

United States Court of Appeals For the First Circuit

No. 12-1750

BRICKLAYERS AND TROWEL TRADES INTERNATIONAL PENSION FUND,
Plaintiff, Appellant,

JAMES UPHOFF; GOODMAN FAMILY TRUST; MALKA BIRNBAUM, on behalf
of herself and all others similarly situated; NEIL MCCARTY;
RODNEY W. NARBESKY, individually and on behalf of all others
similarly situated,

Plaintiffs,

v.

CREDIT SUISSE SECURITIES (USA) LLC; CREDIT SUISSE (USA), INC.;
JAMIE KIGGEN; FRANK P. QUATTRONE; LAURA MARTIN; ELLIOT ROGERS,
Defendants, Appellees.

APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS
[Hon. Nathaniel M. Gorton, U.S. District Judge]

Before

Howard, Circuit Judge,
Souter,* Associate Justice
and Torresen,** District Judge.

Frederic S. Fox, with whom Kaplan Fox & Kilsheimer LLP and
Shapiro Haber & Urmy LLP were on brief, for appellant.

*Hon. David H. Souter, Associate Justice (Ret.) of the Supreme
Court of the United States, sitting by designation.

**Of the District of Maine, sitting by designation.

Lawrence Portnoy, with whom Daniel J. Schwartz, Jonathan K. Chang, Dharma Betancourt Frederick, Davis Polk & Wardwell LLP, Robert Buhlman, Siobhan E. Mee, Amanda V. Muller, and Bingham McCutchen LLP were on brief, for appellees.

May 14, 2014

HOWARD, Circuit Judge. Alleging violations of Sections 10(b) and 20(a) of the Securities Exchange Act and of SEC Rule 10b-5, the appellant pension fund and other America Online ("AOL") shareholders brought this class action against Credit Suisse First Boston ("CSFB"), former CSFB analysts Jamie Kiggen and Laura Martin, and other related defendants. The shareholders claim that CSFB fraudulently withheld relevant information from the market in its reporting on the AOL-Time Warner merger, and that the shareholders purchased stock in the new company at prices that were artificially inflated as a result of the defendants' purposeful omissions. This appeal concerns the admissibility of the opinion of the shareholders' expert Dr. Scott D. Hakala, whose testimony the district court precluded for lack of reliability. We find no abuse of discretion in that decision. We also agree with the district court that, without the expert's testimony, the shareholders are unable to establish loss causation. Summary judgment was therefore properly awarded to the defendants.

I. Background

A. Facts

On January 11, 2001, Time Warner Inc. and AOL merged into a single media and technology company (hereinafter referred to as "AOL"). This marriage of "old" and "new" media received extensive coverage from both the press and the financial industry. CSFB was among the many financial firms reporting on AOL's business and

forecasting its outlook for the future. Kiggen and Martin headed CSFB's AOL coverage beginning the day after the merger and continuing for about a year, through January 2002, when CSFB ceased covering AOL (Kiggen retired in January 2002; Martin had left CSFB a few months earlier). During the coverage period, CSFB published the results of its research in regular reports. These contained, in addition to observations about AOL, a buy or sell recommendation and a price target, which was a prediction of AOL's stock price twelve months hence. CSFB issued thirty-five such reports during this period, and each such report recommended buying AOL stock. CSFB initially targeted AOL's future stock price at \$80, but revised it downwardly to \$75 one month later in February 2001, and then to \$45 in September 2001. Nine months later, AOL's stock was trading at \$11 per share.

The shareholders allege that Kiggen and Martin misrepresented their true opinions in these reports, in order to maintain a good relationship with AOL. The shareholders' theory is that AOL had the potential to generate significant investment banking revenue for CSFB, and Kiggen and Martin overstated AOL's financial strength in the hopes of winning this future business (CSFB did in fact assist AOL in managing a bond deal purportedly generating between \$750,000 and \$820,000 in fees for CSFB). In a series of internal emails among AOL team members, Kiggen and Martin expressed doubts about their projections for AOL, yet decided not

to lower their estimates for AOL's future performance notwithstanding these concerns. Moreover, they regularly showed their projections to AOL and revised them based on AOL's reactions. Even as advertising revenue, a key factor in AOL's success, declined throughout the industry, CSFB reports continued to predict AOL's ability to rise above the general slowdown.

In addition, the shareholders allege two instances in which CSFB¹ received non-public, material information about AOL that CSFB did not disclose in its coverage of the company. On July 10 and 11, 2001, Anthony Lorenzo, a junior CSFB analyst not assigned to cover AOL, emailed to Kiggen information about AOL layoffs. Citing an unnamed source, Lorenzo wrote that AOL "apparently . . . had some layoffs" that "were medium in terms of severity and will not be announced publicly." The parties disagree over the import of this tip. The shareholders claim that the information pertained to layoffs of "up to 1,000 employees" subsequently reported in The Wall Street Journal and The Washington Post on August 13 and 14, 2001. CSFB counters that this unnamed source (later identified as a low-level employee in AOL's Interactive Marketing Group) was referring only to a small number of layoffs that occurred within the Interactive Marketing Group on July 10, 2001, as reported in The Washington Post the next day.

¹ At times, we refer to the defendants, collectively, as "CSFB".

Lorenzo's emails also mentioned "that AOL was under investigation and has suspended some employees for inappropriate accounting activities -- some deals booked inappropriately inflated revenue." CSFB did not disclose this information in any of its reports; it was eventually reported by The Washington Post in a July 2002 article disclosing that AOL had engaged in "unconventional" advertising deals that might have inflated revenue. On July 24, 2002, AOL acknowledged that the SEC was investigating its accounting practices, but denied any wrongdoing.

B. Procedural History

On the basis of these alleged material misstatements and omissions -- overstating AOL's financial strength, not disclosing reports of medium-severity layoffs, and not disclosing reports of unconventional accounting -- the shareholders brought suit in December 2005 against Kiggen, Martin, and CSFB under Section 10(b) of the Exchange Act, 15 U.S.C. § 78j(b), and under SEC Rule 10b-5. The complaint also alleged that CSFB, Credit Suisse First Boston (USA) Inc. (CSFB's parent company), and CSFB executives Frank Quattrone and Elliot Rogers violated Section 20(a) of the Exchange Act, 15 U.S.C. § 78t(a), by failing to exercise control over their employees' alleged misstatements and omissions.

In due course, the defendants sought summary judgment. At the hearing occasioned by that motion, the shareholders and the defendants each presented expert testimony to show the effect, or

lack thereof, of CSFB's omissions on AOL stock prices. The shareholders retained Dr. Hakala, while CSFB employed Dr. René M. Stulz. Each side subsequently moved to exclude the other's expert opinion under Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 597 (1993) ("[T]he Rules of Evidence--especially Rule 702--[assign to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand.>"). In due course, the court held a Daubert hearing to determine the admissibility of the proffered expert testimony on loss causation.

C. Event Studies and Expert Testimony

Loss causation is among the six elements of a private cause of action for securities fraud; the other five are: a material misrepresentation or omission, scienter, a connection with the purchase or sale of a security, reliance, and economic loss. Dura Pharm., Inc. v. Broudo, 544 U.S. 336, 341-42 (2005). To prove loss causation, a plaintiff "must show 'a sufficient connection between [the fraudulent conduct] and the losses suffered'" In re Omnicon Grp., Inc. Sec. Litig., 597 F.3d 501, 510 (2d Cir. 2010) (quoting Lattanzio v. Deloitte & Touche LLP, 476 F.3d 147, 157 (2d Cir. 2007)) (alterations in original). In other words, the stock market must have reacted to the subsequent disclosure of the misconduct and not to a "tangle of [other] factors." Dura Pharm., 544 U.S. at 343.

The usual -- it is fair to say "preferred" -- method of proving loss causation in a securities fraud case is through an event study, in which an expert determines the extent to which the changes in the price of a security result from events such as disclosure of negative information about a company, and the extent to which those changes result from other factors.² First, the expert selects the period in which the event could have affected the market price.³ The expert then attempts to determine the effect on the share price of general market conditions, as opposed to company-specific events, using a multiple regression analysis, a statistical means for explaining the relationship between two or more variables. 1 David L. Faigman et al., Modern Scientific Evidence; The Law and Science of Expert Testimony 430 (2012). Thus, for any given day, the expert predicts the company's share price based on the market trends on that particular day. The expert then compares this predicted return with the actual return in the event window in order to determine the probability that an abnormal return of that magnitude could have occurred by chance.

² For additional information about event studies in litigation, see Sanjai Bhagat & Roberta Romano, Event Studies and the Law: Part I: Technique and Corporate Litigation, 4 Am. L. & Econ. Rev. 141 (2002), and Michael J. Kaufman & John M. Wunderlich, Regressing: The Troubling Dispositive Role of Event Studies in Securities Fraud Litigation, 15 Stan. J. L. Bus. & Fin. 183, 186 (2009).

³ "Stock price," "share price," "market price," "closing price," and "return" are all used interchangeably throughout this opinion.

If this probability is small enough, the expert can reject the hypothesis that normal market fluctuations, as opposed to company-specific events, can explain the movement in the share price.

Central to multiple regression analyses are variables, which, as the term implies, can have two or more possible values. Id. n.1. Multiple regression includes a variable to be explained (the dependent variable) and explanatory (or independent) variables that have the potential to be associated with changes to the dependent variable. Id. at 430. ("[A] multiple regression analysis might estimate the effect of the number of years of work on salary. Salary would be the dependent variable to be explained; years of experience would be the explanatory variable."). The third type of variable at issue in this case is a dummy variable, which is also known as a "binary variable" because it only has two possible values, such as gender, or, as in this case, the existence or non-existence of company-specific events.⁴ By assigning the variable

⁴ An opinion from the District of New Jersey provides a succinct example of the use of a dummy variable:

[S]uppose you are investigating [United States] consumption behavior with time series data for the period 1930 to 1950. You would expect that consumption behavior would have been significantly different during the years of World War II than it was before and after the war. To take this effect into account, you can create an artificial variable that will take the value 1 during each of the war years and the value 0 during each of the other years.

Animal Sci. Prods., Inc. v. China Nat'l Metals & Minerals Imp. & Exp. Corp., 702 F. Supp. 2d 320, 358 n.44 (D.N.J. 2010).

a value of zero or one in the mathematical formulae used in the analysis, the dummy variable becomes mutually exclusive with respect to any explanatory variables, unable to exist or affect the outcome simultaneously. Thus, by using a dummy variable, the projected various outcomes can reveal which explanatory variables affect the dependent variable.

D. Dr. Hakala's Event Study

Such is the basic structure of an event study. In its motion to exclude Dr. Hakala's testimony, CSFB alleged that his methodology included techniques that did not meet the standards of reliability articulated in Daubert. It challenged four elements of Dr. Hakala's study.

1. Selection of Event Dates

The first alleged flaw in Dr. Hakala's analysis was his selection of event dates. CSFB claimed that Dr. Hakala failed to conform to event study methodology by selecting his event dates after running his regression analysis. As noted previously, the first step of an event study is identifying the relevant dates that are the focus of the study. CSFB argued that Dr. Hakala reversed the steps in this process, first conducting a regression analysis, and then, after identifying fifty-seven dates with statistically significant abnormal returns, using them as the relevant dates for his event study.

According to CSFB, this results-driven approach produced event dates that had "little relationship with the allegations or facts in this case and ma[de] no sense even under [Dr. Hakala's] own definition of 'relevance.'" For instance, Dr. Hakala attributed some abnormal market increases in AOL stock prices to the defendants on days when CSFB released no reports about AOL -- often when it was no longer reporting about AOL. Dr. Hakala also characterized several of the dates in his study as corrective, despite the fact that the complaint had labeled them as inflationary.⁵ On one event date, the abnormal market return was negative, yet Dr. Hakala classified the date as inflationary. Finally, Dr. Hakala often identified dates as corrective when no negative information entered the market, and other dates as inflationary when no positive information entered the market.

2. Overuse of Dummy Variables

CSFB also asserted that Dr. Hakala's use of dummy variables not only overstated the baseline stability of AOL's stock prices, but also failed to satisfy the Daubert requirement of reproducibility. The goal of a regression analysis is to create a baseline against which the market return on event dates is measured. Through the use of dummy variables, the event dates

⁵ An inflationary date occurred when misinformation or omissions inflated AOL's stock price. A corrective date occurred when truthful information caused AOL's stock price to return to its normal levels.

themselves are excluded from, or "dummied out" of, the regression analysis to indicate the presence or absence of some event. This is designed to prevent the event days themselves from distorting the baseline. Dr. Hakala, in addition to dummied out relevant event dates, dummied out all dates containing material news about AOL.⁶ He chose this approach to control for days when AOL's stock price might have fluctuated due to the release of information that was, for purposes of this litigation, irrelevant. He believed that these material news dates could improperly influence the baseline regression, and cited other financial economists who endorse this methodology. Using this approach, Dr. Hakala dummied out 211 out of 388 days in the study period -- 54% of the total number of days. CSFB argued that Dr. Hakala's approach went too far, creating an unrealistically stable baseline and thereby ensuring that all relevant event dates would appear more unusual than they really were.

CSFB also attacked Dr. Hakala's dummy selection as arbitrary. Dr. Hakala performed three event studies relating to the America Online-Time Warner merger. Although he used the same

⁶ The terms "relevant event dates" and "material news dates," though similar, are distinct. Relevant event dates are the fifty-seven dates that are the focus of Dr. Hakala's event study. Material news dates refer to the additional one hundred fifty-four dates Dr. Hakala dummied out of his event study because they contained material news.

criteria to select the material dates each time,⁷ he dummed out more material dates in each subsequent study. CSFB argued that his selection criteria were so vague that two economists would be apt to pick vastly different numbers of material dates given the same instructions. Thus, CSFB argued, Dr. Hakala's methodology cannot be replicated. See Daubert, 509 U.S. at 593 ("Ordinarily, a key question to be answered in determining whether a theory or technique is scientific knowledge that will assist the trier of fact will be whether it can be (and has been) tested."). The proof of this flaw, according to the defendants, was the fact that even Dr. Hakala could not select the same number of material news dates in three separate event studies.

3. Previously Disclosed Information

In Basic Inc. v. Levinson, 485 U.S. 224 (1988), the Supreme Court held that a plaintiff in a securities fraud suit need not prove individual reliance on the defendants' fraudulent statements when purchasing company stock. Id. at 247. Instead, courts will presume reliance as long as the company's shares trade in an efficient market, that is, one which incorporates all public

⁷ Dr. Hakala's criteria came from "the NASDAQ guidelines as recognized by the SEC." See Self-Regulatory Organizations; Notice of Filing of Proposed Rule Change by the National Association of Securities Dealers, Inc. Relating to Issuer Disclosure of Material Information, 67 F.R. 51,306 (Jul. 31, 2002). He also included "third party news and reports, and analysts' reports to that list consistent with the academic studies."

statements about the company -- including the defendants' fraudulent statements -- into its share price. Id. "An investor who buys or sells stock at the price set by the market does so in reliance on the integrity of that price." Id. Consequently, investors must also implicitly rely on the integrity of the information affecting the stock price. Investors who avail themselves of the fraud-on-the-market theory recognized in Basic, however, must be consistent. If it is assumed that the market reacts to the fraud, it must also be assumed that it reacts to the truth. Accordingly, once a misstatement or corrective disclosure is publicly known in an efficient market, courts will assume that the stock price reacts immediately, and any claim that an event moved the stock price when the event was not actually a new disclosure will necessarily fail.⁸

CSFB argued that Dr. Hakala's event study included some "new disclosures" that were not in fact new to the market. CSFB pointed to several instances in Dr. Hakala's event study when he attributed the rise or fall of AOL's stock price to the disclosure of "stale" information. Consequently, CSFB averred, this information could not form the basis of a proper event date, and

⁸ A case pending before the Supreme Court has raised the issue of the continuing viability of the fraud-on-the-market theory. See Halliburton Co. v. Erica P. John Fund, Inc., No. 13-317 (U.S. argued March 5, 2014).

Dr. Hakala's rejection of the efficient market hypothesis rendered his study inadmissible.

4. Failure to Control for Confounding Factors

The purpose of an event study, as noted, is to isolate the impact of an alleged misstatement, omission, or disclosure on the stock price. A recurring problem in event studies is the presence of "confounding factors" -- news stories, statements, or events that coincide with relevant event dates and that themselves potentially affect the company's stock price. CSFB claimed that Dr. Hakala made no attempt to control for the many confounding news stories that emerged at the same time as CSFB reports and other relevant events, and therefore that his event study did not show that CSFB's statements, as opposed to some other news story, moved the stock price on any given day.

E. The District Court's Opinion

In January 2012, the district court issued an order precluding Dr. Hakala's testimony, relying on the four factors argued in CSFB's motion to preclude. While it gave specific examples for each factor, the court explained that these were illustrative of pervasive problems.

With respect to the event date selection, the district court determined that

"[r]ather than study the market's reaction to the misrepresentations alleged in the complaint, Dr. Hakala cherry-picked unusually volatile days and made them the focus of his study. If the stock price increased

sharply, he attributed it to the defendants (even if no CSFB reports were released on that day). If the stock price decreased sharply, he called it a corrective disclosure (even if the news released was positive). The Court concludes . . . that, quite simply, Dr. Hakala's theory does not match the facts.

Bricklayers & Trowel Trades Int'l Pension Fund v. Credit Suisse First Boston, 853 F. Supp. 2d 181, 188 (D. Mass. 2012) (citations omitted) (internal quotation marks and alterations omitted), reconsideration denied, published in 853 F. Supp. 2d 181, 195 (D. Mass. May 17, 2012).

Next, and with little independent analysis, the district court followed the reasoning of two other district courts in concluding that Dr. Hakala's use of dummy variables was also unreliable. See In re Northfield Labs., Inc. Sec. Litig., 267 F.R.D. 536, 548 (N.D. Ill. 2010); In re Xcelera.com Sec. Litig., No. 00-11649-RWZ, 2008 WL 7084626, at *1 (D. Mass. Apr. 25, 2008). In those cases, courts had criticized the high percentage of dummied-out dates in Dr. Hakala's studies, finding that the practice artificially stabilized the baseline regression. Here, the district court noted that Dr. Hakala had dummied out a higher percentage of days in this study than in either of those cases. It concluded that "[i]f those courts were correct in excluding his event studies . . . , as this Court believes they were, it follows a fortiori that his event study should be excluded here." Bricklayers, 853 F. Supp. 2d at 189.

The district court also found that Dr. Hakala's study "repeatedly ignores the efficient market principle" by attributing price fluctuations to previously disclosed information. Id. The shareholders' attempt to "presume an efficient market to prove reliance and an inefficient market to prove loss causation," according to the district court, was tantamount to "hav[ing] their cake and eat[ing] it too." Id. at 190.

Finally, the district court rejected Dr. Hakala's attempt to disaggregate confounding information on the event dates. It acknowledged that AOL received near uninterrupted coverage during the Class Period, making Dr. Hakala's task difficult. But it concluded that Dr. Hakala did not use an accepted means for separating the impact of the relevant event from the impact of confounding information. As an example of one method that Dr. Hakala could have used, the district court discussed intra-day trading analysis. This analysis requires tracking the stock price throughout the day to see whether its daily highs or lows correspond with the relevant event, or with the release of some other information. Dr. Hakala did not do this. Instead, he "either attributed a rough proportion of the movement to each report or blamed it all on the defendants." Id. at 191. The district court considered this approach unreliable and unscientific.

The court ultimately concluded that Dr. Hakala's event study lacked sufficient reliability to be presented to a jury. It indicated that "[h]ad Dr. Hakala's event study suffered from only one of the four methodological defects identified by this Court, or suffered from those flaws jointly but to a lesser degree, today's ruling might have been different," id. at 191, but, given the extent of Dr. Hakala's errors, preclusion was necessary.

The district court awarded summary judgment to CSFB sua sponte, deciding that Dr. Hakala's event study, "even if it were admitted," did not raise a triable issue of loss causation.⁹ Id. at 191-92. The district court's reasoning largely restated the problems that persuaded it to preclude Dr. Hakala's event study.

After their motion for reconsideration was denied, the shareholders appealed both the preclusion of Dr. Hakala's event study and the grant of summary judgment.

II. Analysis

A. Expert Testimony

We review a district court's decision to exclude an expert witness's testimony for abuse of discretion. Milward v. Acuity Specialty Prods. Grp., Inc., 639 F.3d 11, 13 (1st Cir. 2011). "This standard is not monolithic: within it, embedded findings of fact are reviewed for clear error, questions of law are

⁹ The defendants' original motion for summary judgment had been denied earlier, subject to being revisited if the court determined that Dr. Hakala's testimony should be excluded.

reviewed de novo, and judgment calls are subjected to classic abuse-of-discretion review." Unqar v. Palestine Liberation Org., 599 F.3d 79, 83 (1st Cir. 2010).

Since the Supreme Court's decision in Daubert, trial judges have acted as gatekeepers of expert testimony, assessing it for reliability before admitting it. See Milward, 639 F.3d at 14. Expert testimony comes in many different forms, but certain non-exclusive factors can assist a trial court in its task: "(1) whether the theory or technique can be and has been tested; (2) whether the technique has been subject to peer review and publication; (3) the technique's known or potential rate of error; and (4) the level of the theory or technique's acceptance within the relevant discipline." United States v. Mooney, 315 F.3d 54, 62 (1st Cir. 2002) (citing Daubert, 509 U.S. at 593-94). Moreover, an expert's opinion must be relevant "not only in the sense that all evidence must be relevant, but also in the incremental sense that the expert's proposed opinion, if admitted, likely would assist the trier of fact to understand or determine a fact in issue." Ruiz-Troche v. Pepsi Cola of P.R. Bottling Co., 161 F.3d 77, 81 (1st Cir. 1998) (citations omitted).

As the district court observed, no single factor is dispositive in determining the admissibility of Dr. Hakala's expert testimony. Consequently, we will address the four factors from the

district court's opinion individually before analyzing the overall admissibility of Dr. Hakala's testimony

1. Selection of Event Dates

The district court committed no abuse of discretion in concluding that Dr. Hakala selected event dates based on unreliable criteria. Event selection should not be difficult to understand, yet Dr. Hakala's event study leaves us guessing as to how he chose the fifty-seven dates included in his study. He certainly did not rely on the shareholders' complaint. Not only did Dr. Hakala include many dates that bear no relationship to the allegations in the complaint, in some instances he has turned the complaint on its head, treating certain events as corrective when the complaint labeled them inflationary. This complete disconnect between the event study and the complaint nullifies the usefulness of Dr. Hakala's work; from all appearances, the event study is more concerned simply with identifying abnormal market movement than in supporting the shareholders' causation allegations. Thus, we agree with the district court's negative assessment of Dr. Hakala's selection of event dates.

On appeal, the shareholders argue that the district court could only arrive at this conclusion by rejecting Dr. Hakala's testimony, and that by so doing it interposed itself as a fact-finder. It is true that a trial court should not "determine which of several competing scientific theories has the best

provenance." Id. at 85. If an expert has reached her conclusion "in a scientifically sound and methodologically reliable fashion," id., the differences "should be tested by the adversarial process," Milward, 639 F.3d at 15. Moreover, the court should not rely on credibility determinations to resolve a disagreement between experts. See Seahorse Marine Supplies, Inc. v. P.R. Sun Oil Co., 295 F.3d 68, 81 (1st Cir. 2002) ("The ultimate credibility determination and the testimony's accorded weight are in the jury's province.").

Here, Dr. Hakala stated on several occasions that he pre-selected relevant event dates without reference to the stock price, yet the district court specifically found, to the contrary, that Dr. Hakala had "cherry-picked unusually volatile days and made them the focus of the study." Bricklayers, 853 F. Supp. 2d at 188. The shareholders claim that the district court impermissibly discredited Dr. Hakala's testimony on this issue. This argument misses the point. The problem is not whether Dr. Hakala selected his event dates with reference to AOL's stock price. The problem is that the indisputably volatile dates that Dr. Hakala selected were often unrelated to the shareholders' allegations, and therefore do not "help the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702(a). The district court focused on this deficiency, and not on the mechanics of how Dr. Hakala selected these event dates. Consequently, we see

no reason to address whether the district court made an impermissible credibility determination.

2. Overuse of Dummy Variables

We turn next to the district court's conclusion that Dr. Hakala overused dummy variables, which, according to the court, "artificially deflated the baseline volatility of AOL's stock price during the Class Period." Bricklayers, 853 F. Supp. 2d at 189. While our review of the record lends some support to the district court's assessment, there are countervailing factors suggesting that Dr. Hakala's exclusion of various dates during the Class Period affects only the weight, and not the admissibility, of his event study.

CSFB argued, and the district court agreed, that "Dr. Hakala's event study uses a much higher percentage of dummy variables than is considered acceptable in the financial econometric community." Id. at 188. We think, however, that in arriving at this conclusion, the court may have given insufficient weight to the shareholders' proffer. The shareholders offered scholarship, see, e.g., Robert B. Thompson, II, et al., The Influence of Estimation Period News Events on Standardized Market Model Prediction, 63 Acc. Rev. 448, 466 (1988) ("[T]he distribution of security returns during periods in which Wall Street Journal news is released appears to differ systematically from the distribution of non-release period returns. This 'news-release'

effect can be incorporated in models of the returns generating process by conditioning on news releases."), as well as expert testimony from Dr. M. Laurentius Marais¹⁰ that supported Dr. Hakala's approach.

CSFB has identified articles that describe event study methodologies without mentioning the option of controlling for material news. See, e.g., A. Craig MacKinlay, Event Studies in Economics and Finance, 35 J. Econ. Literature 13, 17-19 (describing various market models for event studies without mentioning a news-conditioned model, but noting that "[t]he use of other models is dictated by data availability"). The shareholders, meanwhile, point to academic event studies that do control for material news dates using a definition of "material news" narrower than Dr. Hakala's. See, e.g., Richard Roll, R², 43 J. Fin. 541, 558 (1988) (selecting material news from the Dow-Jones news service and The Wall Street Journal).

Ultimately, Dr. Hakala's approach may not be inconsistent with the methodology or goals of a regression analysis. A regression analysis seeks to isolate the effect that one variable has on another. Dr. Hakala's event study sought to isolate the effect of the general market conditions on AOL's stock price. He believes that "material news dates" have the potential to distort

¹⁰ Dr. Marais submitted testimony rebutting Dr. Stulz's criticism of Dr. Hakala's use of dummy variables.

this relationship, and therefore excludes them from his analysis. Other market economists may disagree with the efficacy of this step or with the way that he defines materiality, but it is hard to see how it fails to follow the logic of regression studies. Indeed, CSFB's event study excludes certain dates for precisely the same reason. Nor do we consider the percentage of dummied-out dates dispositive of the issue. The district court was troubled by the fact that Dr. Hakala excluded 211 of the 388 dates in the study period. Bricklayers, 853 F. Supp. 2d at 188. That fact alone, however, does not negate the reliability of his study. The remaining 177 dates provided enough data to conduct a robust regression analysis. As Dr. Marais (the shareholders' expert on the issue of dummy variables) noted, the important factor is not "the mechanistic and superficial percent of some universe of observations" that Dr. Hakala dummied out, but the "valid technical principles concerning the validity of the exercise."

The district court noted two previous court opinions that disapproved of Dr. Hakala's use of dummy variables. We have held, however, that "the question of admissibility must be tied to the facts of a particular case." Milward, 639 F.3d at 14-15 (citations omitted) (internal quotation marks omitted). The importance of that counsel is manifest here. Based on the record before us, Dr. Hakala's event studies in those two cases differed from this one in at least one key respect: in the other cases he dummied out dates

on which "any news" about the company appeared. Northfield Labs., 267 F.R.D. at 548; see also Xcelera, 2008 WL 7084626, at *1. This is not a frivolous distinction, and the district court in Xcelera highlighted its importance: "Although the academic literature supports the use of dummy variables for events in which significant company-specific news is released, no peer-reviewed journal supports the view that dummy variables may be used on all dates on which any company news appears." Xcelera, 2008 WL 7084626, at *1. No one contends that Dr. Hakala dummed out every day in which AOL appeared in a news story, yet that was precisely the problem in Northfield and Xcelera.¹¹ Given that Dr. Hakala employed a different methodology for this case, Northfield and Xcelera are of limited value in assessing it.

In Bazemore v. Friday, 478 U.S. 385, 400 (1986) The Supreme Court observed that, "Normally, failure to include variables will affect the analysis' probativeness, not its admissibility." Thus, while Dr. Hakala's use of dummy variables may, as defendants contend, have artificially deflated the baseline volatility of AOL's stock in his regression analysis, it may be a dispute that should be resolved by the jury.

¹¹ CSFB argues that Dr. Hakala employed the same "material news" standard in his event studies in Northfield and Xcelera as he did here. That may be true, but it does not address the fact that the courts in those cases specifically found that Dr. Hakala excluded any date containing company-specific news. No such finding exists in this case.

CSFB launches one more assault on Dr. Hakala's use of dummy variables. It contends that his methodology fails under Daubert because it cannot be replicated. Dr. Hakala has performed three separate event studies related to the AOL merger, and each time he has dummed out more material news dates than before. Consequently, CSFB argues, his selection of material news dates is arbitrary and could not be replicated by another economist. We are not so sure.

Daubert suggests that a key question in determining whether a particular technique is scientific knowledge that will be useful to a jury is "whether it can be (and has been) tested." Daubert, 509 U.S. at 593. There, the Court was encouraging trial courts to limit expert testimony to falsifiable theories, meaning those "capable of empirical test." Id. (quoting Carl Hempel, Philosophy of Natural Science 49 (1966)). Testing a particular theory will either reproduce consistent results, thus confirming the theory, or inconsistent results, thus casting doubt on it. In this case, Dr. Hakala has theorized that, given certain assumptions, AOL's stock experienced abnormal returns on fifty-seven event dates. One would test that theory by repeating his event study under the same conditions that he did. This would not be a difficult task, since Dr. Hakala has provided all of the necessary guidelines to recreate his event study.

Rather than put Dr. Hakala to the test, CSFB has simply argued that Dr. Hakala's techniques are unreproducible because of differences in the number of material news dates that he has dummed out in successive event studies. But CSFB here is not comparing apples to apples. Only one of the three studies to which they refer is at issue here. One of the others was created in support of class action certification; the other was in connection with a different lawsuit. That fact alone could be enough to neuter CSFB's argument and leave such matters as fodder for cross-examination, not exclusion.

Ultimately, both the number of dates Dr. Hakala excluded from consideration and the methods he employed to select those dates create close questions. And while, as noted, appellant's arguments raise credible questions, we need not resolve this particular sub-issue because, as the district court concluded, the other three bases for excluding Dr. Hakala's testimony are sound.

3. Prior Disclosures

We have described an efficient market for the purpose of class action securities litigation as "one in which the market price of the stock fully reflects all publicly available information." In re PolyMedica Corp. Sec. Litig., 432 F.3d 1, 14 (1st Cir. 2005). We have also explained that the relevant inquiry is whether the market is informationally efficient, id. at 16, meaning that "all publicly available information is impounded in

[the] price" rapidly after it is disseminated. Id. at 14. The district court correctly applied this standard to Dr. Hakala's event study. Having established that AOL stocks traded in an efficient market in order to obtain class certification, the shareholders could not abandon that factual premise when proving loss causation. Yet several of the relevant events in Dr. Hakala's study are based on published references to information previously disclosed that, under an efficient market theory, would have already been incorporated into AOL's share price. The lag between the original disclosure and the event date ranged from one day to roughly a month. The majority of these disclosures occurred at least a week before the event dates; thus, the event dates occurred long after an efficient market would have processed the news.

The shareholders respond that the event dates included new information that was not contained in the original disclosures. We conclude, however, that while the disclosures made on the event dates did not merely parrot previously released information, they did no more than to provide gloss on public information, and thus permitted the district court to find that they would not have moved AOL's share price in an efficient market. See In re Omnicon Grp., 597 F.3d at 512 (holding that the "negative characterization of already-public information" does not constitute a corrective disclosure of new information). For instance, Dr. Hakala included a February 2001 Lehman Brothers report on AOL. While this report

downgraded its January 2001 buy or sell recommendation for AOL, it based this downgrade on information that was known the previous month. That Lehman Brothers reconsidered its initial appraisal of AOL's business, or lost confidence in AOL from one month to the next, does not demonstrate corrective information entering the market. See id. ("A negative journalistic characterization of previously disclosed facts does not constitute a corrective disclosure of anything but the journalists' opinions."). The district court did not abuse its discretion in determining that this recurring problem affected the admissibility of Dr. Hakala's event study.

4. Confounding Factors

When proving loss causation in a securities fraud suit, plaintiffs "bear[] the burden of showing that [their] losses were attributable to the revelation of the fraud and not the myriad other factors that affect a company's stock price." In re Williams Sec. Litig., 558 F.3d 1130, 1137 (10th Cir. 2009); Dura, 544 U.S. at 343 (holding that a plaintiff does not show loss causation if the lower share price reflects "not the earlier misrepresentation, but changed economic circumstances, changed investor expectations, new industry-specific or firm-specific facts, conditions, or other events, which taken separately or together account for some or all of that lower price"). Thus, when conducting an event study, an

expert must address confounding information that entered the market on the event date.

This case deals with a highly publicized merger that captured the attention of the entire financial industry. There is no doubt that Dr. Hakala faced a "herculean task" in sorting through the continuous flow of information about AOL. Bricklayers, 853 F. Supp. 2d at 190. We agree with the district court, however, that Dr. Hakala did not establish any reliable means of addressing this problem. Instead, he seemingly made a judgment call as to confounding information without any methodological underpinning.

In support of Dr. Hakala's treatment of confounding factors, the shareholders correctly point out that "even a statistical event study involves subjective elements." In re Xerox Corp. Sec. Litig., 746 F. Supp. 2d 402, 412 (D. Conn. 2010) (citations omitted) (internal quotation marks omitted). Nevertheless, a subjective analysis without any methodological constraints does not satisfy the requirements of Daubert. As the district court noted, "[i]t would be just as scientific to submit to the jurors evidence of defendants' alleged fraud and AOL's stock fluctuations and let them speculate whether the former caused the latter." Bricklayers, 853 F. Supp. 2d at 190; cf. Milward, 639 F.3d at 17-19 (admitting expert testimony based on a subjective "weight of the evidence" methodology, but identifying the established steps in this analysis and the factors used in

analyzing the causal relationship). Dr. Hakala had tools at his disposal, such as intra-day trading analysis, to guide his analysis of confounding information.¹²

5. Bottom Line

Ultimately, we conclude that the district court did not abuse its discretion in excluding Dr. Hakala's testimony. While we may question its analysis with respect to dummy variables, the court's treatment of the remaining three issues is more than sufficient to satisfy our deferential review. See Ruiz-Troche, 161 F.3d at 83 ("[W]e will reverse a trial court's decision if we determine that the judge committed a meaningful error in judgment." (citations omitted) (internal quotation marks omitted)).

Even conceding the aforementioned problems with Dr. Hakala's event study, however, the shareholders contend that the event study identified abnormal market movement, on certain key dates, that did not suffer from any methodological infirmities. Therefore, they claim, the district court abused its discretion by throwing out the good with the bad. True enough, some reviewing courts have found abuses of discretion where trial courts rejected

¹² Dr. Hakala could also have used content analysis. See, e.g., David Tabak, Making Assessments About Materiality Less Subjective Through the Use of Content Analysis (2007), available at http://www.nera.com/67_5197.htm; Esther Bruegger & Frederick C. Dunbar, Estimating Financial Fraud Damages with Response Coefficients, 35 J. Corp. L. 11, 25 (2009) ("'[C]ontent analysis' is now part of the tool kit for determining which among a number of simultaneous news events had effects on the stock price.").

mostly salvageable expert testimony for narrow flaws. See City of Tuscaloosa v. Harcros Chems., Inc., 158 F.3d 548, 563 (11th Cir. 1998) (reversing the exclusion of expert testimony in its entirety where only "a small portion of [the] data and testimony [was] fundamentally flawed"). Here, however, we confront the reverse situation -- pervasive problems with Dr. Hakala's event study that, allegedly, still leave a few dates unaffected.

The district court was not obligated to prune away all of the problematic events in order to preserve Dr. Hakala's testimony. Out of fifty-seven event dates, the shareholders list five "key disclosures" that should survive the district court's order. The district court did not abuse its discretion in treating the entire event study as inadmissible given the overwhelming imbalance between unreliable and reliable dates. The burden of proof falls on the party introducing expert testimony. Moore v. Ashland Chem. Inc., 151 F.3d 269, 276 (5th Cir. 1998) ("The proponent need not prove to the judge that the expert's testimony is correct, but she must prove by a preponderance of the evidence that the testimony is reliable."). Requiring judges to sort through all inadmissible testimony in order to save the remaining portions, however small, would effectively shift the burden of proof and reward experts who fill their testimony with as much borderline material as possible. We decline to overturn the district court's ruling on this specious logic.

We also reject the shareholders' argument that CSFB ambushed them with new arguments at the Daubert hearing.¹³ CSFB presented no new arguments at the Daubert hearing. Instead, it made a thorough presentation of the alleged problems of each event date. This should not have caught the shareholders off guard. The Daubert hearing occurred over three years after CSFB first challenged Dr. Hakala's expert testimony. During those three years, CSFB reiterated its arguments in expert reports, depositions, and briefings. It cited numerous examples of specific dates, but never claimed that those dates constituted the entirety of Dr. Hakala's flaws. The shareholders knew how CSFB would attack Dr. Hakala's event study, and they could have anticipated the scope of the attack.

B. Summary Judgment

Our review of a grant of summary judgment is de novo, interpreting the record in the light most favorable to the nonmoving party. See Henry v. United Bank, 686 F.3d 50, 54 (1st Cir. 2012). "Under [Federal Rule of Civil Procedure 56(a)], summary judgment is proper if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment

¹³ The parties argue over which standard of review we should apply to this issue. We need not answer that question, as the outcome is the same under any standard of review.

as a matter of law." Celotex Corp. v. Catrett, 477 U.S. 317, 322 (1986) (internal quotation marks omitted).

Although the district court awarded summary judgment to CSFB "even if [Dr. Hakala's event study] were admitted," Bricklayers at 191-92, we need not engage in such counterfactual analysis, see Peguero-Moronta v. Santiago, 464 F.3d 29, 34 (1st Cir. 2006) ("We can affirm [the district court] on any basis available in the record"). To sustain this suit, the shareholders needed to show a connection between CSFB's deceptive practices and the drop in AOL's stock price. The shareholders relied solely on Dr. Hakala's event study to satisfy this element. Without it, they cannot show a genuine dispute as to this issue. The district court did not need to tunnel into Dr. Hakala's event study for any evidence favorable to the shareholders' claim. The district court excluded Dr. Hakala's testimony in its entirety. We uphold that ruling. Thus, there is no evidence to sort through, and this complete lack of evidence compels a grant of summary judgment to CSFB.

III. Conclusion

For the foregoing reasons, we **affirm** the district court's exclusion of the shareholders' expert testimony and consequently **affirm** its award of summary judgment to CSFB.

It is so ordered.