LOSS CAUSATION ON TRIAL IN RULE 10B-5 LITIGATION A DECADE AFTER *DURA*

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ABSTRACT

In the decade since the U.S. Supreme Court handed down its decision in Dura Pharmaceuticals, Inc. v. Broudo, *outlining the pleading standard for loss causation in securities fraud class actions, only seven such cases have been tried to verdict. Thus, while the case law addressing the loss causation requirement at the pleading stage abounds, there is a paucity of decisions that address the burden of proof at the trial stage. This Article explores the small constellation of post-trial decisions that set forth the basic contours of establishing loss causation and damages at trial. We examine the courts' treatment of some of the more prominent loss causation theories litigated through trial and appeal since* Dura's *issuance. First, we trace the "price maintenance" theory, premised on the idea that a material misrepresentation can artificially inflate a security's price by propping up, or "maintaining," the existing stock price without increasing it, and look at how the theory was litigated in three Rule 10b-5 trials. Next, we survey how courts have wrestled with the question of what constitutes a "corrective disclosure" for purposes of proving loss causation at trial. Finally, we examine the "leakage" theory which posits that often times the details and consequences of a fraud do not come to light all at once but rather trickle out over time, and that damages can derive from stock price declines other than strictly those associated with patent corrective disclosures.*

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I. INTRODUCTION

In *Dura Pharmaceuticals, Inc. v. Broudo*, the U.S. Supreme Court held that to sufficiently plead loss causation, an element of federal securities fraud, a plaintiff must allege that he or she purchased a security at an artificially inflated price as a result of fraud, and that upon revelation of the fraud, the stock price declined, causing a loss.[1] To be sure, the decision was a seminal one in the jurisprudence of the Private Securities Litigation Reform Act of 1995 ("PSLRA") which codified the loss causation requirement for Rule 10b-5 claims.[2] But

1. 544 U.S. 336, 366–47 (2005).
2. The PSLRA codified the common law requirement of proximate cause in fraud actions: "In any private action arising under this chapter, the plaintiff shall have the burden of proving that the act or omission of the defendant alleged to violate this chapter caused the loss for which the plaintiff seeks to recover damages." 15 U.S.C. § 78u-4(b)(4) (2012). SEC Rule 10b-5, 17 C.F.R. § 240.10b-5 (2017), is promulgated under Section 10(b) of the Securities Exchange Act of 1934 which prohibits the "use" or "employ[ment]" of "any manipulative or deceptive device" "in connection with the purchase or sale of any security

what *Dura*—a *pleading* case—meant for purposes of *proving* loss causation and damages at trial was anyone's guess.

The *Dura* Court sketched out a rough pleading standard in the barest of terms; it talked in broad strokes about the need to segregate the "tangle of factors affecting [a company's stock] price"—that is, the disclosure of the fraud from market-wide forces or company-specific news unrelated to the fraud.[3] However, *Dura* left it to the district and circuit courts to define the burden of proof for trial lawyers and damages experts.[4] And for all of the securities cases taken up by the Roberts Court (1.6 per year on average[5]) the Court has yet to revisit loss causation in the twelve years since *Dura*—much less address loss causation at the trial stage (unsurprisingly, given the dearth of cases that make it to trial).[6] Indeed, since the issuance of *Dura*, just seven Rule 10b-5 class actions have been tried to verdict.[7]

On the rare opportunities that 10b-5 cases have advanced to trial, the lower courts have tried to answer several fundamental questions regarding loss causation left open by *Dura*. These questions include:

- How do bare allegations of loss causation in a complaint translate into damages on a verdict form?

registered on a national securities exchange or any security not so registered, or any securities-based swap agreement." 15 U.S.C. § 78j(b) (2012).

3. *Dura*, 544 U.S. at 343.

4. The *Dura* Court's holding, by its own terms, was narrow: "In sum, we find the Ninth Circuit's approach inconsistent with the law's requirement that a plaintiff prove that the defendant's misrepresentation (or other fraudulent conduct) proximately caused the plaintiff's economic loss. We need not, and do not, consider other proximate cause or loss-related questions." *Id.* at 346.

5. *See* John C. Coates IV, *Securities Litigation in the Roberts Court: An Early Assessment*, 57 ARIZ. L. REV. 1, 8 (2015).

6. Only fourteen securities fraud class actions have been tried to verdict since the passage of the PSLRA in 1995—less than half a percent of all cases filed. *See* STEFAN BOETTRICH & SVETLANA STARYKH, NAT'L ECON. RESEARCH ASSOCS., RECENT TRENDS IN SECURITIES CLASS ACTION LITIGATION: 2016 FULL-YEAR REVIEW 41 (2017). Seven additional securities class actions began trial but either resulted in a pre-verdict settlement or a default judgment. *Id.* A non-class (direct) Rule 10b-5 action, *Liberty Media Corp. v. Vivendi Universal, S.A.*, was tried to verdict by an individual plaintiff who "opted out" of the class action. 923 F. Supp. 2d 511, 515 (S.D.N.Y. 2013); *see also* discussion *infra* Section II.C.

7. BOETTRICH & STARYKH, *supra* note 6, at 41. Two securities class actions that were tried to judgment after *Dura*—*In re American Mutual Funds Fee Litigation*, No. CV-04-5593 GAF (RNBx), 2009 WL 5215755 (C.D. Cal. Dec. 28, 2009), and *Miller v. Thane International, Inc.*, 372 F. Supp. 2d 1198, 1199 (C.D. Cal. 2005), *rev'd*, 508 F.3d 910 (9th Cir. 2007)—did not involve claims under Rule 10b-5.

- Does artificial inflation in a company's stock price—and, derivatively, the damages measured from such inflation—need to be calculated with mathematical precision or simply within a range of reasonable proportion?

- In fraud cases involving multiple misrepresentations or omissions of material fact over protracted periods of time (as is often the case), must loss causation be established on a "statement-by-statement" basis whereby each alleged misstatement must be shown to be distinctly responsible for a measureable amount of inflation in the stock price? Or can the stock price decline following a "corrective disclosure" of the fraud serve as a sufficient proxy for the fraud-induced inflation in the stock price without having to assign an independent damage number to each misrepresentation?

- To serve as a basis for damages, does a stock price decline need to occur immediately following the disclosure of the fraud? Or can an expert demonstrate through an "event study" that information about the fraud leaked into the market through insiders and caused stock drops before any corrective disclosure?[8]

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8. An event study is "[t]he gold standard" methodology for identifying loss causation events and computing damages "accepted by both courts and economists." Madge S. Thorsen, Richard A. Kaplan & Scott Hakala, *Rediscovering the Economics of Loss Causation*, 6 J. BUS. & SEC. L. 93, 109 (2006). As Thorsen, Kaplan, and Hakala describe it:

> An event study is an examination of the association between news about a company (good, bad, or neutral) and stock price movements. The researcher is examining whether the association between news and share price movements is strong enough to support an inference of, among other things, causation. If price movements are found that are unexplained by the "market model" and are statistically significant, either individually or collectively, a causal connection between the event in question and price movements is established. The study will separate out the effects of company-specific news on the stock price from the effects of market or industry forces on the price, thereby identifying the "true" price and the inflationary component thereof.

Id. (footnote omitted). For discussion in the literature about the use of event studies in securities class actions, see generally Allen Ferrell & Atanu Saha, *The Loss Causation Requirement for Rule 10b-5 Causes of Action: The Implications of* Dura Pharmaceuticals, Inc. v. Broudo, 63 BUS. LAW. 163, 166–70 (2007); Daniel R. Fischel, *Use of Modern Finance Theory in Securities Fraud Cases Involving Actively Traded Securities*, 38 BUS. LAW. 1, 1 (1982); A. Craig MacKinlay, *Event Studies in Economics and Finance*, 35 J. ECON. LITERATURE 13, 13–17 (1997); Glenn N. Pettengill & John M. Clark, *Estimating Expected Returns in an Event Study Framework: Evidence from the Dartboard Column*, 40 Q.J. BUS. & ECON. 3, 6–11 (2001).

While the post-trial decisions issued from securities fraud cases are scant in number, they are instructive on how to prove (or disprove) loss causation and damages at trial. This Article examines the courts' treatment of some of the more prominent loss causation theories set forth by plaintiffs and challenged by defendants since *Dura*'s issuance. The Article begins with the price "maintenance theory" which posits that a fraudulent representation "may cause inflation simply by *maintaining* existing market expectations, even if it does not actually cause the inflation in the stock price to increase at the time that the statement is made."[9] The Article traces the maintenance theory from its jurisprudential beginnings, and in particular, explores how the theory was litigated through trial and appeal in three significant 10b-5 actions, the *Vivendi Universal*, *Liberty Media*, and *Household* cases.[10] Next, this Article surveys how courts have shaped the contours of loss causation by defining what constitutes a "corrective disclosure," and determining the quantum and type of proof required at trial to establish that particular information in the market is corrective of the fraud. Finally, this Article examines the "leakage" theory which posits that often times the details and consequences of a fraud do not come to light all at once but rather trickle out over time (in some cases, prior to any corrective disclosure), and that damages in such cases can derive from stock price declines on days other than strictly those associated with patent corrective disclosures.

II. THE PRICE MAINTENANCE THEORY OF INFLATION

A significant development in the law of loss causation since *Dura* is the acceptance of the price maintenance theory of inflation. The maintenance theory is premised on the idea that a "material misstatement can impact a stock's value"—i.e., by artificially inflating the price—"either by improperly causing the value to increase *or* by improperly maintaining the existing stock price."[11] The theory has become a familiar feature of securities plaintiffs' damages models, given that in Rule 10b-5 cases, the fact pattern commonly consists of an alleged false statement or series of false statements which operate to keep the company's stock price artificially propped up, or "maintained,"

9. *In re* Vivendi Universal, S.A. Sec. Litig., 765 F. Supp. 2d 512, 561–62 (S.D.N.Y. 2011), *aff'd*, 838 F.3d 223 (2d Cir. 2016).

10. *See generally id.*; Liberty Media Corp. v. Vivendi Universal, S.A., 923 F. Supp. 2d 511 (S.D.N.Y. 2013); Lawrence E. Jaffe Pension Plan v. Household Int'l, Inc., No. 02-C-5893, 2004 WL 574665 (N.D. Ill. Mar. 22, 2004).

11. McIntire v. China MediaExpress Holdings, Inc., 38 F. Supp. 3d 415, 434 (S.D.N.Y. 2014).

without actually increasing the stock price. These non-price-increasing misrepresentations are sometimes referred to by courts and commentators as "confirmatory lie[s]" because they repeat and reinforce false information that the defendants have previously issued and the market has already incorporated into the stock price.[12] It is *because* the false information is already incorporated into the stock price that the price does not spike upon each repeated falsehood.

The courts' acceptance of the maintenance theory has given rise to damages models in which inflation is extant in the stock price at the time of the first false representation and then remains there—often at the same level—until the "truth" emerges through disclosures of the fraud, and the inflation dissipates from the stock price, like air releasing from a balloon. As articulated by the courts, the policy undergirding the maintenance theory is that companies or individuals who commit a fraud on the market—whether by introducing inflation into a stock price with a false representation *or* by simply maintaining such inflation through the repetition of the same falsehoods to the market (thereby preventing disclosure of the truth)—are equally culpable.[13] The corollary to this principle is that securities fraud damages need not be measured on a "statement-by-statement" basis whereby each of what could be several misrepresentations in a case must be shown to have an independently quantifiable impact on (or contribution to) damages. This is because damages are measured by looking at the magnitude of the stock drop upon revelation of the fraud—not by assigning a fraction of the total damages to each individual misstatement. As explained by Professors Bebchuk and Ferrell, the price reaction when the market "learn[s] the truth about the misstatement—that is, at the time of a corrective disclosure"—is what ultimately establishes "whether the misstatement at the time it was made resulted in fraudulent distortion (even if it was a confirmatory lie)."[14]

A. *Early Appellate Decisions:* Schleicher *and* FindWhat

The maintenance theory had its earliest articulation by the appellate courts in a pair of decisions from 2010 and 2011: *Schleicher v.*

12. *See, e.g.*, FindWhat Inv'r Grp. v. FindWhat.com, 658 F.3d 1282, 1307, 1310, 1314 (11th Cir. 2011); Lucian A. Bebchuk & Allen Ferrell, *Rethinking* Basic, 69 BUS. LAW. 671, 692 (2014).

13. *See, e.g.*, *FindWhat*, 658 F.3d at 1307–10.

14. Bebchuk & Ferrell, *supra* note 12, at 692; *see also* Matthew L. Mustokoff & Margaret E. Onasch, *The Maintenance Theory of Inflation in Fraud-on-the-Market Cases*, 40 SEC. REG. L.J. 27 (2012).

Wendt in the Seventh Circuit[15] and *FindWhat Investor Group v. FindWhat.com* in the Eleventh Circuit.[16]

In *Schleicher*, the Seventh Circuit addressed the maintenance theory in the context of an appeal from the district court's order granting the plaintiff's motion for class certification. The Seventh Circuit affirmed the class certification order over the defendants' objection that, because the alleged false statements did not cause an immediate increase in the stock price, there was no evidence that the fraud caused any price impact and, therefore, plaintiff failed to demonstrate that the security traded in an efficient market so as to satisfy the "fraud-on-the-market" presumption of reliance afforded by *Basic Inc. v. Levinson*.[17] Writing for the court, Judge Frank H. Easterbrook, a noted law and economics jurist, observed that stock fraud can operate either by artificially boosting a security's price or by artificially buoying an otherwise falling stock price—either way, inflation is impacting the price. As Judge Easterbrook explained:

> When an unduly optimistic false statement causes a stock's price to rise, the price will fall again when the truth comes to light. Likewise when an unduly optimistic statement stops a price from declining (by adding some good news to the mix): once the truth comes out, the price drops to where it would have been had the statement not been made.[18]

The court reasoned that a false statement can inflate a security's price without increasing the price, particularly when the defendant's misrepresentations confirm the market's expectations. For example, if a company loses $200 million and lies to the market that the loss was $100 million, but the market was *expecting* the loss to be $50 million, "then the announcement will cause the stock's price to fall[,] [b]ut the fall won't be as much as the truth would have produced."[19] Therefore, Judge Easterbrook concluded, "[w]hether the numbers are black [positive] or red [negative], the fraud lies in an intentionally false or misleading statement, and the loss is realized when the truth turns out

15. 618 F.3d 679, 683–84 (7th Cir. 2010).

16. 658 F.3d 1282, 1314–15 (11th Cir. 2011).

17. *See Schleicher*, 618 F.3d at 682–83, 688 (citing Basic Inc. v. Levinson, 485 U.S. 224 (1988)). The Supreme Court would later hold in *Halliburton Co. v. Erica P. John Fund, Inc.* (*Halliburton II*) that a defendant can rebut the presumption of reliance under *Basic* by demonstrating that the fraud had no price impact on the security. 134 S. Ct. 2398, 2414 (2014).

18. *Schleicher*, 618 F.3d at 683.

19. *Id.* at 684.

to be worse than the statement implied."[20] That is the logic of the maintenance theory.

Although *Schleicher* was in the context of class certification and addressed the requirements for invoking the *Basic* presumption of reliance, its reasoning was applied by the Eleventh Circuit in vacating the Middle District of Florida's grant of summary judgment with respect to a securities fraud claim relating to an internet company's alleged use of "click fraud" to inflate revenues. In *FindWhat*, the Eleventh Circuit cast aside the defendants' challenge to loss causation, rejecting the argument that, with respect to a particular misrepresentation, loss causation must be evidenced by an immediate increase in the stock price following that misrepresentation.[21] The defendants argued that because the first alleged false statement in the case—the only one to have caused an immediate uptick in the stock price—was inactionable as it fell outside the statute of limitations, defendants' subsequent false statements that were *un*accompanied by an increase in the stock price could not have caused any additional inflation.[22]

The Eleventh Circuit rejected the defendants' argument as based on the "erroneous[] assum[ption] that simply because confirmatory false statements have no immediate effect on an already inflated stock price in an efficient market, these statements cannot cause harm."[23] As the court held, a defendant "may be held liable for knowingly making materially false statements that continued to prop up the already inflated price of [the company's] stock and thereby caused losses to investors, *regardless of whether [the] stock price was already inflated before the actionable statements were made*."[24] The court explained that "confirmatory information that wrongfully *prolongs* a period of inflation—even without increasing the *level* of inflation—may be actionable under the securities laws" and, therefore, "[t]here is no reason to draw any legal distinction between fraudulent statements that wrongfully prolong the presence of inflation in a stock price and fraudulent statements that initially introduce that inflation."[25] The Eleventh Circuit held: "At bottom, it is irrelevant to securities fraud liability that the stock price was already inflated before a defendant's first actionable misrepresentation," since "fraudulent misstatements

20. *Id.*
21. 658 F.3d at 1312–14.
22. *Id.* at 1282–85.
23. *Id.* at 1314.
24. *Id.* at 1307 (emphasis added).
25. *Id.* at 1314, 1316.

that prolong inflation can be just as harmful to subsequent investors as statements that create inflation in the first instance."[26] The court observed that "[s]o long as the falsehood remains uncorrected, it will continue to taint the total mix of available public information, and the market will continue to attribute the artificial inflation to the stock, day after day."[27] Thus, the Eleventh Circuit concluded:

> The securities laws do not immunize defendants who knowingly disseminate materially false or misleading information simply because their fraud concerns false information already believed by the market. Defendants whose fraud *prevents* preexisting inflation in a stock price from dissipating are just as liable as defendants whose fraud introduces inflation into the stock price in the first instance. We decline to erect a *per se* rule that, once a market is already misinformed about a particular truth, corporations are free to knowingly and intentionally reinforce material misconceptions by repeating falsehoods with impunity. Defendants who commit fraud to prop up an already inflated stock price do not get an automatic free pass under the securities laws.[28]

B. The Vivendi *Trial*

The maintenance theory was tested in *In re Vivendi Universal, S.A. Securities Litigation*,[29] just the ninth securities class action to be tried to verdict since the passage of the PSLRA in 1995. This was a fraud case brought against Vivendi and two of the company's senior officers in the Southern District of New York for violations of Rule 10b-5. The class alleged that Vivendi and the individual defendants (including Vivendi's CEO) made fifty-seven material misrepresentations and omissions regarding the company's liquidity position between 2000 and 2002 that artificially inflated Vivendi's stock price.[30]

Following a three-month trial, the jury returned a verdict for the class.[31] The verdict was challenged by the defendants who claimed that the class failed to prove that any of the alleged misstatements caused inflation. Specifically, Vivendi argued that the plaintiffs' expert's

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26. *Id.* at 1315.
27. *Id.* at 1310.
28. *Id.* at 1317.
29. *In re* Vivendi Universal, S.A. Sec. Litig., 765 F. Supp. 2d 512 (S.D.N.Y. 2011), *aff'd*, 838 F.3d 223 (2d Cir. 2016).
30. *Id.* at 524.
31. *Id.*

"inflation band," or analysis charting out the amount of inflation in the stock price over the class period, "did not correspond to the fifty-seven misstatements, such that 43 of the fifty-seven statements the jury found to violate Section 10(b) actually occurred on days where inflation remained constant or decreased."[32] Therefore, the defendants argued, liability could not attach to false statements on those days.[33] Judge Richard J. Holwell rejected this contention, stating, "a misstatement may cause inflation simply by *maintaining* existing market expectations, even if it does not actually cause the inflation in the stock price to increase on the day the statement is made."[34] Judge Holwell thus held that "a statement can cause inflation by causing the stock price to be artificially maintained at a level that does not reflect its true value."[35]

Vivendi contended unsuccessfully that the maintenance theory could not be correct because such a theory would require the court to accept the following notion: that "on each day [the] [d]efendants made a misrepresentation that did *not* increase inflation, if [the] [d]efendants had not made that alleged misrepresentation, then inflation would have decreased *by the exact same amount* that the new misrepresentation simultaneously reinflated it."[36] The court found this argument unpersuasive: "Vivendi loses sight of the fact that in securities fraud cases, plaintiffs need not prove the amount of loss caused by each misstatement with complete mathematical precision."[37] As Judge Holwell explained:

> This method of proof makes particular sense in cases involving numerous misstatements over an extended time period on the same general topics. Where a jury has found, as here, a defendant omitted information about its true liquidity risk in fifty-seven statements over two years, it is easy for the company to then point to each particular misstatement and argue that plaintiffs have not proved that that particular statement caused any additional inflation in the share price distinct from inflation caused by the other fifty-six statements. It may be impossible for an expert witness to reliably disaggregate the impact of any particular misstatement from the continued force of previous statements. The "maintenance" theory of inflation simply

32. *Id.* at 561.
33. *Id.*
34. *Id.*
35. *Id.* at 562.
36. *Id.* (first emphasis added).
37. *Id.*

> reflects the reality that inflation in a company's stock price is difficult to quantify with mathematical precision in any case, and that in a case where a company repeatedly makes statements that omit information about its liquidity risk, it is reasonable to conclude that each misstatement played a role in causing the inflation in the stock price (whether by adding to the inflation or helping to maintain it), even if it is not possibly [sic] to quantify the exact impact that each statement had on the inflation.[38]

Therefore, the court declined to hold, as Vivendi urged, that inflation must rise with the reiteration of each successive misstatement or that a plaintiff must quantify the precise amount of inflation attributable to each misstatement. The court stated that such a requirement would "make it harder for plaintiffs to prove loss causation when a company makes numerous similar misstatements over a long time period than when a company makes a single, isolated fraudulent statement, even though the former situation involves a more pervasive and widespread fraud."[39] Judge Holwell found that this "perverse result" would allow a company to "avoid Section 10(b) liability by repeating its misstatements so many times that it becomes impossible for an expert to prove that any particular misstatement, viewed in isolation, caused a quantifiable increase in inflation."[40] The court further concluded that this result would "run[] contrary to the Second Circuit's guidance that plaintiffs need not show the 'precise loss attributable to [defendant's] fraud' in order to make out a securities fraud claim."[41]

C. *The* Liberty Media *Trial*

In a subsequent, related, individual (non-class) action, *Liberty Media Corp. v. Vivendi Universal, S.A.*, an "opt-out" plaintiff, Liberty Media, brought suit against Vivendi, alleging similar Rule 10b-5 claims with respect to a subset of the fifty-seven misrepresentations and omissions alleged by the class (only twenty-five misrepresentations and omissions).[42] This case went to trial on the issue of damages following

38. *Id.*
39. *Id.* at 563.
40. *Id.*
41. *Id.* (second alteration in original) (first quoting Lentell v. Merrill Lynch & Co., 396 F.3d 161, 177 (2d Cir. 2005); then citing Lattanzio v. Deloitte & Touche LLP, 476 F.3d 147, 158 (2d Cir. 2007)).
42. 923 F. Supp. 2d 511, 514–15 (S.D.N.Y. 2013).

the class action trial and resulted in a plaintiff's verdict of €765 million.[43] On its post-trial motion to overthrow the verdict, Vivendi argued that the opinion of Liberty's expert on loss causation and damages, Dr. Blaine Nye—who also served as the plaintiffs' expert in the class action—was unreliable.[44]

As in the earlier class action trial, Vivendi challenged Nye's computation of inflation, asserting that a reasonable jury could not have relied on Nye's calculation because he arrived at the same total inflation amount in both the *Liberty Media* and class action trials, despite the different number of misstatements alleged in the two actions.[45] Liberty Media presented only twenty-five misstatements or omissions at trial, as compared to the fifty-seven presented by the class plaintiffs.[46] This was a function of the fact that Liberty Media, in bringing suit as an opt-out plaintiff, was constrained by its merger agreement with Vivendi and could only recover for Vivendi's misrepresentations between December 31, 2000 and December 16, 2001—a subset of the fifty-seven misrepresentations allegedly made during the longer class period.[47] Despite these differences between the relevant time periods and the number of misstatements alleged, Nye nonetheless testified that the same level of inflation (€22.52 per share) existed in Vivendi's stock price during the relevant periods in both trials and that he did not separately calculate the inflation associated with each individual misstatement.[48]

In rejecting Vivendi's challenge, Judge Shira A. Scheindlin reasoned that Nye's damages model did not depend on a distinct, quantifiable assessment of inflation as to *each* alleged misrepresentation or omission:

> If Dr. Nye's analysis were based on the assumption that *each of Vivendi's misstatements* played a distinct and independently measurable role in inflating Vivendi's share price, then Vivendi's argument might have merit. At minimum, Liberty would not be entitled to recover for whatever inflation Dr. Nye's analysis would suggest was already built into Vivendi's share price at the start of trading on December 31, 2000 based on

43. *Id.* at 519.
44. *Id.* at 519–20.
45. *Id.* at 524–25.
46. *Id.* at 525.
47. *Id.*
48. *Id.*

> Vivendi's two earlier misstatements regarding its liquidity risk.[49]

However, as the court explained, because "Dr. Nye's damages analysis did not depend on the assumption that every misrepresentation by Vivendi could be *independently monetized* and subtracted from Liberty's damages,"[50] his opinion was not susceptible to defendants' post-verdict attack:

> The calculation of damages was not derived from an analysis of the specific effects of individual misrepresentations and omissions. Dr. Nye calculated the damages Liberty suffered as a result of this inflation by analyzing the declines in Vivendi's stock price on the nine days during which the market responded to the materialization of the hidden liquidity risk.
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> . . . Using a different method, it might in theory have been possible to offer a more precise causal analysis, one that would have arrived at different damages calculations for the fifty-seven misrepresentations at the Class Action trial and the twenty-five at the Liberty trial. *But the law does not require the use of such a fine-grained quantitative method*, if one in fact exists that would produce reliable rather than spuriously precise results.[51]

Judge Scheindlin further noted that Vivendi was free to persuade the jury that Nye's analysis—which did not depend on a "statement by statement" quantification of damages, but rather a measure of the inflation caused by the cumulative repetition of twenty-five false statements over a twelve-month period—should be rejected in favor of a more granular analysis.[52] However, the court explained:

> [A] reasonable juror could have concluded that where losses result from a party's failure to correct a false impression it created that a risk does not exist, the losses may be the same whether the party failed to correct the false impression on twenty-five occasions over one year or fifty-seven occasions over

49. *Id.* (emphasis added).
50. *Id.* (emphasis added).
51. *Id.* at 525–26 (emphasis added).
52. *Id.* at 525.

a year and a half. Either way, plaintiffs may suffer the same losses as a result of the materialization of the risk.[53]

Like *Vivendi*, the *Liberty Media* court's refusal to require the plaintiffs to proffer a statement-by-statement quantification is significant in its recognition that damages can be measured by the stock price declines at the "back-end" of a class period—i.e., when the truth regarding the fraudulent scheme is revealed and the inflation dissipates—and need not be a measure of how much the stock price increases with each successive misrepresentation during the "front-end" or "middle" of the class period. This is consistent with what the literature describes as the "backcasting" approach to calculating damages.[54] As Thorsen, Kaplan, and Hakala explain: "Typically, event studies work backward from what is ultimately determined to be a fair price, after dissipation of inflation, to determine how much inflation was contained in the price due to fraud during the relevant time frame all the way back to the beginning."[55]

Thus, while there "might in theory" be, as Judge Scheindlin noted, a "more precise causal analysis" to measure inflation,[56] the backcasting approach utilized by Nye is sufficient for purposes of satisfying *Dura*.

D. Vivendi*: The Second Circuit's Adoption of the Maintenance Theory*

Over six years after the jury rendered its verdict in the *Vivendi* class action trial, the Second Circuit affirmed the judgment entered by the district court against Vivendi and, in so doing, further solidified the doctrinal acceptance of the maintenance theory.[57] The Second Circuit joined the Seventh and the Eleventh Circuits in acknowledging the theory and its practical application in cases of prolonged market fraud.

Vivendi argued on appeal that the trial court abused its discretion in admitting Nye's testimony. The Second Circuit focused on Vivendi's

53. *Id.* at 526.

54. *See* Allen Ferrell & Atanu Saha, *Forward-Casting 10b-5 Damages: A Comparison to Other Methods*, 37 J. CORP. L. 365, 368 (2012) ("A common approach in 10b-5 cases to estimate damages is to use the stock price drop associated with the market learning the truth about a firm's alleged fraudulent misinformation, thereby measuring the extent to which the stock price was previously 'inflated' as a result of the fraudulent misinformation. . . . '[I]nflation' is defined as the difference between the stock's actual price and the price that the stock would have [been] absent the fraud (the 'but-for' prices). There are several different ways one can 'back-cast' inflation from a corrective disclosure stock price drop.").

55. Thorsen, Kaplan & Hakala, *supra* note 8, at 109.

56. *Liberty Media*, 923 F. Supp. 2d at 525.

57. *In re* Vivendi, S.A. Sec. Litig., 838 F.3d 223, 253–60 (2d Cir. 2016).

claim that the fact that forty-two of the fifty-seven false statements alleged by the plaintiffs "did not directly correlate with specific increases in inflation made [Dr.] Nye's testimony unreliable."[58] In support of this argument, Vivendi asserted "that the securities laws require an alleged misstatement to have a 'price impact,' and that no such [price] impact exists with respect to these forty-two statements."[59] Vivendi contended that "statements that introduce new inflation actually affect a company's stock price, while statements that merely maintain inflation have no impact . . . because the 'pre-existing inflation would have persisted' had the defendant who made those inflation-maintaining statements 'simply remained silent.'"[60] Vivendi also criticized Nye for "fabricat[ing] an erroneous inflation 'maintenance' theory."[61]

Like the district court, the Second Circuit was not persuaded. Citing to the Eleventh Circuit's *FindWhat* opinion, the court explained: "It is far more coherent to conclude that [a material] misstatement does not simply *maintain* the inflation, but indeed '*prevents* [the] preexisting inflation in a stock price from dissipating.'"[62] The Second Circuit further reasoned that by assuming that the question of whether the inflation would have remained in the stock price had the company remained silent was relevant, "Vivendi misunderstands the nature of the obligations a company takes upon itself at the moment it *chooses*, even without obligation, to speak."[63] In other words, "once a company chooses to speak, the proper question for purposes of [the] inquiry into price impact is not what might have happened had a company remained silent, but what would have happened if it had spoken *truthfully*."[64]

As summarized by the Second Circuit: "Vivendi's argument thus rests on erroneous principles that, once dispelled, make clear that it is hardly illogical or inconsistent with precedent to find that a statement may cause inflation not simply by *adding* it to a stock, but by maintaining it."[65] Otherwise, the court noted, companies would be permitted to "eschew securities-fraud liability whenever they actively perpetuate (*i.e.*, through affirmative misstatements) inflation that is already extant in their stock price, as long as they cannot be found

58. *Id.* at 253–56.
59. *Id.* at 256.
60. *Id.* at 257.
61. *Id.* at 256.
62. *Id.* at 258 (second alteration in original) (quoting FindWhat Inv'r Grp. v. FindWhat.com, 658 F.3d 1282, 1317 (11th Cir. 2011)).
63. *Id.*
64. *Id.*
65. *Id.*

liable for whatever originally introduced the inflation."[66] The court provided the following hypothetical:

> Suppose an automobile manufacturer widely praised for selling the world's safest cars plans to release a new model ('Model V') in the near future. The market believes that Model V, like all of the company's previous models, is safe, or has no reason to think otherwise. In fact, the automobile manufacturer knows that Model V has failed crash test after crash test; it is, in short, simply unfit to be on the road. To protect its stock price, however, the automobile manufacturer informs the market, as per routine industry practice, that Model V has passed all safety tests. When the truth eventually reaches the market, the automobile manufacturer's stock price bottoms out.
>
> . . . [T]he question of the automobile manufacturer's liability for securities fraud does not turn on whether inflation moved incrementally upwards when the company represented to the market that the new model passed all safety tests. Nor does it rest on whether the market originally arrived at a misconception about the model's safety on its own, or whether the company led the market to that misconception in the first place.[67]

The Second Circuit noted its "agree[ment] with the Seventh and Eleventh Circuits that securities-fraud defendants cannot avoid liability for an alleged misstatement merely because the misstatement is not associated with an uptick in inflation."[68] Applying these principles to the facts of the case, the court found that "there is little need to speculate what would have happened to the inflation in Vivendi's stock price had it released to the public not a rosy picture of its liquidity state, but the misgivings its executives were sharing behind the scenes."[69] The Second Circuit thus held that Nye's testimony supported both loss causation and damages, stating: "*A fortiori* Nye's testimony did not have to show an association [with an increase in the stock price] for each alleged misstatement in order to 'rest[] on a reliable foundation and [be] relevant to the task at hand.'"[70]

66. *Id.*
67. *Id.* at 258–59.
68. *Id.* at 259.
69. *Id.* at 258.
70. *Id.* at 260 (second and third alterations in original) (quoting United States v. Williams, 506 F.3d 151, 160 (2d Cir. 2007)). Shortly before the Second Circuit adopted the

E. The Household *Trial*

In *Lawrence E. Jaffe Pension Plan v. Household International, Inc.*, an investor class alleged that Household and several of its officers concealed predatory lending practices and a related accounting fraud.[71] The *Household* case lasted twelve years—from the filing of suit, through a jury trial, a $2.46 billion judgment, a remand by the Seventh Circuit

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maintenance theory in *Vivendi*, another Second Circuit panel reversed the district court's dismissal of a Rule 10b-5 action because the class's expert, Professor Daniel R. Fischel, relying on the maintenance theory, did not assign damages on a statement-by-statement basis, despite the fact that the district court had held at summary judgment that some of the false statements alleged to have contributed to the inflation were unactionable because they were issued by two non-defendants, Pharmacia and Searle. *See In re* Pfizer Inc. Sec. Litig., 819 F.3d 642, 659–61 (2d Cir. 2016). The plaintiffs had argued that under the maintenance theory, "there is no need to separately account for [the non-defendants'] misrepresentations [because] so long as [defendant], Pfizer's, own fraudulent conduct kept the *same information* concealed from the public, it is liable for the full value of that information to investors." *Id.* at 659. Thus, the plaintiffs contended, "Pfizer's misrepresentations about [its drugs] Celebrex and Bextra need not be distinguished from any statements by Searle or Pharmacia, because Pfizer prolonged the period during which the *same information* about cardiovascular safety was concealed from the market." *Id.* The Second Circuit, while deferring a ruling on the validity of the maintenance theory itself, reversed the district court and deemed Fischel's testimony admissible, reasoning that Fischel's analysis "must be evaluated within the context of [the] inflation-maintenance theory." *Id.* at 659–61. As the court explained:

> This approach does not "directly measure inflation caused by false statements"; instead, it "measure[s] the value of the truth" that the market eventually discovered. And under Plaintiffs' inflation-maintenance theory, the inflation caused by Pfizer's misrepresentations and omissions is "equal to the value of the truth . . . because had [its] statement[s] been truthful, the stock price would have done what it did do once the truth was revealed." . . . .
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> . . . .
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> Given the scope of Fischel's opinion, it was an abuse of discretion to prevent him from testifying on the grounds that he did not disaggregate the stock price inflation caused or maintained by Pfizer's own statements from that caused or maintained by Searle's and Pharmacia's statements. At bottom, the district court's decision rests on the idea that, if Plaintiffs succeed, the jury will have to attribute specific amounts of inflation to Pfizer in order to calculate "damages proximately caused by [Pfizer's] alleged misrepresentations and omissions." But . . . Plaintiffs' theory is directly contrary to this idea: they argue that Pfizer is liable for *all* of the artificial inflation related to Celebrex and Bextra because, through its own fraudulent conduct, Pfizer concealed the same information as its predecessors. In the context of that theory, Fischel's testimony can be helpful to the jury *without* disaggregating the effects of Pfizer's specific misrepresentations because it shows that the discovery of information Pfizer allegedly concealed caused shareholders to lose money and calculates the amount of money they lost.

Id. at 660–61 (alterations in original) (citations omitted). See *infra* Section II.E for further discussion of Fischel's application of the maintenance theory.

71. Lawrence E. Jaffe Pension Plan v. Household Int'l, Inc., No. 02-C-5893, 2004 WL 574665, at *1–2 (N.D. Ill. Mar. 22, 2004).

for a re-trial on loss causation, and ultimately a $1.575 billion settlement on the eve of the second trial. Along the way, the Northern District of Illinois and the Seventh Circuit generated a troika of decisions (discussed below) which firmly adopted the maintenance theory and by and large adhered to Judge Holwell's analytical framework in *Vivendi*, describing the inflationary impact of repeated false statements.[72]

By way of background, the district court bifurcated the litigation into two phases. Phase one, which culminated in a jury trial in 2009, was reserved for purposes of determining liability to the class and damages expressed as a "per share" amount of inflation for each day of the class period. Phase two involved the post-trial adjudication of individual class members' claims, providing the defendants the opportunity to rebut the fraud-on-the-market presumption of reliance under *Basic Inc. v. Levinson*[73] by taking limited discovery and making arguments about the trading patterns of certain of the largest institutional investors comprising the plaintiff class.[74]

On May 7, 2009, at the conclusion of phase one, the jury returned a verdict against Household and three of the individual officer defendants for Rule 10b-5 claims stemming from seventeen alleged misstatements and awarded damages on a per damaged-share basis.[75] Specifically, the jury determined the level of inflation on each day of the class period expressed on the verdict form as inflation per share.[76] The defendants subsequently moved for judgment as a matter of law, or alternatively, for a new trial.[77] U.S. District Judge Ronald A. Guzman struck the defendants' motions as premature, deferring ruling on the motions until the close of phase two of the proceedings.[78]

72. *See Vivendi*, 765 F. Supp. 2d at 561–63..

73. 485 U.S. 224 (1998).

74. *See* Lawrence E. Jaffe Pension Plan v. Household Int'l, Inc., No. 02-C-5893, 2012 WL 4343223, at *1 (N.D. Ill. Sept. 21. 2012); *see also* Jaffe Pension Plan v. Household Int'l, Inc., 756 F. Supp. 2d 928, 937–38 (N.D. Ill. 2010) (addressing the appropriate method for calculating damages and the merits of the parties' submissions regarding a protocol for the phase two proceedings and ultimately adopting the plaintiffs' proposed protocol).

75. *See Household*, 756 F. Supp. 2d at 930; *Household*, 2012 WL 4343223, at *1.

76. Verdict Form at 70–95, *Household*, No. 02-C-05893, ECF No. 1611, 2009 WL 1360359.

77. Defendants' Motion for Judgment as a Matter of Law Pursuant to Rule 50(b), *Household*, No. 02-C-5893, ECF No. 1618, 2009 WL 1562740; Defendants' Motion for New Trial Pursuant to Rule 59, *Household*, No. 02-C-5893, ECF No. 1619, 2009 WL 1562741.

78. *Household*, No. 02-C-5893 (N.D. Ill. July 28, 2010), ECF No. 1696 (minute entry striking defendants' motion for judgment as a matter of law and motion for new trial).

Phase two focused on the defendants' presentation of "rebuttal evidence," proffered to rebut the presumption of reliance by "sever[ing] the link between the alleged omissions and misstatements and either the price paid or received by any claimant"—a defense to reliance described in *Basic*.[79] The defendants asserted that, based on limited post-trial discovery of individual class members, certain plaintiffs did not rely on the market price of Household stock in purchasing the stock and thus could not depend on the *Basic* presumption of reliance.[80] The defendants also argued that the jury's phase one "verdict itself rebuts the presumption of market reliance *as to the entire class*" because the jury's findings regarding damages, expressed on the verdict form as inflation-per-day, were facially inconsistent with class-wide reliance.[81]

The Household defendants' damages-based challenges to the applicability of the fraud-on-the-market presumption centered on (1) the plaintiffs' expert's failure to show an increase in inflation corresponding to each false statement or omission, and (2) the failure by the plaintiffs' expert, Professor Daniel R. Fischel,[82] to isolate the inflationary effect of each of the specific components of the alleged fraud embedded in the false statements and omissions. Specifically, the defendants argued that the jury verdict itself demonstrated a lack of class-wide reliance on Household's alleged misstatements because the dates on which the misstatements were issued did not correspond with an increase in the inflationary impact on Household's stock, therefore negating any finding that the misstatements were material to investors.[83] On the verdict form, the jury indicated that the stock price was inflated at a constant level for several months during the class period, despite the issuance of multiple false statements during those months.[84] For example, the jury found that Household's stock was

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79. *Household*, 2012 WL 4343223, at *1; *see also Household*, 756 F. Supp. 2d at 930–31 (quoting Basic Inc. v. Levinson, 485 U.S. 224, 248 (1988) ("Any showing that severs the link between the alleged misrepresentation and either the price received (or paid) by the plaintiff, will be sufficient to rebut the presumption of reliance.")).

80. *Household*, 756 F. Supp. 2d at 931–34.

81. *Household*, 2012 WL 4343223, at *2 (emphasis added); *see also* Verdict Form, *supra* note 76, at 70–95.

82. Fischel was the first to marry the concept of the "efficient markets hypothesis" developed by Eugene Fama to the concept of class wide, "fraud-on-the-market" reliance in securities class actions and is a pioneer of the use of event studies in securities litigation. *See* Fischel, *supra* note 8, at 4, 9–10, 16–19. Fischel's article was cited by the Supreme Court in *Basic Inc. v. Levinson* in adopting the fraud-on-the-market presumption. *See Basic*, 485 U.S. at 246–47, 246 n.24. For a discussion of Fischel's early work, see Marc I. Gross, *The Road Map for Class Certification Post-*Halliburton II, 46 LOY. U. CHI. L.J. 485, 486–87, 487 n.10 (2015).

83. *Household*, 2012 WL 4343223, at *2.

84. Verdict Form, *supra* note 76, at 54–58, 83–87.

inflated at a constant level of $23.94 per share from March 23, 2001 through September 6, 2001, during which time the jury found that Household made six false statements on six different dates.[85]

The court rejected the defendants' constant inflation argument. Instead, the court credited the plaintiffs' expert, Fischel, who proffered a maintenance theory similar to Nye's testimony in *Liberty Media*.[86] As Judge Guzman explained, "the expert testimony credited by the jury was that a misstatement or omission may cause inflation in the stock price merely by maintaining the market expectations or preventing them from falling further, even if the inflation does not increase on the date the misstatement or omission is made."[87] The court then tied this testimony back to the reliance issue, stating, "the fact that the artificial inflation did not increase each day on which the jury found an actionable misstatement or omission occurred does not mean that there is a triable issue as to whether the presumption of reliance has been rebutted."[88] By rejecting Household's challenge to Fischel's calculations of constant inflation for portions of the class period, the court acknowledged the maintenance theory as a valid means of establishing causation and damages—i.e., refusing to require a mathematical adjustment to the inflation level in the company's stock price each time a new misrepresentation is made by a defendant. After rejecting the defendants' arguments, the district court entered judgment on claims totaling $2.46 billion.[89]

Following the district court's entry of judgment, the defendants filed an appeal before the Seventh Circuit, primarily challenging the plaintiffs' evidence of loss causation.[90] The defendants argued that the jury's damages finding was "absurd" in that on the date of the first actionable misrepresentation the jury identified—March 23—the amount of inflation jumped from $0 to $23.94.[91] The defendants claimed that the March 23rd statement could not have introduced more than $20 of inflation when the actual stock price only increased by $3.40.[92] As the Seventh Circuit explained, however, the defendants' "objections rest on a fundamental misconception about the [plaintiffs' damages]

85. *Id.*
86. *See* discussion *supra* Section II.C.
87. *Household*, 2012 WL 4343223, at *2.
88. *Id.*
89. *See* Glickenhaus & Co. v. Household Int'l, Inc., 787 F.3d 408, 414 (7th Cir. 2015), *denying reh'g of Household*, 2012 WL 4343223.
90. *Id.*
91. *Id.* at 417.
92. *Id.*

model."[93] Specifically, "the amount of inflation caused by a false statement is the difference between the stock price after the false statement and what it *would have been* had the statement reflected the truth."[94] Because the sum of the price declines due to corrective disclosures under Fischel's damages model was $23.94,

> [a]s soon as the first false statement was made, that overpricing became fully attributable to the false statement, even if the stock price didn't change at all . . . [and] every subsequent false statement caused the full amount of inflation to remain in the stock price, even if the price didn't change at all . . . ."[95]

Following the reasoning of the Eleventh Circuit in *FindWhat*,[96] the Seventh Circuit made clear: "How the stock became inflated in the first place is irrelevant because each subsequent false statement prevented the price from falling to its true value and therefore caused the price to remain elevated."[97]

The Household defendants nonetheless argued that the plaintiffs were impermissibly "vacillating between two separate and legally distinct theories of loss causation"—inflation-maintenance and inflation-introduction.[98] The court rejected the defendants' attempt to draw an artificial distinction between the two theories.[99] Citing to its prior decision in *Schleicher* and its sister circuit court's decision in *FindWhat*, the Seventh Circuit explained:

> [W]hat the plaintiffs had to prove is that the defendants' false statements caused the stock price to remain higher than it would have been had the statements been truthful. Fischel's models calculated the effect of the truth, once it was fully revealed, and the jury found that the defendants concealed the truth through false statements. That is enough.[100]

While the Seventh Circuit endorsed Fischel's application of the maintenance theory, it would ultimately take issue with Fischel's "leakage" approach, overturn the verdict and remand the case for a new

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93. *Id.*
94. *Id.*
95. *Id.* at 417–18.
96. FindWhat Inv'r Grp. v. FindWhat.com, 658 F.3d 1282, 1314–15 (11th Cir. 2011).
97. *Glickenhaus*, 787 F.3d at 418.
98. *Id.*
99. *Id.* at 418–19.
100. *Id.* (first citing Schleicher v. Wendt, 618 F.3d 679 (7th Cir. 2010); then citing *FindWhat*, 658 F.3d at 1314).

trial on loss causation and damages. This Article discusses this aspect of the *Household* appeal decision below in Section IV.B.

III. CORRECTIVE DISCLOSURES ON TRIAL

Another fiercely contested issue arising in 10b-5 litigation is what constitutes a corrective disclosure for purposes of loss causation—that is, when a company's stock price declines following the release of "fraud-related" news, exactly what information or characteristics regarding a fraudulent scheme qualify as "corrective" of the fraud? Although there is a substantial body of case law examining the contours of corrective disclosures at the pleading stage, there are few decisions addressing the sufficiency of expert testimony and other evidence in proving up a damages model premised on particular corrective disclosures at trial.

Notwithstanding divergence among the circuit courts on the question of what constitutes a corrective disclosure, there appears to be general agreement that to be corrective, a disclosure need not be a defendant's express admission or acknowledgment of the fraud; in other words, it need not be a "mirror image" of the fraudulent statement(s) being "corrected."[101] As Judge Holwell put it in *Vivendi*, although "[a] corrective disclosure is traditionally an admission by the company that one or more of its previous statements were false or misleading followed

101. *E.g. FindWhat*, 658 F.3d at 1311 n.28 ("A corrective disclosure can come from any source, and can 'take any form from which the market can absorb [the information] and react . . . .'" (alteration in original) (quoting Matthew L. Fry, *Pleading and Proving Loss Causation in Fraud-on-the-Market-Based Securities Suits Post*–Dura Pharmaceuticals, 36 SEC. REG. L.J. 31, 64–71 (2008))); Alaska Elec. Pension Fund v. Flowserve Corp., 572 F.3d 221, 230 (5th Cir. 2009) ("[T]o be corrective, [a] disclosure need not precisely mirror [an] earlier misrepresentation." (second and third alteration in original) (quoting *In re* Williams Sec. Litig.—WCG Subclass, 558 F.3d 1130, 1140 (10th Cir. 2009))); *In re* DVI, Inc. Sec. Litig., No. 2:03-cv-05336, 2010 WL 3522090, at *6 (E.D. Pa. Sept. 3, 2010) ("[D]isclosure of the fraud may be 'indirect' through 'disclosure of another event' . . . ." (quoting McKowan Lowe & Co. v. Jasmine, Ltd., No. Civ. 94-5522 RBK, 2005 WL 1541062, at *8 (D.N.J. June 30, 2005))); Freudenberg v. E*Trade Fin. Corp., 712 F. Supp. 2d 171, 202 (S.D.N.Y. 2010) ("[N]either the Supreme Court in *Dura*, nor any other court addressing the loss causation pleading standard require a corrective disclosure be a 'mirror image' tantamount to a confession of fraud. Because corporate wrongdoers rarely admit that they committed fraud, 'it cannot ordinarily be said that a drop in the value of a security is "caused" by the misstatements or omissions made about it, as opposed to the underlying circumstance that is concealed or misstated.' Thus, the 'relevant truth' required under *Dura* is not that a fraud was committed per se, but that the 'truth' about the company's underlying condition, when revealed, causes the 'economic loss.'" (citation omitted) (quoting Lentell v. Merrill Lynch & Co., 396 F.3d 161, 173 (2d Cir. 2005))); *In re* Bristol-Myers Squibb Sec. Litig., No. Civ.A. 00-1990(SRC), 2005 WL 2007004, at *20 (D.N.J. Aug. 17, 2005) (rejecting the "proposition that an alleged corrective disclosure must be the linguistic mirror image of the alleged fraud").

by a corrected, truthful and complete version of those statements[,] . . . the [disclosure] event need not take this form . . . to prove loss causation."[102] Indeed, during the oral argument before the Supreme Court in *Dura*, Justice Breyer commented that the truth "might come out in many different ways" not only "because [an executive] announces[,] I'm a liar."[103] And as later articulated by the Fifth Circuit in *Alaska Electric Pension Fund v. Flowserve Corp.*, "[i]f a fact-for-fact disclosure were required to establish loss causation, a defendant could defeat liability by refusing to admit the falsity of its prior misstatements."[104] It is precisely "[b]ecause corporate wrongdoers rarely admit that they committed fraud" that "the 'relevant truth' required under *Dura* is not that a fraud was committed per se, but that the 'truth' about the company's underlying condition, when revealed, causes the 'economic loss.'"[105]

Courts have recognized all kinds of information, news, and events as corrective disclosures in a wide variety of cases where there are not mirror-image relationships between the misrepresentation and the disclosure that causes the loss, including investment losses,[106] asset write-downs and rating agency downgrades,[107] corporate

102. *In re* Vivendi Universal, S.A. Sec. Litig., 634 F. Supp. 2d 352, 363–65 (S.D.N.Y. 2009); *see also id.* at 367 ("Establishing [loss causation] does not . . . require plaintiffs to establish a one-to-one correspondence between [the] concealed facts and the materialization of the risk."); *accord In re* Lehman Bros. Sec. & ERISA Litig., 799 F. Supp. 2d 258, 305 (S.D.N.Y. 2011).

103. Transcript of Oral Argument at 38–39, Dura Pharms., Inc. v. Broudo, 544 U.S. 336 (2005) (No. 03-932).

104. 572 F.3d 221, 230 (5th Cir. 2009) (citing *In re* Worlds of Wonder Sec. Litig., 35 F.3d 1407, 1422 (9th Cir. 1994); *accord* Freeland v. Iridium World Commc'ns, Ltd., 233 F.R.D. 40, 47 (D.D.C. 2006) ("Indeed, reading *Dura* to require proof of a complete, corrective disclosure would allow wrongdoers to immunize themselves with a protracted series of partial disclosures.").

105. *Freudenberg*, 712 F. Supp. 2d at 202. The Fifth Circuit expanded on the "relevant truth" standard in *Public Employees' Retirement System of Mississippi v. Amedisys, Inc.*, holding that, for pleading purposes, the test is that "the truth disclosed must make the existence of the actionable fraud more probable than it would be without that alleged fact, taken as true." 769 F.3d 313, 321 (5th Cir. 2014) (first citing Lormand v. U.S. Unwired, Inc., 565 F.3d 228, 256 n.20 (5th Cir. 2009); then citing Spitzberg v. Hous. Am. Energy Corp., 758 F.3d 676, 687–88 (5th Cir. 2014)).

106. *See, e.g.*, *Freudenberg*, 712 F. Supp. 2d at 202–03 (recognizing that partial disclosures concerning investment losses were "materialization[s] of . . . risks . . . regarding the [poor] quality of E*TRADE's mortgage investments" which the company had concealed through "incomplete, partial disclosures [that] did not reveal the full truth about the risks and true performance of E*TRADE's portfolio").

107. *See, e.g.*, *Lehman Bros.*, 799 F. Supp. 2d at 304–07 (noting that asset write-downs and rating agency downgrades revealed the risk associated with company's undisclosed financial problems); *Vivendi*, 634 F. Supp. 2d at 366–72 (discussing that ratings agency downgrade of company revealed risk associated with company's undisclosed liquidity

bankruptcies,[108] catastrophic safety failures,[109] reports of adverse clinical studies,[110] regulatory bans on product advertising,[111] and announcements of criminal or regulatory investigations.[112] However, courts have also held that the reiteration or re-characterization of facts regarding a fraud that have already been made public—such as a story in a *Wall Street Journal* article weeks after details of the fraud first came to light or a market analyst report covering the fraud—cannot be corrective.[113]

The line delineating what type of information is and is not corrective is far from clear. As just one example, some courts—including the Fifth and Ninth Circuits—recognize that the announcement of a government investigation or subpoena may qualify as a corrective

problems); *In re* Dynex Capital, Inc. Sec. Litig., No. 05 Civ. 1897(HB), 2006 WL 314524, at *11 (S.D.N.Y. Feb. 10, 2006) (finding that ratings agencies' downgrade of company bonds revealed risk associated with bonds' collateral), *vacated in part sub nom.* Teamsters Local 445 Freight Div. Pension Fund v. Dynex Capital Inc., 531 F.3d 190 (2d Cir. 2008).

108. *See, e.g.*, *In re* Parmalat Sec. Litig., 375 F. Supp. 2d 278, 307 (S.D.N.Y. 2005) (finding that the announcement of Parmalat's bankruptcy revealed risk associated with Parmalat's undisclosed inability to service its debt).

109. *See, e.g.*, Bricklayers & Masons Local Union No. 5 v. Transocean Ltd., 866 F. Supp. 2d 223, 245–46 (S.D.N.Y. 2012) (discussing plaintiffs' allegation that oil rig disaster that caused company's stock price decline "was a manifestation of the very risks" alleged as to company's "poor maintenance and safety practices").

110. *See, e.g.*, *In re* Pfizer Inc. Sec. Litig., 936 F. Supp. 2d 252, 267–68 (S.D.N.Y. 2013), *vacated in part and remanded by* 819 F.3d 642 (2d Cir. 2016).

111. *See, e.g.*, *id.* at 266–67.

112. *See, e.g.*, *In re* Gentiva Sec. Litig., 932 F. Supp. 2d 352, 385–87 (E.D.N.Y. 2013) (disagreeing with Eleventh Circuit approach; holding that "a mere announcement [of a government investigation] can suffice for loss causation, especially if it is immediately followed by a decline in stock price" (first citing *In re* Apollo Group, Inc. Sec. Litig., No. CV-10-1735-PHX-JAT, 2011 WL 5101787, at *17 (D. Ariz. Oct. 27, 2011); then citing *In re* Take-Two Interactive Sec. Litig., 551 F. Supp. 2d 247, 287 (S.D.N.Y. 2008); then citing *In re* IMAX Sec. Litig., 587 F. Supp. 2d 471, 485 (S.D.N.Y. 2008); and then citing *In re* Stocker Yale, 453 F. Supp. 2d 345, 359 (D.N.H. 2006))); Police & Fire Ret. Sys. of Detroit v. SafeNet, Inc., 645 F. Supp. 2d 210, 230–31 (S.D.N.Y. 2009) (finding announcement that the "[U.S. Attorney for the Southern District of New York] and the SEC were investigating . . . alone suffices to show" loss causation); *Take-Two*, 551 F. Supp. 2d at 287–88 (rejecting defendants' argument that investigation "is insufficient, on its own, to plead loss causation" (quoting *In re* Avista Corp. Sec. Litig., 415 F. Supp. 2d 1214, 1221 (E.D. Wash. 2005))); *In re* Bradley Pharms., Inc. Sec. Litig., 421 F. Supp. 2d 822, 827–29 (D.N.J. 2006) (finding loss causation pled where complaint alleged announcement of SEC investigation followed by significant stock drop).

113. *See* Meyer v. Greene, 710 F.3d 1189, 1198 (11th Cir. 2013) ("[A] corrective disclosure 'obviously must disclose new information.'" (quoting FindWhat Inv'r Grp. v. FindWhat.com, 658 F.3d 1282, 1311 n.28 (11th Cir. 2011))); *In re* Omnicom Grp., Inc. Sec. Litig., 597 F.3d 501, 505–06, 512–13 (2d Cir. 2010) (finding that "negative characterization of already-public information" cannot support loss causation).

disclosure of fraudulent conduct,[114] whereas the Eleventh Circuit takes a contrary approach.[115] In *Public Employees' Retirement System of Mississippi v. Amedisys, Inc.*, the Fifth Circuit found that the district court had "erred in imposing an overly rigid rule that government investigations can never constitute a corrective disclosure in the absence of a discovery of actual fraud" and permitted as actionable the disclosure of a government investigation into the company's healthcare billing practices when viewed "together with the totality of the other alleged partial disclosures," including an analysis of public data indicating billing improprieties published in the *Wall Street Journal*.[116] The Eleventh Circuit, by contrast, rejected allegations of loss causation based on the announcement of an SEC subpoena, stating that an investigation by the government merely "portend[s] an added *risk* of future corrective action" but does not "reveal to the market that a company's previous statements were false or fraudulent" and thus does not have a "*corrective* effect for purposes of loss causation."[117] In short, just how far afield of a pure, "mirror image" correction of the fraud a corrective disclosure can extend under *Dura* is far from settled.

A. *The Second Circuit's "Zone of Risk" Test*

Following the Second Circuit's 2005 decision in *Lentell v. Merrill Lynch & Co.*,[118] some courts have held that in the absence of a "mirror image" corrective disclosure, a plaintiff may establish loss causation with evidence that "the alleged misstatement conceals a condition or event which then occurs and causes the plaintiff's loss," because "it is 'the materialization of the undisclosed condition or event that causes the loss.'"[119] "For an event to qualify as a materialization of the risk, it need only disclose part of the truth that was previously concealed by the fraud. . . . [And it need] not identify specific company statements as false or misleading."[120]

The *Lentell* court appeared to base its analysis of loss causation on common law tort principles of proximate cause, in particular, the

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114. *See* Lloyd v. CVB Fin. Corp., 811 F.3d 1200, 1210–11 (9th Cir. 2016); Pub. Emps.' Ret. Sys. of Miss. v. Amedisys, Inc., 769 F.3d 313, 324–25 (5th Cir. 2014).

115. *See Meyer*, 710 F.3d at 1201.

116. 769 F.3d at 324–25.

117. *Meyer*, 710 F.3d at 1201–02.

118. 396 F.3d 161, 173–74 (2d Cir. 2005).

119. Hunt v. Enzo Biochem, Inc., 530 F. Supp. 2d 580, 594 (S.D.N.Y. 2008) (quoting *In re* Initial Pub. Offering Sec. Litig., 399 F. Supp. 2d 298, 307 (S.D.N.Y. 2005)); *see also id.* (noting that evidence of loss causation arises as a "corrective disclosure" or the "materialization of [a concealed] risk" (quoting *Lentell*, 396 F.3d at 173, 175 n.4)).

120. *In re* Vivendi Universal, S.A. Sec. Litig., 634 F. Supp. 2d 352, 364 (S.D.N.Y. 2009).

Cardozian concept of the "zone of risk" used to define the limits of causation almost ninety years ago in *Palsgraf v. Long Island Railroad Co.*[121] Like Cardozo, the Second Circuit in *Lentell* understood causation in terms of foreseeability: is the disclosure or materialization of the concealed risk that caused the stock drop foreseeable to the fraudster at the time he or she makes the fraudulent statement? If yes, then the disclosure is corrective. As the Second Circuit expounded, "the loss-causation requirement—as with the foreseeability limitation in tort—'is intended "to fix a legal limit on a person's responsibility, even for wrongful acts."'"[122] The court explained:

> We have described loss causation in terms of the tort-law concept of proximate cause, *i.e.*, "that the damages suffered by plaintiff must be a foreseeable consequence of any misrepresentation or material omission," but the tort analogy is imperfect. A foreseeable injury at common law is one proximately caused by the defendant's fault, but it cannot ordinarily be said that a drop in the value of a security is "caused" by the misstatements or omissions made about it, as opposed to the underlying circumstance that is concealed or misstated. *Put another way, a misstatement or omission is the "proximate cause" of an investment loss if the risk that caused the loss was within the zone of risk concealed by the misrepresentations and omissions alleged by a disappointed investor.*
>
> Thus to establish loss causation, "a plaintiff must allege . . . that the *subject* of the fraudulent statement or omission was the cause of the actual loss suffered," *i.e.*, that the misstatement or omission concealed something from the market that, when disclosed, negatively affected the value of the security. Otherwise, the loss in question was not foreseeable.[123]

121. 162 N.E. 99, 101 (N.Y. 1928).

122. *Lentell*, 396 F.3d at 174 (quoting Castellano v. Young & Rubicam, Inc., 257 F.3d 171, 186 (2d Cir. 2001) (quoting First Nationwide Bank v. Gelt Funding Corp., 27 F.3d 763, 769 (2d Cir. 1994))).

123. *Id.* at 172–73 (first emphasis added) (citations omitted) (first quoting Emergent Capital Inv. Mgmt., LLC v. Stonepath Grp., Inc., 343 F.3d 189, 197 (2d Cir. 2003); then quoting Suez Equity Inv'rs, L.P. v. Toronto-Dominion Bank, 250 F.3d 87, 95 (2d Cir. 2001)); *see also In re* Gen. Elec. Co. Sec. Litig., 857 F. Supp. 2d 367, 399 (S.D.N.Y. 2012)) ("If the significance of the truth is such as to cause a reasonable investor to consider seriously a zone of risk that would be perceived as remote or highly unlikely by one believing the fraud, and the loss ultimately suffered is within that zone, then a

Applying this foreseeability concept of loss causation, courts following *Lentell* have noted that "events such as suspended trading, announcement of write-offs, and issuance of revised earnings figures" can serve as corrective disclosures when they "were the material and foreseeable consequence of the defendants' omissions."[124]

Judge Holwell framed the materialization of the risk theory in the following terms in rejecting the defendants' summary judgment motions in *Vivendi*:

> Establishing [loss causation] does not, as defendants appear to believe, require plaintiffs to establish a one-to-one correspondence between concealed facts and the materialization of the risk. In other words, if a company misrepresents fact A (we have plenty of free cash flow), which conceals risk X (liquidity), the risk can still materialize by revelation of fact B (a ratings downgrade), an indication of risk X (liquidity). As discussed above, to prove the causal connection between misrepresenting fact A and the revelation of fact B, plaintiffs must establish only that the revelation of fact B was foreseeable, i.e., within the zone of risk X, and that fact B reveals information about risk X. When fact B is revealed, the market need not be aware of fact A or that fact A had been previously misrepresented. The way defendants describe the law, only a corrective disclosure would prove loss causation.[125]

The *Lentell* court's reliance on common law tort principles to define loss causation under the PSLRA is consistent with the Supreme Court's comment in *Dura* that "[j]udicially implied private securities fraud actions resemble in many (but not all) respects common-law deceit and misrepresentation actions," as well as its emphasis on "the common-law roots of the securities fraud action" and "the need to prove proximate causation."[126] Nonetheless, to date, the materialization of the risk doctrine has not been expressly endorsed by other appellate courts.

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misrepresentation or omission as to that information may be deemed a foreseeable or proximate cause of the loss." (quoting AUSA Life Ins. Co. v. Ernst & Young, 206 F.3d 202, 235 (2d Cir. 2000) (Winter, C.J., dissenting))).

124. *In re* Teco Energy, Inc. Sec. Litig., No. 8:04-CV-1948-T-27EAJ, 2006 WL 2884960, at *6 (M.D. Fla. Oct. 10, 2006).

125. 634 F. Supp. 2d at 367 (emphasis added).

126. Dura Pharm., Inc. v. Broudo, 544 U.S. 336, 343–44 (2005) (citing RESTATEMENT (SECOND) OF TORTS §§ 525, 548A cmt. b (AM. LAW INST. 1977); MELVILLE MADISON BIGELOW, THE LAW OF TORTS 101 (8th ed. 1907); 2 THOMAS M. COOLEY & D. AVERY HAGGARD, A TREATISE ON THE LAW OF TORTS OR THE WRONGS WHICH ARISE

Below we examine three cases where the courts permitted plaintiff verdicts to stand in the face of post-trial challenges arguing that the alleged disclosure events presented to the jury were non-corrective.

B. Liberty Media*: The Disaggregation of Non-Fraud and the Role of the Jury*

In addition to Vivendi's attack on Nye's reliance on the maintenance theory (discussed above in Section II.C), in moving to overturn the verdict, Vivendi challenged Nye's materialization of the risk approach.[127] In upholding the verdict, Judge Scheindlin emphasized the role of the jury in assessing damages evidence and the idea that once an expert's methodology has survived the gatekeeping scrutiny of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*[128] and is deemed reliable, the jury's credibility determinations will be afforded great deference in the trial court's post-verdict inquiry under Federal Rule of Civil Procedure 50.[129]

As in the class action trial, Nye, serving as Liberty Media's expert, presented a materialization of the risk analysis. Through his event study, Nye identified nine days on which various materializations of Vivendi's concealed liquidity risk resulted in statistically significant declines in Vivendi's stock price, after removing market-wide and industry-wide effects. With respect to those nine days, Nye explained that he had studied the days "for other things that happened on that day that you might need to take out that weren't related to the concealed liquidity risk," but identified no material negative news or information specific to Vivendi that was unrelated to the alleged fraud.[130] As Nye testified, "[i]n those days, . . . everything had to do with the fraud."[131]

Vivendi asserted post-trial that "[n]o jury should have been permitted to base a verdict on Dr. Nye's inconsistent, unreliable, and inadmissible testimony," arguing that Nye's analysis, purporting to separate out the impact on the stock price caused by the fraud as compared to non-fraud explanations, could not support the jury's verdict under *Dura* because he failed to "disaggregate a single such [non-fraud-

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INDEPENDENTLY OF CONTRACT § 348, at 551 (4th ed. 1932); W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 110, at 765, 767 (5th ed. 1984)).

127. *See* Liberty Media Corp. v. Vivendi Universal, S.A., 923 F. Supp. 2d 511, 524–26 (S.D.N.Y. 2013).

128. 509 U.S. 579, 589–95 (1993).

129. *Liberty Media*, 923 F. Supp. 2d at 515–26.

130. *Id.* at 518.

131. *Id.* at 519.

related company-specific] event" on any one of the nine disclosure dates he identified.[132]

Judge Scheindlin rejected this assertion, underscoring that the issue was one of the expert's credibility, reserved for the jury:

> Vivendi offers no significant arguments beyond what the jury heard and reasonably rejected at trial. Vivendi criticizes Dr. Nye for claiming to have excluded non-fraud-related company-specific events from his damages calculation, but then failing to "disaggregate a single such event on any one of his nine disclosure days." According to Dr. Nye's testimony, however, there simply were no confounding events during the nine days on which he identified materialization events. The credibility of Dr. Nye's testimony was a matter for the jury, and neither legal precedent nor common sense compels the conclusion that every set of materialization event windows, no matter how small in number, must contain at least one confounding event.[133]

Therefore, Judge Scheindlin concluded:

> [A] reasonable juror could have found that *none* of the ostensible confounding events put forth by Vivendi were both non-fraud-related and affected Vivendi's share price. Dr. Nye's testimony was not inadmissible simply because it took an aggressively skeptical view of the significance of non-fraud-related news on the nine materialization days, any more than [the defendants' expert's] testimony was inadmissible because of his equally aggressive but opposite interpretation of potential confounding events. The weighing of the experts' conflicting testimony was a matter for the jury and will not be disturbed by this Court.[134]

In that regard, the court postulated that the jury's reduction of Nye's damages calculation of €842 million to an award of €765 million could have been based on the jury's determination that some of the confounding events presented by the defendants' expert should have been factored into Nye's calculation. As the court observed, Liberty's counsel "invited such discounting" by suggesting during closing argument that the jury could adopt its own lower inflation number for a given day if it was not sufficiently persuaded by the expert testimony

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132. *Id.* at 516–20, 516 n.20.
133. *Id.* at 519–20 (footnotes omitted).
134. *Id.* at 520 (emphasis added) (footnote omitted).

regarding the inflationary impact on that day.[135] To that end, Judge Scheindlin stressed that "losses resulting from securities fraud need not be proved with mathematical precision" and that "[t]here were any number of reasonable paths for arriving at a damages award of €765 million based on rough credibility determinations regarding the experts' calculations."[136]

The import of Judge Scheindlin's reasoning is that even if Nye's disregard of particular confounding, non-fraud-related events were improper, the verdict would nonetheless withstand a motion for judgment as a matter of law on the premise that the jury's award, being that it represented a *fraction* of Nye's total damage figure, can be rationalized as an exercise in disaggregation of non-fraud-related factors affecting the stock price. In that regard, Judge Scheindlin noted that the court was unaware of "any precedent for the proposition that juries departing from expert calculations must themselves reason like experts and perform technical calculations, rather than arriving at rough estimates based on reasonable but imprecise credibility determinations."[137]

C. "Materialization of the Risk" on Trial in Vivendi

The materialization of the risk doctrine was fully tested during the *Vivendi* class action trial and post-trial proceedings, and again on appeal. As discussed above,[138] following the plaintiffs' verdict, Vivendi renewed its motion for judgment as a matter of law, or, in the alternative, a new trial.[139] In support of its motion, Vivendi argued that the plaintiffs failed to show a connection between the alleged fraud and the events that they claimed were materializations of Vivendi's undisclosed liquidity risk.[140] Vivendi asserted that for these materialization events to fall within the zone of risk concealed by the defendants' fraud, "a reasonable investor who believed the fraud must have perceived each of the events in question as 'remote or highly unlikely.'"[141] Vivendi also contended that the alleged materialization

135. *Id.* at 531–32.

136. *Id.* at 532. This is consistent with the practices of other courts. *See, e.g.*, Olympia Equip. Leasing Co. v. W. Union Tel. Co., 797 F.2d 370, 383 (7th Cir. 1986) ("Speculation has its place in estimating damages, and doubts should be resolved against the wrongdoer.").

137. *Liberty Media*, 923 F. Supp. 2d at 531.

138. *See supra* Section II.B.

139. *In re* Vivendi Universal, S.A. Sec. Litig., 765 F. Supp. 2d 512, 521 (S.D.N.Y. 2011), *aff'd*, 838 F.3d 223 (2d Cir. 2016).

140. *Id.* at 555.

141. *Id.* at 556.

"events did not reveal anything undisclosed about the 'specific misrepresentations' alleged by plaintiff, and therefore cannot be said to fall within the zone of risk concealed by the fraud."[142]

Judge Holwell rejected both contentions. First, the court concluded that based on the testimony from fact and expert witnesses introduced by the shareholder class,

> the jury was entitled to conclude that each event identified by . . . Nye fell within the zone of risk concealed by Vivendi's fraud in the sense that an investor who believed the fraud would have thought it "highly unlikely" that these events would unfold at the time they did and under the circumstances they did.[143]

Second, Judge Holwell found that "it was perfectly reasonable for the jury . . . to conclude that the events on the nine days identified by . . . Nye, including several ratings downgrades, revealed new information about Vivendi's liquidity condition that had been concealed by Vivendi's fraud."[144] Thus, the trial court declined to overturn the jury's verdict.[145]

On appeal, Vivendi argued that the concealed risk of a liquidity crisis must have materialized through a more significant problem (i.e., an actual liquidity crisis) in order for the plaintiffs to show that Vivendi's fraud caused their losses.[146] Because there was no objective liquidity crisis event, such as a bankruptcy, default, or insolvency, Vivendi argued that the plaintiffs could not prove loss causation under their materialization of the risk theory.[147]

Like Judge Holwell, the Second Circuit was unpersuaded. Citing to *Lentell*, the court reiterated that "to establish loss causation, [plaintiffs must show that a] . . . misstatement or omission concealed *something* from the market that, *when disclosed*, negatively affected the value of the security."[148] The Second Circuit thus reinforced its acceptance of the materialization of the risk theory, stating: "Whether the truth comes out by way of a corrective disclosure describing the precise fraud inherent in the alleged misstatements, or through events constructively disclosing the fraud, does not alter the basic loss-causation calculus."[149]

142. *Id.*
143. *Id.* at 557.
144. *Id.* at 560.
145. *Id.* at 563.
146. *In re* Vivendi, S.A. Sec. Litig., 838 F.3d 223, 261 (2d Cir. 2016).
147. *Id.*
148. *Id.* at 261–62 (alteration in original) (quoting Lentell v. Merrill Lynch & Co., 396 F.3d 161, 173 (2d Cir. 2005)).
149. *Id.* at 262.

Turning to the facts, the court explained that while "no specific corrective disclosure ever exposed the precise extent of Vivendi's alleged fraud, Plaintiffs' theory of loss causation nevertheless rested on the revelation of the truth" in that "Vivendi's alleged misstatements concealed its liquidity risk, and a series of events in the first half of 2002 made the truth about that liquidity crisis come to light."[150] After reviewing the loss causation events identified by Nye, the court again invoked *Lentell*, concluding that there was "ample evidence to support the jury's finding of a 'sufficiently direct' 'relationship between the . . . loss [that Plaintiffs suffered on these nine days] and the information misstated or concealed by [Vivendi].'"[151] The court concluded, therefore, that the evidence at trial was "sufficient for the jury to conclude that the nine events identified by Nye revealed the truth about Vivendi's liquidity risk, and that concealment of 'the *subject*' of Vivendi's alleged misstatements—its liquidity risk—was therefore 'the cause of the actual loss suffered' by Plaintiffs."[152]

D. The Apollo *Trial: Analyst Report as Corrective Disclosure*

The *In re Apollo Group, Inc. Securities Litigation* class action resulted in a plaintiffs' verdict on January 16, 2008 of $5.55 of inflation per share, or an estimated total of $280 million.[153] The plaintiffs alleged that Apollo Group, Inc., the parent company of the University of Phoenix, made misrepresentations concerning the Department of Education's ("DOE") program review at the University of Phoenix, which found that the university had violated DOE regulations.[154] The plaintiffs further claimed that class members who purchased Apollo's stock suffered losses when the DOE findings were disclosed to the market through two analyst reports on September 20, 2004.[155] The dissemination of these two analyst reports and the corresponding stock

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150. *Id.*

151. *Id.* at 262–63 (alterations in original) (quoting *Lentell*, 396 F.3d at 174).

152. *Id.* at 263 (quoting Suez Equity Inv'rs, L.P. v. Toronto-Dominion Bank, 250 F.3d 87, 95 (2d Cir. 2001)).

153. *See In re* Apollo Grp., Inc. Sec. Litig., No. CV 04-2147-PHX-JAT, 2008 WL 3072731, at *1 (D. Ariz. Aug. 4, 2008), *rev'd and remanded*, No. 08–16971, 2010 WL 5927988 (9th Cir. June 23, 2010); Transcript of Reading of the Verdict at 11, *Apollo*, No. CV 04-2147-PHX-JAT, ECF No. 654, 2008 WL 5686547; Jenna Greene, *The Bad-Ass Honor Roll of Securities Litigation: These Plaintiffs Firms Will See You in Court*, AM. LAW. LITIG. DAILY (Jan. 25, 2017), http://www.law.com/litigationdaily/almID/1202777713648/?slreturn=20170922124834.

154. *Apollo*, 2008 WL 3072731, at *1.

155. *Id.*

price decline occurred more than five days after the results of the DOE review were first disseminated through various newspaper articles.[156]

At trial, the jury was instructed that the plaintiffs could only show loss causation if it found that the analyst reports constituted corrective disclosures.[157] Following the verdict in the plaintiffs' favor, the defendants moved for judgment as a matter of law and, alternatively, for a new trial, asserting that the evidence was insufficient to support the jury's finding that the analyst reports qualified as corrective.[158] Judge James A. Teilborg agreed with the defendants that the analyst reports "did not provide any new, fraud-revealing analysis" and tossed the verdict.[159]

In the subsequent appeal, the Ninth Circuit Court of Appeals reversed Judge Teilborg's judgment in Apollo's favor, holding summarily that "[t]he jury could have reasonably found that the [analyst] reports following various newspaper articles were 'corrective disclosures' providing additional or more authoritative fraud-related information that deflated the stock price."[160] The Ninth Circuit remanded the case with instructions that the district court enter judgment in accordance with the jury's verdict.[161] The case ultimately settled for $145 million after the U.S. Supreme Court refused to grant Apollo's petition for certiorari.[162]

IV. THE LEAKAGE THEORY OF LOSS CAUSATION

Related to the issue of what constitutes a corrective disclosure (or a materialization of a concealed risk) is the "leakage" theory of loss causation. In a handful of cases, the leakage theory has emerged as a means of establishing loss causation in connection with stock price declines that are not caused by plain or obvious disclosures of a fraudulent scheme, but rather through the gradual dissemination or "leakage" of news, typically before, but sometimes also after, a formal announcement or revelation of fraudulent activity. In cases where there

156. *Id.*

157. *Id.*

158. *Id.*

159. *Id.* at *3, *6.

160. *In re* Apollo Grp., Inc. Sec. Litig., No. 08–16971, 2010 WL 5927988, at *1 (9th Cir. June 23, 2010), *cert. denied*, 562 U.S. 1270 (2011). The court noted that a later disclosure of already public information may be corrective when the public initially "failed to appreciate [the] significance" of that information. *Id.* (alteration in original) (quoting *In re* Gilead Scis. Sec. Litig., 536 F.3d 1049, 1058 (9th Cir. 2008)).

161. *Id.*

162. Greene, *supra* note 153. For the denial of certiorari, see Apollo Grp., Inc. v. Policemen's Annuity & Benefit Fund of Chi., 562 U.S. 1270 (2011).

is evidence of such leakage, the leakage theory, as applied to the calculation of inflation, may support the inclusion of damages derived from statistically significant stock price declines that are unaccompanied by discernable corrective disclosures.

The Tenth Circuit was one of the earliest courts to recognize the distinction between a pure corrective disclosure approach and a leakage approach. In *In re Williams Securities Litigation—WCG Subclass*, the court noted that "[l]oss causation is *easiest* to show when a corrective disclosure reveals the fraud to the public and the price subsequently drops—assuming, of course, that the plaintiff could isolate the effects from any other intervening causes that could have contributed to the decline."[163] However, the Tenth Circuit continued, "*Dura* did not suggest that this was the *only* or even the preferred method of showing loss causation," and in fact *Dura* "acknowledged that the relevant truth can 'leak out,' which would argue against a strict rule requiring revelation by single disclosure."[164] Although the court ultimately excluded the proffered testimony of the plaintiffs' damage expert for his "failure to describe *how* the market was alerted to the fraud" during the class period but before the first potential corrective disclosure, importantly, it recognized that premising a loss causation analysis "on a leakage theory rather than a corrective disclosure theory . . . does not automatically run afoul of *Dura*."[165]

A raft of courts has recognized the leakage theory as a means of pleading loss causation.[166] However, very few courts have been faced

163. 558 F.3d 1130, 1137 (10th Cir. 2009) (emphasis added).

164. *Id.* (emphasis added) (citation omitted) (quoting Dura Pharm., Inc. v. Broudo, 544 U.S. 336, 342 (2005)).

165. *Id.* at 1138 (emphasis added).

166. *See, e.g.*, *In re* Flag Telecom Holdings, Ltd. Sec. Litig., 574 F.3d 29, 40 n.5 (2d Cir. 2009) ("We do not take issue with the plausibility of Plaintiffs' 'leakage' theory. Indeed, in *Lentell*, we explicitly acknowledged that loss causation can be established by a 'corrective disclosure to the market' that 'reveal[s] . . . the falsity of [the] prior recommendations.' And nowhere does either *Dura* or our precedent suggest that such disclosures must come from the Company itself." (first alteration in original) (citation omitted) (quoting Lentell v. Merrill Lynch & Co., 396 F.3d 161, 175 n.4 (2d Cir. 2005))); *In re* BearingPoint, Inc. Sec. Litig., 232 F.R.D. 534, 544 (E.D. Va. 2006) ("[A]lthough in-and-out traders often have no associated damage because they purchased and sold at prices with the same artificial inflation, this is not always the case. In cases where, as here, there are multiple disclosures, in-and-out traders may well be able to show a loss. 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." (emphasis added) (citation omitted)); Danis v. USN Commc'ns, Inc., 73 F. Supp. 2d 923, 943 (N.D. Ill. 1999) ("[T]he market responded to and 'corrected' the price of USN stock over the better part of a year as bits and pieces of negative information became available and it became apparent that USN was not capable of performing as originally represented.").

with weighing the sufficiency of expert testimony or other evidence purporting to support a leakage model at trial.[167] Below, we briefly survey the scholarship on the leakage model and then examine the district and circuit courts' treatment of the leakage theory posited by Fischel in *Household*, the first (and only) leakage case to make it to verdict.

A. *The Literature on Leakage*

As described by Thorsen, Kaplan, and Hakala, dissipation of inflation in a stock price "often occurs as the market reacts to recurrent, partial revelations of [fraud] . . . . Whispers, gossip, rumors, blogs, tips, etc.; any of these may be sources of leaked information, all in advance of the ultimate disclosure of the whole truth."[168] Justice Stevens raised this very concept during the oral argument in *Dura*, posing the following question:

> What if the information [regarding a fraud] leaks out and there's no specific one disclosure that does it all and the stock gradually declines over a period of six months? . . . .
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> . . . .
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> . . . [M]aybe [the plaintiffs] don't know the leaks. The only thing they can prove is that there was a gross false statement at the time they bought the stock and they don't know what happened to the decline. Later on they find out that it gradually leaked out.[169]

To illustrate how leaked information can result in a gradual leakage of inflation, Thorsen, Kaplan, and Hakala use the example of an Internet rumor and how such information can morph through

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167. In *In re Bear Stearns Companies Securities, Derivative, & Erisa Litigation*, the district court acknowledged the leakage theory but found that the plaintiffs' expert's analysis was precluded by *Dura* for failure to disaggregate the fraudulent and non-fraudulent effects on Bear Stearns's stock price in the days leading up to its collapse at the outset of the 2008 financial crisis. No. 08 MDL 1963 (RWS), 2016 WL 4098385, at *10–11 (S.D.N.Y. July 25, 2016). As stated by Judge Sweet: "Because [the expert] fails to establish that the cumulative abnormal return in Bear's stock price . . . was not caused by non-fraud factors, [the expert] likewise fails to establish that it was caused by leakage of the alleged fraud." *Id.* at *11.

168. Thorsen, Kaplan & Hakala, *supra* note 8, at 103.

169. Transcript of Oral Argument at 14–15, Dura Pharm., Inc. v. Broudo, 544 U.S. 336 (2005) (No. 03-932).

subsequent confirmations, clarifications, commentaries, or other events over time:

> For example, assume an informed internet blog contains a rumor that a new customer does not like ABC's new product and plans to scale back its orders. The blogger may be understood to mean that demand is tapering off. Suppose that someone responds to the blog and says that the customer information is not correct. The original author may offer additional support for his report. An analyst may pick up on this concern and get a confirmation or denial from the customer. Bits and pieces of reports or disclosures may have one meaning to investors initially, but that understanding may be significantly altered by third-party investigations, follow-up news reports, industry announcements, additional company disclosures, and other occurrences. Thus, inflation in the price of a security may be dissipated over time as a result of a series of partial disclosures or occurrences up until the point that inflation is extinguished.[170]

Thorsen further explains that one consequence of leakage of a fraud is that by the time a formal corrective disclosure is issued, much of the loss in the stock price as the result of dissipating inflation has already occurred:

> At times, unexpectedly good or bad news can leak into the market before a formal announcement. In our hypothetical, ABC may formally announce a quarter of flat sales. However, the "conversation" described above (among market participants in the days and weeks before the announcement) may have already impacted the stock price. As a result of this phenomenon, ABC's announcement may have little or no apparent impact on share price because the dissipating effect of the announcement will have already occurred and been absorbed.[171]

Because of the leakage phenomenon, several commentators have recognized the appropriateness of quantifying the leakage of fraud-related information—and the consequent inflation—in the calculation of damages. As these commentators explain, the typical event study

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170. Thorsen, Kaplan & Hakala, *supra* note 8, at 103 (footnote omitted).
171. *Id.* at 104 (footnote omitted).

approach utilized by damage experts, which focuses solely on unambiguous, specific disclosures of the fraud, "will *understate*" the amount of inflation "when there is leakage of . . . true information."[172] Bhagat and Romano note this is "because part of the impact of the information has been incorporated into the stock price before" such specific disclosures occur; and it is precisely that "part of the impact" that is not included in the calculation of inflation.[173] Cornell and Morgan describe this underestimation bias as follows:

> Unfortunately, the event study procedure will be biased if there is leakage of information. By the time a public announcement [of fraudulent conduct] occurs, often the market price already reflects some of the information contained in the announcement. This prior information leak means that the difference between the predicted [stock price] return and the actual return, commonly called the residual return, does not properly measure the economic impact of the disclosure. As a result, a value line which substitutes predicted returns for actual returns only on disclosure days will *understate* damages.
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> . . . .
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> . . . One way to reduce this bias is to extend the observation window surrounding the disclosure date. Instead of using the predicted return on the disclosure date alone, the predicted returns are substituted for actual returns over the [full] observation window.[174]

Ferrell and Saha similarly recognize the potential for "'leakage' of news about the disclosure before the actual official corrective disclosure, suggesting, in some cases, the need to dummy the day or days prior to the actual corrective disclosure"—that is to say, examine stock price declines which precede the corrective disclosures for inclusion in the calculation of damages.[175] They also recognize the possibility of *post*-corrective disclosure leakage, or situations where information may

172. Sanjai Bhagat & Roberta Romano, *Event Studies and the Law: Part II: Empirical Studies of Corporate Law*, 4 AM. L. & ECON. REV. 380, 399 (2002) (emphasis added).
173. *Id.*
174. Bradford Cornell & R. Gregory Morgan, *Using Finance Theory to Measure Damages in Fraud on the Market Cases*, 37 UCLA L. REV. 883, 903–06 (1990) (emphasis added) (footnote omitted).
175. Ferrell & Saha, *supra* note 8, at 168. The authors recognized "the possible 'trickling' out to the market of the fact that there had been a misrepresentation." *Id.* at 167.

continue to "trickle out" for several days following a corrective disclosure: "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."[176]

B. *Fischel's Leakage Model in* Household

As discussed in Section II.E above, the defendants in *Household* had argued unsuccessfully that showings of class-wide reliance and materiality were precluded by an absence of demonstrated increases in price inflation corresponding to the alleged misstatements.[177] The defendants also challenged Fischel's leakage model as inconsistent with class-wide reliance. Specifically, they contended that because the model did not isolate the inflation caused by particular misstatements (or released by particular corrective disclosures), thereby failing to show that the fraud "caused an independent inflationary price impact," the class could not invoke the fraud-on-the-market-presumption under *Basic Inc. v. Levinson*.[178]

Through Fischel, the plaintiffs presented two alternative damages models to the jury: the first model was based solely on stock price declines associated with "specific disclosures" of the alleged fraud (or events that were consequential to the fraud), and the second model was based on those specific-disclosure-related declines *plus* additional declines associated with the "leakage" of fraud-related information. Under the leakage model, Fischel posited that because "a steady stream and extensive amount of incomplete information related to Defendants' alleged fraud was disclosed" between November 2001 and October 2002—only *some* of which took the form of specific disclosures—and because analysts and investors attributed Household's stock price declines to alleged fraudulent practices, there was strong evidence of leakage of inflation throughout the class period in addition to the inflation released immediately following specific corrective disclosures.[179] For example, while Household had denied its involvement in systemic predatory lending practices, Fischel opined that a regulatory report finding that Household engaged in predatory

176. *Id.*

177. *See supra* Section II.E.

178. *See* Lawrence E. Jaffe Pension Plan v. Household Int'l Inc., No. 02-C-5893, 2012 WL 4343223, at *2 (N.D. Ill. Sept. 21, 2012).

179. *See* Report of Daniel R. Fischel at 24, *Household*, No. 02-C-5893, ECF No. 1141-2, 2007 WL 3192033.

lending leaked into the market in the summer of 2002, despite being filed under seal at Household's request. The parties did not dispute that information regarding the magnitude of the resulting regulatory fine and the impact of reformatory measures on future earnings growth leaked into the market, which then caused analysts to reduce their earnings estimates for the company.

According to Fischel, the more traditional "specific disclosure" model had the effect of understating damages because it failed to account for and capture all of this information (and contemporaneous stock price declines) due to the leaked disclosures. Thus, under Fischel's alternative leakage model—which the jury ultimately adopted—damages were significantly higher than those proffered under the specific disclosure model.

Following trial, Household asserted that the jury's adoption of Fischel's leakage model rebutted the *Basic* presumption of reliance as to the entire class because the model did not isolate, as to any given day, the inflation caused by a misstatement regarding any of the three specific components of the fraud presented to the jury—predatory lending, delinquency/re-aging of loans, and restatement of earnings. Therefore, Household argued, Fischel failed to establish that the misstatement or omission regarding a particular component "caused an independent inflationary price impact."[180] The court disagreed. Prior to trial, Judge Guzman had denied Household's *Daubert* motion to exclude Fischel's leakage model testimony. The court found that "Fischel offers the jury two ways to determine whether defendants' conduct caused investors' loss . . . : quantification using specific disclosures and quantification using leakage," and it concluded that both methodologies "involve precisely the kind of analysis that finds extensive support in economic, legal and financial articles."[181] Judge Guzman specifically found that Fischel's regression model reliably "estimates the effect of . . . information leakage that caused dissipation of the artificial inflation that existed from the time of the first actionable nondisclosure and subtracts from the equation general market movements in order to determine the true effect of the information disclosed."[182]

In rejecting Household's post-trial argument that Fischel's leakage model was insufficient to establish class-wide reliance, the court deferred to the jury's endorsement of the model, noting that, when presented with a choice on the verdict form as to which model most

180. *Household*, 2012 WL 4343223, at *2.

181. Minute Order at 2–3, *Household*, No. 02-C-5893, ECF No. 1527 (citing Cornell & Morgan, *supra* note 174, at 899).

182. *See id.* at 3.

reasonably estimated the plaintiffs' damages, the jury "chose to credit" the leakage model over the specific disclosure model.[183]

Judge Guzman also rejected Household's contention that the leakage model failed to segregate out for any given day the inflation independently caused by a misstatement or omission regarding each of the three components of the fraud presented to the jury:

> As the evidence at trial demonstrated, the actionable misstatements or omissions on these three subjects were inextricably intertwined. The jury found that defendants made actionable misstatements about re-aging to cover up their predatory lending practices and, in turn, made actionable Restatement misstatements to cover up their re-aging methods. Moreover, as Fischel explained, the inflated price of Household's stock at any given time reflected the ever-changing mix of information that was publicly available.[184]

Therefore, the court continued, "[g]iven the interdependence of the fraudulent statements and the volatility of the information mix, it would be virtually impossible [for the jury] to parse out the damages by topic."[185] According to Judge Guzman, however, such parsing is not required, because "[f]ortunately, the law does not require the impossible."[186] Instead, the jury has "discretion to determine a damages award, as long as the award has a reasonable basis in the evidence."[187] Because the jury's decision to credit Fischel's leakage theory was reasonably based in the record, Judge Guzman rejected the defendants' motion to overturn the damages award and their related attempt to rebut reliance as to the entire class:

> In this case, there were multiple statements and partial disclosures over an extended time period, and the parties' experts provided testimony in support of their positions regarding whether the stock price was affected by misrepresentations or omissions and the estimate of damages stemming therefrom, and the jury chose to credit Fischel's Leakage Model of damages (discounting industry, market or

183. *Household*, 2012 WL 4343223, at *2; *see also* Verdict Form, *supra* note 76, at 41. The jury was also given a third possible option indicating that neither of Fischel's damages models reasonably estimated plaintiffs' damages. *Id.*

184. *Household*, 2012 WL 4343223, at *2.

185. *Id.*

186. *Id.*

187. *Id.*

company-specific non-fraud declines unrelated to the actionable misstatements or omissions) over defendants' counter-arguments. Here, all of the evidence, including Fischel's testimony about the amount of artificial inflation, provided a reasonable basis for the jury's damages award.[188]

After Judge Guzman entered final judgment on the jury verdict awarding the plaintiffs an estimated $2.46 billion, the defendants appealed. While the Seventh Circuit was not persuaded by the defendants' challenge to the maintenance theory,[189] the court agreed with the defense that Fischel's leakage model failed to account for non-fraud, company-specific factors that may have caused a decline in Household's stock price.[190] Fischel acknowledged that his model did not account for these non-fraud factors, testifying that his model assumed that any changes in Household's stock price, other than those explained by market and industry trends, were caused by fraud-related disclosures.[191] As such, the Seventh Circuit observed, Fischel's model could either overstate the impact of the fraud, assuming that there was non-fraud related negative news, or understate the impact, assuming that there was non-fraud related positive news.[192] The court found that Fischel's attempt to rule out the effects of non-fraud factors was inadequate, explaining that Fischel's leakage model "needed to eliminate *any* firm-specific, nonfraud related factors that might have contributed to the stock's decline."[193] As the court explained, the relevant question is whether "controll[ing] for market and industry factors and general trends in the economy . . . [is] enough or whether the model itself must fully account for the possibility that firm-specific, nonfraud factors affected the stock price."[194]

Despite the insufficiency of Fischel's analysis, in the end, the Seventh Circuit remanded the case for a new trial on loss causation. In so doing, the court recognized the validity of the leakage theory and set forth a new burden-shifting paradigm for analyzing proof of loss causation.

First, the Seventh Circuit largely distinguished the defendants' cited authorities that rejected the leakage theory, explaining that, unlike in those cases where the non-fraud related information was

188. *Id.*
189. *See supra* Section II.E.
190. Glickenhaus & Co. v. Household Int'l, Inc., 787 F.3d 408, 419 (7th Cir. 2015).
191. *Id.*
192. *Id.*
193. *Id.* at 419–20 (emphasis added).
194. *Id.* at 421.

"significant in proportion to the [specific corrective] disclosures," Fischel testified that "the nonfraud related information wasn't significantly positive *or* negative."[195] As the court noted, "[t]o our knowledge, no court has either upheld or rejected the use of a leakage model in circumstances similar to this case," but the Supreme Court in *Dura* "generally recognized that the truth can leak out over time," and so has the Seventh Circuit.[196]

In response to the defendants' assertion that to be legally sufficient, any loss-causation model "must *itself* account for, and perfectly exclude, any firm-specific, nonfraud related factors that may have contributed to the decline," the Seventh Circuit acknowledged that "[i]t may be very difficult, if not impossible, for any statistical model to do this."[197] The court instead settled on a "middle ground" approach. Under this framework, the plaintiff must first show that "no firm-specific, nonfraud related information contributed to the decline in stock price during the relevant time period and explain[] in nonconclusory terms the basis for this opinion."[198] Then, if the plaintiff makes such a showing, the burden shifts to the defendant to "identify[] some significant, firm-specific, nonfraud related information that could have affected the stock price."[199] If the defendant fails to satisfy this burden, "the leakage model can go to the jury."[200] However, if the defendant can identify "significant, firm-specific, nonfraud related information," then "the burden shifts back to the plaintiffs to account for that specific information or provide a loss-causation model that doesn't suffer from the same problem, like the specific-disclosure model."[201] As the court explained, "[o]ne possible way to address the issue is to simply exclude from the model's calculation any days identified by the defendants on which [such nonfraud related] information was released."[202]

Ultimately, the Seventh Circuit found that Fischel's testimony "did not adequately account for the possibility that firm-specific, nonfraud related information may have affected the decline in Household's stock price" but determined that a new trial was warranted on the issue of loss causation in light of this newly articulated burden-shifting

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195. *Id.*

196. *Id.* at 422 (citing Dura Pharm., Inc. v. Broudo, 544 U.S. 336, 342 (2005)); *see also* Schleicher v. Wendt, 618 F.3d 679, 686 (7th Cir. 2010).

197. *Glickenhaus*, 787 F.3d at 422.

198. *Id.*

199. *Id.*

200. *Id.*

201. *Id.*

202. *Id.* at 422–23.

framework.[203] On remand, Fischel issued a new expert report in which he revisited the twenty-seven disclosure dates he had previously identified and, following an analysis of the news and other information in the market on those days, concluded that, with the exception of one day, there could be no cause for the statistically significant stock price returns on those days other than leakage of the fraud.[204] The district court accepted Fischel's refined analysis as being in line with the Seventh Circuit's dictate, denied the defendants' *Daubert* challenge, and set the pretrial deadlines for a second trial.[205] Shortly before the trial, the parties settled the fourteen-year-old case for $1.575 billion, the seventh largest securities class action recovery since the passage of the PSLRA in 1995.[206]

V. CONCLUSION

In the decade since *Dura*, just seven Rule 10b-5 class actions have been tried to verdict.[207] Consequently, while case law addressing the loss causation requirement at the pleading stage abounds, there is a paucity of decisions that address the burden of proof at the trial stage, including the sufficiency of expert testimony and particular damages models. Moreover, there is no reason to believe that the rate of securities class actions advancing to trial—21 out of roughly 5,000 cases filed since the PSLRA's passage, or 0.4%—will increase any time soon.[208] The costs and risks of trying a case are substantial, and settlements remain frequent and large; in 2016, 113 securities class actions settled for an average recovery of $72 million.[209] Therefore, we can expect the post-trial precedential law on loss causation and damages to remain a small constellation.

All the same, the trickle of post-trial decisions discussed herein offers indispensable guidance to practitioners regarding how to prosecute and defend 10b-5 claims at trial. To be sure, these decisions do not provide a perfect blueprint for trial lawyers—an impracticable thing given the endless, case-to-case variation in fraudulent schemes,

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203. *See id.* at 423.

204. *See* Lawrence E. Jaffe Pension Plan v. Household Int'l, Inc., No. 02-C-5893, 2016 WL 374132, at *2 (N.D. Ill. Feb. 1, 2016) (order denying plaintiffs' motion to preclude defendants from substituting experts, plaintiffs' motion to strike the rebuttal reports of defendants' experts, and defendants' motion to exclude the testimony of plaintiff's expert).

205. *Id.* at *1, *4.

206. *See* BOETTRICH & STARYKH, *supra* note 6, at 34, 41.

207. *See id.* at 41.

208. *See id.*

209. *Id.* at 24, 28.

corrective disclosures, and patterns of stock price movements. Nonetheless, several common principles come into focus.

First, given the vagaries of the market and its reaction to different types of information, courts have generally held that securities fraud damages may be established without mathematical precision, so long as there is a reasonable basis in the record to support an award. To that end, juries are generally given leeway to ascribe rough proportions of shareholders' losses to the fraud based on credibility determinations concerning the expert testimony on disaggregation; they are not themselves required to perform the kind of sophisticated, technical calculations carried out by experts. In addition, because the courts have not read *Dura* to require a "mirror-image" correction of a fraud, a wide spectrum of corrective disclosures—including those issued by third-party market analysts, ratings agencies, and regulators—have been upheld as demonstrative of loss causation. By and large, the appellate courts have deferred to juries' determinations of whether particular disclosures or events qualify as corrective—in one case (*Apollo*) over the decision of the district court which, prior to being reversed, had tossed the verdict on the ground that the analyst report at issue revealed nothing new about the fraud.[210]

Second, in light of the complexities posed by fact patterns involving multiple misrepresentations over protracted periods of time, as well as the acknowledged difficulty, if not "impossib[ility]," of "reliably disaggregat[ing] the impact of any particular misstatement from the continued force of previous statements,"[211] courts have not required that a plaintiff's expert assign damages on a misstatement-by-misstatement basis. That is, an expert need not provide a quantifiable assessment of the damages attributable to each alleged misrepresentation or omission because, as the Second, Seventh, and Eleventh Circuits now recognize, misrepresentations that are effectively repeated over many months or years may "cause" inflation for purposes of *Dura* simply by maintaining existing market expectations, even if the level of inflation in the stock

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210. *See In re* Apollo Grp., Inc. Sec. Litig., No. 08–16971, 2010 WL 5927988, at *1 (9th Cir. June 23, 2010); *In re* Apollo Grp., Inc. Sec. Litig., No. CV 04–2147–PHX–JAT, 2008 WL 3072731, at *3 (D. Ariz. Aug. 4, 2008), *rev'd and remanded*, No. 08–16971, 2010 WL 5927988 (9th Cir. June 23, 2010). *But see* Glickenhaus & Co. v. Household Int'l, Inc., 787 F.3d 408, 419–23 (7th Cir. 2015) (vacating a jury verdict and remanding for a new trial on loss causation).

211. *In re* Vivendi Universal, S.A. Sec. Litig., 765 F. Supp. 2d 512, 562 (S.D.N.Y. 2011), *aff'd*, 838 F.3d 223 (2d Cir. 2016).

price does not increase immediately following the misrepresentation.[212] The maintenance theory enables plaintiffs to demonstrate damages at trial based on the stock price declines that occur when the fraud is revealed without regard to whether or how much the stock price increased at the moment of misrepresentation. In that connection, the courts' recognition of the maintenance theory validates the event study approach used by economists insofar as it "work[s] backward"[213] from what is determined to be the true value of the security following the decline in the stock price to calculate the amount of inflation caused by the fraud.

Third, in cases where it can be shown that the fraud was exposed gradually through leaks of information—as opposed to specific disclosures of fraudulent activity that "correct" prior misrepresentations—the calculation of damages may include the inflation released from the stock price through the leaks *in addition* to any inflation released after palpable corrective disclosures. Although the leakage theory has the potential to yield substantial damage numbers (at least relative to a pure corrective disclosure model), as demonstrated by the Seventh Circuit's reversal of the class's $2.46 billion judgment in *Household*,[214] without persuasive evidence that the stock drops were caused by leakage of the fraud as opposed to something else, the theory has its limitations.

In the end, jury verdicts turn on the distinctive facts and witnesses of a given case, and no matter how well a particular damages model may play in one trial, it can prove problematic to replicate in the next trial. Nevertheless, the nascent PSLRA trial jurisprudence is meaningful in its validation of some of the more prevalent econometric principles that regularly underlie models of loss causation.

212. *See In re* Vivendi, S.A. Sec. Litig., 838 F.3d 223, 253–60 (2d Cir. 2016); *Glickenhaus*, 787 F.3d at 418; FindWhat Inv'r Grp. v. FindWhat.com, 658 F.3d 1282, 1314–17 (11th Cir. 2011).

213. Thorsen, Kaplan & Hakala, *supra* note 8, at 109.

214. *See Glickenhaus*, 787 F.3d at 414, 419.

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