are wrongful because of what, not how, they signal. Uninformative speech acts cannot ground liability and non-speech act signals have been held manipulative. Certainly, both may mislead. In devising antifraud prohibitions, then, there is little basis on distributional theories for a principled distinction between messages sent through different mediums. Antimanipulation liability might thus extend to every corporate action taken by the market as a signal. This might include, for example, stock dividends, stock splits, and changes in the firm's cash dividend payout, in addition to buybacks.

The extension of liability to non-speech act signals in this way will often seem unwarranted because of reasonable doubts about the strength, or materiality, of the signal. Where market reliance is clearly demonstrated through event studies, however, materiality must be assumed. In the case of buybacks, for example, the strength of the signal is undisputed.

178. See supra note 26.

179. Even before the prohibition of manipulation in the Exchange Act, manipulative transactions unaccompanied by false statements were impeached under common law antifraud standards. See, e.g., Scott v. Brown, Doering, McNab & Co., [1892] 2 Q.B. 724 (C.A.) (action to enforce contract unsuccessful because of common law illegality). Whether the 1934 Act added much to common law antimanipulation barriers in the United States was the subject of a dispute between Adolph Berle and Louis Loss. See L. Loss, FUNDAMENTALS OF SECURITIES REGULATION 848-50 (2d ed. 1988) (only slender authorities on manipulation found prior to 1934); Berle, Stock Market Manipulation, 38 COLUM. L. REV. 393, 401 (1938) (stock market manipulation likely as unlawful before as after the legislation).

180. See supra note 11.

181. See supra note 24.
excused because effected on an anonymous market.\textsuperscript{182} For this reason, antifraud prohibitions under the Exchange Act extend to non-speech act techniques of manipulation carried out on securities markets. These prohibitions are least controversial where the transaction lacks an apparent business purpose, as in the case of wash trades.\textsuperscript{183} But because the techniques of manipulation cannot be narrowly circumscribed, the statute also contains general antimanipulation prohibitions.\textsuperscript{184}

In spite of the legislative prohibition, misleading non-speech act signals will rarely support recovery, even where the message as to undervaluation is egregiously in error. This is because plaintiffs alleging a breach of antimanipulation rules will seldom be able to surmount the scienter barrier. Non-speech act signals are not manipulative unless managers are motivated by a fraudulent purpose and do not believe that the stock is undervalued in the manner indicated by the signal.\textsuperscript{185} Even if managers seek to advance stock price in a self-tender, this will not amount to manipulation if they honestly believe that stock price is undervalued.

Scienter must of course be demonstrated before false speech acts are held fraudulent.\textsuperscript{186} In applying scienter standards, however, non-speech act signals are at law another country: they do things differently there. This is not because of intrinsic differences between the two kinds of signalling devices, but because they are used to signal different messages about the firm. Speech act signals are more frequently specific and unambiguously truth-functional. Specificity, then, is more crucial than the choice of signalling device. When the message is highly specific, a false non-speech act signal may be held fraudulent,\textsuperscript{187} while vague speech acts as to undervaluation may escape liability. Why specificity matters is that, as the message becomes more general, it is easier to demonstrate a state of mind consistent with an honest belief in its truth. Thus, it is virtually impossible to impugn mana-

\textsuperscript{182} Fraud on the market was found to be illegal as long ago as 1814, in a case where the accused sought to raise the price of government bonds by spreading the rumor that Napoleon had been killed. The charge of conspiracy succeeded even though it did not specify which purchasers on the market were injured. The King v. De Berenger, 3 Maule & S. 67, 105 Eng. Rep. 536 (K.B. 1814). A colorful account of the case is given in L. Loss, \textit{supra} note 179, at 845-47.


\textsuperscript{184} See 15 U.S.C. § 78i(a)(2) (1988). Section 9(a)(2) prohibits trading which creates the appearance of active trading or which alters stock price, if this is done to induce trading by others. Because this kind of manipulation would amount to fraud, it would also trigger liability under Rule 10b-5. See, \textit{e.g.}, Crane Co. v. Westinghouse Air Brake Co., 419 F.2d 787 (2d Cir. 1969), \textit{cert. denied}, 400 U.S. 822 (1970).

\textsuperscript{185} See Vaughn v. Teledyne, Inc., 628 F.2d 1214, 1220 (9th Cir. 1980).


\textsuperscript{187} See \textit{supra} note 11.
gerial good faith on a signal that the firm is undervalued, however the message is sent.

The difficulty in demonstrating scienter may be seen even in the relatively few cases which have impeached buybacks as manipulative. In *Davis v. Pennzoil Co.*, for example, the court refused to enforce Pennzoil's contract with a financial adviser when the advice included raising stock prices through a buyback in order to fund subsequent mergers and exchange offers. However, the "Davis Plan" also contemplated more benign methods of increasing stock price, including extending distributorship and marketing facilities and strengthening Pennzoil's board of directors. In addition, the court refused to admit evidence that Davis believed that the stock price was undervalued because the plan did not contemplate public disclosure of the entire purpose of the buyback. Finally, Davis was not a firm insider, and his standing to second-guess the market's valuation of the firm was therefore suspect. Had the plan been devised by a Pennzoil manager, the presumption of fraud would have been far more difficult to justify. In most cases, managerial fraud will be indistinguishable from an honest, though mistaken belief in undervaluation.

189. Id. at 198-200, 264 A.2d at 599-600. In addition, the Davis Plan was prepared at the request of James Breene, whose family had long been connected with the firm and who was about to inherit stock in it. Breene believed that the firm "wasn't going any place," id. at 198, 264 A.2d at 599, and invited Davis to recommend changes to it. The new interest taken in a stagnant firm by a major shareholder might then in itself have made it more valuable.
190. Id. at 603-04.
191. Scienter problems emerge even more vividly in the SEC's distinction between general stock manipulation and market stabilization techniques. Share transactions made to maintain stock price during the course of a public distribution of shares would be manipulative under § 9(a)(2) and Rules 10b-5 and 10b-6 but for the safe harbor of Rule 10b-7, 17 C.F.R. § 240.10b-7 (1989), which permits "stabilizing" purchases aimed at preventing price declines on a distribution. There is of course little basis in principle for distinguishing a manipulative purchase made to advance stock price from a stabilizing trade made to maintain current price on a distribution. If stabilization reduces the firm's cost of capital, that was also the purpose of the Davis Plan. Indeed, the SEC itself recognized that stabilization is a form of manipulation in Regulation of "Pegging, Fixing and Stabilizing" of Security Prices, Exchange Act Release No. 2446 (Mar. 18, 1940). Stabilizing repurchases may even be regarded as more objectionable than other kinds of buybacks. Because the purpose of stabilization is to groom the market for a distribution of securities, the firm will end up with more, not less, cash on hand. If anything, therefore, stabilization exacerbates free cash flow costs. Nevertheless, Rule 10b-7 creates a safe harbor for stabilization because of the fear that underwriters might otherwise be unable to dispose of the stock. This in turn would restrict the access of firms to capital markets. See id.

Negative stock price changes on an announcement of a public offering are a well-established phenomenon, see Smith *supra* note 24. On the model of Myers & Majluf, *supra* note 59, this result has been attributed to the informational asymmetry between issuer and investor as to share quality. A defense for stabilizing buybacks might then be sought in signalling theories. By repurchasing shares, the firm provides stronger evidence that, in spite of the impending distribution, stock price is not overvalued. Such signals would have to be conventional, because on self-enforcing theories there is no reason why a firm would prefer to repurchase stock for $5 before issuing $100 of new stock instead of merely issuing $95 of new stock.
The distinction between antifraud and antimanipulation liability is nevertheless troubling. Whatever their degree of specificity, both speech act and non-speech act signals may reveal material information; if false, both may induce mistaken investor reliance. Exempting one method of signalling from legal scrutiny might indeed divert fraudulent signals in that direction. In addition, antimanipulation liability might be thought to serve signalling efficiencies by making the signal more credible, in the same way that antifraud liability bolsters speech act signals. Thus, reinforced antimanipulation barriers may strengthen a buyback signal, turning a wholly self-enforcing signal into a mixed one, and reducing the premium the firm must pay out to achieve the desired increase in stock value. An explanation is therefore required for our present regime of speech act responsibility and non-speech act immunity.

Why false non-speech act signals are seldom impeached becomes more clear when the content of the liability rule is examined. At a minimum, the rule would have to provide a benchmark against which the signal could be compared. In the case of buybacks, then, the signal would be taken to amount to a promise that firm value is reflected in the expiration price of the stock. On a reinforced antimanipulation standard, liability would be imposed if firm value subsequently declined when the firm’s true value is revealed to the market. While this would happen at different times for different firms, in the absence of any way of verifying what management’s private information was, the liability rule would simply choose an arbitrary date to set the limit on the release period. The rule would thus amount to a warranty of an abnormal stock price change.

It is not difficult to understand why a firm would resist such a strengthening of antimanipulation barriers. Managers will rarely be able to predict firm value with anything like certainty. Even if they have access to confidential information about firm value, they will seldom be prepared to waive a scienter defense to antimanipulation liability. The possible liability might be enormous and amount to a non-diversifiable risk for the firm. Evidence of such costs is provided by the failure of firms to supplement self-enforcing signals through warranties as to future stock prices, even though doing so would reduce the amount of the premium payout required to support the signal.

With reinforced antimanipulation barriers, self-enforcing signals would not be sent unless the firm were virtually certain of the message. The increase in signalling quality must then be balanced against the decline in quantity. Moreover, the increase in signalling quality would not represent

192. See supra note 141.
193. See supra note 21.
194. This is then an example of the tension between the quality of promises and level of promising discussed in Goetz & Scott, Enforcing Promises: An Examination of the Basis of Contract, 89 YALE L.J. 1261 (1980).
a real gain, because any warranty could more cheaply be given through a costless speech act signal. If the non-mimicry sanction depends on antimanipulation liability, there is no need to emit a costly self-enforcing signal, because the firm will not incur signalling costs if its word is its bond. This explains why the present regime of antimanipulation immunity gives firms a choice as to whether to invoke antifraud sanctions when emitting a signal. When it is certain of the message, the firm will send a costless speech act signal, guaranteeing the signal’s accuracy by the assumption of antifraud liability. Where the firm is unwilling to warrant the signal’s truth, however, it will send a non-speech act signal. Because the signal is self-enforcing, the firm will bear signalling costs as the price of credibility, but this may be preferred to sending out no signal at all. The most efficient signalling regime would therefore appear to be one of firm immunity of non-speech act signals.

CONCLUSION

This Article has sought to defend open market repurchases and self-tenders by public firms in two ways. First, the possibility that these buybacks might give rise to significant wealth transfer effects was discounted. Secondly, it was suggested that buybacks serve signalling efficiencies, particularly when the repurchase is made through a premium price self-tender.

Because open market repurchases are made at market price, distributional concerns are negligible. Premium self-tenders may then seem more likely to transfer wealth from other claimholders to tendering shareholders. Even here, however, the buyback movement cannot be explained on distributional theories. The requirement that the offer be made to all shareholders, with proration on overtendering, generally guarantees distributional neutrality. In addition, the fact that insiders do not tender on premium buybacks, is inconsistent with expropriation theories. There is also no evidence that self-tenders constitute a form of insider trading.

On signalling theories, the significant announcement effects of open market repurchases and self-tenders are attributed to a message of hidden firm value. Other efficiency explanations of buyback gains might be advanced, but none of them can account for the special features of premium self-tenders. The signal of undervaluation serves efficiency goals by economizing on investor screening, and in promoting a better mix of investors with high quality firms. It is unlikely that these efficiencies are available through buyback substitutes, such as pro rata dividend distributions.

Signalling theories may explain certain features of buyback legal regimes. Thus, rules which prevent firms from effecting a wealth transfer through a repurchase are useful in strengthening the power of the signal. In addition, antifraud rules make the surrounding disclosure by the firm more credible. However, it is unlikely that the parties would wish to adopt an antimani-
pulation regime in that the firm incurs liability if it fails to maintain the increased price which investors will infer from the buyback. Firm managers are seldom in a position to warrant the higher price, and would therefore refrain from repurchasing stock under antimanipulation rules. This likely explains our present regime of antifraud liability for false speech act signals, and antimanipulation immunity for false non-speech act signals.