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Fraud on a Noisy Market

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Behavioral finance raises questions about market efficiency, suggesting that noise, and not just information, moves securities prices. This creates a conundrum for the fraud on the market theory. While some fraud remedy is arguably necessary to ensure adequate disclosure, behavioral finance raises doubt about the efficiency of fraud remedies in noisy markets. These issues are particularly important in the wake of the Supreme Court's opinion in *Dura v. Broudo Pharmaceuticals, Inc.*, which tightens proof of loss causation in fraud on the market cases and creates uncertainty about the future of the fraud on the market theory. This paper argues for interpreting *Dura* to sharply constrain the fraud on the market theory. It also proposes dealing with the need to deter fraud by allowing state courts and legislatures to supplement federal liability. More broadly, this paper suggests that, contrary to the assertions of many of its proponents, the indeterminacy of behavioral economics generally, and behavioral finance in particular, may support reducing rather than increasing legal paternalism.

FRAUD ON A NOISY MARKET

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Draft of September 16, 2005

Abstract

Behavioral finance raises questions about market efficiency, suggesting that noise, and not just information, moves securities prices. This creates a conundrum for the fraud on the market theory. While some fraud remedy is arguably necessary to ensure adequate disclosure, behavioral finance raises doubt about the efficiency of fraud remedies in noisy markets. These issues are particularly important in the wake of the Supreme Court's opinion in *Dura v. Broudo Pharmaceuticals, Inc.*, which tightens proof of loss causation in fraud on the market cases and creates uncertainty about the future of the fraud on the market theory. This paper argues for interpreting *Dura* to sharply constrain the fraud on the market theory. It also proposes dealing with the need to deter fraud by allowing state courts and legislatures to supplement federal liability. More broadly, this paper suggests that, contrary to the assertions of many of its proponents, the indeterminacy of behavioral economics generally, and behavioral finance in particular, may support reducing rather than increasing legal paternalism.

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The field of behavioral finance has had a bull market, particularly since the millennial bubble and its popping. The literature not only shows many ways in which individuals make mistakes, but also indicates that markets as well as individuals may be irrational. This challenges the efficient capital markets hypothesis that securities prices approximate fundamental asset values.

It is not yet clear how these insights relate to law. On the one hand, if markets are less efficient than theorists once believed, this suggests that securities laws need to be changed to better protect investors from their misjudgments. It might also follow that the law needs to intervene in corporate law because securities prices might not be the guide to corporate valuations they were once thought to be. This is consistent with the broader tendency of behavioral economics to support paternalistic interventions.¹

On the other hand, the behavioral finance literature might actually weaken the case for regulation. Federal securities regulation assumes that investors rely on and markets reflect new information in predictable ways. It follows that disclosure regulation has evident benefits. But if, instead, market prices are moved other than by information, the regulatory prescription is no longer clear. Even if more information makes irrational markets more efficient, without a clear view of how the market processes information, regulation and liability may do more harm than good. Forcing corporations or insiders to pay damages linked to the market's irrational response to disclosures may have perverse effects, including discouraging disclosure. It is therefore wrong to assume that the rise of behavioral finance necessarily supports more regulation.²

Although behavioral finance obscures the appropriate regulatory path, it remains the case that encouraging the disclosure of more and better information might increase market efficiency and

¹ See Jonathan Klick & Gregory Mitchell, *Government Regulation of Irrationality: Moral and Cognitive Hazards*, at 4, n. 3, forthcoming *Minnesota Law Review*, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=766824 (reviewing paternalistic suggestions by legal scholars writing on behavioral economics).

² See Donald C. Langevoort, *Theories, Assumptions, and Securities Regulation: Market Efficiency Revisited*, 140 U. Pa. L. Rev. 851 (1992) (expressing this assumption). The complexity of the political configuration is suggested by the fact that the main Supreme Court brief of the plaintiff-respondent in the *Dura* case repeatedly cites in support of its position an article by Daniel Fischel. The irony is that Fischel's expert efficient-market-based testimony for fraud on the market defendants led him to a bitter fight with the principal of the *Dura* plaintiff's law firm, William Lerach, ending in a multi-million-dollar payment by Lerach to Fischel.

social wealth. Thus, some form of mandatory disclosure arguably should survive the new learning about market irrationality. But the market's potentially irrational response to information raises doubts about the scope of liability for incomplete disclosure, and specifically for the fraud-on-the-market ("FOM") theory, especially in light of the Supreme Court's recent opinion in *Dura Pharmaceuticals, Inc. v. Broudo*.³

The uncertain state of the theory suggests that, instead of an exclusive federal remedy, the states should be allowed to experiment with alternative approaches and ways to balance costs and benefits that reflect, among other things, emerging developments in behavioral finance. For example, corporations might be permitted to choose the applicable state disclosure law just as they do the law governing their internal governance – that is, through their choice of the incorporating state. Where federal law denies relief because of the uncertainties created by behavioral finance, faulty disclosures could be policed through state class and derivative actions.

This paper proceeds as follows. Part I provides a brief overview of theories of investor irrationality. Part II discusses the issues these theories raise for securities regulation and liability. Part III reviews the development of the FOM theory, focusing on the two Supreme Court cases. Part IV shows how behavioral finance supports significant narrowing of the fraud on the market theory, and that this narrowing is consistent with the Court's recent decision in *Dura*. Part V suggests that this narrower federal protection might efficiently be supplemented by state law and private regulation. Part VI concludes with some broader implications of the analysis.

I. AN OVERVIEW OF BEHAVIORAL FINANCE

The behavioral finance literature represents two distinct sets of problems for corporate and securities law. First, as discussed in Section A, individual investors may not rationally update their views of asset values based on new information. They therefore buy, sell or hold at prices that do not reflect the value of the underlying assets. This would not necessarily be a problem for the market as a whole if rational investors intervened quickly and moved prices toward asset values. This leads to a second and distinct set of problems, discussed in Section B, relating the market's capacity to self-correct.

A. THE IRRATIONALITY OF INDIVIDUAL INVESTORS

The behavioral finance literature has metastasized over the

³ 125 S.Ct. 1627 (2005).

last 25 years.⁴ Numerous articles have summarized the problems discussed in this literature. Accordingly, the topic now requires only a brief summary.⁵

In general, behavioral finance has identified several kinds of mistakes that investors frequently make. Many are “heuristic” errors that result from people’s efforts to understand a complex world.⁶ Because people tend to make the same types of mistakes, these errors do not necessarily cancel out in the aggregate.

The important heuristic errors for purposes of behavioral finance include making decisions that are “anchored” in or “confirm” initial estimates, and therefore fail adequately to account for new information; over-relying on evidence that is salient or “available;” willingness to assume that samples represent the larger group, such as the gambler’s fallacy that a few tosses of the coin determine the result on the next toss, or assuming that earnings will regress to the mean; the related “hindsight” bias, or tendency to evaluate the past in terms of the present; over-conservatively “anchoring” predictions in the past; attributing good results to one’s own efforts, and the related illusion that the decision-maker’s acts control results; excessive conservatism, or the tendency to see new facts as confirming existing trends; and overconfidence in these judgments despite the prevalence of errors.⁷

Some judgment errors may result from inappropriate “framing” – that is, seeing identical things as different depending on how the choice is presented. For example, people have been shown to have a greater aversion to losses than to gains, which makes them tend to hold onto losers longer than winners even where a rational

⁴ See Victor Ricciardi, *A Research Starting Point for the New Scholar: A Unique Perspective of Behavioral Finance*, available at http://papers.ssrn.com/paper.taf?abstract_id=685685 (March 2005).

⁵ For overviews of the literature, see Nicholas Barberis & Richard Thaler, *A Survey of Behavioral Finance* (2002), available at <http://ssrn.com/abstract=327880>; Stephen J. Choi & A.C. Pritchard, *Behavioral Economics and the SEC*, 56 STAN. L. REV. 1 (2003); Ronald J. Gilson & Reinier R. Kraakman, *The Mechanisms of Market Efficiency Twenty Years Later: The Hindsight Bias*, 28 J. CORP. L. 715 (2003); Donald C. Langevoort, *Taming the Animal Spirits of the Stock Markets: A Behavioral Approach to Securities Regulation*, 97 NW. U. L. REV. 135 (2003); Robert Prentice, *Whither Securities Regulation? Some Behavioral Observations Regarding Proposals for its Future*, 51 DUKE L.J. 1397 (2001).

⁶ See Hersh Shefrin, *BEYOND GREED AND FEAR*, Ch. 2 (2002).

⁷ This problem particularly infected day-traders at the height of the dot.com boom. See Andrew W. Lo, Dmitry V. Repin & Brett N. Steenbarger, *Fear and Greed in Financial Markets: A Clinical Study of Day-Traders*, http://papers.ssrn.com/paper.taf?abstract_id=690501, MIT Sloan Working Paper No. 4534-05 (March, 2005).

decision-maker would treat the two choices as equivalent.⁸ Investors and others also may demand a higher price for something they already own (i.e., in which they have an “endowment”) than they would pay for something they do not own, another factor that might impede investors from selling losers when they rationally should.

The list of judgment errors goes on, as indicated by Ricciardi & Simon’s chart of almost 50 different behavioral finance research topics, many of which are theories about why investors trade on noise rather than fundamental values.⁹

One might reasonably question the premises and many of the conclusions of behavioral finance theory. Indeed, Choi and Pritchard have remarked that, “[a]fter perusing the growing behavioral finance literature, we wonder how investors are able to make any positive return from the market.”¹⁰ For the rest of this paper, however, I will hold doubt in abeyance and pursue the legal implications of this analysis.

B. CAN THE MARKET DO BETTER?

Even assuming individual investors make the judgment errors discussed in subpart A, these problems need not extend to the market as a whole. First, even if individuals rely too heavily on their particular past decisions, the market relies on the much broader set of all past decisions. A lot of “noise” might add up to an accurate reflection of reality.¹¹ Second, some investor biases may cancel out. For example, while people may tend to underestimate low-probability risks, such as that of fraud, they may also overestimate risks that are salient in the news, such as fraud after Enron. Third, investors are not equal in education, higher intelligence or expertise. Wiser investors can buy or sell when they see that prices have become too divorced from “rational” values. This is often referred to as “arbitrage” because the traders seek to make money on a short term difference between current prices and rational expectations that should disappear over the long run.

Despite these theoretical advantages of markets over individuals, there is evidence indicating persisting pricing anomalies,

⁸ See Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Making Under Risk*, 47 *ECONOMETRICA*, 263 (1979).

⁹ Victor Ricciardi & Henry Simon, *What is Behavioral Finance?* 2 *BUSINESS, EDUCATION AND TECHNOLOGY JOURNAL*, no. 1, 26-34 (2000).

¹⁰ See Choi & Pritchard, *supra* note 5 at 14.

¹¹ See generally, Ronald J. Gilson & Reinier Kraakman, *The Mechanisms of Market Efficiency*, 70 *VA. L. REV.* 549 (1984).

such as the divergence between the public share prices of closed end funds and of the publicly traded shares in their portfolios,¹² where securities prices diverge for extended periods from what would be expected under a rational valuation model.¹³ The prevalence of cognitive and psychological errors such as overconfidence arguably may cause noise to persist.¹⁴ The divergence may be substantial during bubbles, or what Robert Schiller and Alan Greenspan call “irrational exuberance.”¹⁵

Examples of pricing anomalies include evidence of return reversals from stocks’ previous performance and that this pricing reflects investors’ expectations as to stock returns¹⁶ rather than the stocks’ higher fundamental risk, as Fama & French have argued.¹⁷ There is also evidence of irrational market reactions to earnings announcements.¹⁸ The market may under-react to actual earnings, perhaps because of the confirmation or other judgment biases, so that stock returns only “drift” up or down in response rather than reacting immediately as they should in an efficient market. Analysts then overreact to the trend by predicting its continuation and then overreact negatively when earnings fall, especially when the media attributes the drop to a specific cause.

This leads to the question why smarter, less biased, traders do not correct errant markets. Several explanations have been offered for the arbitrage imperfections that cause pricing anomalies to persist.¹⁹ First, even if prices inevitably will adjust back to expected values, these expectations turn on fundamental or systemic risks that affect the whole market and cannot be eliminated through diversification. Something might happen to unsettle the market (the Asian/Russian debt crisis, 9/11) and make the bet not pay off. Since arbitrageurs, like other investors, are risk averse, they may not want to

¹² See Charles Lee, Andrei Shleifer & Richard Thaler, *Investor Sentiment and the Closed-End Puzzle*, 46 J. FIN. 75 (1991).

¹³ See generally Barberis & Thaler, *supra* note 5 (analyzing pricing anomalies).

¹⁴ See Fischer Black, *Noise*, 41 J. FIN. 529 (1986); J. Bradford DeLong, Andrei Shleifer, Lawrence H. Summers, & Robert J. Waldmann, *The Survival of Noise Traders in Financial Markets*, 64 J. BUS. 1 (1991).

¹⁵ See Robert J. Shiller, *IRRATIONAL EXUBERANCE* (2d Ed., 2005).

¹⁶ See *id.* at 87.

¹⁷ See Eugene R. Fama & Kenneth R. French, *The Cross-Section of Expected Stock Returns*, 47 J. FIN. 427 (1992); Eugene R. Fama & Kenneth R. French, *Multifactor Explanations of Asset Pricing Anomalies*, 51 J. FIN. 55 (1996).

¹⁸ See Shefrin, *supra* note 6 at 92-103 (summarizing theories and providing an illustration).

¹⁹ For summaries see Gilson & Kraakman, *supra* note 5; Barberis & Thaler, *supra* note 5; Prentice, *supra* note 5; Langevoort, *supra* note 5.

make the big bets that are necessary to keep prices in equilibrium.

Second, in order to compensate for investor biases, arbitrageurs have to be equally able to buy and to sell so they can correct problems both on the upside and on the downside. But regulatory limitations on short-selling limit arbitrageurs' ability to sell and thereby to correct market overvaluations.²⁰

Third, even if arbitrageurs can recognize noise, they also need to have some idea when the noise will go away. The potential persistence of noise increases the cost of arbitrage, and therefore reduces the amount.²¹ Long Term Capital Management operated on the theory that disparities in securities that should be priced equally eventually would disappear. Unfortunately, contrary to its name, LTCM could not hold on for the long term when their very big bets went awry in a very bad short term. In retrospect LTCM might have done better buying into the noise than trying to arbitrage around it, as many institutions and traders did during the dot com bubble.

Fourth, even if sophisticated investors recognize noise and have some idea about its persistence, their performance is evaluated by the same irrational investors who are causing the anomaly in the first place. Markets may adjust in the long term, but fund managers are evaluated in the short term, and therefore may manage for short term noise rather than long-term rational expectations.²² Similarly, corporations tend to issue shares and go public when markets are high, and to buy back their shares when markets are low, whether or not the prices are "rational."

Fifth, arbitrage arguably may be limited by the experts' judgment errors and incentives. For example, the professionals who are supposed to be setting the market straight may have incentives to keep it misguided. A particularly notorious example is the analysts who tend to give favorable recommendations because the beneficiaries of the recommendations reward their firms with investment banking business.²³ Also, companies have an incentive to

²⁰ See SEC Rules 10a-1 and 10a-2 (prohibiting short sales at below a security's last reported price and related activities); Jonathan R. Macey, Mark Mitchell & Jeffrey Netter, *Restrictions on Short Sales: An Analysis of the Uptick Rule and its Role in View of the October 1987 Stock Market Crash*, 74 CORNELL L. REV. 799 (1989).

²¹ See Black, *supra* note 14.

²² See Andrei Shleifer & Robert Vishny, *The Limits of Arbitrage*, 52 J.FIN. 35 (1997).

²³ This practice was prevalent during the dot com boom and was explicitly addressed by Sarbanes-Oxley. See Sarbanes-Oxley Act of 2002, §501, adding 15 U.S.C. § 78kk (dealing with analyst conflicts).

manage their earnings and earnings forecasts consistent with investors' irrational expectations of trends.²⁴ Moreover, market professionals are subject to the same types of judgment errors as investors. In particular, observations of analysts' behavior show that they exhibit overconfidence, gambler's fallacy, anchoring, confirmation, loss-aversion, and availability biases.²⁵

As with individual investors' judgment errors, one might be skeptical that markets really are as unable to overcome these errors as behavioral finance theory suggests. Again, however, I will accept the basic validity of this theory to explore its legal ramifications.

II BEHAVIORAL FINANCE AND SECURITIES REGULATION

How should the law react to theory and evidence that investors and markets do not always value securities consistent with rational expectations models? Lawmakers might help ensure that investors make the right decisions. But there are several potential problems with regulatory initiatives aimed at reducing individual investors' errors. The theories and evidence are complex, conflicting and incomplete and different problems apply to different investors at different times.²⁶ There is no general theory that can determine who will make a particular cognitive or heuristic "error" and when they will make it.²⁷ This makes it very difficult to decide when and how the law should intervene to avoid making things worse. For example, different problems may be operating simultaneously, so that solving one will exacerbate another. Even if the theory and evidence seem clear, the finance literature ultimately may uncover a problem that undercuts the rationale of a once seemingly sound regulatory approach.²⁸

²⁴ See Shefrin, *supra* note 6 at 265-69.

²⁵ See *id.* Chapters 5, 6 and 9. However, there is recent evidence that the behavior of more informed investors differs from that of the less informed. See Paul A. Griffin & Ning Zhu, *Are All Individual Investors Created Equal? Evidence from Individual Investor Trading around Securities Litigation Events*, available at http://papers.ssrn.com/paper.taf?abstract_id=740485 (study of trading of shares involved in securities fraud class actions showing that more informed investors are more likely than less informed investors to sell during the class period, thus exhibiting less loss aversion).

²⁶ See Choi & Pritchard, *supra* note 5 at 10 (noting the "hodgepodge" of evidence on behavioral finance).

²⁷ See Gregory Mitchell, *Why Law and Economics' Perfect Rationality Should Not Be Traded for Behavioral Law and Economics' Equal Incompetence*, 91 GEO. L.J. 67 (2002).

²⁸ See Choi & Pritchard, *supra* note 5 at 11 (observing that because behavioral economics is "still in its infancy," the effect of particular regulatory reforms or

Consider the following regulatory pitfalls.

(1) Assume that theory has accurately identified a particular problem. The question is whether courts are able to identify the situations when liability should apply. For example, sellers deliberately prey on investors' emotions or biases to mislead them.²⁹ The law therefore might impose liability even for true disclosures that are nevertheless deliberately and materially misleading in light of investor judgment biases. Then trial lawyers need no longer limit themselves to allegations of misrepresentations, but could survive preliminary dismissal of claims of true disclosures about which a plausible theory of deliberately misleading expression could be constructed. This could lead to strike suits and deter socially valuable disclosure.³⁰

(2) What effect does disclosure liability have on investors' incentives to trade? Specifically, might disclosure liability feed investors' tendency toward overconfidence by convincing them that securities trading is safe, even if liability merely protects them only from a relatively narrow risk of misrepresentation? Liability might feed investors' over-confidence in their judgment about trading stocks and therefore deter them from wiser investments in index funds. Conversely, does the remote prospect of recovering damages have induce trading given that investors may discount these remote possibilities to the same extent that they discount the risk of fraud?

(3) Assuming liability improves disclosure, how might these disclosures affect irrational investors? Might liability that induces repeated corrective disclosures actually mislead investors by causing them to focus excessively on the facts in the disclosure? Might these disclosures cause investors erroneously to frame price movements as sharp short-term gains or losses rather than relatively mild longer term price movements, and mistakenly trade accordingly?

(4) What is the effect of protecting investors from their judgment errors on enabling them to correct those errors over time? Klick & Mitchell argue that regulation to insulate individuals from their cognitive errors can create a kind of moral hazard by reducing individuals' incentives to learn.³¹ Thus, reducing securities sellers' ability to exploit investors' biases might decrease investors'

how to ameliorate biases is unclear).

²⁹ See Peter H. Huang, *Moody Investing and the Supreme Court*, <http://law.bepress.com/alea/15th/bazaar/art5> (2005); Langevoort, *supra* note 5 at 186 (emphasizing whether there has been a "deliberate effort by company managers to attract investor attention to the company's past successes").

³⁰ See *infra* subpart III.B.

³¹ See Klick & Mitchell, *supra* note 1

opportunities and incentives to learn to overcome their biases. Since no regulation of securities sellers fully de-biases investors, the regulation leaves investors' errors in place for all the transactions the regulation does not reach or for more subtle forms of manipulation.

(5) What is the effect on market efficiency of encouraging unsophisticated traders to speculate on individual stocks? On the one hand, their trades arguably bring more information into the market,³² and may provide incentives for stock research to market professionals. On the other hand, noise trading by outside investors may reduce market efficiency compared to a market in which fewer outsiders traded. The experience with relatively small "fantasy" markets that allow investors to bet on the likelihood of specific events arguably indicates that markets can be efficient with a small number of informed traders.³³ It is, therefore, unclear whether the beneficial effects of outsider trading outweigh the negative effects of noise trading for any marginal investors that liability rules bring into the market.

(6) Even if these questions are answerable, who should answer them? The courts are badly situated to sort through the evidence and theories. This was true even in the relatively well-organized world of the efficient market hypothesis, and truer given the complications of behavioral finance. Though, as Fischel observes,³⁴ courts apply economic theory in other areas, such as antitrust, courts also have made mistakes in those areas as well.

(7) Even if fraud law makes markets more efficient, liability may reduce social wealth on net by deterring socially valuable conduct.³⁵ For example, corporations and insiders may choose not to make discretionary efficiency-enhancing disclosures rather than risking draconian liability, particularly where disclosing good news can only increase liability.³⁶ Corporate insiders are particularly vulnerable to litigation risk since, even if the corporation or insurance pays the judgment, the insiders have a non-diversifiable

³² See, generally, Gilson & Kraakman, *supra* note 11.

³³ See Saul Levmore, *Simply Efficient Markets and the Role of Regulation: Lessons from the Iowa Electronic Markets and the Hollywood Stock Exchange*, 28 J. CORP. L. 589 (2003).

³⁴ See Daniel Fischel, *Efficient Capital Markets, The Crash, and the Fraud on the Market Theory*, 74 CORNELL L. REV. 907, 921 (1989).

³⁵ See Jonathan Macey & Geoff Miller, *Good Finance, Bad Economics: An Analysis of the Fraud-on-the-Market Theory*, 42 STAN. L. REV. 1059 (1990).

³⁶ See Stephen Brown, Stephen A. Hillegeist & Kin Lo, *Management Forecasts and Litigation Risk* (April, 2005), available at http://papers.ssrn.com/paper.taf?abstract_id=709161 (discussing effect of litigation risk on firms' disclosures).

risk of reputation loss.³⁷ The business judgment rule in state corporate law is intended to minimize this risk of over-deterrence, but there is no such rule in federal securities law. The decrease in social wealth is particularly likely given doubts about the link between market pricing and resource allocation.³⁸

Liability rules and regulation fashioned to deal with the judgment errors highlighted in the behavioral finance literature therefore stand a significant chance of decreasing social wealth compared to a regime that does not attempt to reflect investor irrationality. Securities law based on behavioral finance is as likely to need fixing in the near future as efficient-market-based law is now. Indeed, behavioral finance theory not only has uncertain implications for increasing liability, but arguably strengthens the case against securities regulation and liability. Even in an efficient market, holding defendants liable for investor losses may be excessive because, among other things, misrepresentations are too quickly corrected to have resource allocation consequences, diversified investors suffer limited damage, and liability rules invite costly strike litigation.³⁹ Adding behavioral finance reinforces these arguments against liability by showing that defendants may have to pay for stock price fluctuations that resulted from investor overreaction to the misrepresentations, or that might not even have been connected with defendants' misrepresentations.⁴⁰ In short, while Langevoort is correct in asserting that noise theories are "doctrinally threatening" to securities regulation scholars,⁴¹ the threat is mainly to proponents of regulation, and not to laissez faire economics types as he argues.

Behavioral finance does not weaken the general case for mandatory disclosure. More information causes stock prices to better reflect asset values, even if prices do not always adjust as

³⁷ See Philip E. Strahan, *Securities Class Actions, Corporate Governance and Managerial Agency Problems* (June 1998), available at <http://ssrn.com/abstract=104356>.

³⁸ See generally James Dow & Gary Gorton, *Stock Market Efficiency and Economic Efficiency: Is There a Connection*, 52 J. FIN. 1087 (1997) (showing that even if market prices are strong-form efficient corporate managers may make suboptimal investment decisions); Lynn A. Stout, *The Unimportance of Being Efficient: An Economic Analysis of Stock Market Pricing and Securities Regulation*, 87 MICH. L. REV. 613 (1988) (concluding that market efficiency has little effect on capital market allocation).

³⁹ See *infra* text accompanying note 77.

⁴⁰ See Langevoort, *supra* note 5 at 181 (noting arguments re over-deterrence and adding that "the more irrationality there is in the markets, the harder we have to work to find remedial solutions that are fair and reasonable").

⁴¹ See Langevoort, *supra* note 2 at 911.

rapidly or accurately as efficient market theory suggests they will. Noise is less prevalent for more widely traded stocks that have more analysts following them, suggesting that the mechanisms of arbitrage work, even if imperfectly.⁴² Markets can be better informed not only through direct release of information, but also by disclosure regulation's subsidy of information discovery by market intermediaries.⁴³

Arguments for mandatory disclosure therefore arguably survive behavioral finance theory that markets often will not accurately reflect information, as well as the doubts discussed above about the wisdom of protecting investors from their judgment errors. But the uncertainties behavioral finance raises about how and why investors trade weaken the case for protecting individual investors from market irrationality. Part IV considers how these conflicting considerations affect FOM.

III. THE FOM THEORY

This Part introduces the fraud on the market theory, which facilitates securities fraud class actions. This rule poses a conundrum for behavioral finance. On the one hand, FOM liability arguably deters fraud and increases market efficiency. On the other hand, the rule's mechanism of protection, awarding damages to individual investors, is questionable in the light of behavioral finance theory showing that market fluctuations and trading may be disconnected from defendants' misrepresentations. Behavioral finance therefore intensifies questions already inherent in FOM about whether liability encourages excessive litigation and over-deters disclosure and other legitimate corporate activities. Moreover, even if information clearly moves irrational markets, this irrationality indicates that the information's effect on the market cannot be assumed from its importance to rational investors.

The following subparts discuss FOM generally. Part IV shows how *Basic* and *Dura*, support qualifications on FOM liability

⁴² See Gilson & Kraakman, *supra* note 5 (noting evidence that many pricing anomalies disappear when the studies control for company size, for which there is more available information, including underpricing of IPOs and seasoned equity offerings); Harrison Hong, Terence Lim & Jeremy Stein, *Bad News Travels Slowly: Size, Analyst Coverage and the Profitability of Momentum Strategies*, 55 J. FIN. 265 (2000) (showing that momentum trading is greater for losers because winners have incentive to disclose more information).

⁴³ Zohar Goshen & Gideon Parchomovsky, *The Essential Role of Securities Regulation*, Columbia Law & Econ. W.P. 259 (October 5, 2004), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=600709 (showing how mandatory disclosure and other rules can affect intermediaries' incentives by lowering their cost of access to information).

that accommodate the issues raised by behavioral finance theory.

A. BASIC V. LEVINSON

Basic involved a company's misleadingly negative representations about its merger prospects. If the class members had to prove individual reliance, the Court noted that class status would have been denied. The Court instead upheld a cause of action based on a presumption of reliance, reasoning that, in the context of open-market misrepresentations, investors could be said to be relying on the market to

transmit[] information to the investor in the processed form of a market price. Thus the market is performing a substantial part of the valuation process performed by the investor in a face-to-face transaction. The market is acting as the unpaid agent of the investor, informing him that given all the information available to it, the value of the stock is worth the market price.⁴⁴

The Court approved the following elements of the Court of Appeals test, while noting that "elements (2) and (4) may collapse into one":

(1) that the defendant made public misrepresentations; (2) that the misrepresentations were material; (3) that the shares were traded on an efficient market; (4) that the misrepresentations would induce a reasonable, relying investor to misjudge the value of the shares; and (5) that the plaintiff traded the shares between the time the misrepresentations were made and the time the truth was revealed.⁴⁵

The Court, however, allowed "[a]ny showing that severs the link between the alleged misrepresentation and either the price received (or paid) by the plaintiff, or his decision to trade at a fair market price, will be sufficient to rebut the presumption of reliance."⁴⁶

Basic clearly required trading in an "efficient" market, the third element of its test for when the presumption of reliance would apply. This provided a bridge to the reliance requirement, an essential element of the common law underpinning for the securities

⁴⁴ See *Basic, Inc. v. Levinson*, 485 U.S. 224, 244 (1988) (quoting *In re LTV Securities Litigation*, 88 F.R.D. 134, 143 (ND Tex. 1980)).

⁴⁵ See *id.*, 485 U.S. at 248, n. 27.

⁴⁶ *Id.* at 249 [footnotes omitted].

fraud cause of action. The Court required only “semi-strong-form” efficiency – that is, that the market reflects publicly disclosed information.⁴⁷ This follows logically from the fact that it assumes that public misrepresentations can distort price.⁴⁸ It is also supported by statements in the case indicating that FOM was based on investors’ assumptions that the market reflected available information, and was not rigged.⁴⁹ Thus, the Court noted in support of its presumption of reliance that “[r]ecent empirical studies have tended to confirm Congress’ premise that the market price of shares traded on well-developed markets reflects all publicly available information, and, hence, any material misrepresentations;”⁵⁰ asked “[w]ho would knowingly roll the dice in a crooked crap game?;”⁵¹ observed that “[t]he fraud on the market theory is based on the hypothesis that, in an open and developed securities market, the price of a company’s stock is determined by the available material information regarding the company and its business;”⁵² said that accepting the presumption of reliance required only believing “that market professionals generally consider most publicly announced material statements about companies, thereby affecting stock market prices”; and noted that “Congress expressly relied on the premise that securities markets are affected by information.”⁵³

This reasoning suggests that FOM applies even if market prices reflect *both* information and noise. The question then becomes *how much* noise might preclude application of the presumption. Resolving this issue requires penetrating more deeply into the Court’s language and reasoning and taking into account its later holding in *Dura*.

⁴⁷ See Jonathan R. Macey, Geoffrey P. Miller, Mark L. Mitchell, & Jeffrey M. Netter, *Lessons From Financial Economics: Materiality, Reliance, and Extending the Reach of Basic* v. Levinson, 77 VA. L. REV. 1017 (1991).

⁴⁸ See *infra* text accompanying note 104.

⁴⁹ See Goshen & Parchmovsky, *supra* note 43 (arguing that fom requires only an “effective” market).

⁵⁰ *Id.*

⁵¹ *Id.* (quoting *Schlanger v. Four-Phase Systems, Inc.*, 555 F. Supp. 535, 538 (S.D.N.Y. 1982)).

⁵² *Id.*

⁵³ The Court quoted legislative history (H.R. Rep. No. 1383 at 11) stating, in part:

The idea of a free and open public market is built upon the theory that competing judgments of buyers and sellers as to the fair price of a security brings [sic] about a situation where the market price reflects as nearly as possible a just price. Just as artificial manipulation tends to upset the true function of an open market, so the hiding and secreting of important information obstructs the operation of the markets as indices of real value.

Justice White's strong dissent highlighted what he called the "pitfalls" in the FOM theory. The dissent is notable today given its preview of some of the arguments for the restrictive application of *Basic* in the *Dura* case discussed immediately below.⁵⁴ The dissent stressed three points that are particularly relevant for present purposes. First, Justice White noted the Court's problems in applying "modern economic theory" to modify basic fraud doctrine,⁵⁵ concluding that "the court's embracement of the fraud-on-the-market theory represents a departure in securities law that we are ill-suited to commence — and even less equipped to control as it proceeds."⁵⁶ The imponderables of FOM are obviously more important in light of the complications introduced by behavioral finance theory.

Second, the Court questioned what it means for the plaintiff to rely on the "integrity" of market price⁵⁷ and the majority's dubious notion that price is a reflection of "value," given the impossibility of determining such a value distinct from market price.⁵⁸ This raises the issue, made even more important by behavioral finance theory, of how FOM relates to the efficient capital markets hypothesis.

Third, and, perhaps most notably in light of subsequent events, Justice White discussed the issues relating to litigating FOM cases — "the risk that the majority's rule will "lead to large judgments, payable in the last analysis by innocent investors, for the benefit of speculators and their lawyers. . .".⁵⁹ This entailed several problems that have become more salient since *Basic*. The reference to "innocent investors" alluded to the fact that it would ultimately be the corporation itself that pays the class's market losses. These losses are incurred by "speculators" who do the most trading rather than

⁵⁴ The Court's members have clearly swung to the dissent's position since *Basic*. Justice O'Connor, who joined the dissent, was the only justices other than Stevens to participate in the decision of both *Basic* and *Dura*. Three *Dura* justices, Rehnquist, Scalia and Kennedy, did not participate in *Basic*. Rehnquist's probable replacement by John Roberts is not likely to move the Court in a pro-liability direction.

⁵⁵ See *Basic*, 485 U.S. at 254:

Congress, with its superior resources and expertise, is far better equipped than the federal courts for the task of determining how modern economic theory and global financial markets require that established legal notions of fraud be modified. In choosing to make these decisions itself, the Court, I fear, embarks on a course that it does not genuinely understand, giving rise to consequences it cannot foresee.

⁵⁶ *Id.* at 263.

⁵⁷ *Id.* at 255.

⁵⁸ *Id.*

⁵⁹ *Id.* at 262, quoting *SEC v. Texas Gulf Sulphur Co.*, 401 F. 2d 833, 867 (2d Cir. 1968).

those who buy and hold diversified portfolios – i.e., those who actually do rely on market efficiency.⁶⁰ And the reference to “lawyers” anticipated the role of the class action bar in promoting the FOM theory.

Some of these problems with FOM are discussed further below. For present purposes it is important to note that the problems with the theory acquired political weight in the years following *Basic* and led to the adoption of the Private Securities Litigation Reform Act of 1995, which formed the backdrop for the Court’s reasoning in *Dura*. The present analysis discusses the problems with FOM that the Court and commentators have noted primarily as the context for the additional problems raised by behavioral finance.

B. THE LOSS CAUSATION ISSUE

Before discussing *Dura*, it is helpful to describe the loss causation issue the case focused on. In securities fraud cases generally, plaintiff must show that both plaintiff’s purchase or sale and her specific loss were caused by defendant’s fraud – that is, both transaction and loss causation. Loss causation functions as a kind of proximate cause requirement, to protect defendant from open-ended damages for market fluctuations that do not relate to defendant’s wrong.

It is not clear, however, what, if any, role loss causation should play in FOM cases, since these cases are based on the effect of defendant’s fraud on the market rather than on the effect of that fraud in causing plaintiff’s transaction.⁶¹ In other words, proof of FOM would seem inherently to require a direct link between the fraud and the market price, and therefore not to require additional proof of loss causation.

Prior to *Dura*, there was a split in the circuits as to the role of loss causation in FOM cases. The Ninth Circuit had held that an allegation that the fraud affected the market price was enough to support FOM without an additional showing along the lines of loss causation.⁶² However, cases in other circuits had held that an FOM claim required an additional allegation that a corrective disclosure had caused the market price to adjust to a non-fraudulent level, thus providing a specific demonstration of the fraud’s effect on the

⁶⁰ Moreover, as discussed below, *infra* text accompanying note 78, it is questionable whether the class of “speculators” as a whole suffers any loss at all.

⁶¹ See Merritt B. Fox, *Demystifying Causation In Fraud-On-The-Market Actions*, 60 BUS. LAW. 507 (2005).

⁶² See *Knapp v. Ernst & Whinney*, 90 F.3d 1431 (9th Cir. 1996).

market.⁶³ In *Robbins v. Koger Properties, Inc.*,⁶⁴ the plaintiff failed to make this showing and the court entered judgment for the defendant. Plaintiff had shown through expert testimony that if defendant's accounting errors had been made public the issuer would have had to have cut its dividend and its stock price would have declined. The court held that this was "the appropriate proof of damages under the out-of-pocket rule," but not of loss causation.⁶⁵ The corrective disclosure did not occur until after the company cut its dividend for reasons other than disclosure of the accounting error and the stock price declined. Conversely, in *Semerenko v. Cendant Corp.*,⁶⁶ plaintiff was allowed to proceed based on allegations that the stock price was "buoyed" by defendants' misrepresentations and dropped after a corrective disclosure. The case was complicated by the fact that the stock price drop occurred after termination of a merger agreement, but the court held that the complaint had sufficiently alleged that the disclosure of the fraud was a substantial factor in causing that termination.

As *Dura* was pending, Professors Merritt Fox and John Coffee published opposing positions on what the Court should do. Fox sided with the Ninth Circuit rule,⁶⁷ while Coffee argued for a requirement of additional proof of loss causation in FOM cases.⁶⁸ This debate clarified that what was at stake in the different tests in the Circuits was not really whether or not causation should be required, but rather what allegations and evidence of loss causation are necessary. Specifically, should the courts require a corrective disclosure that triggers a specific market reaction and thereby quantifies the loss?

Fox argued that courts should be willing to accept allegations and evidence other than a corrective disclosure to show the connection between the fraud and plaintiff's loss, including the price reaction to the initial statement, and testimony by analysts or industry experts as to the importance of that statement. Fox is

⁶³ This is apparently consistent with tort law. See RESTATEMENT (SECOND) OF TORTS, §548, comment b (stating that "one who misrepresents the financial condition of a corporation in order to sell its stock will become liable to a purchaser who relies upon the misinformation for the loss that he sustains when the facts as to the finances of the corporation become generally known and as a result the value of the shares is depreciated on the market.").

⁶⁴ 116 F.3d 1441 (11th 1997).

⁶⁵ *Id.* at 1448, n. 6.

⁶⁶ 223 F.3d 165 (3d Cir., 2000).

⁶⁷ See Fox, *supra* note 61.

⁶⁸ See John C. Coffee, Jr., *Causation By Presumption? Why the Supreme Court Should Reject Phantom Losses and Reverse Broudo*, 60 BUS. LAW. 533 (2005).

essentially arguing that refusal to acknowledge this evidence may let some frauds will go unpunished. This involves an assessment of the reliability of the evidence, as well as a weighing of the importance of the deterrence value of FOM liability,⁶⁹ and the need to compensate investors. On the latter point, Fox argues that failure to give damages for price inflation reduces investors' returns from productive securities research.⁷⁰ Fox essentially assumes efficient markets, in which investors are buying shares based on fundamental research, and representations that "should" move stock prices, in the experts' opinion, are doing so.

Fox's deterrence argument is bolstered by the additional problem, raised in Respondent's Brief in *Dura*, that requiring a corrective disclosure encourages defendants to lie a second time in connection with the "correction" in order to minimize its impact.⁷¹ Defendants at least have incentives to time and adjust intermediate disclosures to mitigate the effect of any ultimate correction.⁷²

On the other hand, Coffee argues that, without a corrective disclosure, plaintiff could be said to have suffered only "phantom losses" – that is, there would be no reliable evidence that the fraud actually caused plaintiffs' loss. Coffee is concerned about judges' and juries' ability to measure the financial impact of fraud⁷³ in the absence of a corrective disclosure, particularly since the market may have been inflated by "irrational exuberance."⁷⁴ More generally, the legal concept of materiality may include events that could not necessarily be expected to affect market price,⁷⁵ or that only temporarily affect market price, and therefore cause no damage to non-selling shareholders.⁷⁶ Coffee also noted that relaxing the proof standard could significantly reduce defendants' ability to get dismissals of frivolous cases, and thereby increase the ability of class action plaintiffs to file flimsy cases in order to extract easy settlements.⁷⁷

⁶⁹ See Fox, *supra* note 61 at __.

⁷⁰ *Id.* at __.

⁷¹ See *Dura Pharmaceuticals, Inc. v. Broudo*, Respondents' Brief at 49, 2004 WL 2671450 (November 17, 2004).

⁷² See Brown, et al, *supra* note 36.

⁷³ See Coffee, *supra* note 68 at __.

⁷⁴ *Id.* at 539.

⁷⁵ *Id.* at 541.

⁷⁶ *Id.* at __.

⁷⁷ *Id.* at 540.

Coffee argued that these proof-related issues combine with other problems inherent in the FOM theory to require particular care in demonstrating a connection between the fraud and the loss. These arguments echo Justice White's concerns in his *Basic* dissent. Coffee noted that FOM liability often results in a wealth transfer between shareholders, which may require costly pocket-shifting for shareholders who hold diversified portfolios.⁷⁸ Moreover, because liability is imposed on the corporation it may penalize innocent investors without having significant deterrence effects on insured corporate agents.⁷⁹ Thus, Coffee questioned "the legitimacy of making the public corporation an insurer for market declines in open-market trading cases where the corporation, itself, has not traded with the plaintiffs."⁸⁰

In short, the disagreement between Fox and Coffee was based not simply on what facts might show loss causation from a finance perspective, but on fundamentally different visions of FOM's deterrence and compensation effects. Fox essentially assumes that courts applying FOM could determine with reasonable accuracy the extent to which fraud damaged investors. Coffee, on the other hand, is concerned that FOM might result in liability that exceeded the social harm caused by defendants' misstatements and might have perverse incentive effects.

These arguments are closely balanced in the efficient market context. As discussed in Part IV, however, Coffee's position acquires greater weight in noisy markets.

C. DURA PHARMACEUTICALS

*Dura Pharmaceuticals Inc. v. Broudo*⁸¹ is the first major Supreme Court application of *Basic*. The relevant claim concerned misrepresentations about FDA approval of the defendant's asthmatic spray device. The complaint alleged that plaintiffs "paid artificially inflated prices for Dura's securities" and suffered "damage[s]." The Ninth Circuit held that allegation of price inflation at the time of purchase was sufficient even without any allegation that the price fell after disclosure of the truth or that plaintiff suffered a loss for some other reason.

⁷⁸ *Id.* at 542-43.

⁷⁹ Conversely, liability arguably imposes reputational penalties on agents that could deter them from making value-increasing disclosures. See *supra* text accompanying note 37.

⁸⁰ *Id.* at 548.

⁸¹ 125 S.Ct. 1627 (2005).

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The Court held that the complaint had not adequately alleged loss causation, reasoning:

[A]s a matter of pure logic, at the moment the transaction takes place, the plaintiff has suffered no loss; the inflated purchase payment is offset by ownership of a share that *at that instant* possesses equivalent value.⁸²

The Court also noted that a later sale might, but does not “inevitably,” lead to a loss, depending on whether the sale price reflects the truth. Moreover, even if the sale is at a lower price

that lower price may reflect, not the earlier misrepresentation, but changed economic circumstances, changed investor expectations, new industry-specific or firm-specific facts, conditions, or other events, which taken separately or together account for some or all of that lower price.⁸³

The Court notably defined loss causation strictly. The Court was disturbed by some of the inherent problems of the FOM theory noted above, including its invitation to plaintiffs’ lawyers to file claims alleging significant damages on little factual basis. This was a salient issue in *Dura*, since the complaint in that case had been filed by William Lerach, who was notorious for making millions from FOM and other securities class actions.⁸⁴ The Court explicitly relied on the Private Securities Litigation Reform Act, a statute that was passed partly to rein in Lerach, pointing out that the Act “makes clear Congress’ intent to permit private securities fraud actions for recovery where, but only where, plaintiffs adequately allege and prove the traditional elements of causation and loss.”⁸⁵ The Court added:

[A]llowing a plaintiff to forgo giving any indication of the economic loss and proximate cause that the plaintiff has in mind would bring about harm of the very sort the statutes seek to avoid. Cf. H.R. Conf. Rep. No. 104-369, p. 31 (1995), U.S.Code Cong. & Admin.News 1995, pp. 679, 730 (criticizing “abusive” practices including “the routine filing of lawsuits ... with only a faint hope that the discovery process

⁸² *Id.* at 1631.

⁸³ *Id.* at 1632.

⁸⁴ This was highlighted by the Brief of the Chamber of Commerce of the United States as Amicus Curiae in Support of Petitioners, 2004 WL 2069560 at 2-3 (quoting Lerach’s notorious statement that “I have the greatest practice in the world because I have no clients. I bring the case. I hire the plaintiff. I do not have some client telling me what to do. I decide what to do”).

⁸⁵ *Dura*, 125 S. Ct. at 1633.

might lead eventually to some plausible cause of action"). It would permit a plaintiff "with a largely groundless claim to simply take up the time of a number of other people, with the right to do so representing an *in terrorem* increment of the settlement value, rather than a reasonably founded hope that the [discovery] process will reveal relevant evidence." *Blue Chip Stamps*, 421 U.S., at 741, 95 S.Ct. 1917. Such a rule would tend to transform a private securities action into a partial downside insurance policy. See H.R. Conf. Rep. No. 104-369, at 31, U.S.Code Cong. & Admin.News 1995, pp. 679, 730; see also *Basic*, 485 U.S., at 252, 108 S.Ct. 978 (White, J., joined by O'CONNOR, J., concurring in part and dissenting in part).⁸⁶

Thus, the *Dura* Court was led to its conclusion at least partly by the problems with FOM initially discussed in *Basic*. Also, Congress had reacted negatively to *Basic* in the PSLRA, and the Court may have sought to avoid further criticism and Congressional erosion of its power by acting on its own to further limit the FOM cause of action. The Court was clearly concerned with the problem of litigation over-detering legitimate conduct, which had been highlighted in several of the briefs in *Dura*.⁸⁷ It therefore insisted on a pleading rule that enables courts to separate out the cases that ought to enter discovery, thereby minimizing the risk that defendants will have to settle even flimsy claims.

IV. BEHAVIORAL FINANCE AND FOM

Although *Dura*'s objectives were clear, its rule left considerable uncertainty. The Court rejected the Ninth Circuit test that a mere allegation of price inflation is sufficient but did not say what allegations or evidence of loss causation was required. The Court cited the tort test requiring a corrective disclosure,⁸⁸ but did not clarify whether a corrective disclosure is necessary. Moreover, as discussed further below,⁸⁹ the Court implied that such a disclosure might not be enough to establish loss causation even for a plaintiff who bought before the fraud and held through the disclosure.

More generally, *Dura* raises questions concerning what other

⁸⁶ *Id.* at 1634.

⁸⁷ See Chamber of Commerce brief, *supra* note 84; Brief of Washington Legal Foundation as Amicus Curiae in Support of Petitioners, 2004 WL 2069563; Respondent's Brief, *supra* note 71 at ___; Brief of Securities Industry Association, 2004 WL 2069562 at ___.

⁸⁸ See *supra* note 63.

⁸⁹ See *infra* subpart III.E.

limitations on FOM might be appropriate. In *efficient* markets the policy arguments for and against broad FOM recovery seem closely balanced. Although the Court stressed the problems with FOM, there are also plausible arguments that strict requirements, including an absolute requirement of a corrective disclosure for loss causation, could invite manipulation by defendants and reduce the deterrence value of FOM.

In *noisy* markets, however, FOM becomes significantly more problematic, and restrictions on recovery more defensible. As discussed in Part II, there are significant questions about protecting *investors* from their judgment errors. This suggests that behavioral finance weakens the rationale for FOM to the extent that it is based on compensating individual investors for their losses.

Behavioral finance does not necessarily undercut mandatory disclosure or, by extension, liability for breaches of disclosure obligations. The problem behavioral finance poses for FOM liability is that it may not be clear in noisy markets how much damage misstatements are causing, or whether, in fact, the misstatements are even damaging.

To illustrate these problems, consider the earnings “drift” problem.⁹⁰ Hersh Shefrin discusses a company that has four consecutive quarters of positive earnings “surprises” in which actual earnings are significantly ahead of forecasts.⁹¹ The stock price apparently did not fully react to the first three positive surprise. Before the fifth quarter the company pre-announced a negative earnings surprise, to which the stock price had a precipitous negative reaction. Shefrin discusses several explanations from the behavioral finance literature.⁹² Analysts may be subject to a confirmation bias at first, then shift their projections to reflect what they see as a new trend, which sets up the negative surprise.⁹³ Or analysts may be subject to a self-attribution bias, where they are especially inclined to believe good news that comes from their own search or analysis.⁹⁴ Or the answer may simply be that information is taking time to diffuse through the market.⁹⁵ And, of course, the market may be reacting

⁹⁰ See *supra* text accompanying note 18.

⁹¹ See Shefrin, *supra* note 6 at 92-96.

⁹² *Id.* at 101-03.

⁹³ See Nicholas Barberis, Andrei Shliefer & Robert Vishny, *A Model of Investor Sentiment*, 49 J. FIN. ECON. 307 (1997).

⁹⁴ See Kent Daniel, David Hirshleifer & Avaniidhar Subrahmanyam, *A Theory of Overconfidence, Self-Attributions, and Security Market Under- and Over-reactions*, 53 J. FIN. 1839 (1998).

⁹⁵ See Hong, et al, *supra* note 42.

efficiently to new information, either as it absorbs the implications of the earnings reports, or information independent of the reports, or a change in the company's systematic risk. Shefrin comments that he sees "a flashing yellow light" because "when economists have developed their own psychology, the result has been both bad psychology and bad economics."⁹⁶

Now suppose that plaintiff alleges a misrepresentation in connection with one or more of the first three earnings surprises. Or suppose plaintiff alleges that the company misrepresented the progress of an invention, and the correct information came out at or around the time of the preannouncement that was followed by the price drop.⁹⁷ What is a court to do with all of these theories in an FOM case? The final preannouncement may have been a corrective disclosure of the earnings, or may mask any correction relating to the medical device. In the absence of a clear correction, should the court hypothesize as to how a rational market would have reacted to the news? If the preannouncement is a corrective disclosure, should the court assume that the market's reaction accurately indicates the loss from the misrepresentation? Given uncertainty created by behavioral finance, the court risks a mistake that could have perverse deterrence implications, and invite strike suits. The following subparts discuss how this quandary plays out for each of the issues in an FOM case.

A. MARKET EFFICIENCY

As discussed in Part III, *Basic* explicitly applies only where plaintiff can prove that the relevant securities were traded in an efficient market. The cases have applied various definitions of market efficiency, most based primarily on the size of the market.⁹⁸ It has also been argued that market efficiency need not be a distinct element of the plaintiff's case, but should simply be an aspect of determining the statistical significance of price movements following the misrepresentation.⁹⁹

Given the market efficiency requirement in *Basic*, how does the presence of noise in the market affect application of FOM? As a matter of finance theory, as long as there are measurable

⁹⁶ See Shefrin, *supra* note 6 at 102.

⁹⁷ Indeed, there is evidence that companies attempt to reduce litigation in precisely this way, by releasing multiple pieces of bad news. See Brown, et al, *supra* note 36.

⁹⁸ See Paul A. Ferrillo, Frederick C. Dunbar, & David Tabak, *The "Less Than" Efficient Capital Markets Hypothesis: Requiring More Proof From Plaintiffs in Fraud-On-The-Market Cases*, 78 ST. JOHN'S L. REV. 81 (2004) (reviewing cases).

⁹⁹ See Macey, et al, *supra* note 47.

information-induced movements, this arguably should be enough to back an FOM claim even if prices also respond to noise or other influences.¹⁰⁰ In other words, even if noise causes market prices to diverge from the value of underlying assets, this does not mean that information, including misrepresentations and corrections, is not moving market prices.

The problem with applying an informational efficiency approach is that a market movement might reflect both noise and information, as in the example discussed at the beginning of this Part. Consider also the facts in *Dura*. While the initial statement about the spray device and anticipated FDA approval allegedly caused price inflation, the complaint alleged that when the FDA disapproved the product “the next day Dura's share price temporarily fell but almost fully recovered within one week.” If Dura traded in an efficient market, the price drop when the FDA disapproved the device at least plausibly indicates that the misrepresentation harmed investors, while the quick recovery might be due to other facts or general market movements. For example, the market during the relevant period had general good news about the drug industry.¹⁰¹ Or the price might already have been depressed by doubts about Broudo's device that had filtered into the market, so that the FDA's non-approval of the device was a non-event. But the price movement may have other explanations if Dura traded in a noisy market. For example, the FDA disapproval of the device may have been a salient event that triggered an investor reaction disproportionate to the actual importance of the news that the market soon corrected. An event study might show that the market was reacting to the corrective disclosure, but it cannot show why.

Thus, there are competing inferences from the same basic facts about the existence of and harm from the fraud depending on the degree of market efficiency. The resulting risk of excessive damages or bogus claims from market noise therefore combines with the other problems inherent in FOM actions to suggest the application of a strict market efficiency test.

A court could, instead, apply a loose market efficiency test and take noise into account in rebuttal or causation, as discussed in the following subparts. The potential advantage of requiring market efficiency as part of the prima facie case is that, depending on the

¹⁰⁰ See *id*; Fischel, *supra* note 34 (noting that we can understand factors in price movements other than disclosure even without understanding the individual factors). See also Ferrillo, et al, *supra* note 98 (devising a test for measuring whether noise was so dominant in the market that it was not responding to information).

¹⁰¹ See Respondent's brief, *supra* note 71 at ___.

test for efficiency, such a rule might filter out the flimsiest cases in which price fluctuations have the least to do with defendant's conduct without requiring the court to resolve more complex issues of exactly what influenced stock price. However, a tight test might block meritorious cases where the misrepresentation influenced stock price despite even the noise. Given these potential costs and benefits, a full appraisal of a market efficiency requirement should depend on an evaluation of the other elements of the case described below.

B. REBUTTING THE FOM PRESUMPTION

Basic lets defendants rebut the presumption of reliance that would otherwise follow from the FOM presumption by a showing that "severs the link between the alleged misrepresentation and either the price received (or paid) by the plaintiff, or his decision to trade at a fair market price."¹⁰²

Behavioral finance arguably relates to both types of links. As to the decision to trade "at a fair market price," noise traders by hypothesis trade for reasons other than information such as that in defendant's misrepresentations. *Basic* illustrated this rebuttal with the example of "a plaintiff who believed that Basic's statements were false and that Basic was indeed engaged in merger discussions, and who consequently believed that Basic stock was artificially underpriced, but sold his shares nevertheless because of other unrelated concerns."¹⁰³ The same basic principle applies to traders who do not know about the misrepresentation, but have displayed a willingness to trade at prices they do not believe reflect other information. These traders presumably would not care about the misrepresentation because they assume that the price will adjust when the true information is disclosed. Since the trades were not influenced by a belief in the market, there would be no reliance, or transaction causation, even if there was loss causation in the sense that the misrepresentation affected the price of the shares. In contrast to a showing of market inefficiency, this rule only requires a showing that particular plaintiffs believed that the market was inefficient.

The link between the misrepresentation and the purchase or sale price might be severed even in a market that is not only efficient, but at least close to "strong-form" efficient in the sense that it reflects the truth about a misrepresented fact. For example, in *In re Apple Computer Securities Litigation*,¹⁰⁴ a suit claiming that Apple misled

¹⁰² See *Basic*, 485 U.S. at 238.

¹⁰³ *Id.* at 249.

¹⁰⁴ 886 F.2d 1109 (9th Cir. 1989), *cert. denied*, 110 S. Ct. 3229 (1990).

the public about the prospects for its Lisa computer and another product, the court affirmed summary judgment for defendant as to alleged misrepresentations concerning the Lisa computer because the market price reflected the press's "intense, sustained focus on Lisa and her risk," thus showing that it was unaffected by any misrepresentation. In other words, the market processed information efficiently enough that it was not misled by a misrepresentation. It is also possible for a market to be so infected by noise trading that this trading, rather than defendant's misrepresentation, was primarily responsible for moving prices. However, the case only gets to rebuttal once the plaintiff has established an efficient market in its prima facie case. In such a market, noise could weaken but not "sever" the link, and therefore should not be sufficient to rebut the presumption of reliance.

C. MATERIALITY

The FOM theory dispenses only with individualized proof of reliance and not the requirement that the misrepresentation be material to the reasonable investor. FOM implicitly relates to materiality by inviting a statistical measure of the market's reaction to the misrepresentation.¹⁰⁵ The important question for present purposes is how to deal with the possibility that the market is reacting to noise as well as information.

As discussed above regarding market efficiency, a noisy market can make an innocuous misstatement look material. Noise may be particularly relevant to earnings reports. For example, as discussed above,¹⁰⁶ price reactions to earnings reports might reflect judgment errors, as by under-reacting to an initial report and then over-reacting to later reports. Event study evidence would show that the market reacted to the reports rather than to a general market-wide event or other company-specific information. But the reaction would reflect *both* the importance of the information to the security's fundamental value and judgment biases such as availability, confirmation and over-confidence. If materiality depends on the objective relevance of the information to the "reasonable" investor, the misrepresentations may be immaterial despite the statistical evidence to the contrary. What should be the test?

The answer may depend partly on the general costs and benefits of FOM liability. Langevoort argues for defining materiality to reflect whatever the market is reacting to, even if the market is

¹⁰⁵ See Macey, et al, *supra* note 47.

¹⁰⁶ See *supra* text accompanying note 18.

reacting irrationally.¹⁰⁷ Specifically, Langevoort argues that the court should treat as materially misleading “a general expression of optimism” that was “a deliberate effort by company to attract investor attention to the company’s past successes.”¹⁰⁸ According to Langevoort, this would reduce the distortions resulting from defendants’ efforts to exploit investor heuristics. This makes superficial sense as an effort to police fraud in the market that can cause damage even if it seems innocuous isolated from investor heuristics.

There are, however, important countervailing considerations. First, a subjective test of materiality would open the door to strike suits, a problem that *Dura* was explicitly concerned with. For example, a plaintiff could sue on a demonstrably *true* statement, or an expression of an opinion that is neither clearly true nor false, bolstered by allegations the statement took advantage of market heuristics and plaintiff suffered loss as a result. A court could not easily filter out weak cases at the outset, thereby exacerbating the strike suit problem that concerned the *Dura* majority and *Basic* dissenters.

Second, the test should give defendants *ex ante* notice of the kinds of conduct that trigger liability. If they must avoid making even true statements made in the wrong circumstances, defendants would have to take account of vague factors in order to avoid the draconian liability the FOM theory can impose.

Third, even if the materiality test ensures against recovery for innocuous statements, it might open the door to excessive recovery at the damages stage. As discussed above,¹⁰⁹ excessive recovery might cause defendants to provide less than the socially optimal amount of information in order to avoid potential liability. This exacerbates potential excess liability that already may be inherent in FOM because it results in pocket-shifting among diversified investors.

There are, therefore, significant arguments both for and against a subjective materiality test that would allow plaintiff to proceed on the basis of statements that actually affect the market whether or not noise may have amplified the effect. The appropriate materiality rule in FOM cases ultimately depends on how well the tests for market efficiency, damages and loss causation deal with noise. If the test for market efficiency is fairly strict, this reduces the risk of excessive or mistaken recovery. Also, a strict test for loss

¹⁰⁷ See Langevoort, *supra* note 5 at 185-86.

¹⁰⁸ *Id.* at 186.

¹⁰⁹ See *supra* text accompanying notes 35-38.

causation might protect well enough against the distorting effect of noise that a subjective materiality test would be adequate. A tight rule for computing damages would help protect defendants against excessive recovery, though it might be applied too late in the litigation to protect against strike suits. Because of the interdependence of the tests, resolving test for materiality must depend on addressing the loss causation and damage issues.

D. LOSS CAUSATION

Dura deals most directly with the plaintiff's allegations necessary to satisfy the loss causation element of an FOM claim. In holding that a bare allegation of price inflation at the time of purchase is not enough, the Court reasoned that the difference between purchase price and value does not produce a loss because plaintiff holds a security of equivalent value. It would be more accurate to say that plaintiff holds a right to economic benefits the present value of which depends on the fundamental value of the company, which may be less than the price because of defendant's misrepresentations. To be sure, plaintiff may dodge the bullet by selling before the price reflects the truth. But the Court says that plaintiff would not recover even if he held until after the market reflected the truth because the lower price may reflect "changed economic circumstances, changed investor expectations, new industry-specific or firm-specific facts, conditions, or other events." The Court adds that "[o]ther things being equal, the longer the time between purchase and sale, the more likely that this is so, *i.e.*, the more likely that other factors caused the loss."

The issue, however, is really one of pleading and proof rather than of "causation" – specifically, whether a corrective disclosure is *necessary* or *sufficient* evidence that the fraud caused the loss. A corrective disclosure arguably demonstrates how much the truth affects the price. Experts can then show by "backward induction" how the company would have performed from the time of fraud until the time of disclosure if the market had known the truth.¹¹⁰ Even if the company does not make a corrective disclosure, or there is no other discrete disclosure event, the defendant's fraud may have caused a loss if the truth somehow leaked into the stock price. The problem in this situation is not that the loss was not caused by the misrepresentation, but that the loss may be hard to show because there is no evidence as reliable as the backward induction method. Professor Fox would permit other types of evidence, such as expert

¹¹⁰ See Bradford Cornell & R. Gregory Morgan, *Using Finance Theory to Measure Damages in Fraud on the Market Cases*, 37 UCLA L. REV. 883 (1990); Daniel Fischel, *Use of Modern Finance Theory in Securities Fraud Cases Involving Actively Traded Securities*, 38 BUS. LAW. 1 (1982); Macey, et al, *supra* note 47.

testimony as to the importance of the information, to show loss causation, and reserve any difficulties of pinning down the loss to the damage portion of the trial.¹¹¹ However, the Court's holding that a mere showing of price inflation is not enough, coupled with its citation of the non-Ninth Circuit cases and of the tort standard, strongly implies that a corrective disclosure is necessary.

The Court also implies that a corrective disclosure is not *sufficient* where plaintiff sells after other factors affected the price. For example, suppose plaintiff buys Enroff in April, 2001 for \$100 per share and either does not sell or sells long after the relevant events. In May the company reveals that it inflated its earnings, and the stock drops to \$80 per share. In October the company loses its major customer for reasons not related to fraud and the stock drops to \$3 per share. The Court would probably hold that the initial fraud did not damage plaintiff because the company was actually devastated by later events that were unrelated to the fraud. If the plaintiff had sold in May, after the disclosure, he would have been entitled to around \$20 per share damages, assuming as is likely that the post-disclosure price indicated the effect of the fraud. But by holding onto his stock, plaintiff loses not only his shirt but his damages.

Like the necessity issue, sufficiency is also a matter of the standard of proof rather than the nature of causation. Even if the stock price declined for other reasons, plaintiff theoretically is still entitled to any extra loss attributable to the misrepresentation. As Professor Fox discusses, shareholders who purchased based on misleading information were denied any possibility of a price increase in the stock as represented.¹¹² Even if the stock goes up following the purchase, or down for reasons unrelated to the misrepresentation, the amount of the fluctuation may depend partly on the misrepresentations. For example, in *Dura* the price may have gone down solely because of poorer earnings, but the amount of decline may have reflected prospects for the asthmatic spray device the FDA ultimately declined to approve. Investors and analysts arguably expect any price fluctuations after the purchase to depend on the performance of, and news that affects, the company they think they have bought, not some different company that was obscured by defendants' fraud.

On the other hand, there is reason for caution in sustaining the complaint or awarding damages in this scenario. As Professor Coffee observes, the underlying non-disclosed problem may have been quickly corrected or become irrelevant and therefore did not

¹¹¹ See Fox, *supra* note 61 at ___.

¹¹² See *id.* at ___.

cause any foregone gains by the time of suit.¹¹³ Even if the fraud affected the stock price, plaintiff's loss may have nothing to do with this fluctuation.

Dura adds a further complication by implying that an eventual *sale* is a prerequisite of recovery. The Court says “[s]hares are normally purchased with an eye toward a later sale;”¹¹⁴ emphasizes that no loss occurs at the time of purchase because “the inflated purchase payment is offset by ownership of a share that *at that instant* possesses equivalent value;” refers to the higher purchase “bringing about a future loss;” suggests that there is no loss causation “the longer the time between purchase and sale;” and fails to specify an event that could trigger a loss other than a later sale. It is not clear whether these references to a later sale are part of the rule.

The restrictive evidence rules in *Dura* arguably compromise the deterrence function of fraud liability. Goshen & Parchomovsky argue that limiting defendants' FOM liability because of doubts about market efficiency is inconsistent with the policy rationale for fraud liability of ensuring adequate information precisely so that market intermediaries can do their efficiency-enhancing job more effectively.¹¹⁵ But the Court made clear that it was concerned about whether the inflation-at-purchase rule would unduly invite strike suits or result in excessive damages and over-deterrence by holding defendants responsible for events beyond their control. The *Dura* Court said that the statutes make actions for fraud available for “economic losses that misrepresentations actually cause,” and “not to provide investors with broad insurance against market losses.”

The effect of noise on loss causation should be evaluated in light of these considerations. As discussed above,¹¹⁶ the fluctuation at the time of the representation or subsequent disclosure might reflect noise, and therefore is arguably not something defendant should have to pay for. The backward induction method of measuring the effect of disclosures may not be adequate to show loss causation because it does not clarify *why* misrepresentations affect stock price, but merely *whether* they do. While the price reaction at the time of the corrective disclosure circumstantially shows causation, more direct proof arguably is necessary because of the need to avoid excessive damages that invite strike suits or overdeter legitimate conduct.

¹¹³ See Coffee, *supra* note 68 at ___.

¹¹⁴ *Dura*, 125 S. Ct. at 1631.

¹¹⁵ See Goshen & Parchomovsky, *supra* note 43 at ___.

¹¹⁶ See *supra* text accompanying notes 35-38.

The question, then, is how these concerns might help fill gaps in *Dura*'s loss causation test. Several commentators have argued that it may not be appropriate to hold defendants liable for the market's irrational reaction to fraud. Macey & Miller argue that insiders might not be held liable for market professionals' failures to move an irrational market in the correct direction.¹¹⁷ Similarly, Langevoort speculates regarding the *Apple* case discussed above¹¹⁸ that a court might hold that Apple's misrepresentations *should not* have affected its stock price in a very active and liquid market, so that if it did the reason was not the misrepresentations but noise trading and inadequate arbitrage.¹¹⁹ Lev & deVilliers argue that defendants should not be liable for the "crash" component of market prices caused by investors' overreaction to bad news.¹²⁰ This proposal was a basis for a damage limitation provision in the Private Securities Litigation Reform Act.¹²¹ William Fisher proposes relieving defendants of liability for price declines resulting from overly optimistic analysts' forecasts except under some circumstances where the forecast can be linked to the defendant's misstatement.¹²² He relies on several securities cases and statutory provisions, including the *Elkind* case, in which the court refused to hold an issuer liable for failing to correct an analyst's forecast unless the issuer vouched for the analyst;¹²³ cases holding defendant liable only for the loss attributable to its conduct;¹²⁴ and the PSLRA¹²⁵ and 1933 Act¹²⁶ loss causation provisions.

None of these proposals definitively identifies or deals with noisy markets. The Macey & Miller and Langevoort discussions are merely speculations rather than concrete proposals. Lev & de Villiers explicitly discount the notion of investor irrationality and assume that crashes are consistent with informational efficiency in that investors sell when they see prices falling without knowing

¹¹⁷ See Macey & Miller, *supra* note 35 at ___.

¹¹⁸ See *supra* text accompanying note 104.

¹¹⁹ See Langevoort, *supra* note 2 at ___.

¹²⁰ Baruch Lev & Meiring deVilliers, *Stock Price Crashes and 10b-5 Damages: A Legal, Economic and Policy Analysis*, 47 STAN. L. REV. 7 (1994).

¹²¹ See 15 U.S.C. § 78u-4(e)(1).

¹²² See William O. Fisher, *The Analyst-Added Premium as a Defense in Open Market Securities Cases*, 53 BUS. LAW. 35 (1997).

¹²³ *Elkind v. Liggett & Myers, Inc.*, 635 F.2d 156 (2d Cir. 1980).

¹²⁴ See Fisher, *supra* note 122 at ___.

¹²⁵ [cite]

¹²⁶ Securities Act of 1933, § 11(e).

why.¹²⁷ They also assume that prices adjust over a much shorter period than the behavioral finance literature indicates.¹²⁸ Fisher characterizes analyst-added problems as an aberration in a basically efficient market. And what some writers would characterize as noise, Fama & French might characterize as systematic risk.¹²⁹ Moreover, even if noise clearly complicates issues in FOM cases, Goshen & Parchomovsky's reasoning suggests that failing to remedy fraud may contribute to the persistence of noise, though they do not suggest how to balance the need to deter fraud against the risk of overdetering legitimate conduct by holding defendants liable for market irrationality.

There are various potential ways to deal with noise in proving loss causation. First, courts might reconstruct fundamental value based on earnings estimates unaffected by misrepresentations and a price-earnings ratio drawn from comparable companies.¹³⁰ But reconstructing market price is hazardous, raising the specter suggested by Justice White in *Basic* of the futile search for "true value."

A second possibility is to follow *Dura* to its logical conclusion and clarify that there is liability mainly to plaintiffs who both bought and sold around when the stock price was affected by fraud. This would help to isolate the most clearly damaged plaintiffs by focusing on those who, given their sale soon after disclosure, likely bought or continued to hold the stock because of the misrepresented facts. Many of the non-selling buyers are relatively long term holders who are likely to hold the stock as part of a diversified portfolio, and therefore are least likely to have been injured even by a disclosed fraud. Sale need not be a strict requirement, but might at least fill gaps left by other elements of the FOM cause of action. For example, the rule might require only a corrective disclosure, to establish loss causation, plus a sale to establish damages where there are questions about materiality or market efficiency. The court therefore might refuse to certify a class action brought by a non-seller on non-typicality grounds.

A rule that emphasizes whether plaintiff sold has the benefit of focusing on issues raised by the behavioral finance literature. To be sure, the short-term traders who both bought and sold during the

¹²⁷ See Lev & deVilliers, *supra* note 120 at 22.

¹²⁸ Lev & deVilliers argue that prices adjust over a few days to a week or two. *Id.* at 34. By contrast, see Shefrin, *supra* note 6 at 98 (discussing evidence showing prices adjusting over 9 months).

¹²⁹ See Fama & French 1993 and 1996, *supra* note 17.

¹³⁰ See Lev & deVilliers, *supra* note 120 at 36.

class period may have been most subject to heuristic biases such as overconfidence in their ability to out-guess the market, as indicated by their in-and-out trading. They also may be those least worthy of protection because they are noise traders who add little to market efficiency. The test's benefit is that, rather than attempting the nearly impossible task of precisely quantifying the effect of noise, it identifies the group that was most likely affected by the fraud. These plaintiffs still must prove damages by eliminating non-fraud effects on stock price. But given the hard work the loss causation test already has done, damages safely can be proved by backward-induction without worrying about further filtering out behavioral effects. Moreover, a test that focuses on whether plaintiff sold may incidentally address loss aversion by encouraging plaintiffs to sell in order to be eligible for damages.¹³¹

It might be objected that this application of *Dura* leaves too little of FOM to effectively deter fraud. But as discussed in Part V, there are additional possible lines of defense. Given the significant difficulties and uncertainties noisy markets present for FOM, the federal rule should be confined to the cases where liability is most soundly based, while permitting contracts, markets and state law to supplement liability.

E. DAMAGES

The computation of damages is important not just because excessive damages might constitute a wealth transfer but because they might over-deter legitimate conduct. The question is whether this over-compensation issue can be safely left to the damage stage, as Professor Fox argues.¹³² Professor Coffee would impose barriers at the pleading stage, recognizing the potential for strike suits if the pleading standard is too lax.¹³³ Such barriers are particularly appropriate for fraud on a noisy market.

Consistent with Coffee's approach, the above tests would use the market efficiency, loss causation and rebuttal tests to filter out weak claims at a preliminary stage. This addresses the potential for over-compensation even of legitimate claims in noisy markets. The market efficiency test would result in dismissal of cases involving *ineffective* markets – that is, where noise raises significant doubts about informational efficiency.¹³⁴ The loss causation test would

¹³¹ See Griffin & Zhu, *supra* note 25 (finding evidence of less sophisticated investors' reluctance to sell during the class period of securities fraud suits).

¹³² See Fox, *supra* note 61 at ___.

¹³³ See Coffee, *supra* note 68 at ___.

¹³⁴ See Goshen & Parchomovsky, *supra* note 43 (discussing the concept of

result in dismissal where there was no corrective disclosure or where plaintiff sold prior to corrective disclosure. Requiring corrective disclosure would provide a check on excessive damages in noisy markets. An additional sale requirement in especially noisy but effective markets would provide an additional check by requiring dismissal of plaintiffs who still hold their stock or who sold long after corrective disclosure. The transaction causation rebuttal would bar “irrational” traders who did not rely on the market’s informational efficiency even in effective markets.

These filters would reserve for the damage phase only those cases in which the market is at least efficient enough to make application of FOM plausible. In this situation, plaintiff can recover by proving damages by backward induction from a corrective disclosure. This approach would deprive weak cases of their disproportionate threat value, thereby reducing strike suits. The next Part considers other legal protection that is available for cases that do not get through the proposed FOM filters.

V. STATE LAW AND OTHER ALTERNATIVES

A potential argument against the narrow FOM theory proposed in Part III is that it may weaken the deterrence effect of FOM liability and thereby invite fraud. However, it is important to keep in mind that a federal FOM theory is not the only potential protection against fraud. Criminal liability is available to deter the most egregious misconduct.¹³⁵ Numerous market and contractual protections are also available.¹³⁶ Also, a market for regulation can address the defects of individual courts and regulators in much the same way that a market for securities ameliorates the judgment and information problems of individual investors. For example, Choi & Pritchard propose varying the presumption against regulatory intervention according to whether the regulators themselves face substantial competition.¹³⁷

More specifically, I suggest the possibility of relying on the same regulators who are trusted with related issues of internal corporate governance – the states. More specifically, federal law should not preempt disclosure regulation enacted as a part of a state’s business organization law and applicable to firms organized under

ineffective markets).

¹³⁵ Criminal liability may be inappropriate for most run-of-the-mill securities frauds. However, the potential for criminal liability under existing law is relevant to the appropriate scope of additional civil FOM liability.

¹³⁶ See generally, Larry E. Ribstein, *Market v. Regulatory Responses to Corporate Fraud*, 28 J. CORP. L. 1 (2002).

¹³⁷ See *id.* at 51.

that state's law. Like corporate governance cases, corporate disclosure cases would be litigated in the courts of the state of organization rather than wherever the plaintiff is able to sue a deep-pocketed defendant. In other words, the law and forum would be chosen *ex ante* by the contract embodied in the articles or certificate of organization rather than *ex post* at the time of litigation.

This type of choice-of-state-law approach would provide the basis for an efficient regulatory competition, as I have discussed elsewhere.¹³⁸ Indeed, it might be considered a market-type solution because parties choose the applicable rules contractually.¹³⁹ This approach would allow the states to compete and experiment with the problem of fraud in a noisy market in the face of the empirical and theoretical uncertainties of behavioral finance theory. The states also could work out the optimal level of liability, given the need both to deter fraud and to avoid over-detering disclosure.

The above proposal would require a change in existing law because, under the Securities Litigation Uniform Standards Act ("SLUSA"), most securities fraud class actions may not be maintained in state court.¹⁴⁰ An important exception, the so-called "Delaware carve-out," excludes class actions involving issuer purchases from or sales to its shareholders, or issuer recommendations or communications to its holders concerning their voting, response to tender or exchange offers, or dissenters' or appraisal rights.¹⁴¹ My specific proposal would extend the "Delaware carve-out" to any action authorized by the state's business association laws (including unincorporated firms) and applied to firms organized under those laws.

It is important to emphasize that this proposal would not involve an opt-out from existing federal securities regulation. Rather, the state action would supplement the federal action, and thereby provide a mechanism for imposing additional remedies for firms that view the FOM action as defined by *Dura* is viewed as too restrictive. The continued availability of a federal claim deals with the concern of a potential race-to-the-bottom in state disclosure laws, and the criticism that states do not internalize the costs fraud may

¹³⁸ See Larry E. Ribstein, *From Efficiency to Politics in Contractual Choice of Law*, 37 GA. L. REV. 363 (2003).

¹³⁹ See Larry E. Ribstein, *The Important Role of Non-Organization Law*, 40 WAKE FOREST L. REV. __ (2005) (arguing that state organization law normally does not have significant effects on transaction form).

¹⁴⁰ See Securities Act of 1933 § 16(b), 15 U.S.C. § 77p(b) (2000); Securities Exchange Act of 1934 § 28(f)(1), 15 U.S.C. § 78bb(f)(1).

¹⁴¹ See Securities Act of 1933 § 16(d), 15 U.S.C. § 77p(d) (2000); Securities Exchange Act of 1934 § 28(f)(3), 15 U.S.C. § 78bb(f)(3)(ii).

impose on national securities markets. This is analogous to the legal situation of non-U.S. firms that elect to cross-list under U.S. law while remaining subject to the law of their home countries.¹⁴²

The proposed state remedy also deals with the concerns motivating SLUSA that state securities law might impose excessive burdens on corporations.¹⁴³ Because investors and firms would be able to select the relevant state in advance, any costs or benefits of that state's law would be reflected in the market value of the firms' securities. Moreover, only the law of the incorporating state would apply. This disciplines litigation-friendly jurisdictions and relieves firms of having to comply with the law of every state where they have shareholders.

A partial indication of what states might do in this area is provided by the Delaware supreme court opinion in *Malone v. Brincat*,¹⁴⁴ which permitted shareholders to sue based on false financial statements in SEC reports and shareholder communications. The court held that the disclosure duty was an aspect of the directors' general fiduciary duties. It allowed recovery that SLUSA would have preempted because the fraud was not in connection with a recommendation for shareholder action.¹⁴⁵ However, the court accommodated the concern for excessive liability by holding that the plaintiff had to meet a high scienter standard.

Malone presents an alternative approach to balancing the policy considerations discussed above. The Delaware remedy is broader than the federal remedy because plaintiffs can sue even if they did not purchase or sell securities – a limitation that the federal courts have imposed to constrain potential litigation excesses.¹⁴⁶ On the other hand, the state remedy deals with potential excesses of federal law by not applying the FOM presumption of reliance, imposing a higher scienter requirement, making the business judgment rule applicable to director judgments about disclosure, and allowing for the possibility of a duty of care opt out.¹⁴⁷ These aspects of state law allow courts explicitly to accommodate the

¹⁴² See Larry E. Ribstein, *Cross-Listing and Regulatory Competition*, REV. L. & ECON., Vol. 1: No. 1, Article 7, <http://www.bepress.com/rle/vol1/iss1/art7> (2005).

¹⁴³ See Jennifer O'Hare, *Director Communications and the Uneasy Relationship between the Fiduciary Duty of Disclosure and the Anti-Fraud Provisions of the Federal Securities Laws*, 70 U. CINN. L. REV. 475 (2002).

¹⁴⁴ See *Malone v. Brincat*, 722 A.2d 5 (Del. 1998).

¹⁴⁵ SLUSA technically did not apply because the action was filed before the effective date.

¹⁴⁶ See *Blue Chip Stamps v. Manor Drug Stores*, 421 U.S. 723 (1975).

¹⁴⁷ See O'Hare, *supra* note 143.

corporate need to manage its information with the market's need for disclosure.¹⁴⁸

The Delaware rule suggests the possibility of other types of solutions to the problems discussed in this article. For example, just as Delaware permits a remedy for non-sellers, Delaware could relax the *Dura* causation rule and clarify the situations in which defendants can be held liable for fraud on noisy markets. Moreover, Delaware offers the advantage of adjudication by expert judges who face corporate cases frequently, in contrast to the federal courts, and particularly the Supreme Court, which deal with these cases infrequently or rarely.¹⁴⁹

Although *Malone* suggests what states might do in this area, it is not a complete indication because the states have been constrained both by actual federal preemption since SLUSA and the omnipresent threat of federal preemption in corporate cases, particularly as to issues like securities fraud that are already dealt with in federal court.¹⁵⁰ Thus, the Delaware courts have been careful to respect the boundary between federal and state law.¹⁵¹ A federal law clarifying the scope of preemption would free Delaware courts to develop rules in their designated sphere.

VI. CONCLUSIONS AND IMPLICATIONS

Behavioral finance presents a challenge to courts and regulators regarding the appropriate scope of mandatory disclosure and fraud liability. Perhaps surprisingly, theories and evidence indicating that markets are not as efficient as was commonly accepted twenty years ago may present more of a threat to regulation's advocates than to its opponents, since the argument for disclosure regulation and liability assumes to some extent knowledge of how markets will react to the information they are given. This may hold lessons about the implications for paternalism of the broader behavioral economics field.

This is particularly evident regarding the fraud on the market

¹⁴⁸ See Macey & Miller, *supra* note 35 (discussing the need for this accommodation).

¹⁴⁹ The difference in this respect between federal and state courts is particularly evident in contrasting Justice Breyer's imprecise way of addressing fraud on the market in *Dura* with a contemporaneous opinion by Delaware Vice-Chancellor Strine that addressed in a sophisticated way the complex testimony of competing experts. See *In re Cox Communications Inc. Shareholders Litigation*, 2005 WL 1355478 (Del.Ch. 2005).

¹⁵⁰ See Mark J. Roe, *Delaware's Competition*, 117 HARV. L. REV. 588 (2003).

¹⁵¹ See *In re Oracle Corporation*, 867 A.2d 904 (Del. Ch. 2004).

theory, which was explicitly based on an assumption of market efficiency. The Supreme Court's opinion in *Dura* suggests a significant contraction of that theory in ways that can be tailored to address the doubts raised by behavioral finance theory. Those concerned about undue reduction of fraud liability can turn to state corporate law, which can provide supplementary remedies in this area.

This analysis has more general lessons for determining the legal implications of behavioral economics and behavioral finance. Although the judgment errors and biases this literature identifies have been used to justify paternalistic laws,¹⁵² in at least some contexts the literature may cast doubt even on remedies that are based on non-behavioral grounds. Even if it is clear that defendant exploited a judgment error, as through fraud or by manipulating a form contract, it may be difficult to separate out the effects of rational and irrational conduct. As with FOM, imprecision may result in excessive damages that deter socially productive behavior. In other situations, the defendant's conduct may not have caused any harm when analyzed from the standpoint of behavioral economics, even if the conduct seems suspect from a rationality perspective. In still other cases, it may be difficult to draw any legal conclusions from the current behavioral economics literature about what motivates conduct in the aggregate or in specific cases.

Finally, the rapid growth in behavioral finance theories should remind us how little we still know about how capital markets work. Just twenty years ago the Supreme Court in *Basic* was confident enough about the efficient capital markets hypothesis to make it a foundation of liability for securities fraud. Now both Congress and the Court have expressed significant reservations about FOM. We should remember this history before remaking securities fraud law in the image of behavioral finance and risking another round of expansion and retrenchment. Behavioral finance theory teaches that people can be overconfident. Courts and regulators should keep this in mind when confronted with mounting evidence of what we do not know.

¹⁵² See *supra* text accompanying note 1.