

ISSN 1936-5349 (print)  
ISSN 1936-5357 (online)

# HARVARD

JOHN M. OLIN CENTER FOR LAW, ECONOMICS, AND BUSINESS

THE LOSS CAUSATION REQUIREMENT FOR RULE 10B-5 CAUSES-OF-ACTION:  
THE IMPLICATION OF *DURA PHARMACEUTICALS v. BROUDO*

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Discussion Paper No.

08/2007

Harvard Law School  
Cambridge, MA 02138

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**THE LOSS CAUSATION REQUIREMENT FOR RULE 10B-5 CAUSES-OF-ACTION:  
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ALLEN FERRELL\* AND ATANU SAHA\*\*

**Abstract**

In order to have recoverable damages in a Rule 10b-5 action, plaintiffs must establish loss causation, i.e. that the actionable misconduct was the cause of economic losses to the plaintiffs. The requirement of loss causation has come to the fore as the result of the Supreme Court's landmark decision in *Dura Pharmaceuticals v. Broudo*. We address in this paper a number of loss causation issues in light of the *Dura* decision, including issues surrounding the proper use of event studies to establish recoverable damages, the requirement that there be a corrective disclosure, what types of disclosure should count as a corrective disclosure, post-corrective disclosure stock price movements, the distinction between the class period and the damage period, collateral damage caused by a corrective disclosure, and forward-casting estimates of recoverable damages.

JEL Classification: K22, K42

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## I. INTRODUCTION: THE REQUIREMENT OF LOSS CAUSATION

In a Rule 10b-5 cause of action, plaintiffs have the burden of pleading and proving that the actionable misconduct, such as recklessly or intentionally making a material misrepresentation upon which investors rely, was causally responsible for damaging their shares. The requirement of establishing so-called “loss causation” has long been part of the common law. See *Pasley v. Freeman*, 3 T.R. 5:1, 100 Eng. Rep. 450, 457 (1789) (if “no injury is occasioned by the lie, it is not actionable . . .”); see also *Dura Pharmaceuticals v. Broudo*, 544 U.S. 336, 344 (2005) (collecting cites to common law requirement of loss causation). The first circuit opinion to mention the requirement of “loss causation” in a Rule 10b-5 action was at the very start of the development of Rule 10b-5 jurisprudence in the Second Circuit’s opinion in *Schlick v. Penn-Dixie Cement Corp.*, 507 F.2d 374 (1974). The requirement of loss causation for Rule 10b-5 causes of action was codified in the Private Securities Litigation Reform Act of 1995 which requires plaintiffs to “prov[e] that the act or omission of the defendant alleged to violate [Section 10(b)] caused the loss for which the plaintiff seeks to recover damages.”<sup>1</sup> The requirement of loss causation has become increasingly emphasized by circuit courts, especially in light of the Supreme Court’s recent landmark decision on loss causation in *Dura Pharmaceuticals v. Broudo*. Perhaps the most notable decision in this regard is the Fifth Circuit’s recent opinion in *Oscar Private Equity Investments v. Allegiance Telecom, Inc.*, 2007 U.S. App. LEXIS 11525 (May 16, 2007), that loss causation must be established before class-wide reliance can be presumed under a fraud-on-them-market theory *at the class certification stage*.

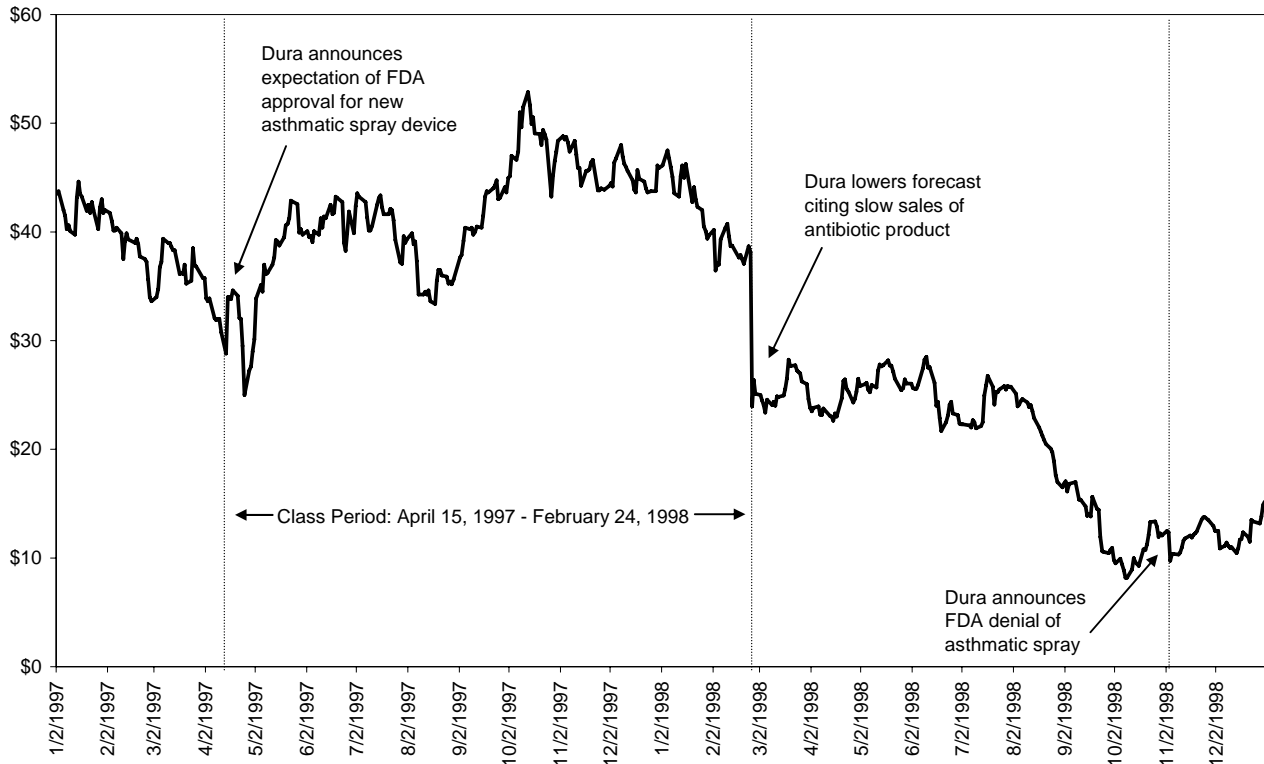
The Supreme Court’s decision in *Dura* provided some much-needed clarification on what constitutes “loss causation.” In this case, the defendant Dura Pharmaceuticals had stated on April 15, 1997 that it was likely to receive FDA approval of an asthmatic spray device. On February 24, 1998, Dura Pharmaceuticals lowered its forecast citing slow sales of its antibiotic product. Finally, on November 4, 1998 Dura Pharmaceuticals announced the FDA’s denial of its asthmatic spray device. Plaintiffs sued Dura Pharmaceuticals under Rule 10b-5 with the class

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<sup>1</sup> 15 U.S.C. section 78u-4(b)(4); see also 26 U.S.C section 771(b) (loss causation means the “depreciation in value of the subject security” caused by the misrepresentation); section 78u-4(e) (limiting Rule 10b-5 recovery to investor’s loss following disclosure of “the misstatement or omission that is the basis for the action.”)

period running from April 15, 1997 – the date of the alleged misrepresentation concerning the likelihood of approval – to February 24, 1998 – the date of the lowered forecast being disseminated to the market. Dura’s stock price over this time period is summarized in Figure 1 below.

**Figure 1: Dura Pharmaceutical Share Prices: 1997 - 1998**



There two aspects of the Court’s analysis of plaintiffs’ Rule 10b-5 action that are particularly noteworthy. First, the Court held that even if Dura Pharmaceuticals’ stock price was artificially inflated as a result of a fraudulent statement on April 15, 1997 concerning the expectation of FDA approval of Dura’s asthmatic inhaler this was nevertheless insufficient to establish loss causation. In so doing, the Court rejected the Eighth and Ninth Circuit’s position that merely pleading price inflation was sufficient to state a claim under Rule 10b-5. Second, and equally important, the Court explained that the mere fact that Dura Pharmaceuticals’ shareholders who had purchased after the purportedly false statement was made to the market, and hence arguably purchased at an inflated price, suffered a decline in the value of their stock

between the time of purchase and the time of sale was likewise insufficient to establish loss causation. This conclusion was based on the observation that any number of factors could have caused shareholders' economic losses besides revelation of the misrepresentation (a so-called "corrective disclosure"), such as changing industry or market conditions.

In short, the Supreme Court in *Dura* emphasized that the actionable misconduct must *cause* economic losses to shareholders who had purchased shares at an inflated price. The method to calculate the portion (if any) of shareholders' losses attributable to the inflation caused by actionable misconduct raises a number of important issues. We begin by first outlining the basic analytical framework used in thinking about loss causation (as well as the related issue of materiality) – the event study – and then discuss several practically important damage issues that frequently come up in Rule 10b-5 securities litigation: the requirement that there be a "corrective disclosure"; what exactly constitutes a "corrective disclosure"; post-"corrective disclosure" stock market price movements; the allocation of inflation to different shares; collateral damage caused by revelation of the actionable misconduct; and back-casting versus forward-casting estimates of damages.

## II. ANALYTICAL FRAMEWORK FOR EVENT STUDY ANALYSIS

Event study analysis is a ubiquitous tool in assessing claims of loss causation as well as the "materiality" of misstatements or fraudulently omitted information. An event study is a regression analysis that measures the effect of an event, such as a firm's earnings announcement, on a firm's stock price.<sup>2</sup> In such an analysis, one must, of course, control for factors other than the event that may also simultaneously affect the stock price.

A typical econometric model for measuring the effect of an alleged misrepresentation or a corrective disclosure on stock price is:

$$r_t = \ln\left(\frac{P_t}{P_{t-1}}\right) = \beta_0 + \beta_1 M_t + \beta_2 I_t + \sum_{i=1}^k \alpha_i D_i + \varepsilon_t$$

where  $r$  is the daily return (i.e., logarithmic percent change) of the stock price,  $M$  is the return on a market index, such as the S&P 500 or the Dow Jones index,  $I$  is the return on an industry index (e.g., S&P Telecom index); and the  $t$  subscript denotes the  $t^{\text{th}}$  day.  $D_1 \dots D_k$  are  $k$  day-dummy

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<sup>2</sup> See generally, Campbell, Lo, and MacKinlay, *THE ECONOMETRICS OF FINANCIAL MARKETS* (1997), Ch.4.

variables, that is, they are binary variables, each taking the value of one for the day at issue and a value of zero for all other days. These days may be the days of the alleged misrepresentations and/or days of corrective disclosures.

The estimated coefficient of the  $i^{\text{th}}$  day dummy,  $\hat{\alpha}_i$ , is a measure of the market and industry-adjusted return, in short the “abnormal return” on the  $i$ -th day.<sup>3</sup> The t-statistics for  $\hat{\alpha}_i$  provide statistical evidence on whether the price move on the  $i$ -th day, after controlling for market and industry factors, can be explained by random chance or by firm-specific news. A sufficiently large value of the t-statistics (generally greater than 1.96 in absolute value for a 95% level of confidence) will allow the investigator to conclude that the estimated abnormal return on the  $i$ -th day cannot be explained by chance alone, and is therefore attributable to firm-specific news. Thus, this analytical framework has obvious implications for both loss causation and materiality.

There are a number of important generic issues that must be considered in undertaking a rigorous event study analysis: proper choice of an industry index; the length of the “event-window”; the possible “trickling” out to the market of the fact that there had been a misrepresentation; and confounding events.

### *1. Proper choice of an industry index*

In selecting an appropriate industry index, it is important to pay particular attention to which firms are truly “comparable” in terms of their line of business and, hence, should be included in the industry index. The magnitude and the statistical significance of the  $\hat{\alpha}_i$ -s (i.e., the size and significance of the abnormal returns) can be highly sensitive to the choice of the industry comparables. The information source for the selection of firms to be used as industry comparables can include the firm’s own financial filings (10-K, 10-Q); equity analysts’ reports, and the constituents of widely-used industry indexes, such as the Dow Jones Internet Index or the S&P Telecom Index.

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<sup>3</sup> This framework is analytically equivalent to estimating the model  $r_t = \ln\left(\frac{P_t}{P_{t-1}}\right) = \beta_0 + \beta_1 M_t + \beta_2 I_t + \varepsilon_t$  using all the observations except the k-dummied days and forecasting the returns for these k days.

## 2. The length of the “event-window”

The  $D_1, \dots, D_k$  can be single-day dummy variables, or two-day or three-day or even five-day dummy variables. It often makes sense to use multiple-day dummy variables because of possible ‘overreaction’ in the market to a corrective disclosure. There is a substantial finance literature documenting that, in some circumstances, there appears to be market over-reaction to certain disclosures<sup>4</sup> and that it might take the market some time to fully and accurately “digest” the full implications of a corrective disclosure, such as an accounting restatement. The market may correct for the ‘overreaction’ over the course of several days, which would suggest the need to dummy out not only the day of the corrective disclosure but one or two days post-corrective disclosure as well. Alternatively, there can be “leakage” of news about the disclosure before the actual official corrective disclosure, suggesting, in some cases, the need to dummy the day prior to the actual corrective disclosure.

## 3. Post-disclosure “Trickle” Effect

Corrective disclosures can occur over a protracted period of time, i.e. the truth gradually “trickles” out into the market. As a result, while a single day’s abnormal return may not be significant, the cumulative effect on the firm’s stock over the entire corrective disclosure period may be. To examine such a hypothesis, one can test the significance of  $\hat{\alpha}_1 + \dots + \hat{\alpha}_m$ , assuming the disclosure period spans  $m$  days.

## 4. Confounding Events

On a corrective disclosure day, there may be a disclosure event as well as firm-specific news unrelated to the alleged fraud. In that case, the estimated abnormal return on that day,  $\hat{\alpha}_i$ , measures the combined effect of the disclosure and the unrelated firm-specific news. This confounding effect problem will be exacerbated when using multi-day event windows as the longer the event window the more likely it is that confounding events will have occurred.

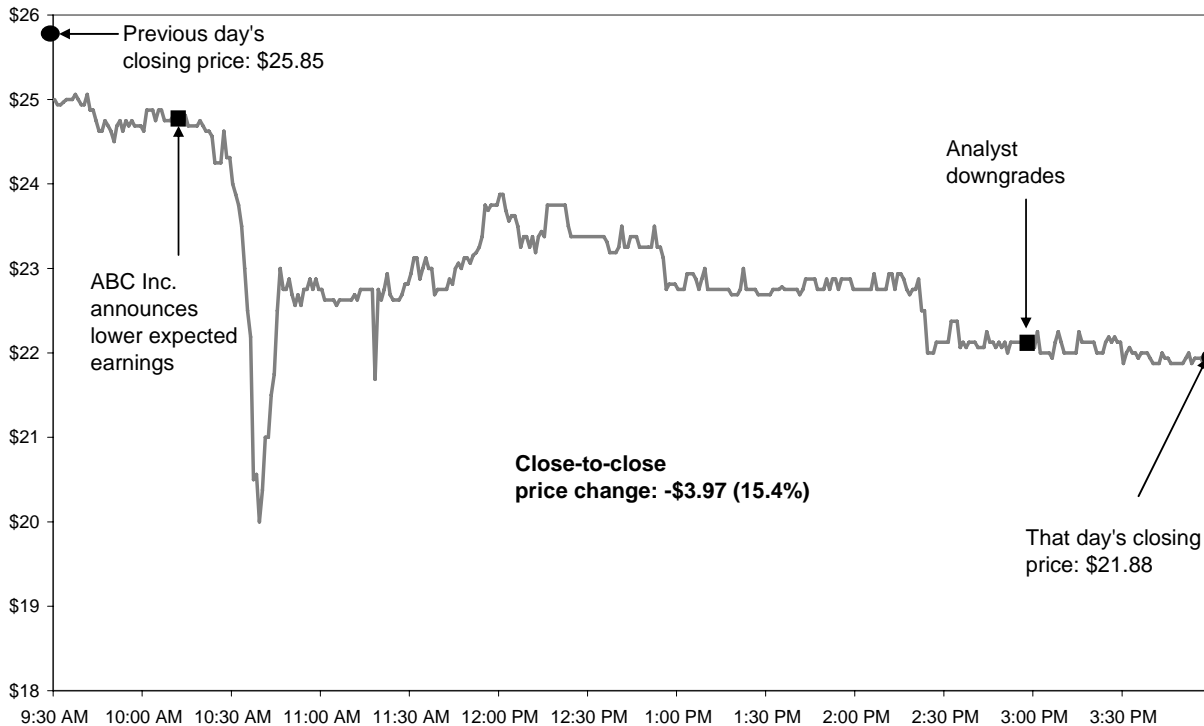
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<sup>4</sup>See, for example, Georgina Benou and Nivine Richie, “The Reversal of Large Stock Price Declines: The Case of Large Firms”, *Journal of Economics and Finance* (2003); Navin Chopra, Joseph Lakonishok and Jay Ritter, “Measuring abnormal performance: Do stocks overreact?”, *Journal of Financial Economics*, V. 31, (1992), 235-268; Marc Bremer and Richard Sweeney, “The Reversal of Large Stock-Price Decreases”, *Journal of Finance*, V. 46, (1991), pp. 747-754

Potential ways of dealing with this problem include: (a) deletion of confounded days from the event study; and (b) the use of intra-day data.

Deletion of confounded days from the event study, while sometimes necessary, incurs the cost of removing potentially relevant information. The use of intra-day data can sometimes avoid this problem. In Figure 2 we illustrate the usage of intra-day data to disentangle the effects of two confounding events. While the data used in this figure are actual NYSE TAQ data of a publicly-traded firm, we have chosen to call the firm ABC, because the litigation in that matter is ongoing. In this litigation, the plaintiffs' class alleged that an investment bank's analyst artificially propped up the share prices of ABC by providing overly optimistic ratings and target prices. The plaintiffs also alleged that disclosure occurred over a series of days in which the analyst lowered the ratings of ABC. The share price movement on such a "disclosure" day, during which the analyst downgraded his recommendation of ABC, is depicted in Figure 2.

**Figure 2: Intra-Day Share Prices of ABC Inc.**



On that day ABC's prices moved down by 15.4%, falling from the previous day's close of \$25.85 to \$21.88. Event study analysis, based on close-to-close price change, showed this



day's price drop to be statistically significant. Thus, based purely on daily price change one may erroneously conclude that the analyst's downgrade had a statistically significant negative impact on ABC's share price.

However, examination of the intra-day data leads to a wholly different conclusion. As shown in Figure 2, the analyst did not downgrade ABC until 3 PM that day. At 10:15 AM on the very same day, ABC announced that it expected next quarter's and year's earnings to be lower. As is clear from the figure, the price reaction to this negative earnings news was sharp and immediate. By the time the analyst downgraded later that afternoon, more than 14% of the total 15.4% price drop had already occurred. After the analyst's downgrade ABC's prices moved by a statistically insignificant negative 1% for the rest of the trading day.

In this example, while the day's return is statistically significant, examination of the intra-day data allows one to disentangle the confounding effects of the two events, and conclude that the effect of the corrective disclosure was not significant. In contrast to the over-reaction effect, consideration of confounding events argues in favor of a shorter event window when possible. Thus, one needs to be judicious in choosing the length of the event window. In the end this decision may well turn on a balancing act between capturing the full-impact of the disclosure (allowing for the correction for overreaction) and avoiding the contamination of confounding events.

### **III. WHEN DOES A CORRECTIVE DISCLOSURE OCCUR?**

#### *1. The Requirement that there be a Corrective Disclosure*

The *Dura* Court explained that a failure to identify a fall in stock price “after the truth became known” to the market indicates a lack of loss causation.<sup>5</sup> The “truth” the Court is referring to is the revelation to the market of the actionable misconduct which forms the basis for the Rule 10b-5 cause-of-action. For example, if an investor, who purchases at an inflated price due to a misrepresentation, “sells the shares quickly before the relevant truth begins to leak out, the misrepresentation will not have led to any loss.”<sup>6</sup> The Court noted that a prices decline will

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<sup>5</sup> 544 U.S. at 342.

<sup>6</sup> *Id.*

not result in recoverable damages if the decline is due to changes in “economic circumstances, changed investor expectations, new industry-specific or firm-specific facts, conditions, or other events . . . .”<sup>7</sup> Some circuit courts have rightfully emphasized this language in *Dura* indicating the need for a corrective disclosure as a prerequisite to establishing loss causation.<sup>8</sup>

Some commentators, plaintiffs’ damage experts, and courts have argued that despite this language in *Dura*, in-and-out traders – investors who purchase and sell after the misrepresentation but *prior* to any “corrective disclosure” or the “truth” of the earlier misrepresentation becoming known – should still be able to recover damages in some circumstances.<sup>9</sup> The basis for such a conclusion is often what we will call the “market forces operating on the fraud” theory.<sup>10</sup> The position one takes on the validity of this theory can dramatically affect one’s damage estimates through affecting the ability of in-and-out traders to establish loss causation.

Consider the following situation. Suppose a widget manufacturer fraudulently states that it has spare capacity to build additional widgets so as to meet the market’s demand for widgets in the event that demand for widgets increases. The stock price of the manufacturer increases, say from \$80 to \$100, as the market places a certain positive value on having spare capacity for producing widgets. Immediately after the fraudulent statement, an investor purchases shares in the widget manufacturer at \$100. Subsequent to the purchase, the European Union imposes a tariff on widgets which substantially reduces the market’s demand for widgets and, thereby, decreases the value of having spare capacity. As a result, the value of the investor’s shares drops from \$100 to \$90 (in other words, the value of having spare capacity drops from \$20 to \$10). After the tariff’s imposition, the investor sells his shares. At no time does the market learn that the widget manufacturer’s statement about having spare capacity is false. Did the fraudulent

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<sup>7</sup> *Id.* at 343.

<sup>8</sup> See, e.g., *Glaser v. Enzo Biochem*, 464 F.3d 474 (4th Cir. 2006) (“It is only after the fraudulent conduct is disclosed to the investing public, followed by a drop in the value of the stock, that the hypothetical investor has suffered a “loss” that is actionable after the Supreme Court’s decision in *Dura*.”)

<sup>9</sup> The several district courts that have considered whether in-and-out traders can show loss causation have been divided on this issue. See, e.g., *In Re Compuware Sec. Litig.*, 386 F.Supp.2d 913 (E.D.Mich. 2005) (excluding in-and-out traders from being members of the class); *In re Bally Total Fitness Sec. Litig.*, 2005 WL 627960 (N.D.Ill.2005) (refusing to appoint an in-and-out trader as lead plaintiff due); *compare Montoya v. Mamma.com Inc.*, 2005 WL 1278097 (S.D.N.Y. 2005) (appointing an in-and-out trader as lead plaintiff); *In re Bearingpoint Sec. Litig.*, 232 F.R.D. 534 (E.D. Va. 2006) (“Moreover, it is also conceivable that the inflationary effect of a misrepresentation might well diminish over time, even without a corrective disclosure, and thus in-and-out traders in this circumstance would be able to prove loss causation.”)

<sup>10</sup> See, e.g., the discussion in *Wool v. Tandem*, 818 F.2d 1433 (9<sup>th</sup> Cir. 1986).

statement cause economic losses to the investor? More specifically, can the investor recover the amount of the disinflation – the difference between inflation at the time of purchase and inflation at the time of sale – which, in this example, is \$10 (\$20 - \$10)?

Employing the “market forces operating on the fraud” theory, some commentators would argue that this investor did suffer recoverable damages. The investor had to pay an inflated price for the shares initially, as a result of the combined effect of the false statement concerning spare capacity and the market’s value on having spare capacity at the time of purchase, and had to sell the shares at a less inflated price as a result of the market’s subsequent lower value, due to the European Union’s imposition of a tariff, on having spare capacity at the time of sale.<sup>11</sup>

Several observations based on *Dura* in assessing this argument are in order. First, the “market forces operating on the fraud” theory ignores the language in *Dura* about the need for the truth concerning the misrepresentation to become known in order for there to be loss causation. Under this theory recoverable damages occur even if the market never learns (as in the example), directly or indirectly, of the actionable misconduct that forms the basis for Rule 10b-5 liability. Second, the theory severely limits the language in *Dura* explaining that there is no loss causation in a situation in which an investor sells his shares after purchase but before disclosure of the truth. If one accepts the “market forces operating on the fraud” theory, then this language in *Dura* must be confined to the highly unusual situation of instantaneous purchases and sales. If any time elapses between the purchase and sale then, according to the “market forces operating on the fraud” theory, recoverable damages might well exist. Third, such an approach ignores the discussion in *Dura* about price declines due to market and industry changes not giving rise to recoverable damages. According to the “market forces operating on the fraud” theory, market and industry changes, such as a change in the value placed by the market on spare capacity, can quite readily give rise to recoverable damages even in the absence of a corrective disclosure concerning the actionable misconduct.

Putting *Dura* aside, what of the economics of the situation described in the hypothetical? Hasn’t such an investor suffered a loss, in an economic sense, from the fraudulent statement? The answer turns on whether one looks at the situation ex post or ex ante. Ex ante the investor is as likely to be the beneficiary of changes in the market’s valuation placed on spare capacity as it

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<sup>11</sup> See Thorsen, Kaplan, and Hakala, Rediscovering the Economics of Loss Causation, 6 Bus. & Sec. L. 93, 105-106.

is that the investor will incur losses as a result of a change. In the hypothetical, the investor would have gained if the market placed a greater value on having spare capacity (for whatever reason) between the time of purchase and sale. Indeed, an investor might have purchased the stock betting that this will happen. It is unclear why the securities law should provide a put option for investors (i.e. bailing investors out when their bets turn out poorly) when speculating on changes in general market conditions when, as in the hypothetical, there hasn't even been a corrective disclosure which can establish the necessary link between economic losses and the actionable misconduct.

## 2. *What Constitutes a "Corrective Disclosure"?*

Consider another hypothetical. A company misstates its financial statements and subsequently issues a downward revision of its earnings projection. Many months after the dissemination of the lowered earning projection the company discloses the need to restate its financials. When did a "corrective disclosure" occur? Did the "truth" about the financial misstatements become "known" at the time of the downward earnings projection or at the time of the disclosure of the need to restate? To raise the stakes, further suppose that there was a statistically significant negative abnormal stock return associated with the downward earnings projection but none is associated with the disclosure of the need to restate the financials. Indeed, this hypothetical is not so different from the fact situation in *Dura* itself in which the plaintiffs ended the class period on the date upon which Dura Pharmaceuticals released lower than forecasted revenues and lower earnings per share estimates – a date upon which Dura's stock price fell approximately 47%. In contrast, Dura Pharmaceuticals price moved only modestly on the date of the FDA denial of the asthmatic spray device.

The Fifth Circuit in *Greenberg v. Crossroads Sys., Inc.*, 364 F.3d 657 (5th Cir. 2004) has addressed this issue most directly. The Fifth Circuit held that there was no loss causation in such a situation given that the earnings projection did "not report any concern that [the company's earlier earnings statements] may be incorrect."<sup>12</sup> But what of other circuits which have not squarely addressed of when downward earnings projections can constitute the moment at which

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<sup>12</sup> 364 F.3d at 668.

the “truth” about the earlier financial misstatements became, at least partially, revealed? What is the proper application of the loss causation requirement and *Dura* to this issue?

The issue of when negative stock price reactions to downward earnings projections will form the basis for establishing loss causation is often quite important both in its own right as well as for raising the general issue of when a disclosure will constitute a “corrective disclosure” with respect to earlier misstatements when that disclosure does not directly indicate that the earlier statements were in fact false. One common claim is that a disclosure should be deemed a “corrective disclosure” when that disclosure reveals the “true financial condition” of the company that was being concealed by the earlier misstatement. According to this approach, the “fact that no wrongdoing or error has been identified is unimportant . . . the company’s true performance [ ] has entered the market and the market will react to that.”<sup>13</sup>

The “true financial condition” theory, as was true with the “market forces operating on the fraud” theory, is problematic. Any negative firm news, such as a downward earnings projection, can contain important information as to the true value of the firm and in that sense a downward-adjusted earnings projection does reveal the “true financial condition” of the firm. However, without a concrete reason linking the negative stock market reaction associated with the earnings projection (or whatever the negative news happens to be) to the removal of the inflation in the stock price caused by the actionable misconduct, such as misstating the financials, loss causation is lacking. Nothing in the downward-adjusted earnings projection hypothetical, for example, excludes the possibility that if the timing of the intent to restate and the timing of the downward-adjusted earnings projection had been switched one would still have observed exactly the same stock price reactions (significant negative stock market reaction to the earnings projection and none for the intent to restate). This would suggest that the market’s reaction to the earnings projection was negative not due to the removal of inflation caused by the misrepresentation, but because of the implications of the earnings projection for the firm’s future cash-flows irrespective of the earlier misrepresentation.

Of course, if the downward-adjusted earnings projection had in fact indicated a concern with the veracity of the earlier stated financials then there would be a concrete reason to connect the negative market reaction associated with a downward-adjusted earnings projection to the removal of inflation caused by the misstated financials. Alternatively, if market analysts call into

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<sup>13</sup> See Thorsen, Kaplan and Hakala at 102-103.

question the earlier financials as a result of the earnings projection, then one would likewise have a concrete reason to connect the negative stock market reaction to the removal of inflation caused by the misstated financials.<sup>14</sup> But without the requirement of establishing such a concrete connection, the “true financial condition” theory removes much of the disciplining effect of the loss causation requirement. One could merely label those firm disclosures associated with the largest negative abnormal stock return reaction as the “corrective disclosure,” as such disclosures revealed the “true financial condition” of the company, thereby generating the largest possible securities damage estimates. It is interesting to note that the “market forces operating on the fraud” theory ensures that negative market changes are ready candidates for establishing loss causation, while the “true financial condition” theory ensures that negative firm news are likewise ready candidates.

The “true financial condition” theory sometimes arises in the context of the Second Circuit’s “zone of risk” test for loss causation. In *Lentell v. Merrill Lynch* the Second Circuit explained that the loss causation question is whether “the loss was within the zone of the risk concealed by the misrepresentation or omissions.”<sup>15</sup> If one characterizes the “zone of risk” that was concealed by a misrepresentation or omission, say misstating the firm’s financials, to be the risk of investing in the company then losses resulting from almost any subsequent negative news about the firm, such as a downward-adjusted earnings projection, can be said to be “caused” by the misrepresentation or omission under the “zone of risk” test. This characterization of the “zone of risk” is in reality just another version of the “true financial condition” theory of loss causation and therefore likewise also effectively vitiates the loss causation requirement.

A proper interpretation of the Second Circuit’s “zone of risk” test for loss causation, consistent with *Dura*, is to require that there be a corrective disclosure in the sense that new information reached the market that unveiled earlier actionable misconduct. In the absence of such a corrective disclosure, the negative firm news, and the associated losses, should not be considered within the “zone of risk” concealed by the actionable misconduct. The reason for this is simple. Without imposing a requirement that there be a corrective disclosure in defining the “zone of risk”, one runs the risk that the loss causation requirement will be deemed to have been

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<sup>14</sup> In *In re Daou Systems, Inc.*, 411 F.3d 1006 (9<sup>th</sup> Circ. 2005), an analyst questioned the veracity of earlier statements by a firm, including its earlier financials, based on a quarterly earnings report that did not meet expectations.

<sup>15</sup> 396 F.3d 161, 173 (2005).

satisfied even if one would have observed the same negative price market reaction to the negative news regardless or not of the earlier conduct that ran afoul of Rule 10b-5. And it is the earlier misconduct, it must be remembered, that forms the basis for liability in the first place.

### *3. Post-Corrective Disclosure Stock Price Movements*

Class membership in a securities class action suit often covers purchasers of stock between the date of the alleged misrepresentation (or the date of the first alleged misrepresentation) and the date of the “corrective disclosure” on which the market learns the truth about the misrepresentation (or the earliest date by which the full truth about the fraud is revealed). Operationally, the “corrective disclosure” date identified by plaintiffs’ counsel is often a date upon which there is a large stock drop purportedly due to the market learning the truth about the earlier fraud.

An important issue that often arises in estimating securities damages concerns stock price movements in the immediate period following the corrective disclosure date identified by the plaintiffs. In a number of circumstances, one often observes the stock price of the firm recovering, at least partially, in the immediate post-corrective disclosure period. The question post-corrective disclosure stock price movements raise is what impact, if any, do these movements have on damages per share calculations in light of the Supreme Court’s decision in *Dura*? It is important to emphasize that this issue is analytical distinct from the “cap” on damages contained in Section 21D of the Exchange Act, which limits damages to the average trading price of the security in the 90 day period following the corrective disclosure. The issue here is not what the applicable “cap” on damages is, but rather what are in fact the damages.

If the stock price reaction in the days, weeks and months following a corrective disclosure are due to the market inferring additional information about the misrepresentation’s implications for a firm’s valuation, then these stock price movements occurring after the corrective disclosure date identified by the plaintiffs should analytically be deemed to be additional corrective disclosures. That is, the full truth concerning the misrepresentation was revealed to the market on a series of dates. This can have important implications for securities damages.

Suppose, for instance, the market believes that an accounting restatement is indicative of deeper, as of yet undisclosed, problems at a firm then the market's reaction to a firm's restatement of its financials will reflect the expected negative effects of these undisclosed problems (perhaps, for instance, expected further accounting restatements) in addition to any negative implications for firm value of the initially misrepresented numbers. If no such problems are disclosed, then as time passes the market might view these hidden problems as less and less likely, resulting in positive stock price changes in the period following the disclosure of the financial restatement. In other words, the non-disclosure of additional problems itself can constitute new information to the market (no news is good news) that should be considered in evaluating the total harm caused by the initially misrepresented financials. Since non-disclosure of further bad news can itself constitute important positive information about the implications of misstated financials on firm value, the full dissemination to the market of the full implications of the misrepresentation for firm value does not necessarily occur solely on the date of the disclosure of the true financials.

On a similar note, there are cases where the disclosure of the misrepresentation is partial. For example, suppose a firm simply announces that it would re-state its prior years' financials without quantifying the extent of the restatement. Often a firm's share price falls, in many cases quite sharply, merely in response to the announcement of a re-statement. Typically, the class action plaintiffs end the class period on the day of the announcement to restate. That is, they argue that the share prices after the day of the announcement of the need to restate reflect the "fair value" of the stock and should be used in the calculation of damages. However, in this example the restatement announcement, although "corrective", is by no means a full disclosure. In the subsequent weeks and months the firm may provide further details about the extent of the restatement and full disclosure occurs only after the firm finalizes its restatement. Of course, whether the stock price reaction is negative or positive in response to the additional disclosures depends on the market's prior expectation of the probability and type of possible disclosures by the firm.

In this context, the case of Ahold Securities litigation is illustrative. On February 24, 2003 Ahold announced that it would restate its financials for the period 2000-2002. In response to this news, Ahold share prices<sup>16</sup> fell by 61 percent—dropping from \$10.69, the previous day's

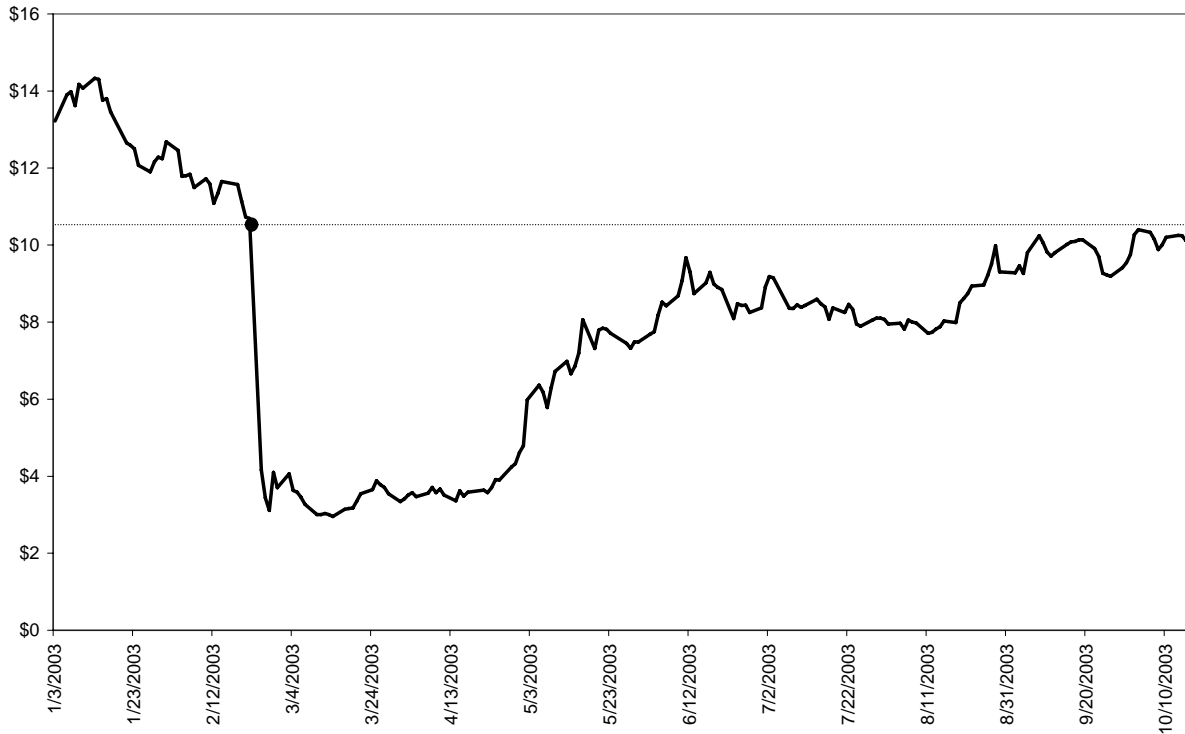
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<sup>16</sup> Ahold is traded as an ADR in the US equity market.



closing price, to \$4.16 on that day.<sup>17</sup> In the ensuing Ahold securities litigation, the plaintiffs’ filed a complaint with the class period ending on 2/24/03—the day of the first restatement announcement.

**Figure 3: Share Prices of Ahold: January through October 2003**



However, as is evident from Figure 3, Ahold share prices continued to rebound as the company provided more news about the extent of the restatement in the subsequent months: on August 8, it announced that the net income restatement amount for the years 1998 through 2002 would be \$880 million; on July 1, it further revised the restatement estimate to \$1.2 billion; finally, on October 17, 2003, the company filed the restated financials with the SEC through a Form 20-F. On that day, Ahold shares closed at \$9.56, only 11 percent or \$1.13 lower than the price prior to the first restatement announcement. Here the critical question is what is the impact of the curative disclosures? From the plaintiffs’ point of view the impact is \$6.53, which is the 61 percent drop on 2/24/03. However, if one recognizes that the time frame of the corrective disclosures spans the entire period between 2/24/03 through 10/17/03, and that full disclosure did

<sup>17</sup> We believe that this large price impact of the news of restatement reflects, in part, the market’s “overreaction” to financial restatement related news in the post-Enron environment.

not take place until the latter date, then the corrective disclosure impact<sup>18</sup> is only \$1.13, the difference between the price on 2/21/03 (the day before the first disclosure) and on 10/17/03. Needless to say, the difference in the quantification of the impact of the curative disclosures has non-trivial implications for class wide damages.

#### IV. ALLOCATION OF INFLATION TO DIFFERENT SHARES

An important distinction to bear in mind in allocating the artificial inflation in stock price to shares purchased at different points in time within the class period is the difference between the class period and the damage period. This is a distinction that is often overlooked despite its often important implications for the measure of damages. The distinction is best conveyed through the use of an example.

Suppose that a pharmaceutical company called Dura II truthfully announces that it expects the FDA will soon grant its approval to its new asthmatic spray device. Dura II learns several years later, however, that the FDA, after conducting an extensive examination of the device, is in fact unlikely to approve. When the firm learns of this fact it initially withholds this information but months later does announce the FDA's actual denial of the asthmatic spray device. Upon the announcement of the denial, Dura II's share price drops substantially. Plaintiffs' counsel, in such a situation, would typically extend the class period from the time of the negative announcement back to the day upon which the firm had announced the prospects of likely approval. But, in the absence of a crystal ball, the firm couldn't have known then what it learned later on. So despite the shareholder losses, perhaps considerable, for those who purchased upon the firm's announcement of likely approval, damages should only exist for those shareholders that purchased in the time period between when the firm had a legal duty to disclose the FDA's likely denial (and hence, arguably engaged in actionable misconduct when it did not promptly disclose) and the announcement of the denial.

Drawing a distinction between the class period and the damage period is faithful to *Dura's* emphasis on focusing on whether the actionable misconduct, such as a misrepresentation or a fraudulent non-disclosure, caused economic harm to shareholders. In the pharmaceutical

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<sup>18</sup> Here, in the interest of simplicity, we are discussing the 'raw' price difference without accounting for market and industry factors.

company hypothetical, the economic loss suffered by shareholders who purchased upon the initial positive announcement was not caused by the actionable misconduct, which is the fraudulent non-disclosure of the FDA's likely denial. The actionable misconduct therefore can not be said to have caused the loss suffered by shareholders who purchased upon the initial positive announcement which, after all, occurred earlier in time. Put slightly differently, there was no inflation in the pharmaceutical's stock price at the time of the positive announcement as the firm at this point had not engaged in fraudulent conduct that would give rise to Rule 10b-5 liability. To allow the investors who purchased at this point to recover their economic losses would "effectively convert Rule 10b-5 into a scheme of investor's insurance."<sup>19</sup>

Another important aspect of allocating the inflation, as proxied by the market's reaction to the corrective disclosure, to shares purchased at different times is the issue of apportionment of the harm resulting from multiple misrepresentations. Suppose that there is a substantial stock price drop in response to the firm announcing it would restate its financials for the prior years. Assume also that one can attribute the price drop to the market removing the inflation in stock price due to a series of misrepresentations (i.e., prior years' financials) that had previously occurred. It is analytically obvious that one cannot use the entire price drop on the announcement day to measure inflation in stock price throughout the damage period because the price drop is the cumulative effect of the disclosure of a series of prior misrepresentations. This would result in a gross overestimation of damages. The critical challenge then becomes apportioning the cumulative inflation (as represented by the stock price drop in this example) to shares purchased in different periods. Indeed, this problem is sufficiently serious to argue, in some circumstances, for not using the stock price drop in reaction to a restatement announcement covering multiple years to approximate the price inflation during the damage period, but rather "forward-casting" when feasible. We revisit this issue in greater details in Section VI.

## V. COLLATERAL DAMAGE

Dividing misrepresentations, such as accounting restatements, into two categories can be helpful in thinking about which types of representations can legally give rise to recoverable damages. In the first category are misstatements that have direct implications for the future cash-

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<sup>19</sup> 544 U.S. at 345 (citing with approval *Basic*, 485 U.S. at 252).

flows of a firm or the rate at which these cash-flows will be discounted. For instance, if a firm overstates its cash-flowing generating assets on its balance sheet, this might artificially inflate expectations about the *future* cash-flows of the business. Given that share prices, in an efficient market, are the discounted future cash-flows of the firm, this would inflate the price of the stock all else being equal. There is, however, a second category of misstatements: those that do not have any bearing on the future cash-flows of the firm or the discount rate that should apply to these cash-flows when calculating the cash-flows' present value. One possible example of such a misstatement might be an accounting statement by a firm that falsely states that it has \$100 more in cash than it really does while falsely understating, in the same statement, its corporate holdings of U.S. treasury bonds by an equivalent amount, \$100.

There are three different doctrinal categories under which one can analyze the second type of misstatement: loss causation, reliance and materiality. The reasoning, whatever doctrinal category one employs, consistently points to a lack of recoverable damages. Consider, first, whether there is loss causation. The Exchange Act of 1934 requires that the “act or omission of the defendant alleged to violate [Section 10(b)] caused the loss for which the plaintiff seeks to recover damages.” This provision clearly indicates that the actionable Rule 10b-5 misconduct, i.e. the misstatement of corporate holdings, must cause the economic loss alleged by plaintiffs. Or as the Seventh Circuit put it, “To plead loss causation, the plaintiff must allege that it was the very facts about which the defendant lied which caused its injuries.” *Caremark, Inc., Coram Healthcare Corp.*, 113 F.3d 645, 648 (1997). Given the fact that the overstatement of cash reserves exactly equals the understatement of U.S. treasury bonds (a highly liquid asset), it is difficult to argue that the misstatement or the revelation of the truth had any implications for the future cash-flows of the firm or the applicable discount rate.

One can also analyze the issue, not in loss causation terms, but in terms of whether one can use the fraud-on-the-market theory to establish “reliance” (another necessary element for a Rule 10b-5 cause-of-action) on the misstatement. This is the approach adopted by the Fifth Circuit. In *Greenberg*, 364 F.3d 657, the Fifth Circuit explained that, “plaintiffs cannot trigger the presumption of reliance by simply offering evidence [of] any decrease in price following the release of negative information. Such evidence does not raise an inference that the stock’s price was actually affected by an earlier release of positive information.”<sup>20</sup> The question in the cash

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<sup>20</sup> 364 F.3d at 665.

reserve example is whether there is any reason to believe that the misstatement constituted “positive information” that would increase the firm’s stock price above what it otherwise would have been if the correct holdings had been provided to the market. To posit such a reason one would have to explain, as was the case when considering loss causation, how knowing the truth would have affected the market’s expectation of the firm’s future cash-flows or the appropriate discount rate.

Finally, one can reach the same conclusion using instead the language of “materiality” (yet another necessary element for a Rule 10b-5 cause-of-action). Some circuits, such as the Third Circuit in *Oran v. Stafford*, 226 F.3d 275 (2000), have taken the position that if a misstatement did not artificially inflate the price of a stock then the statement was not “material” assuming that the market in that stock was efficient. Again, in the absence of a reason to believe that the misstatement impacted the market’s expectations of the firm’s future cash-flows or the applicable discount rate, the misstatement is necessarily immaterial as it would not have affected the stock price as an initial matter.

But suppose that one does observe a stock price drop in reaction to a corrective disclosure that a firm has been misstating its holdings in the past. And further suppose that, using an event study, one concludes that the association of this negative stock reaction with the disclosure announcement is statistically significant. Does the mere fact of a price reaction to a disclosure announcement indicate that the misstatement (in the example, the misstatement concerning the corporate holdings) somehow affected expectations about cash-flows and discount rates and is therefore in fact in the first category of statements which can give rise to recoverable damages? Such a conclusion would be premature.

It is possible to account for a negative price reaction associated with the corrective disclosure without assuming that the misstatement artificially inflated the stock price. The corrective disclosure can create negative stock price reactions due to what we will label “collateral damage.” The presence of “collateral damage” is entirely consistent with the misstatement not inflating the price of the stock at the time the misstatement was made. By way of illustration we will consider two types of “collateral damage”, both of which might well occur as a result of the disclosure of an accounting restatement necessitated by the misstatement of corporate holdings: reassessment of the quality of a firm’s management and/or internal controls; and possible disruptive legal action.

*a. Reassessment of a Firm's Management and/or Internal Controls*

An example of collateral damage would be investors revaluing a firm not as a result of the information contained in the accounting restatement contradicting the (false) representation made earlier, but rather as a result of a reassessment (perhaps only temporary) of how well the firm is run. Investors might infer that the quality of the firm's management and internal controls are lower than they had previously believed upon observing the need to have an accounting restatement and revalue the firm downward accordingly. For example, investors might infer that the firm's internal controls are less rigorous than they had previously believed given the fact that false statements somehow made it into the firm's accounting statements. Such an inference could result, for example, in a reduction in firm value if investors placed some importance on the quality of the firm's internal controls in generating future cash-flows.

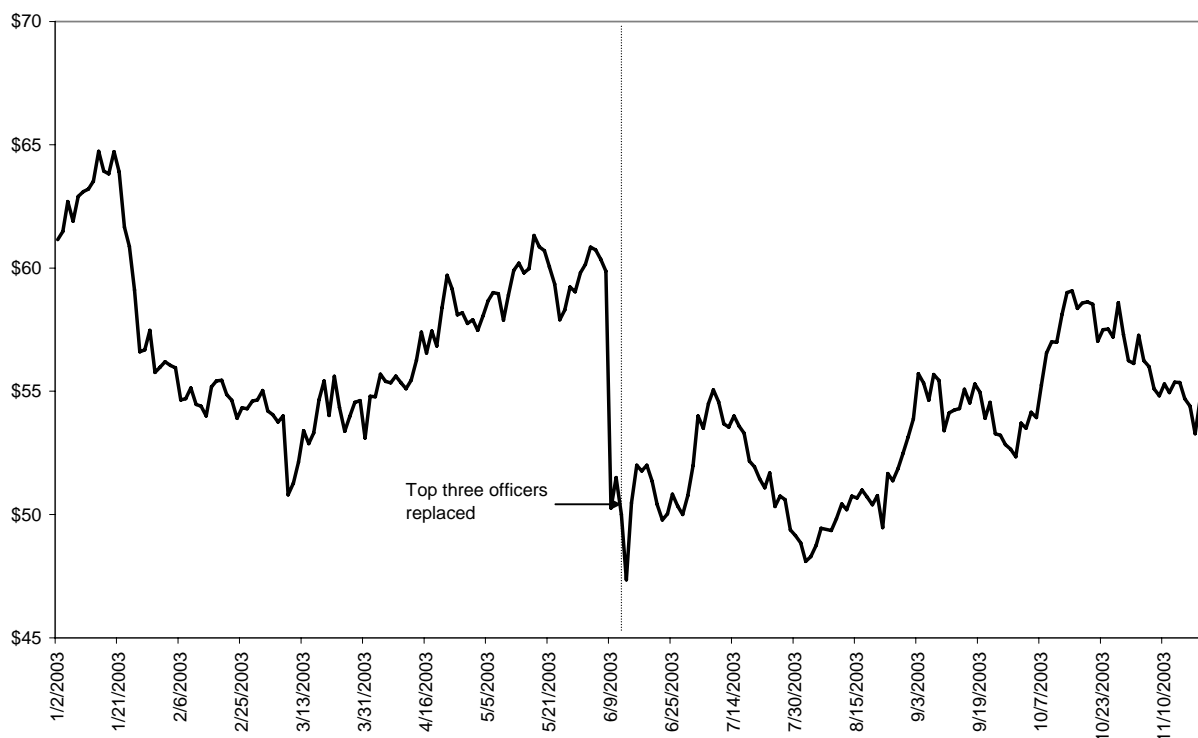
However, this explanation for the stock price decline associated with a corrective disclosure is consistent with the original misstatement not artificially increasing the stock price (and hence the misstatement not causing economic losses a la *Caremark* or not creating reliance by inflating stock prices a la *Crossroads* or not being material by inflating prices a la *Oran*). If the original fraudulent accounting statement only contained information, albeit false, about corporate holdings then there was no statement, let alone a misstatement, about the quality of its management or its internal controls. And it is only the actionable fraudulent statement that gives rise to potential Rule 10b-5 liability, i.e. the misstatement of corporate holdings, and therefore must have caused the stock price to be artificially inflated. There is no general duty to disclose, for instance, that the management of a firm or the quality of the firm's internal controls are not the same as those expected by the market. The Supreme Court succinctly captured this point when it flatly stated, "Silence, absent a duty to disclose, is not misleading under Rule 10b-5." *Basic Inc. v. Levinson*, 485 U.S. 224, 239 n. 17 (1988).

Nor is it obvious that such information about management or its internal controls would have reached the market earlier but for the misrepresentation. In other words, in the "but for" world, the hypothetical world where the corporate holdings misstatement had not been made, it is not at all clear (or perhaps even plausible) that the firm would have disclosed to the market that its internal controls or the quality of its management was lower than the market's expectation. As a result, one could not plausibly claim that price declines due to investors' reassessment of

managerial quality or the firm’s internal controls is due to the market learning the truth about the content of the misrepresentation concerning corporate holdings (returning to the earlier example) that was made earlier and which is the basis for Rule 10b-5 liability in the first place.

In this context of “collateral damage”, the facts surrounding the Freddie Mac securities litigation provide useful insights. The class action lawsuit against Freddie Mac followed its announcement in January 2003 that it would restate its earnings for four prior years.

**Figure 4: Freddie Mac Share Prices: January through November 2003**



However, unlike the vast majority of 10b-5 matters, here Freddie Mac had announced it would restate its earnings upward! Subsequently, on June 9<sup>th</sup>, 2003, it announced that its top three officers would be replaced. On that day, Freddie Mac’s share prices fell by 16 percent—from a previous close of \$59.87 to \$50.26—a \$9.61 drop. However, over the subsequent weeks Freddie Mac continued to provide further information about its restatement, announcing, for example, on June 25<sup>th</sup> that the upward restatement could be as high \$4.5 billion. On November 21<sup>st</sup> Freddie Mac finally filed its restated financials with SEC, and not unexpectedly the share prices went up in response to the news. The share price movement for Freddie Mac over this relevant period is depicted in Figure 4. In the class action complaint, the Plaintiffs chose to end the class period on June 9<sup>th</sup>, the day of the announcement of the top officers being replaced.

The facts of the Freddie Mac securities litigation provides a clear example where the collateral damages associated with the replacement of the management has no bearing on the misstatement of its prior years' financial results nor is there a direct link between the misstatement and an adverse impact on share prices. It is wholly unclear how revision of prior years' earnings *upward* could harm the firm's value and its current share prices. Moreover, while the replacement of the top officers was associated with a price drop, it is equally unclear why that drop would lead to any recoverable damages based on the 10b-5 claims.

*b. Disruptive Legal Action*

Revisiting the corporate holdings misstatement example, suppose that the stock price decline was due to investors inferring that the company was likely to be subject to disruptive lawsuits, state attorney actions and SEC enforcement proceedings as a *result* of the accounting restatement. In particular, if investors value the retention of the executives who are responsible for the misstatement, then expected legal action could well have the effect of these executives losing their jobs and thereby hurting the value of the firm. A company's stock price could decline for this reason even if investors placed absolutely no lower value on the firm as a result of the information contained in the accounting restatement. As the Supreme Court explained in *Dura* price changes “may reflect, not the earlier misrepresentation, but changed economic circumstances, changed investor expectations, new industry-specific or firm-specific facts, conditions or other events . . .”<sup>21</sup> The price decline in this situation would be due to new “firm-specific facts” as opposed to firm revaluation resulting from the market learning the actual truth about corporate holdings which was the subject of the earlier fraudulent representation.

## **VI. CONFIRMATORY STATEMENTS AND FORWARD-CASTING ESTIMATES OF DAMAGES**

In estimating per-share damages, the plaintiffs' experts typically adopt a ‘back-casting’ approach. That is, they use the price decline as a result of the curative disclosure to measure the inflation during the class period. In particular, they begin with the share prices at the end of the class period (which, presumably reflect the fair market value of the security) and proceed backwards in time to the beginning of the class period in constructing the but-for share price line.

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<sup>21</sup> *Id.* at 343.



The difference between the actual price and the ‘back-casted’ but-for price is purported to provide a measure of per-share damages on a given day within the class period.

This ‘back-casting’ approach can suffer from some problems. As we discussed earlier, market overreaction, post-corrective disclosure price movement, collateral damage, and apportionment issues can render it difficult to estimate with any degree of reliability the inflation during the damage period using the price drop associated with the disclosure.

A potential avenue for avoiding these problems is to use a “forward-casting” approach in creating the but-for price line. In forward-casting, one estimates the inflation in stock price associated with the misrepresentation announcement as opposed to inferring the extent of the inflation from the price decline associated with the curative disclosure. The doctrines of loss causation, reliance and materiality, after all, all point to the inflation in stock price (and its subsequent removal via a corrective disclosure) as the potential harm to shareholders associated with a misrepresentation.

The application of the forward-casting approach is straightforward when the false information, which the market believes is true, was unanticipated by the market. In such an event, the stock price reaction (net of market, industry and other confounding effects) associated with the initial dissemination of the misrepresentation would represent the inflation in stock price which potentially harms shareholders by artificially inflating the purchase price.

A number of misrepresentations, however, are motivated by the firm’s desire to meet market expectations, such as a desire to meet the market’s expectations of earnings. These so-called “confirmatory statements” pose some challenging issues in terms of estimating securities damages. As the Fifth Circuit noted, “[C]onfirmatory information has already been digested by the market and will not cause a change in stock price.”<sup>22</sup> It is still possible, nevertheless, to use a forward-casting approach even in a “confirmatory statement” situation.

Suppose, for instance, that a firm overstates its earnings in order to meet the market’s earnings expectations and there is, accordingly, no market reaction to the misrepresentation. In this case, the forward-casting approach would entail estimating what the market reaction would have been had the restated lower earnings been known on the misstated earnings announcement days. This estimation can be undertaken through an event study using the firm’s prior earnings announcement days and quantifying the relationship between price response and earnings

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<sup>22</sup> 364 F.3d at 665-666.

surprises or changes.<sup>23</sup> This relationship could then be used to estimate the but-for stock returns in the earnings announcement days using the firm's restated earnings. These but-for returns when substituted for the actual returns on the earnings announcement days would generate the forward-casted but-for price line. The difference between the actual and the but-for price line would be a direct measure of the inflation caused by the overstated earnings. Our experience suggests that, typically, the back-casted and the forward-casted approaches yield substantially different but-for price lines, and hence vastly dissimilar estimates of damages.

## VII. CONCLUSION

The Supreme Court's decision in *Dura* raises a host of important issues concerning the contours of the loss causation requirement for Rule 10b-5 actions. These important issues include the proper application of event study analysis, the requirement that there be a corrective disclosure, what constitutes a corrective disclosure, the proper treatment of post-corrective disclosure stock price movements, the allocation of inflation to different shares, the treatment of collateral damage from a corrective disclosure and the use of forward-casted damage estimates. The proper resolution of these issues plays a critical role in ensuring that the loss causation requirement, a requirement emphasized by the Court's opinion in *Dura*, plays its important role in preventing Rule 10-b5 damages from becoming a "scheme of investor's insurance."<sup>24</sup>

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<sup>23</sup> While this estimation can be undertaken using only the 'clean' period, i.e., the period preceding the misstatements, as long as market believed in the stated earnings, there is no reason to necessarily exclude the class period from this estimation.

<sup>24</sup> 544 U.S. at 345 (citing with approval *Basic*, 485 U.S. at 252).