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Abstract: Publicly traded companies distribute cash to shareholders either through dividends or through anonymous repurchases of the companies' own stock on the open market. Companies must announce a repurchase authorization but do not actually have to repurchase any stock, and until recently companies did not have to disclose whether or not they were in fact repurchasing any stock. Scholars and regulators noticed that companies frequently announced repurchases but then appeared not to complete them. They feared that such announcements might be used by insiders to exploit public investors. To reduce opportunities for exploitive behavior, the SEC required that companies disclose their repurchase activity in their quarterly filings beginning in January 2004. This Article tracks 365 repurchase programs announced in 2004 and finds that, since the SEC disclosure requirement went into effect, companies are more likely to complete their announced repurchases and do so within a shorter time period after the repurchase announcement.

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I. INTRODUCTION

The primary organizing principle of United States Securities regulation is disclosure. As the Securities and Exchange Commission (SEC) explains on its website:

The laws and rules that govern the securities industry in the United States derive from a simple and straightforward concept: all investors, whether large institutions or private individuals, should have access to certain basic facts about an investment prior to buying it, and so long as they hold it. To achieve this, the SEC requires public companies to disclose meaningful financial and other information to the public. This provides a common pool of knowledge for all investors to use to judge for themselves whether to buy, sell, or hold a particular security. Only through the steady flow of timely, comprehensive, and accurate information can people make sound investment decisions.

The result of this information flow is a far more active, efficient, and transparent capital market that facilitates the capital formation so important to our nation's economy.

The SEC has sought, through greater disclosure, to ameliorate problems ranging from deceptive proxy solicitations² to excessive executive compensation.³

The SEC recently promulgated a new disclosure rule intended to stamp out suspected abuses associated with companies' repurchases of their own stock. This Article examines whether the new SEC disclosure rule has produced the intended effect. The repurchase disclosure regulation is a specific test case for the broader question of whether retroactive disclosure requirements can change the behavior of market participants.

Publicly traded corporations use stock repurchases, like dividends, to distribute cash to shareholders. Most stock repurchases are Open-Market Repurchases (OMRs), repurchases in which a corporation uses a broker to purchase its own stock in the public market over an extended period of time.⁴ OMRs may have advantages over dividends in terms of tax treatment and

^{1.} The Investor's Advocate: How the SEC Protects Investors, Maintains Market Integrity, and Facilitates Capital Formation (2007), available at http://www.sec.gov/about/whatwedo.shtml#intro (last visited January 19th 2010).

^{2.} See SEC Proxy Rules, 17 CFR § 240.14a-1 to 240.14b-2 (2009), available at http://www.law.uc.edu/CCL/34ActRls/reg14A.html.

^{3.} Executive Compensation and Related Person Disclosure, Exchange Act Release No. 34-8732A (1994), *available at* http://www.sec.gov/rules/final/2006/33-8732a.pdf.

^{4.} Gustavo Grullon & David L. Ikenberry, *What Do We Know About Stock Repurchases*?, 13 J. APPLIED CORP. FIN. 31, 33-34 (2000) (reporting that OMRs accounted for over 90% of announcements and over 90% of the value of actual repurchases between 1980 and 1999).

distribution costs. Companies may also prefer OMRs because OMRs can supply stock for employee incentive compensation plans and increase liquidity.⁵ However, OMRs are more likely than dividends to facilitate selfdealing by managers at the expense of the company's investors. This is because OMRs are less transparent than dividends and because OMRs, unlike dividends, can redistribute value between shareholders who sell ("Selling Shareholders") and shareholders who continue to hold the stock ("Retaining Shareholders").

OMRs can redistribute value because they effectively force all shareholders to trade future cash flows with each other at the repurchase price. Selling Shareholders surrender their claims to future cash flows of the company to Retaining Shareholders. In return, Retaining Shareholders surrender their claims to the cash that is used to repurchase shares from Selling Shareholders. After the repurchase, Retaining Shareholders own a larger piece of a smaller company. The Retaining Shareholders own a larger piece of the company because they effectively own the shares the company has repurchased. Retaining Shareholders own a smaller company because the company shrinks by the amount of cash the company pays to repurchase shares. If the repurchase price is lower than the value of the shares repurchased, Retaining Shareholders will benefit at Selling Shareholders' expense. If the repurchase price is higher than the value of the shares repurchased, Selling Shareholders will benefit at Retaining Shareholders' expense. Because repurchases are conducted by managers who may have better information than the market, the market price will not necessarily be the best estimate of the value of the shares repurchased. Legal and financial scholars argue that managers opportunistically enrich themselves through OMRs.⁶ Repurchase announcements are usually followed by a short-term stock price spike, presumably because repurchases signal managers' belief that the company is undervalued. According to the false signaling hypothesis, managers announce a repurchase---which they secretly do not intend to complete-in order to exploit this short-term price spike.⁷ According to a second hypothesis, the bargain repurchases hypothesis, managers seeking to repurchase stock when it is undervalued will sometimes announce repurchases that they do not intend to complete for the same reason that good poker players sometimes bluff-to make themselves harder to read. If the market cannot readily tell which repurchase announcements will be

^{5.} See, e.g., Jesse Fried, Informed Trading and False Signaling with Open Market Repurchases, 93 CAL. L. REV. 1323, 1336-40 (2005).

^{6.} See generally Fried, supra note 5, at 1357; De-Wai Chou & Jane-Ruang Philip Lin, False Signals from Open-Market Repurchase Announcements: Evidence from Earnings Management and Analyst's Forecast Revisions (2004) (unpublished working paper), available at http://ssm.com/abstract=471122; Elias Raad & H.K. Wu, Insider Trading Effects on Stock Returns Around Open-Market Stock Repurchase Announcements: An Empirical Study, 18 J. FIN. RES. 45 (1995).

^{7.} Fried, supra note 5, at 1352.

followed by actual repurchases, then the market must discount the signal from repurchase announcements. This discount leaves the stock somewhat undervalued when the company actually wishes to repurchase stock.⁸

In response to concerns about potential managerial opportunism, the SEC promulgated a new repurchase disclosure requirement that took effect on December 17, 2003.⁹ Under the new rule, companies' quarterly statements must disclose the number of shares purchased each month, the average price per share, and the maximum number (or approximate dollar value) of shares that may yet be purchased under the program.¹⁰

In a recent paper (2005), Jesse Fried argues that the SEC's disclosure requirement still leaves room for managerial opportunism because the disclosure is limited and ex-post.¹¹ Fried argues for a more thorough, pre-trade disclosure rule.¹²

This Article examines the new SEC disclosure requirement's effectiveness in increasing the transparency and reliability of repurchase announcements. To do so, this Article tracks 365 repurchase programs announced in 2004 and compares the completion rates during the 20 months after the announcements to completion rates reported in two previous studies of repurchase programs announced before the disclosure rule. Furthermore, this Article improves on the methodology of previous studies by using actual repurchase data from mandatory disclosures. In contrast, previous studies estimated repurchases and were therefore potentially inaccurate. This methodological improvement enhances the accuracy of the data but unfortunately complicates cross-study comparisons.

This Article's key finding is that, after the disclosure rule went into effect, repurchase completion rates substantially and significantly increased. Whereas before the disclosure rule, repurchases tracked for 20 months after the announcement were on average 62.6% complete, after the disclosure rule went into effect, repurchases were on average 80.3% complete.

This dramatic difference in repurchase completion suggests that the new disclosure requirement produced the desired effect—repurchase announcements today are more transparent and reliable than they were before the SEC disclosure requirement. This Article also considers and rejects

^{8.} Id. at 1356-57. A recent empirical financial economics paper suggests that firms do in fact repurchase their own stock at a significant discount, primarily by timing stock repurchases during months when the stock is undervalued. Amedeo De Cesari, Susanne Sepenlaub, Arif Khurshed, & Michael Simkovic, Insider Ownership, Institutional Ownership, and the Timing of Open Market Stock repurchases (2009) (unpublished working paper), available at http://ssm.com/abstract=1409708.

^{9.} Purchases of Certain Equity Securities by Issuer and Others, Exchange Act Release No. 33-8335, 68 FR 64952 (Nov. 17, 2003).

^{10.} Id.

^{11.} Fried, supra note 5, at 1341.

^{12.} Id. at 1374-80.

alternate interpretations of these results.

II. BACKGROUND ON REPURCHASES

A. Growing Use of Repurchases as Substitutes for Dividends

Stock repurchases were relatively rare until the 1980s, but they have since grown dramatically and today account for roughly half of cash distributions to shareholders.¹³ Share repurchases grew from \$6.6 billion in 1980 to almost \$200 billion in 2000.¹⁴ This increase in stock repurchases, accompanied a corresponding decline in dividend payouts as a share of annual earnings while aggregate payout levels remained constant at 26-28% of annual earnings.¹⁵ In other words, the market as whole replaced dividends with stock repurchases.

This market-wide shift to stock repurchases is not due to companies that primarily repurchase stock replacing those that primarily pay dividends. The profile of corporations that pay dividends—larger, more profitable firms with more constant return on assets—is the same as the profile of firms that distribute cash through repurchases.¹⁶ They are, in fact, generally the same firms. Between 1980 and 2000, 87.9% of repurchase expenditures came from firms that also paid dividends.¹⁷ In other words, corporations that distributed cash to shareholders chose to shift their mode of distribution from predominantly dividends to half dividends and half repurchases.

Furthermore, the trend toward repurchases will likely accelerate. A recent survey of CFOs suggests that, if firms that do not currently distribute cash to shareholders begin to distribute cash, two-thirds will do so exclusively through repurchases.¹⁸

Scholars and commentators have sought to explain the shift to repurchases in terms of either benefits to investors or opportunistic behavior by managers that harms investors. As the amount of cash channeled through repurchases increases, so too do the potential harm to investors and the need for regulatory scrutiny.

^{13.} Gustavo Grullon & Roni Michaely, Dividends, Share Repurchases, and the Substitution Hypothesis, 57 J. FIN. 1649, 1649 (2002).

^{14.} Id.

^{15.} Grullon, *supra* note 13, at 1656; Murali Jagannathan, Clifford P. Stephens & Michael S. Weisbach, *Financial Flexibility and the Choice Between Dividends and Stock Repurchases*, 57 J. FIN. ECON. 355, 356 (2000).

^{16.} Eugene Fama, & Kenneth R. French, Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?, 60 J. FIN. ECON. 3, 6 (2001); Grullon, supra note 13, at 1658.

^{17.} Grullon, *supra* note 13, at 1659.

^{18.} Alan Brav et al., Payout Policy in the 21st Century 11-12 (Nat'l Bureau of Econ. Research, Working Paper No. 9657, 2003).

B. Possible Benefits of Repurchases to Shareholders/Investors

The most common form of repurchases, and the focus of this Article, is Open-Market Repurchases (OMRs) in which a corporation uses a broker to purchase its own stock in the public market over an extended period of time.¹⁹ Essentially, a corporation conducting an OMR may anonymously buy as much or as little stock as it wants, when it wants, at market price.²⁰

Commentators have described four possible benefits of OMRs: (i) tax advantages over dividends; (ii) lower distribution costs than dividends; (iii) extra stock for employee incentive compensation plans; and (iv) increased liquidity. Of these four, the most significant driver of repurchases is probably the extra stock that OMRs supply for employee incentive compensation plans. All four benefits are discussed below.

1. Tax Advantages of OMRs over Dividends

Historically, repurchases offered significant tax advantages over dividends mainly because long-term capital gains were taxed at advantageous rates.²¹ However, the 2003 dividend tax cut under The Jobs and Growth Tax Relief Reconciliation Act of 2003 equalized dividend and capital gains rates at 15% and thereby eroded the repurchases' tax advantage.²² Repurchases are still somewhat advantageous because the government only taxes the gains of selling shareholders to the extent that the sale price exceeds their basis in the stock; dividends, by contrast, are fully taxed.²³ Repurchases also better facilitate tax planning because shareholders can decide whether (and when) to sell depending on their particular circumstances, whereas dividends accrue to all shareholders regardless of their tax-planning preferences.²⁴

Empirical evidence suggests that tax considerations play a fairly minor role in corporations' payout-policy decisions, possibly because many large shareholders, such as pension funds, are tax exempt.²⁵

^{19.} Grullon, supra note 4, at 33-34.

^{20.} See Part II.D, infra, for a discussion of OMR regulation.

^{21.} See, e.g., supra note 5, at 1336-38; William W. Bratton, The New Dividend Puzzle, 93 GEO. L.J. 845, 852-62 (2005).

^{22.} Fried, supra note 5, at 1336; Bratton, supra note 21, at 845.

^{23.} Fried, supra note 5, at 1337. Consider the following example, which assumes dividends and capital gains are both taxed at 15%. Investor A and B each purchase 10 shares of stock for \$50 per share, or \$500 each in holdings. Five years later, the value of each of their stock holdings has doubled to \$1000. Investor A receives a 10% dividend, or \$100. Investor A will be taxed 15% on the full \$100, or \$15. Investor B sells one share of stock for \$100. Investor B will only be taxed on his capital gain of \$50 (Investor B paid \$50 and so has \$50 in basis in the stock, which is deducted from the sales price for tax purposes). Investor B will therefore be taxed 15% of \$50, or \$7.50.

^{24.} Fried, supra note 5.

^{25.} See Fried, supra note 5, at 1337; Bratton, supra note 21, at 845.

2. Lower Distribution Costs associated with OMRs

OMRs may be more efficient than dividends for distributing small, nonrecurring cash flows to investors because transactions costs for dividends depend primarily on the number of recipients whereas transaction costs for OMRs depend primarily on the size of the transaction. For small, non-recurring distributions, repurchases involve relatively large payments to relatively few selling shareholders, whereas dividends involve relatively small payments to all shareholders.²⁶ However, for larger and/or recurring cash flows, dividends are generally more efficient because the infrastructure necessary to distribute dividends can be amortized across a larger payment stream, and dividends avoid broker and other transaction fees.²⁷ Given the substantial size of repurchases (which account for roughly half of cash distributions) firms likely do not use repurchases primarily to distribute small, non-recurring cash flows.

3. Acquiring Shares for Employee Stock Option Plans

Unlike dividends, repurchases provide shares for employee incentive compensation programs. A substantial portion of executive compensation comes in the form of stock options²⁸ and many firms also use stock options to compensate lower ranking employees. Many in business believe that such compensation reduces agency costs by tying compensation to the performance of the firm as measured by the share price at the time the options vest.

Empirical evidence supports a link between stock repurchases and exercisable employee options.²⁹ Firms are more likely to announce repurchases when executives have large numbers of options outstanding and when employees have large numbers of options currently exercisable.³⁰ The size of repurchases correlates with total employee options currently exercisable but is not related to executive options.³¹ This suggests that firms calibrate the size and timing of their repurchases to serve the needs of their incentive compensation programs.³²

Instead of repurchasing existing shares, boards could issue new shares.³³ However, issuing new shares would dilute earnings per share, lower the value

^{26.} Fried, supra note 5, at 1338.

^{27.} Id.

^{28.} LUCIAN BEBCHUK & JESSE FRIED, PAY WITHOUT PERFORMANCE: THE UNFULFILLED PROMISE OF EXECUTIVE COMPENSATION 7 (Harvard University Press 2004).

^{29.} Kathleen M. Kahle, When a Buyback isn't a Buyback: Open Market Repurchases and Employee Options, 63 J. FIN. ECON. 235, 238, 255-56 (2002); see also Christine Jolls, Stock Repurchases and Incentive Compensation (Nat'l Bureau of Econ. Research, Working Paper No.W6467, 1998), available at http://ssrn.com/abstract=226212.

^{30.} Kahle, supra note 29, at 238, 255-56.

^{31.} Id. at 238.

^{32.} Id. at 260.

^{33.} Fried, supra note 5, at 1332.

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of each share, and therefore lower the value of stock options held by employees and executives.³⁴ Furthermore, some corporate charters may require the board to obtain shareholder approval before issuing new shares.³⁵ Such approval may be desirable for corporate governance reasons but would entail additional delay and transaction costs.

4. Liquidity

Repurchases increase the volume of trading in the repurchasing company's stock. This additional liquidity may lower market-makers' inventory costs; the market-maker in turn may lower the bid-ask spread. A "market-maker" simultaneously offers to buy or sell a given security for quoted bid and ask prices, providing liquidity when there is a mismatch between the number of buy and sell orders for a given security. To accomplish this, the market-maker carries an inventory of the security in which he makes a market and trades on his own account. The bid-ask spread is the difference between the price at which a market-maker is willing to buy a security and the price at which the market-maker is willing to sell the security. Reducing the bid-ask spread lowers transaction costs for investors seeking to buy or sell the stock.³⁶ In fact, empirical evidence suggests that repurchases lower the bid-ask spread.³⁷

C. Possible Harm to Investors: False Signaling and Bargain Repurchases

OMRs are not transparent because firms that announce repurchases do not commit themselves to buy; they merely give themselves the option to buy. Until 2004, it was difficult to ascertain the extent to which firms carried through on their repurchases because the law did not obligate firms to disclose any repurchase data.³⁸ One influential study estimated that within three years of announcing a repurchase, 43% of firms repurchased fewer shares than their announced targets, that 10% of firms bought less than 5% of the number of shares announced, and that a significant number of firms did not repurchase any shares at all.³⁹ According to another study, 27% of announcing firms did

^{34.} Bratton, supra note 21, at 872-76.

^{35.} Fried, supra note 5, at 1339.

^{36.} Fried, supra note 5, at 1339-40.

^{37.} See Douglas O. Cook, Laurie Krigman & J. Chris Leach, On Timing and Execution of Open Market Repurchases, 17 REV. FIN. STUD. 463, 485-86 (2004).

^{38.} In December of 2003, the SEC revised its disclosure rule. Under the new rule, companies' quarterly statements must disclose the number of shares purchased each month, the average price per share, and the maximum number (or approximate dollar value) of shares that may yet be purchased under the program. *See* Exchange Act Release No. 33-8335, 68 FR 64952 (Nov. 17, 2003).

^{39.} Clifford Stephens & Michael S. Weisbach, Actual Share Reacquisitions in Open-Market Repurchase Programs, 53 J. FIN. 313, 317 (1998). The sample of this study was the 944 open-market repurchase programs announced from 1981 to 1990 in *The Wall Street Journal Index* excluding the 995 announcements made during the fourth quarter of 1987.

not repurchase any shares within four years.⁴⁰ This suggests that firms sometimes announce repurchases that they do not intend to carry through.

1. The False Signaling Hypothesis

According to the false signaling hypothesis, firms announce repurchases that they do not intend to carry through because managers hope to exploit the price spike that typically follows a repurchase announcement.⁴¹ Following repurchase announcements, studies report short-term, abnormal returns averaging 3%.⁴² Repurchase announcements generate a price spike because the market views repurchase announcements as signals that announcing firms are undervalued.⁴³ Some scholars theorize that managers could exploit this price spike by announcing a repurchase when the firm is overvalued and then dumping their shares shortly after the announcement.⁴⁴ Although there is empirical evidence that one could interpret to support this hypothesis, it seems somewhat unlikely that such crude manipulation would escape regulatory scrutiny.

Evidence consistent with the false signaling hypothesis comes from a study of OMR announcements between 1993 and 1998. This study found that managers who announced that they were repurchasing stock because the stock was under-priced (and who therefore might have been attempting to boost the stock price) tended to manipulate earnings upward around the time of the announcement.⁴⁵ The study also found a short-term price spike of approximately 3%, followed by negative, medium-term, abnormal returns of almost 11%.⁴⁶ This suggests that the firms were overvalued at the time of the announcement, but the announcement nevertheless 'fooled' the market and boosted the stock price.⁴⁷

^{40.} Uptal Bhattacharya & Amy Dittmar, *Costless Versus Costly Signaling: Theory and Evidence*, (unpublished working paper 2004), *available at* http://ssrn.com/abstract=250049 at 16. The sample for this study was all 2,297 firms announcing open-market repurchases between 1985 and 1995 as listed in the Securities Data Corporation's Mergers and Acquisitions database excluding announcements in the last quarter of 1987.

^{41.} Fried, supra note 5, at 1331-55.

^{42.} See, e.g., David L. Ikenberry, Josef Lakonishok & Theo Vermaelen, Market Underreaction to Open Market Share Repurchases, 39 J. FIN. ECON. 181, 183 (1995); Gustavo Grullon & Roni Michaely, The Information Content of Share Repurchase Programs (2002) (unpublished working paper), available at http:// ssrn.com/abstract=206328; David L. Ikenberry & Theo Vermaelen, The Option to Repurchase Stock, 25 FIN. MGMT. 9, 17-18 (1996).

^{43.} Ikenberry, Lakonishok & Vermaelen, *supra* note 42, at 182-84; Murali Jagannathan & Clifford Stephens, *Motives for Multiple Open Market Repurchase Programs*, 32 FIN. MGMT 71, 71-74 (2003). Ikenberry and Jagannathan first describe the traditional signaling hypothesis and then posit refinements regarding the market's ability (or inability) to distinguish undervaluation from other possible motivations for repurchase announcements.

^{44.} Fried, supra note 5, at 1352-53.

^{45.} Chou, supra note 6, at 21.

^{46.} Id. at 6.

^{47.} Although the announcement may fool the market in some instances, recent studies find that the

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Other evidence also suggests that, during market crashes, managers may announce repurchases that they do not intend to carry out in order to reassure the market and stabilize (or boost) the stock price.⁴⁸ However, both the SEC and scholars generally view such market-crash repurchase announcements as exceptional.⁴⁹ In fact, the SEC sought to encourage repurchases after the market crashes of October 1987 and September 2001 by relaxing its anti-manipulation rules. The SEC viewed repurchases as a way to reassure investors and forestall a panic.⁵⁰

2. The Bargain Repurchase Hypothesis

The bargain repurchases hypothesis suggests that non-completed repurchase announcements are functionally equivalent to bluffing in poker they cast doubt on the meaning of an action that would otherwise provide a clear signal to others. In poker, a raised bet signals to the other players that the

market reacts less positively to repurchase announcements that are unlikely to signal undervaluation. See Jagannathan, supra note 43 (noting that "it is unlikely that a firm could credibly signal that its stock is undervalued on a regular basis" and finding that "infrequent repurchases are greeted much more favorably than more frequent repurchases" with abnormal returns averaging 3.4% for the first repurchase in five years falling to 2% for the second repurchase and 1.1% for the third); Kahle, supra note 29, at 256-58 (noting that a repurchase initiated to provide stock for employee options programs is less likely to signal undervaluation and finding that the announcement return is negatively related to non-executive options outstanding); but see, Ikenberry, supra note 42, at 191 (finding a very similar short term market reaction to glamour stocks and value stocks at 3.36% and 3.56% respectively). There are reasons to doubt crude, pump-and-dump stock price manipulation by managers. Insider trading is heavily regulated and policed, and the penalties for violations are heavy. There is scant direct evidence of managers personally enriching themselves by manipulating the stock price through repurchase announcements. For an example of the indirect evidence offered to support this argument, see Nikos Vafcas, Determinants of Choice Between Different Repurchase Methods, 12 J. ACCT. AUD. & FIN. 101, Table 1 (1997) (reporting a very slight decline in insider ownership after open-market repurchases; mean insider ownership fell from 15.7% to 15%).

^{48.} Beverly Kracher & Robert R. Johnson, *Repurchase Announcements, Lies and False Signals*, 16 J. BUS. ETH. 1677, 1678 (1997). Following the 1987 market crash, many companies announced large repurchases and then reassured credit rating agencies that they did not intend to carry through with the repurchases. Repurchase announcements that occurred during the two weeks after the October 19, 1987 market crash generated positive excess returns, and announcing firms outperformed the market over the forty days that followed the announcement day. J.M. Netter, & M.L. Mitchell, *Stock Repurchase Announcements and Insider Transactions After the October 1987 Stock Market Crash*, 18 FIN. MNGMT. 84 (1989).

^{49.} Many empirical studies exclude repurchase announcements made during the fourth quarter of 1987 because scholars consider such announcements atypical and unrepresentative of normal repurchase activity. See, e.g., Stephens, supra note 39, at 317; Bhattacharya, supra note 40; Raad, supra note 6, at 47; Kracher, supra note 48, at 1679 ("During the stock market crash of 1987 SEC chairman David Ruder encouraged firms to repurchase stock... Under severe market conditions, the SEC felt it necessary to relax the rules and allow free trading."); Missy Piccioni, A Regulatory Response by the SEC to the Terrorist Attacks on America—Did the Issuer Repurchase Relief Make a Difference?, 34 RUTGERS L.J. 565, 565 (2003) ("On September 14, 2001 the SEC relaxed the volume and timing conditions for companies that repurchased their own shares.").

^{50.} Testimony Concerning the Condition of the U.S. Financial Markets Following the Recent Terrorist Attacks Before the S. Comm. on Banking, Housing, and Urban Affairs, (Sept. 2001) (testimony of Harvey L. Pitt, Chairman United States Securities and Exchange Commission), available at http://www.sec.gov/news/testimlny/092001tshlp.htm.

betting player either believes he has a winning hand or is trying to bluff because his hand is weak. If other players misinterpret his actions, he can profit from their miscalculations. Similarly, when managers announce a repurchase, the announcement either signals that the company believes its stock is undervalued and will therefore seek to repurchase it at a bargain price or that the company is simply blowing smoke and will not complete the repurchase. If the market cannot readily tell which repurchase announcements will be followed by actual repurchases, then the market must discount the signal from repurchase announcements. As a result, this discounting leaves the stock somewhat undervalued when the company actually wishes to repurchase stock.⁵¹ The resulting bargain repurchases transfer value from shareholders who sell to shareholders who retain their stock and to insiders who own stock options. Managers can increase their stake in the company and indirectly capture insider-trading-like gains by simply holding onto their shares and options.⁵²

Empirical support for market mispricing comes from David Ikenberry et. al. (1995), who found significant, abnormal, positive returns during the four years after repurchase announcements and concluded that "the market treats repurchase announcements with skepticism, leading prices to adjust slowly over time."⁵³ Empirical support for managerial inside (or "informed") trading comes from Raad & Wu, who found that the following all predicted higher, significant, abnormal, positive stock returns within 10 days after the repurchase announcement (i) a higher level of insider stock purchases in the month immediately before a repurchase announcement, (ii) a higher percentage of insider ownership, and (iii) a higher percent of shares outstanding authorized for repurchases.⁵⁴ This suggests that managers can and do use repurchase announcements to increase the market value of their personal stock holdings.

At least one of these theories of managerial opportunism seems to have resonated with the Securities and Exchange Commission. In adopting their new repurchases disclosure requirement, the SEC explained:

We believe information about how much common stock the issuer has repurchased is important to investors. Studies have shown that the public announcement by an

^{51.} Fried, supra note 5, at 1356-57.

^{52.} Id. at 1344-47 (referring to this as "informed trading" and suggesting that it is probably legal).

^{53.} But see Konan Chan, David L. Ikenberry & Inmoo Lee, Do Managers Time the Market? Evidence From Open-Market Share Repurchases, 31 J. BANK. & FIN. 2673 (2007) (arguing that pseudo market-timing is not "a viable explanation for the positive long-horizon stock return drift observed subsequent to repurchase announcements"); Chou, *supra* note 6, at 10 (finding no evidence of the market underreaction phenomenon and negative abnormal returns in the three to twelve month period following the repurchase announcement).

^{54.} Raad, *supra* note 6, at 52-55; *see also* Nikos Vafeas et al., *Earnings Management Around Share Repurchases* (2003) (unpublished working paper), *available at* http://ssrn.com/abstract=443726 (reporting evidence weakly consistent with the hypothesis that pre-repurchase earnings are managed downward to induce shareholders to sell at sub-par prices, while post repurchase announcements prices are higher than expected as the earnings management is reversed).

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issuer of a repurchase program is often followed by a rise in the issuer's stock price. Studies have also shown that some issuers publicly announce repurchase programs, but do not purchase any shares or purchase only a small portion of the publicly disclosed amount. Thus, disclosure of an issuer's actual repurchases will inform investors whether, and to what extent, the issuer had followed through on its original plan. Investors also will have information regarding an issuer's repurchase activity in order to assess its possible impact on the issuer's stock price, similar to periodic disclosure of issuer earnings and dividend payouts.

D. Regulation

SEC regulations seek to reduce the extent to which company insiders can use their access to non-public information to profit at the expense of other market participants. Repurchases create opportunities for abuse because companies can anonymously repurchase their own shares on the open market using non-publicly-available information that is relevant to the company's valuation. SEC regulations of repurchases seek to reduce the potential for abuse but probably fall short of completely eliminating it. There are three elements to regulation of repurchases: (i) insider trading liability under rule 10b-5;⁵⁶ (ii) anti-manipulation rules⁵⁷ and (iii) disclosure requirements.⁵⁸

1. Insider Trading and Rule 10b-5

Rule 10b-5 requires insiders—including the firm and its officers—to refrain from trading in the firm's shares while in possession of "material," non-public information regarding share value. This prohibition applies to stock repurchases. However, the bar for materiality is high, so firms' officers can conduct repurchases while aware of information that, though not necessarily "material," is nonetheless valuable, i.e., internal forecasts.⁵⁹ Furthermore, using insider information to refrain from trading (i.e., deciding not to purchase shares) generally does not trigger 10b-5 liability. 10b-5 therefore leaves the door open for companies to repurchase their own shares at advantageous prices.

2. Anti-Manipulation Rules and the 10b-18 Safe Harbor

Under Section 9(a)(2) of the Securities and Exchange Act of 1934, it is illegal for an individual or corporation to conduct a series of transactions within a security to induce others to buy or sell the security. A repurchase program would violate 9(a)(2) if it were conducted with the intent of driving up the

^{55.} Purchases of Certain Equity Securities by Issuer and Others, *supra* note 9.

^{56.} Employment of Manipulative and Deceptive Devices, 17 C.F.R. § 240.10b-5 (2009).

^{57.} Securities and Exchange Act of 1934, § 9(a)(2); SEC Rule 10b-18.

^{58.} Purchases of Certain Equity Securities by Issuer and Others, Exchange Act Release No. 33-8335, 68 FR 64952 (Nov. 17, 2003).

^{59.} Fried, supra note 5, at 1343.

stock price and to make it appear as if there were heavy demand for the stock.

However, SEC rule 10b-18 provides a safe harbor to firms that repurchase their own shares. For protection, 10b-18 requires that a firm: (i) limit its daily open-market purchases to 25% of the average daily trading volume of the previous month; (ii) does not offer a price which exceeds the higher of either the highest independent bid or the last independent transaction price; (iii) does not repurchase any shares at the start or during the last half hour of trading; and (iv) conducts all purchases on a given day through the same brokerage firm.

Section 9(a)(2) nor rule 10b-18 Neither apply to repurchase announcements—they only apply to actual repurchases. The false signaling hypothesis postulates that firms seek to drive up the price of their stock by announcing repurchases they do not intend to complete. The bargain repurchases hypothesis suggests that firms announce some repurchases they do not intend to complete in order to confuse the market, minimize the price spike that follows repurchase announcements, and thereby facilitate repurchases at favorable prices. Such manipulation is not covered under Section 9(a)(2).⁶⁰ Firms that announce repurchase targets protect themselves by indicating that actual repurchases will depend on market conditions.⁶¹ Firms are not obligated to repurchase any shares, even if they announce a board authorization to do so.⁶²

3. Disclosure Requirements

All major U.S. stock exchanges require listed firms to announce board authorization of an OMR program.⁶³ However, at the time of announcement, the firm does not have to disclose the target (in dollars or shares) or the expiration date of the authorization.

The subject of this Article, the December 2003 SEC disclosure requirement, requires firms to disclose the number of shares purchased each month, the average price per share, and the maximum number (or approximate dollar value) of shares that may yet be purchased under the repurchase program.⁶⁴ These disclosures are made after the fact, in quarterly financial statements. Such retroactive disclosures increase transparency in the long run, but recent repurchases and future plans remain veiled.

^{60.} Kracher, *supra* note 48, at 1679-80 (arguing that such manipulation should be covered under the general anti-fraud provision in Rule 10b-5, which prohibits false or misleading statements in connection with the sale or purchase of security. However, the SEC has not taken this view).

^{61.} Fried, supra note 5, at 1341.

^{62.} Id. at 1341-42.

^{63.} Fried, supra note 5, at 1340.

^{64.} Purchases of Certain Equity Securities by Issuer and Others, Exchange Act Release No. 33-8335, 68 FR 64952 (Nov. 17, 2003).

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III. METHODS, RESULTS, & DISCUSSION

Scholars and regulators became concerned that some repurchase programs might benefit insiders at the expense of public investors because of the suspicious frequency with which firms announcing repurchase programs failed to complete those repurchases.⁶⁵ Repurchase non-completion is thought to be an observable indicator of exploitive behaviors that are difficult to measure directly such as false signaling and bargain repurchases. Previous studies suggest that, before the 2003 SEC disclosure requirement, as many as a quarter of firms announcing repurchases did not repurchase a single share.⁶⁶ This Article evaluates the effectiveness of the SEC's regulation by measuring whether disclosure requirements mandated since 2004 have increased average repurchase completion rates and reduced the number of announcing firms that repurchase no shares or only a small percentage of their announced target.⁶⁷ Because this Article seeks to measure the impact of Exchange Act Release No. 33-8335 on repurchase completion rates, it must measure completion rates after the regulation went into effect and compare those measurements to completion rates before the regulation.

To measure completion rates after the SEC disclosure requirement went into effect, this Article looks at 365 repurchase announcements during 2004 the first year during which the disclosure requirement was in effect—and tracks actual repurchases for 20 months. This Article is the first of its kind to use actual repurchase data from mandatory disclosures.⁶⁸ Before the SEC disclosure requirement went into effect, studies could either estimate repurchases or use repurchase data voluntarily supplied by companies (and thereby introduce selection bias).⁶⁹ This Article therefore is likely more accurate than previous studies. However, this improvement in accuracy comes at the price of more complicated cross-study comparison.

69. See Kathleen M. Kahle, Edward Alexander Dyl & Monica Banyi, *Measuring Share Repurchases* (August 2005) (unpublished manuscript), *available at* http://ssm.com/abstract=726284 (providing a detailed discussion of the limitations of various methods of estimating actual repurchases).

^{65.} See, e.g., Fried, supra note 5, at 1352; Chou, supra note 6; Bhattacharya, supra note 40; Exchange Act Release No. 33-8335, supra note 64.

^{66.} Stephens, supra note 39 (as expanded upon in Part II.C, supra).

^{67.} Purchases of Certain Equity Securities by Issuer and Others, Exchange Act Release No. 33-8335, 68 FR 64952 (Nov. 17, 2003).

^{68.} As of January 2004, publicly traded firms must disclose this information in SEC Form 10-Q item 2(e) and in Form 10-K item 5(c). As far as 1 am aware, no commercial database compiles and tracks this information—it had to be gathered by searching 10-Qs and 10-Ks on EDGAR and manually entering data into a spreadsheet. In a few instances, monthly repurchases (in shares and dollars) were tracked based on another figure companies are required to disclose—the number of shares (or the dollar value) remaining to be repurchased under the existing authorization. This Article assumes that companies have repurchased an amount equal to the decline in the remaining repurchase authorization, plus any new authorizations, less any cancellations of old authorizations.

A. Estimates of Stock Repurchase Completion Before the Disclosure Rule

Completion rates before the disclosure requirement were reported in two previous empirical studies; each examined repurchases announced over a tenyear period. The first is a seminal study by Stephens and Weisbach (1998) that analyzed almost a thousand repurchase announcements between 1981 and 1990.⁷⁰ The second is a more recent, unpublished working paper by Bhattacharya and Dittmar (2004) that examined over two-thousand repurchase announcements between 1985 and 1995.⁷¹ Stephens and Weisbach identified repurchasing firms through Wall Street Journal announcements, whereas Bhattacharya and Dittmar identified repurchasing firms through Security Data Corporation (SDC), which includes multiple news sources.⁷² Bhattacharya and Dittmar's sample may therefore include smaller companies than Stephens and Weisbach's study.⁷³ Both studies reported substantially lower completion rates than found in this Article. Such a finding suggests that the SEC disclosure rule had the intended effect of making repurchase announcements a more reliable indicator of actual repurchases.

Because Stephens and Weisbach and Bhattacharya and Dittmar's studies both preceded mandatory disclosure of repurchase activity, both studies estimated repurchases using proxies. Stephens and Weisbach's proxy tends to underestimate share repurchases, while Bhattacharya and Dittmar's proxy tends to overestimate repurchases.

As their primary proxy for share repurchases, Stephens and Weisbach used the monthly decrease in shares outstanding reported by the Center for Research in Security Prices (CRSP), adjusted for stock splits and cumulated quarterly.⁷⁴ This Article use Stephens and Weisbach's CRSP decrease in shares outstanding data as its primary measure for pre-disclosure share repurchase completion. However, the change in shares outstanding is an imperfect measure, and will tend to underestimate repurchases. This is because activities besides repurchases will affect the number of shares outstanding. For example, any of the following distributions will increase the number of shares outstanding: distributions of shares to benefit plans, the exercise of executive stock options, and stock sales.⁷⁵ To the extent that distributions occur in the same month as repurchases.⁷⁶ Stephens and Weisbach describe several alternate proxy measures for stock repurchases, and the potential sources of inaccuracy in those

^{70.} Stephens, supra note 39, at 317.

^{71.} Bhattacharya, supra note 40, at 16.

^{72.} Id. at 17.

^{73.} Id.

^{74.} Stephens, supra note 39, at 318.

^{75.} Id. at 319-20.

^{76.} Id. at 320.

other methods.⁷⁷

Bhattacharya and Dittmar use one of these alternate methods as their primary proxy for measuring stock repurchases.⁷⁸ Bhattacharya and Dittmar use the Compustat data item *Purchase of Stock*.⁷⁹ This data item tends to overestimate stock repurchases because it includes the following: (i) conversions of class A, Class B and special stock into common stock; (ii) conversions of preferred stock into common stock; (iii) purchases of treasury stock; (iv) retirement or redemption of common stock; (v) retirement of preferred stock; (vi) retirement or redemption of redeemable preferred stock.⁸⁰ Bhattacharya and Dittmar reduced the extent to which this measure overestimates repurchases by reducing *Purchase of Stock* by the decrease in preferred stock. The resulting measure only overestimates repurchases by the amount of class A, class B, and special stock converted into common stock, and the amount of retired common stock.⁸¹ This Article uses Bhattacharya and Dittmar's results as an additional source of information about pre-disclosure-rule repurchase completion levels.

B. Sample and Data

This Article gathered its initial sample from the Securities Data Corporation (SDC) Platinum Mergers and Acquisitions database (SDC Platinum) which was used to identify publicly traded U.S. companies⁸² announcing open-market repurchases between January 1, 2004 and December 31, 2004. There were initially 510 repurchase announcements which this Article prunes to 365 in the final sample.

The Article excludes thirty-eight of the repurchase announcements because they did not actually announce new repurchase programs but instead provided updates to existing repurchase programs, such as completion announcements. The Article further excludes ninety-one repurchase announcements because data was missing—the companies' 10-Ks or 10-Qs for the relevant time period were not available on EDGAR or the 10-Ks or 10-Qs did not contain the relevant disclosures. It excludes sixteen repurchase announcements to avoid problems of double-counting because the repurchase announcement was the second repurchase announcement of a company already in the sample, and the company's first repurchase was still being tracked at the time of the second announcement. These exclusions left 365 repurchase announcements in the final sample.

^{77.} Id. at 320-24.

^{78.} Bhattacharya, supra note 40, at 16.

^{79.} Id.

^{80.} *Id*. 81. *Id*.

^{82.} Listed on the NYSE, AMEX, or NASDAQ.

C. Descriptive Statistics

Of the 365 repurchases included in the sample, the first repurchase was announced by Chattem Inc. (CHTT) on January 1, 2004; the last was announced by Mod Pac Corp (MPAC) on December 31, 2004. A breakdown of the number and proportion of repurchase announcement each month appears below.

Table 1					
Sample Composition					
	Number of	Repurchase			
	Repurchase	announcements			
Month:	announcements	as % of total			
January	13	3.6			
February	36	9.9			
March	23	6.3			
April	23	6.3			
May	43	11.8			
June	35	9.6			
July	40	11.0			
August	43	11.8			
September	34	9.3			
October	24	6.6			
November	23	6.3			
December	28	7.7			
Total:	365	100.0			

The average target size announced was 7.04% of shares outstanding.⁸³ This is in line with previous studies reporting an average announced target of approximately 6-7% of total shares outstanding.⁸⁴ The average dollar value of targeted shares was approximately \$514 million. The targeted values ranged from a minimum value of \$1 million to a maximum of \$15 billion. The

^{83.} SDC provided the target as a percent of shares outstanding for 181 out of the 365 repurchases in the sample. The median value was 5.6% of shares outstanding; the maximum value was 38.1% and the minimum was 0.4%.

^{84.} See, e.g., Ikenberry, supra note 43, at 185 (reporting that publicly traded firms announcing OMRs between 1980 and 1990 sought to repurchase, on average, 6.6% of outstanding shares). See also Stephens, supra note 39, at 318 (reporting an average announced size of approximately 7% of firms total shares outstanding, with a median of approximately 5% of total shares outstanding for repurchases between 1981 and 1990); Kahle, supra note 29, at 245 (reporting an average announced target of 6.4% for repurchases announced between January 1991 and December 1996).

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combined dollar value of all 365 repurchase targets was just under \$188 billion. For this Article's sample, the size of the repurchase authorization had a very slight, negative correlation with repurchase completion.⁸⁵ In other words, companies completed larger repurchase programs slightly more slowly than smaller repurchase programs.

D. Measuring Repurchase Program Completion: Shares vs. Dollars

Repurchase announcements include a maximum authorization, sometimes called a target. This target is either a maximum number of shares that may be repurchased or a maximum dollar amount that may be spent on repurchases.⁸⁶ For the sake of simplicity, this Article measures all repurchase announcements and actual repurchases in dollars.⁸⁷ Measuring in dollars avoids complications from stock splits and facilitates comparison across companies.

The unit of measurement can affect the reported percent completion when the stock price at announcement is different from the price at which shares are actually repurchased. If the stock price goes up after the announcement, shares are repurchased at a higher price. Thus, the reported percent completion will be higher when repurchases are measured in dollars than when they are measured in shares. On the other hand, if shares are repurchased at a lower price than the price at announcement, then reported percent completion will be lower when shares are measured in dollars than when they are measured in shares.

For the sample used in this Article, the use of dollars instead of shares did not significantly affect the reported percentage completion of repurchases.⁸⁸ Firms that announced repurchases in shares paid an average of \$28.91 per share. The average price at the time of the repurchase announcement⁸⁹ was

^{85.} The size of the repurchase authorization was correlated with percent completion at 12 months after the announcement. With percent completion truncated at 100%, the strength of the correlation was -0.039. The correlation was statistically significant (using a P value for two- tailed t-test < 0.01).

^{86. 180} of the 365 repurchase announcements in the sample were originally denominated in shares, while 185 were originally denominated in dollars. When repurchase announcements are denominated in shares, SDC automatically converts the target to a dollar value based on the closing stock price on the last full trading day prior to the announcement of the board's approval. Firms' subsequent repurchase activity can also be measured either in the number of shares repurchased or in dollars spent. This is because firms must report both the number of shares repurchased each month and the average price paid per share.

^{87.} Although some refer to the "maximum authorization" as a target, I am not aware of any evidence that suggests a relationship between the denomination of the maximum authorization (in either shares or dollars) and the conduct of subsequent repurchase activity. Repurchase announcements generally include disclaimers that the amount of actual repurchases will depend on market conditions (such as price or liquidity). Actual repurchases presumably take such factors into account whether the repurchase target is denominated in dollars or in shares.

^{88.} To the extent that there is a very small effect, reported repurchase completion will be slightly lower in this study than it would have been had percent completion been measured in shares for firms that announced repurchase targets in shares. Any bias to the data is therefore in a conservative direction; reversing the bias would yield even stronger results than reported.

^{89.} This is the closing price on the last full day of trading before the announcement, used by SDC to convert the announcement from shares to dollars.

29.60 — about 2% more. This difference between the mean repurchase price and mean announcement price was not statistically significant (using a two-tailed P-value = 0.16).

E. Results and Comparison with Previous Studies

1. Central Tendency: The Disclosure Rule Increased Repurchase Completion Rates

Since the 2003 SEC disclosure requirement, announced targets have become more reliable indicators of actual repurchases. Before the disclosure rule, repurchases were on average 62.6% complete 20 months after the announcement. After the disclosure rule went into effect, repurchases were 80.3% complete after 20 months. **Figure 1** below illustrates that announced repurchases were completed more rapidly and to a greater extent after the disclosure rule. The figure depicts the average percent completion over time before and after the disclosure rule.



Figure 1: Before and after the new SEC disclosure rule: Mean percent of announced target purchased in months after announcement

The average was calculated by truncating repurchases at 100% complete, summing the resulting percent completion figures for all 365 repurchase programs studied, and dividing by 365. The resulting measure gives equal weight to each repurchase program regardless of size. Pre-disclosure figures come from Stephens and Weisbach's Table II, Panel A, and were estimated by CRSP Decrease in Shares Outstanding and truncated at 100%. There are fewer data points in the bottom line than in the top line because Stephens and Weisbach reported data quarterly instead of monthly. Because the bottom line has fewer data points and those data points are based on estimates, the bottom line is fitted with a logarithmic trend line. The top line runs through each of the data points.

Table 2						
Average Percent of Target Repurchased Before and After Disclosure						
Tin	ne*	% of announced target actually repurchased				
Quarters After Announcement	Months After Announcement	Before Disclosure**	After Disclosure***			
0	0	6.2	9.9			
	2	0.5	20.3			
	3		35.2			
1	4	23.2	40.7			
	5		45.0			
	6		48.7			
2	7	37.8	52.8			
	8		56.2			
	9		59.9			
3	10	46.2	63.4			
	11		66.4			
	12		69.3			
4	13	54.4	71.3			
	14		73.2			
	15		74.7			
5	16	59.0	76.6			
	17		78.1			
	18		79.2			
6	19	62.6	80.5			

Table 2 below presents the data from Figure 1.

NOTE – The percent repurchased in any month or quarter includes all repurchases between the announcement and the end of the month or quarter. *Because pre-disclosure figures were reported quarterly whereas post-disclosure figures were reported monthly, it is necessary to establish some equivalence for purposes of comparison. Quarter 0 (the quarter of the announcement) could equal month 0, month 1 or month 2. This study equates quarter 0 with month 1.

**Figures come from Stephens & Weisbach, Table II, Panel A. Data reported quarterly. Estimated by CRSP Decrease in Shares Outstanding. Truncated at 100%.

***Figures come from this study, actual monthly repurchase data. Each company is given equal weight, regardless of size of repurchase program. Truncated at 100%.

2. Distribution: The Disclosure Rule Increased the Proportion of Firms that Completed their Repurchases

Figure 1 and **Table 2** above compared average repurchase completion rates before and after the disclosure rule to show that the disclosure rule increased repurchase completion; **Figure 1** and **Table 2** measure central tendency. Distributional data also demonstrate greater post-disclosure repurchase completion. The disclosure rule increased the proportion of announcing firms that completed their repurchases. **Figure 2** through **Figure 6** below depict the percent of repurchase announcements that were at least 1%, 5%, 20%, 50% and 100% complete. This Article uses these completion rates because they match pre-disclosure data provided by Stephens and Weisbach.⁹⁰ **Table 3** presents the data. Pre-disclosure data comes from Stephens and Weisbach, Table II, Panel D. Stephens and Weisbach estimated repurchases using CRSP Decrease in Shares Outstanding.

^{90.} Stephens, supra note 39, at 323.

Figure 2: Before and after the new SEC disclosure rule: Percent of announcing firms that repurchased more than 1% of their announced target



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Figure 3: Before and after the new SEC disclosure rule: Percent of announcing firms that repurchased more than 5% of their announced target



Figure 4: Before and after the new SEC disclosure rule: Percent of announcing firms that repurchased more than 20% of their announced target



Figure 5: Before and after the new SEC disclosure rule: Percent of announcing firms that repurchased more than 50% of their announced target



Figure 6: Before and after the new SEC disclosure rule: Percent of announcing firms that repurchased 100% or more of their announced target



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Table	3:
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Percent of Firms that Complete their Announced Repurchases Before and After Disclosure											
10		1 11113 (11	at compie		mounced	Reputcha	Ses Delon		Disclose	% of Fi	rms that
Time* after annou- nceme- nt		% of Firms that repurchase More than 1% of announced target		% of Firms that repurchase More than 5% of announced target		% of Firms that repurchase More than 20% of announced target		% of Firms that repurchase More than 50% of announced target		repurchase More than 100% of announced target	
Quarters	Months	Before Disclosure**	After Disclosure***	Before Disclosure**	After Disclosure***	Before Disclosure**	After Disclosure***	Before Disclosure**	After Disclosure***	Before Disclosure**	After Disclosure***
	0	<u></u>	56.04		39.56		15.66		3.85		1.37
0	1	42.89	76.37	39.12	66.48	28.67	33.52	14.89	12.91	5.33	3.30
	2		84.07		76.10		46.43		19.78		5.22
	3		87.64		82.14		56.59		27.20		8.79
1	4	67.34	90.11	62.67	85.44	50.45	64.84	30.88	33.79	10.44	11.26
	5		91.76		87.64		70.33		39.84		14.01
	6		92.86		88.46		71.43		45.05		17.03
2	7	77.40	93.41	72.45	89.29	59.12	74.73	41.33	51.37	16.00	18.96
	8		93.41		89.84		78.57		54.95		21.98
	9		93.68		90.66		81.32		59.07		25.00
3	10	83.78	94.51	79.12	91.76	66.89	83.79	50.88	63.46	23.77	29.12
	11		95.05		92.31		84.62		67.03		34.62
	12		95.33		92.58		85.99		70.60		40.38
4	13	86.89	95.60	82.89	92.86	72.23	86.54	56.44	73.08	30.66	44.23
	14		96.43		93.68		87.09		74.18		47.25
	15		96.98		94.51		87.64		76.10		49.73
5	16	88.89	96.98	84.67	94.78	74.89	88.74	60.00	77.75	36.44	53.57
	17		97.25		95.05		89.56		78.85		56.04
	18		97.53		95.88		89.84		79.67		57.14
6	19	89.33	97.53	85.56	95.88	76.89	90.38	64.22	80.77	41.33	59.89

NOTE-

*Because pre-disclosure figures were reported quarterly whereas post-disclosure figures were reported monthly, it is necessary to establish some equivalence for purposes of comparison. Quarter 0 (the quarter of the announcement) could equal month 0, month 1 or month 2. This study equates quarter 0 with month 1.

**Figures come from Stephens & Weisbach, Table II, Panel D. Data reported quarterly. Estimated by CRSP Decrease in Shares Outstanding.

***Figures come from this study, actual monthly repurchase data.

The higher completion rates since the 2003 SEC disclosure rule went into effect suggest that the rule had the intended effect of making repurchase announcements more indicative of actual repurchases.

3. Primary Control Data and Response to Possible Critiques

Two previous empirical studies reported pre-regulation repurchase completion rates.⁹¹ Each examined repurchases announced over a ten-year period. Both studies reported substantially higher non-completion rates than found in this Article.⁹² Because those earlier studies tracked repurchases for a longer time period—three and four years after the announcement versus twenty months for this Article—companies in those studies had more opportunities to complete their repurchases, yet repurchased substantially less of their target.

Stephens and Weisbach found that, in the 3 years after announcing a repurchase program, nearly 17% of companies repurchased less than 20% of their target.⁹³ Bhattacharya and Dittmar found that, in the 4 years after announcing a repurchase program, 18% to 27% of companies announcing repurchases repurchased no stock whatsoever.⁹⁴

This Article uses Stephens and Weisbach as the primary control/comparison study for two reasons. First, Stephens and Weisbach published far more detailed descriptive statistics that facilitate comparison. Second, Stephens and Weisbach's study was published in a journal while Bhattacharya and Dittmar's study is an unpublished working paper.

The conclusion of this Article—that higher completion rates since the SEC mandated disclosure suggest that mandatory disclosure made repurchase announcements more indicative of actual repurchases—must overcome three critiques. These critiques challenge the use of Stephens and Weisbach's study as a pre-disclosure control. The first critique is that the samples differ because Stephens and Weisbach identified repurchases using Wall Street Journal announcements whereas this Article identified repurchase announcements using the SDC database. The second critique is that the time gap between Stephens and Weisbach's pre-disclosure data and the disclosure rule is too large to attribute any shift in repurchase completion rates to the disclosure rule. The third critique is that the methods used by Stephens and Weisbach to estimate repurchases *underestimated* repurchases and therefore underestimated repurchase completion rates.

^{91.} Stephens, supra note 39, at 318; Bhattacharya, supra note 40, at 16.

^{92.} Id.

^{93.} Stephens, supra note 39. 10% of companies repurchased less than 5% of their announced target.

^{94.} Bhattacharya, *supra* note 40, at 17 (reporting that 18% of companies did not repurchase any stock within four years and that an additional 9% of companies dropped off Compustat without repurchasing any shares).

These critiques present less of a challenge to the secondary control study conducted by Bhattacharya and Dittmar. Bhattacharya and Dittmar's study is not vulnerable to the first or third critique and is less vulnerable to the second critique because Bhattacharya and Dittmar study a more recent period than Stephens and Weisbach. Furthermore, Bhattacharya and Dittmar reported even lower rates of repurchase completion than Stephens and Weisbach. Had Bhattacharya and Dittmar's study been used as the primary control, the results would reflect an even more dramatic increase in repurchase completion rates after the disclosure rule went into effect. The choice of Stephens and Weisbach as the primary control was therefore a choice to estimate *conservatively* the impact of the new disclosure regulation.

With respect to the first critique that the sample is different, Bhattacharya and Dittmar's sample is similar to the sample in this Article because Bhattacharya and Dittmar also identified repurchase announcements using the SDC database. The choice of database may have had an effect because SDC includes smaller firms, which would probably not have been included in a sample derived from the WSJ.

With respect to the second critique that the time gap between the end of Stephens and Weisbach's sample period (1990) and the beginning of this Article's sample period (2004) raises doubts about whether the change in repurchase completion is due to the new SEC regulation, Bhattacharya and Dittmar's data suggests that it does. Bhattacharya and Dittmar's data indicates that completion rates were trending downward before the disclosure rule went into effect. Across studies, Bhattacharya and Dittmar (repurchases from 1985 to 1995) found lower rates of completion than Stephens and Weisbach (1981 to 1990). Furthermore, Bhattacharya and Dittmar found that, within their sample, the proportion of firms completing repurchases trended downward over time.⁹⁵ Therefore, a more recent control period would likely suggest an even more dramatic post-disclosure increase in completion rates.

With respect to the third critique that the primary method that Stephens and Weisbach use to estimate repurchases tends to underestimate repurchases under certain circumstances,⁹⁶ this estimation bias likely cannot fully account for the dramatic difference in repurchase completion rates observed in this Article. Furthermore, Bhattacharya and Dittmar used estimation methods that tend to

^{95.} Bhattacharya, supra, note 40, at 18.

^{96.} Stephens and Weisbach estimated repurchases using several different methods. Some of these methods tend to overstate repurchases; some of them tend to understate repurchases. For their distributional data – presented in Table 3 – they estimated repurchases as the monthly decrease in shares outstanding reported by the Center for Research in Securities Prices (CRSP) and adjusted for stock splits. This measure tends to understate repurchases. The size of the error depends on the extent to which a firm distributes shares (for example, for exercises of employee stock options) in the same month as it repurchases them. See Stephens, supra note 39, at 313-24. See also Part III.A, supra; Kahle, supra note 29, at 256 ("Option exercises have a significant effect on the CRSP measure of the change in shares outstanding, which could seriously bias this estimate of actual share repurchases.").

overstate repurchases⁹⁷ but still found lower rates of completion than Stephens and Weisbach. This suggests that the pre-disclosure-rule trend toward lower and lower rates of repurchase completion is even stronger than the raw data (unadjusted for estimation biases) suggests. In other words, the use of Stephens and Weisbach as the primary control study was a conservative choice, and the true impact of the SEC disclosure rule is probably even greater than this Article suggests.

IV. CONCLUSION

Since the 2003 SEC disclosure requirement, repurchase announcements have become more reliable indicators of actual repurchases. Before the disclosure requirement, as many as a quarter of firms would announce repurchases and fail to complete their repurchases. Since the 2004 SEC disclosure requirement, firms consistently complete their announced repurchases. Because repurchase completion is a good proxy for false signaling and bargain repurchases, this Article can conclude that disclosure has reduced the danger to investors of false signaling or bargain repurchases. Such a conclusion demonstrates that mandatory disclosure rules change the behavior of market participants and can effectively protect investors.

The exact mechanism by which disclosure works to change market participant behavior is not clear because the disclosures are retroactive and informational asymmetries persist.⁹⁸ Returning to the poker analogy used earlier in this Article, retroactive disclosures are the equivalent of forcing players to show their cards after the hand has been played. It is still possible to win by bluffing, but there may be long-term consequences. The market may punish false signalers by attaching stigma or reputational harm to them. Alternatively, other market participants may use past patterns of behavior to accurately predict future behavior and may become suspicious or wary of false signalers. The exact mechanism is uncertain, but the results are clear: retroactive disclosure works.

^{97.} Bhattacharya and Dittmar estimated repurchases using the Compustat data item *Purchase of Stock* reduced by any decrease in preferred stock. This measure overstates repurchases by the amount of class A, class B, and special stock converted into common stock and by the amount of retired common stock. Bhattacharya, *supra*, note 40. *See also* Part III.A, *supra*.

^{98.} Informational asymmetries persist because company managers still have better information than the market about the value of the company and market participants who sell to the company during OMRs do not realize that they are trading with the company.

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