

Estimating Recoverable Damages In Rule 10b-5 Securities Class Actions

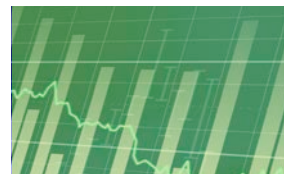
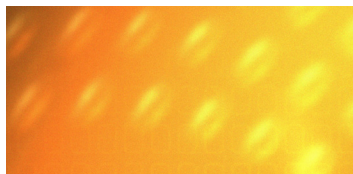


Table of Contents

Introduction	1
Measuring Recoverable Damages	2
Inflation	3
Loss Causation	4
Use of Event Studies in Estimating Damages.....	8
Event Study Methodology.....	8
Event Studies in Damages Analysis.....	10
Conclusion.....	13
Endnotes	14

Introduction

Damages analysis is of critical importance in securities class actions. In addition to playing an integral role in the merits phase and any settlement discussions, U.S. Supreme Court decisions in 2013 make damages analysis an important part of class certification proceedings as well.

In *Comcast* the Supreme Court specifically addresses damages, maintaining that class certification demands a common, classwide methodology for determining damages directly attributable to the plaintiffs' allegations:

[A] model purporting to serve as evidence of damages in this class action must measure only those damages attributable to that theory. If the model does not even attempt to do that, it cannot possibly establish that damages are susceptible of measurement across the entire class.

. . . The Court of Appeals simply concluded that respondents “provided a method to measure and quantify damages on a classwide basis,” finding it unnecessary to decide “whether the methodology [was] a just and reasonable inference or speculative.” 655 F. 3d, at 206. Under that logic, at the class-certification stage *any* method of measurement is acceptable so long as it can be applied classwide, no matter how arbitrary the measurements may be. Such a proposition would reduce Rule 23(b)(3)'s predominance requirement to a nullity.¹

The threshold for plaintiffs to establish a properly executed damages methodology may not be as high at the class certification stage as at later points in the proceedings.² However, *Comcast* makes clear the proposed damages methodology cannot be arbitrary—it must be closely linked to the allegations at issue—thus accelerating when damages analysis can become relevant in securities class action proceedings.

This report reexamines the framework for estimating recoverable damages in Rule 10b-5 securities class actions. It discusses the relevant legal background, the role of a financial economist in estimating recoverable damages, and the use of event studies in damages estimation—what event studies *can* and *cannot* do.

Measuring Recoverable Damages

Assuming that a material misrepresentation (i.e., misstatement or omission) was made to the market, calculating recoverable, per-share damages attributable to that misrepresentation in a Rule 10b-5 securities class action requires three distinct analyses. Case law establishes that a shareholder's recoverable damages are the lesser of:

1. **Out-of-pocket damages** (i.e., the difference between any inflation at the time the share was purchased and any inflation that remained at the time that share was sold);
2. **Losses caused by the fraud** (i.e., actual share price declines attributable to revelation of the relevant truth regarding a misrepresentation made prior to the purchase of that share); and
3. **A statutory limit** prescribed by the Private Securities Litigation Reform Act of 1995 (PSLRA).³

For example, the court in *Robbins*⁴ found that out-of-pocket damages are the primary measure of damages. The decision goes on to specify, however, that *recoverable* damages are limited to the losses caused by the alleged fraud:

The proper measure of damages utilizes the out-of-pocket rule: the plaintiff can recover “the difference between the price paid and the ‘real’ value of the security, i.e., the fair market value absent the misrepresentations, at the time of the initial purchase by the defrauded buyer.” . . . [A]s long as the misrepresentation is one substantial cause of the investment’s decline in value, other contributing forces will not bar recovery under the loss causation requirement. *But in determining recoverable damages, these contributing forces must be isolated and removed.*⁵

The Supreme Court’s decision in *Dura*⁶ also discusses the distinction between inflation and loss causation. In addition to establishing inflation, the plaintiffs must also establish loss causation—that they suffered losses in the real world attributable to revelation of the relevant truth, as opposed to other factors unrelated to the alleged fraud:⁷

Normally, in cases such as this one (i.e., fraud-on-the-market cases), an inflated purchase price will not itself constitute or proximately cause the relevant economic loss.

. . . [I]f, say, the purchaser sells the shares quickly before the relevant truth begins to leak out, the misrepresentation will not have led to any loss. If the purchaser sells later after the truth makes its way into the marketplace, an initially inflated purchase price *might* mean a later loss. But that is far from inevitably so. When the purchaser subsequently resells such shares, even at a lower price, that lower price may reflect, not the earlier misrepresentation, but changed economic circumstances, changed investor expectations, new industry-specific or firm-specific facts, conditions, or other events.⁸

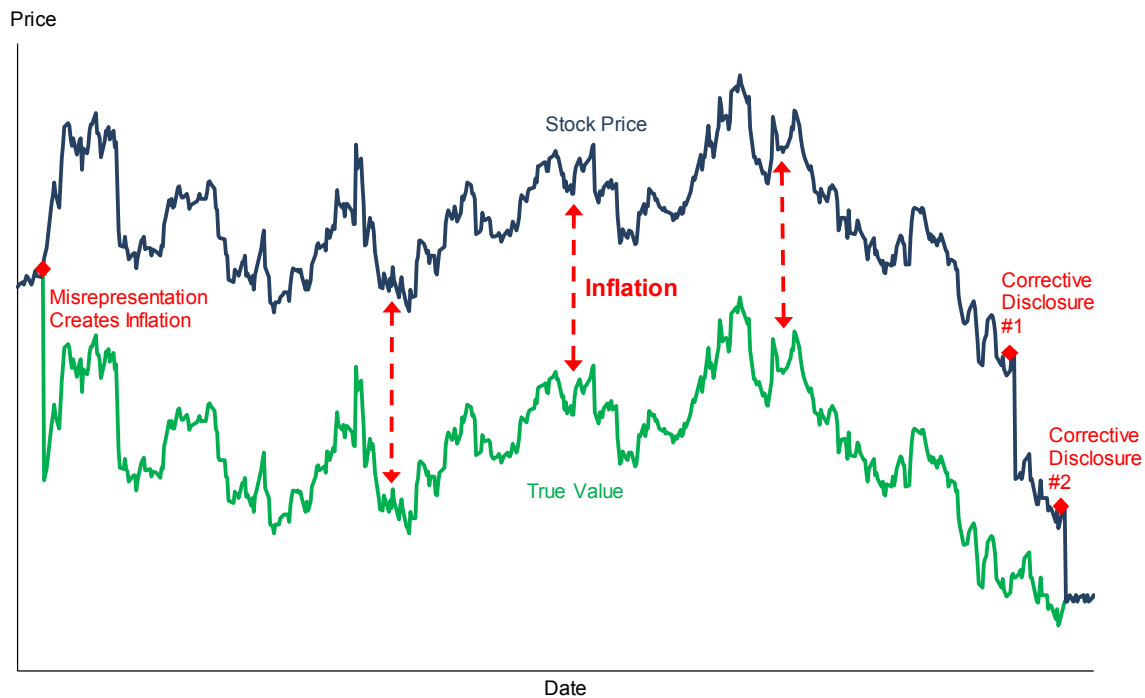
Assuming a company makes a public misrepresentation, the resulting share price inflation could potentially be the measure of recoverable damages. However, under *Dura* and the principles of loss causation, recoverable damages are limited to the portion of that inflation (if any) that is removed on revelation to the market of the relevant truth. Finally, even if some inflation is removed on that revelation, recoverable damages may be limited further by the statutory formula prescribed by the PSLRA.

In addition to applying the PSLRA, two distinct economic analyses are required: determination of (1) the level of inflation, and (2) losses caused by the alleged fraud.

Inflation

“Inflation” describes the difference between a company’s actual stock price observed on a particular day during the class period and its hypothetical price on that day absent the alleged misrepresentation. This is often referred to as the stock’s “true value.” A calculation of out-of-pocket damages for all class members generally requires determining the level of inflation for every day during the class period.

Inflation: The Difference between Stock Price and “True Value”⁹



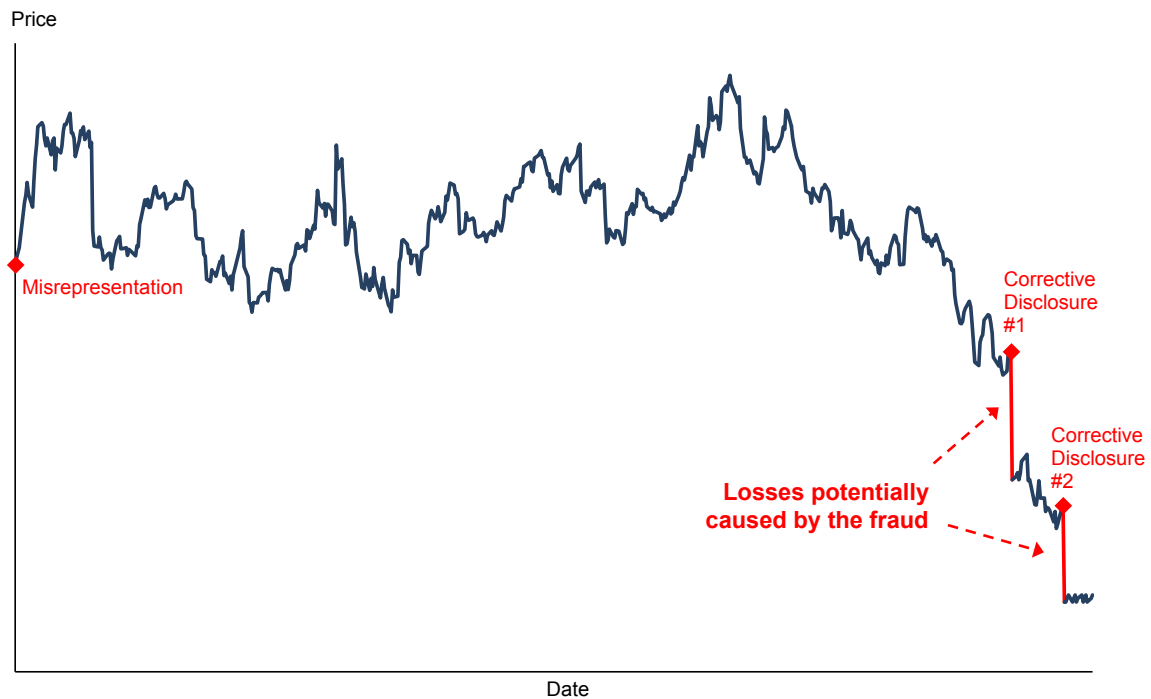
Determining inflation requires two steps. First, the level of inflation hinges on the articulation of the allegedly withheld truth. This is *not* the province of financial economics. Rather, what could and should have been said in lieu of (or in addition to) the allegedly false and misleading statement is intrinsically tied to the plaintiffs’ allegations and consequent liability assumptions. Once the allegedly withheld truth is specified, however, financial economics provides a framework for the second step—analyzing the level of inflation given the hypothetical change in the market’s information set.

Financial economists use a number of different approaches to value inflation. These approaches include use of observed price changes, either at the time of the alleged misrepresentation (front end) or at the time that the allegedly relevant truth is revealed (back end). Using price changes to estimate alleged inflation is discussed further in the section on event studies. Among other reasons, because the allegedly withheld truth rarely mirrors (or matches) what was disclosed in the real world, it can be challenging to credibly translate observed real world price changes into but-for prices in the hypothetical world, which is required to calculate inflation levels. In many cases, additional approaches (e.g., constructing fundamental valuation models), which come with their own set of challenges, may be required.

Loss Causation

Analysis of recoverable damages cannot stop at an analysis of inflation because recoverable damages are also limited to the *actual* losses caused by the alleged fraud. As mentioned, inflation is defined as the difference between the actual stock price on a particular day and the hypothetical price that would have prevailed on that day *in the but-for world* (i.e., absent the alleged misrepresentation). Loss causation, on the other hand, considers the actual share price performance experienced by shareholders *in the real world*. Loss causation asks what (if any) actual shareholder losses were caused by the alleged misstatements or omissions—that is, what real world share price declines resulted from revelation of the relevant truth regarding the misrepresentations (i.e., a corrective disclosure).¹⁰

Loss Causation: Stock Price Declines following Corrective Disclosures



A number of “rules” regarding recoverable damages result from the mandate to consider losses caused by the alleged fraud as discussed in *Dura*:

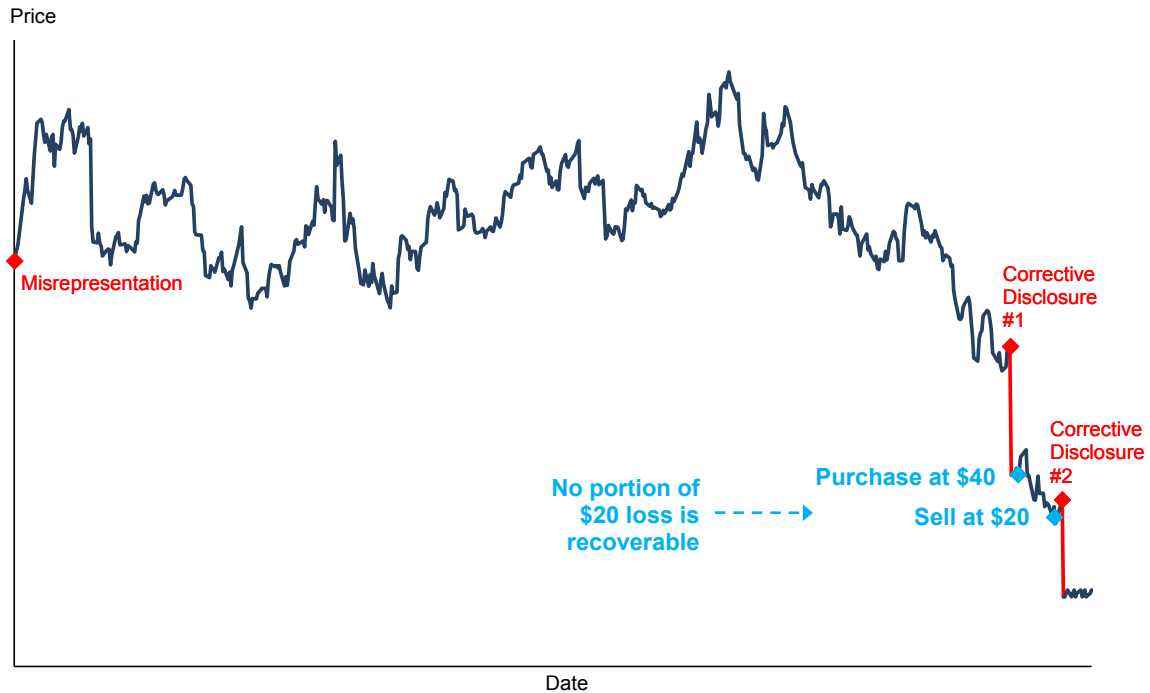
1. **No recoverable damages for shares purchased and sold prior to any public revelation of the allegedly relevant truth.** Consider a share purchased at \$160 and sold at \$100 prior to the first corrective disclosure. None of the \$60 loss (\$160 less \$100) is recoverable. Since the shares were not held over a corrective disclosure, none of the losses were caused by revelation of the relevant truth.

No Recoverable Damages: Shares Sold prior to First Corrective Disclosure



2. **No recoverable damages for shares purchased and sold between distinct public revelations.** Consider now an example where a share is purchased at \$40 just after the first of two corrective disclosures and sold at \$20 prior to the second. None of the \$20 loss (\$40 less \$20) is recoverable. Again, since the shares were not held over a corrective disclosure, none of the losses were caused by revelation of the relevant truth.

No Recoverable Damages: Shares Purchased and Sold between Corrective Disclosures



3. **Recoverable damages for a share held over a particular revelation cannot exceed the ensuing price decline attributable to that revelation.** Finally, consider a share purchased at \$160 prior to the first alleged corrective disclosure and sold at \$10 at the end of the class period, following both corrective disclosures. Losses are \$150 (\$160 less \$10), but maximum recoverable damages are limited to any portion of the \$50 decline (\$30 plus \$20 in the chart below) immediately following the two corrective disclosures that is attributable to revelation of the allegedly withheld truth. As discussed further below, if the allegedly relevant truth was disclosed at the same time as other negative information, recoverable damages may be but a fraction of the \$50 decline.¹¹

Maximum Recoverable Damages Limited to Declines following Corrective Disclosures



The analysis of losses caused by the alleged fraud again requires two steps. First, the allegedly withheld truth must be specified. That specification allows a financial economist to perform the second step—namely, measuring the losses (if any) resulting from public revelation of the allegedly withheld truth. As discussed in the following section, event studies are generally considered an essential, although not necessarily sufficient, tool for estimating the loss caused by an alleged misrepresentation.¹²

Use of Event Studies in Estimating Damages

An event study is a widely used and generally accepted analytical framework for investigating the effects of information on stock prices in an efficient market.¹³ It provides an objective measure of whether a disclosure is associated with a significant change in the total mix of public information regarding a company.

In an efficient market, a company's stock price will at all times equal the present value of expected future cash flows discounted at the appropriate risk-adjusted rate.¹⁴ To determine the stock price, the market uses all publicly available information, including data about the economy as a whole, the industry within which the company competes, and company-specific information.¹⁵

An efficient market not only uses all publicly available information to determine expected cash flows and discount rates, but it also responds quickly to newly announced information. A study by Patell and Wolfson,¹⁶ for example, found that when a firm publishes its latest earnings or announces a dividend change, the major part of the adjustment in price occurs within five to ten minutes of the announcement.¹⁷

Because stock prices already reflect expected events and publicly available information, only "new" information (i.e., the unexpected portion of information) causes price changes. Repetition of "old" information will not affect stock prices in an efficient market.¹⁸ Similarly, because stock prices reflect expectations of future cash flows (their level and risk), information that is not relevant for a company's future cash flows will not affect its stock price in an efficient market.

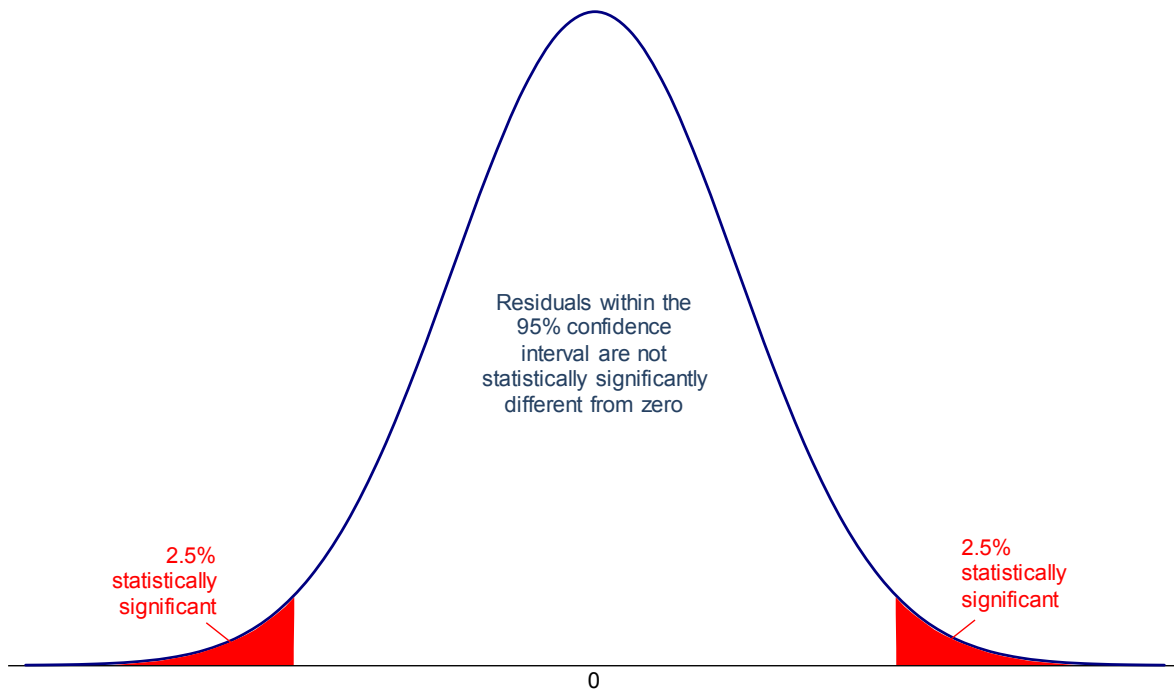
Event Study Methodology

Event studies in securities class actions typically employ the statistical method of linear regression to account for market and industry effects. Linear regression attempts to isolate the part of a price change that may be related to company-specific information. An estimate of the effect of economy-wide events on a firm's stock price change can often be extracted using a broad index of stocks (e.g., the NASDAQ Composite Index or the NYSE Composite Index). Similarly, it is often possible to extract an estimate of the effect of sector-wide information on a firm's stock-price change through the use of an index of stocks of firms in the same industry.¹⁹ The price change that remains after attempting to extract the effect of economy-wide and sector-wide events is often called the "residual" price change.²⁰

Financial economists conduct standard statistical tests on residual price changes to assess their significance. Significant price changes indicate a significant change in the total mix of public information. The statistical tests must account for normal, random fluctuations in stock price. To account for this, "normal" stock price volatility is typically estimated over a control period.²¹ A standard statistical measure of normal behavior during the control period is defined as the range that contains a specified fraction of observations. This range, or "confidence interval," depends on the normal variation or volatility of the residual price changes for a particular stock.

A confidence interval of 95 percent is often applied in academic event studies and frequently accepted by courts.²² When a 95 percent confidence interval is used to test whether a residual is different from zero, residual stock price movements outside the 95 percent confidence interval are deemed “statistically significant” and indicate a significant change in the total mix of public information regarding the company. Conversely, residual stock price movements *within* the 95 percent confidence interval are not considered statistically significantly different from zero. In other words, they are consistent with normal stock price volatility within the statistical model and do not indicate a significant change in the total mix of public information regarding the company.

The 95 Percent Confidence Interval



One limitation of the standard one-company event study employed in securities class actions is that it can measure only the combined effect of all information that reaches the market during the study’s measurement window. When multiple pieces of new information enter the market during that time frame, isolating the effect of any one piece of information on the company’s stock price may require additional analysis, such as modifying the event study, conducting intraday stock price analysis, or constructing a fundamental valuation model.

Event Studies in Damages Analysis

Event studies are frequently used to assess damages in securities class actions. Because they attempt to isolate firm-specific stock price movements and indicate whether those movements can be reliably distinguished from statistical noise, many courts have, in fact, required them.²³ For example, the court in *Imperial Credit Industries* discusses the “importance and centrality of the event study methodology in determining damages”²⁴ and cites a long list of cases²⁵ in support of its statement that:

Because of the need “to distinguish between the fraud-related and non-fraud related influences of the stock’s price behavior,” . . . a number of courts have rejected or refused to admit into evidence damages reports or testimony by damages experts in securities cases which fail to include event studies or something similar.²⁶

To estimate damages, it may be useful to employ an event study to examine either stock price movements at the time of the alleged misrepresentations (front end) or stock price movements at the time of the alleged corrective disclosures (back end)—or both. While generally a necessary step in any evaluation of damages, event study analysis is itself insufficient to establish inflation or losses caused by the alleged fraud.

As a preliminary matter and as mentioned above, analysis of both inflation and losses caused by the alleged fraud require as a first step an articulation of the allegedly withheld truth. That definition is not the product of an event study, but rather a function of the plaintiffs’ allegations and the related liability assumptions. Without first carefully articulating what allegedly should have been disclosed in lieu of (or in addition to) the alleged misrepresentation, neither an event study nor any other valuation methodology can be used to measure that information’s effect on stock price.²⁷

Even after the allegedly withheld truth is articulated, an event study itself is often insufficient to calculate recoverable damages for all class members. Among other reasons, because the allegedly relevant information is rarely disclosed in isolation, supplemental analysis is frequently required. Potential supplemental analysis is discussed briefly following the sections on front-end and back-end event study analysis below.

Using Event Studies on the Front End

In some cases, using an event study to evaluate stock price movements following an alleged misrepresentation may be helpful in estimating damages. When the alleged misrepresentation is an affirmative misstatement, an event study may establish how much inflation (if any) was introduced into the stock (i.e., its price impact)²⁸ at the time the statement was made. In many instances, however, analysis in addition to an event study may be required. Infrequently is it the case that the alleged truth was “A” and the defendant said “not A” and only “not A” (i.e., no additional news was provided at the time of the alleged misrepresentations). When other news is announced simultaneously, a financial economist may need to perform additional analysis to assess the stock price impact of that other news in order to isolate the price impact (if any) of the alleged misrepresentation and hence measure any inflation introduced into the stock at that time.

In cases where the alleged misrepresentation comprises an omission, event study findings at the front end are not relevant. An event study only measures stock price reaction to information that was actually disclosed, and cannot measure the impact of information that was *not* disclosed. In such cases, a different analysis would be required to establish the amount of any inflation introduced by the alleged misrepresentation, such as looking at back-end price reaction when the alleged truth is revealed, or building a fundamental valuation model.

Using Event Studies on the Back End

In many cases, using an event study to estimate the residual stock price movement following an alleged corrective disclosure is a critical component of the damages analysis. As discussed above, damages are limited by real world losses caused by the alleged misrepresentations. Thus, to calculate recoverable damages, a financial economist must at a minimum isolate the portion of any stock price decline that occurred *only* in response to public revelation of the allegedly withheld truth.

In some cases, once the allegedly withheld truth is defined, the standard event study discussed in the preceding section will be sufficient to isolate losses caused by the alleged fraud by estimating residual returns following alleged corrective disclosures. However, again because the allegedly withheld truth is rarely disclosed in isolation, analysis in addition to or in place of an event study is required in many cases—for example, when one or more of these circumstances are present:

- 1. Disclosure with information unrelated to the plaintiffs' allegations.** Assume, for example, the plaintiffs allege that during the class period the defendants provided an erroneous forecast for cost of goods sold, projecting \$20 million when they knew the costs would be \$40 million. The market learns the allegedly withheld truth during an earnings announcement, when the company announces the \$40 million figure at the same time it announces other financial results (including revenue, operating costs, and overall profitability). A statistically significant decline following the earnings announcement only measures the impact of the earnings announcement as a whole. Additional analysis is required to assess the impact of the allegedly withheld truth regarding cost of goods sold alone.
- 2. Disclosure related to multiple alleged misrepresentations.** Assume, for example, a situation with two alleged misrepresentations—one relating to product A made at date A and one relating to product B made later, at date B. Recoverable damages for class members purchasing prior to date B (when the first misrepresentation regarding product B was made) would be limited to any stock price declines caused by revelation of the allegedly withheld truth regarding product A. If the allegedly withheld truths regarding both of the products were disclosed simultaneously, analysis in addition to an event study would be required to isolate the stock price effect of the allegedly withheld truth regarding product A alone.
- 3. Disclosure related to misrepresentations that change in severity during the class period.** Assume, for example, the allegedly withheld truth involved a misstatement of financials. Earnings were overstated by \$1 million, \$5 million, \$10 million, and \$20 million in quarters one through four, respectively, but the entire cumulative overstatement of \$36 million was disclosed at once. Even assuming that the residual stock price decline measured accurately the effect of the \$36 million overstatement and only the effect of that overstatement, analysis in addition to the event study is required to measure the losses caused by revelation of the truth regarding each misrepresentation. Such an analysis is necessary to compute recoverable damages for all class members. For example, an investor who purchased when the alleged misrepresentation comprised only a \$1 million overstatement may not be able to recover the stock price decline attributable to the ultimate \$36 million overstatement.
- 4. Over- or under-disclosure of an alleged misrepresentation.** Consider the case of an understated risk. Assume, for example, that a pharmaceutical company represents to the market that there is a 10 percent chance that its newly developed drug will not receive FDA approval when it knows that there is in fact a 20 percent chance of not receiving approval. The alleged misrepresentation comprises failure to fully inform the market regarding risks of the drug's potential failure. Ultimately, the company learns and discloses that its drug did not receive FDA approval. The corrective disclosure clearly contains more information than could have been disclosed at the time of the alleged misrepresentation, when there was only a risk that the drug would not be approved. Without additional analysis, stock price reaction to the realization of this risk—an “over-disclosure” of what could have been announced earlier—cannot be used to measure the alleged inflation due to, or losses caused by, the alleged misrepresentation.

In some cases, the price decline following an alleged corrective disclosure may be used not only to estimate real world losses caused by the alleged fraud but also to estimate earlier inflation in the stock's price. In those instances, however, there are additional considerations to bear in mind. Even assuming the loss caused by an alleged misrepresentation is measured appropriately, that loss (if any) cannot necessarily be used to measure alleged inflation earlier in the class period. One must consider the equivalency of the misrepresentation and the corrective disclosure. If, for example, the misrepresentation comprises alleged understatement of a known risk as in the fourth example above, using the stock price reaction to a negative outcome associated with that risk will likely overstate any earlier inflation. Moreover, market reaction to information depends on the mix of other information. If company, industry, or market conditions have changed appreciably between the time of the alleged misrepresentation and the time of the alleged corrective disclosure, it may *not* be appropriate to use the later impact to measure the earlier inflation. For example, a company's stock price may react more negatively to a ten thousand barrel overstatement of its oil production when the price of oil is \$110 per barrel than it would have when the price was \$80 per barrel.

Potential Supplemental Analysis

When an event study itself is insufficient to estimate price impact and hence alleged damages, the financial economist has many supplemental economic tools to draw upon. For example:

- Review of prior public press can be useful in isolating what information disclosed on a particular day was new. In an efficient market, only new (unexpected) information will affect a stock's price.
- Review of investment analyst reports may provide insight into what importance (if any) financial professionals assigned to the alleged misrepresentation or correction at the time it was made.
- Fundamental financial analysis can be useful to assess what impact (if any) the alleged misrepresentation would be expected to have on future cash flows or discount rate, and hence stock price. In an efficient market, a company's stock price reflects market consensus regarding the value of future cash flows to its stockholders.
- Intraday stock price analysis may help disaggregate the stock price effects of multiple announcements that occur within the event study's analysis window but are not simultaneous.
- Additional regression analysis—for example, modifying the length of the study event window or analyzing past stock price reaction to similar events over time or across multiple companies—may also help estimate the price impact of alleged misrepresentations or corrective information.

Conclusion

In a securities class action context, developing a classwide methodology for calculating recoverable damages attributable to case allegations requires estimating inflation and losses caused by the alleged fraud. An event study, while often providing essential input into a damages analysis, does not itself comprise a reliable damages analysis.

Moreover, simply conducting an event study may not be sufficient to meet *Comcast*'s requirement that plaintiffs propose at the class certification stage a common, classwide damages methodology tied to their liability case. Indeed, a 2013 ruling in *In re BP p.l.c. Securities Litigation*²⁹ found that the plaintiffs' proposed event study provided an inadequate basis for class certification. The court required additional information regarding how the plaintiffs proposed to use the study:

Without a more complete explication of how Plaintiffs propose to use an event study to calculate class members' damages, and how that event study will incorporate—and, if necessary, respond to—the various theories of liability, the Court cannot certify this litigation for class action treatment.³⁰

At a minimum, to reliably estimate damages in a securities class action, a financial economist must determine what part (if any) of a stock price decline subsequent to an alleged corrective disclosure represents a loss due to corrective information, as opposed to other factors, and how those declines relate to the plaintiffs' theory of what could and should have been disclosed earlier—the allegedly withheld truth.

Endnotes

- ¹ Comcast Corp. v. Behrend, No. 11–864, 569 U.S. ____ (2013), at 7, 8, emphasis in original.
- ² See, e.g., Memorandum and Order, In re BP p.l.c. Securities Litigation, MDL No. 10-md-2185, Civil Action No. 4:10-md-2185 (S.D. Tex., May 20, 2014), at 26, emphasis in original (“The Court reiterates its understanding that Plaintiffs’ task at the class certification stage is to present a legally viable, internally consistent, and truly classwide *approach* to calculating damages. Whether Plaintiffs have properly executed under the approach is a question for a different day.”).
- ³ The PSLRA included a new rule for calculating damages in securities litigation. Section 21D paragraph (e) stipulates that damages shall not exceed the difference between the purchase price and “the mean [average] trading price of that security during the 90-day period beginning on the date on which the information correcting the misstatement or omission” enters the market. In addition, in cases where the plaintiff sells prior to the end of the 90-day period, damages cannot exceed the difference between the purchase price and the average closing price between the corrective disclosure and the date(s) on which the sale(s) took place.
- ⁴ Robbins v. Koger Properties Inc., 116 F. 3d 1441 (11th Cir. 1997).
- ⁵ *Ibid.*, at 1447, n.5, emphasis added.
- ⁶ Dura Pharmaceuticals Inc. v. Broudo, 544 U.S. 336 (2005).
- ⁷ *Dura*, 544 U.S., at 344, 347, also states (citing the Restatement of Torts) that “a person who ‘misrepresents the financial condition of a corporation in order to sell its stock’ becomes liable to a relying purchaser ‘for the loss’ the purchaser sustains ‘when the facts . . . become generally known’ and ‘as a result’ share value ‘depreciate[s]’ and that “[t]he complaint’s failure to claim that Dura’s share price fell significantly after the truth became known suggests that the plaintiffs considered the allegation of purchase price inflation alone sufficient.”
- ⁸ *Ibid.*, at 342, emphasis in original.
- ⁹ This chart assumes tiered dollar inflation equal to the cumulative stock price declines on alleged corrective disclosure days—a methodology frequently employed by plaintiffs in securities class actions. The sole purpose of this chart is to introduce the concept of inflation. It is not meant to endorse any particular damages methodology.
- ¹⁰ This report does not take a position on precisely what comprises a “corrective disclosure”—or even whether a corrective disclosure must comprise a discrete event or can also comprise information that leaks out slowly over a longer period of time. The court in *In re Omnicom Group Inc. Securities Litigation*, No. 02 Civ. 4483 (WHP), 2008 WL 243788, slip op., at *5 (S.D.N.Y. Jan. 29, 2008) stated: “*Dura* does not require that a corrective disclosure ‘take a particular form or be of a particular quality. . . . It is the exposure of the falsity of the fraudulent representation that is the critical component of loss causation.’”
- ¹¹ It is also possible that, if the allegedly relevant truth was disclosed at the same time as other positive information, recoverable damages may exceed the residual price declines on the alleged corrective disclosure days.
- ¹² In cases where the relevant truth is never revealed to the market, establishing that none of the decline in the security’s value could have been caused by revelation of the alleged truth to the market does not require an event study.
- ¹³ See, e.g., Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, 11th ed. (New York: McGraw-Hill/Irwin, 2013), Chapter 13. See also Stephen J. Brown and Jerold B. Warner, “Using Daily Stock Returns: The Case of Event Studies,” *Journal of Financial Economics* 14 (1985): 3–31; John J. Binder, “On the Use of Multivariate Regression Model in Event Studies,” *Journal of Accounting Research* 23, no. 1 (Spring 1985): 370–83; and A. Craig MacKinlay, “Event Studies in Economics and Finance,” *Journal of Economic Literature* 35, no. 1 (March 1997): 13–39.
- ¹⁴ See, e.g., Eugene Fama, “Efficient Capital Markets: A Review of Theory and Empirical Work,” *Journal of Finance* 25, no. 2 (1970).
- ¹⁵ This is the semi-strong form of the efficient market hypothesis. The semi-strong form of the efficient market hypothesis is frequently used by courts. For example, the Supreme Court recently stated in *Amgen Inc. v. Connecticut Retirement Plans and Trust Funds*, No. 11–1085, 568 U.S. ____ (2013), at 1, that “[t]he fraud-on-the-market premise is that the price of a security traded in an efficient market will reflect all publicly available information about a company; accordingly, a buyer of the security may be presumed to have relied on that information in purchasing the security.”
- ¹⁶ James M. Patell and Mark A. Wolfson, “The Intraday Speed of Adjustment of Stock Prices to Earnings and Dividend Announcements,” *Journal of Financial Economics* 13, no. 2 (June 1984): 223–52.
- ¹⁷ Any stock price effects from news announcements made late in the trading day or after the close of trading may not be fully reflected until the next trading day.

- ¹⁸ Repetition of information is not always “old” news. For example, reiteration of prior earnings guidance may be unexpected good news when market pessimism regarding economy-wide and/or sector-wide prospects has increased subsequent to the time that the guidance was last provided to the market.
- ¹⁹ Sometimes the effects of economy-wide and sector-wide information can be extracted using a single index. For example, the performance of an industry index comprising firms in a particular sector may also account for relevant economy-wide effects.
- ²⁰ Because a regression model’s coefficients measure the average sensitivity to economy-wide and sector-wide information during the measurement period, a stock’s residual price change on a given day may reflect economy-wide and sector-wide information that was not fully extracted by the model, in addition to the effect of new, firm-specific information. Depending on the model and the movement of the market and/or industry, a company’s residual stock price change may be greater than its unadjusted stock price change.
- ²¹ Depending on the patterns of stock price volatility during the class period, a single benchmark or multiple benchmarks of “normal volatility” may be appropriate throughout the class period.
- ²² See, e.g., David H. Kaye and David A. Freedman, “Reference Guide on Statistics,” in *Reference Manual on Scientific Evidence*, 2nd ed. (Washington, DC, Federal Judicial Center, 2000), 124, internal citations omitted (“In practice, statistical analysts often use certain preset significance levels—typically .05 or .01. The .05 level [corresponding to a 95 percent confidence interval] is the most common in social science, and an analyst who speaks of ‘significant’ results without specifying the threshold probably is using this figure”); and Daniel L. Rubinfeld, “Reference Guide on Multiple Regression,” in *Reference Manual on Scientific Evidence*, 3rd ed. (Washington, DC, The National Academies Press, 2011), 320 (“In most scientific work, the level of statistical significance required to reject the null hypothesis (i.e., to obtain a statistically significant result) is set conventionally at 0.05, or 5%,” citing to *United States v. Delaware*, 2004 U.S. Dist. LEXIS 4560 (D. Del. Mar. 22, 2004), which states that “.05 is the normal standard chosen.”).
- ²³ See, e.g., In re Oracle Securities Litigation, 829 F. Supp. 1176, 1181 (N.D. Cal. 1993), paragraph break removed (“[The plaintiffs’ expert’s] analysis fails to distinguish between the fraud-related and non-fraud related influences on the stock’s price behavior. . . . Use of an event study or similar analysis is necessary more accurately to isolate the influences of information specific to Oracle which defendants allegedly have distorted. . . . As a result of his failure to employ such a study, the results reached by [the plaintiffs’ expert] cannot be evaluated by standard measures of statistical significance. Hence, the reliability of the magnitude and direction of his value estimates are incapable of verification.”). Additionally, for a review of the role of event studies in litigation settings, see Mark L. Mitchell and Jeffrey M. Netter, “The Role of Financial Economics in Securities Fraud Cases: Applications at the Securities and Exchange Commission,” *The Business Lawyer* 49 (February 1994): 545–90.
- ²⁴ In re Imperial Credit Industries Inc. Securities Litigation, 252 F. Supp. 2d 1005, 1015 (C.D. Cal. 2003).
- ²⁵ *Imperial Credit Industries*, 252 F. Supp. 2d, at 1015, cites to *Oracle* and others, including *In re Northern Telecom Securities Litigation*, 116 F. Supp. 2d 446 (S.D.N.Y. 2000) (“[The plaintiffs’ expert’s] testimony is fatally deficient in that he did not perform an event study or similar analysis to remove the effects on stock price of market and industry information and he did not challenge the event study performed by defendants’ expert”); and *In re Executive Telecard Ltd.*, 979 F. Supp. 1021 (S.D.N.Y. 1997) (finding an expert’s methodology not reliable because he failed to conduct an event study or regression analysis to detect whether stock price declines were the result of forces other than the alleged fraud).
- ²⁶ *Imperial Credit Industries*, 252 F. Supp. 2d, at 1015.
- ²⁷ While the allegedly withheld truth is intrinsically tied to the plaintiffs’ allegations, it is generally not specified in the complaint. Simply identifying allegedly false and misleading or corrective statements, as many complaints do, is generally insufficient to determine what allegedly should have been said in lieu of (or in addition to) the earlier alleged misrepresentations. For example, simply pointing to an allegedly misleading statement regarding demand and an allegedly corrective announcement of an earnings disappointment does not indicate what should have been said regarding demand at the time of the alleged misrepresentation. For this reason, among others, determining recoverable damages is generally not as simple as performing an event study to determine the statistical significance (or lack thereof) of stock price changes following alleged misrepresentations or corrective disclosures listed in the plaintiffs’ complaint—additional analysis is required.
- ²⁸ Although this report does not directly address the concept of price impact as discussed in the Supreme Court’s ruling in *Halliburton Co. v. Erica P. John Fund*, No. 13–317, 573 U.S. ____ (2014), much of the discussion contained herein regarding estimating damages is relevant to assessing price impact.
- ²⁹ Memorandum and Order, In re BP p.l.c. Securities Litigation, MDL No. 10-md-2185, Civil Action No. 4:10-md-2185 (S.D. Tex., Dec. 6, 2013).
- ³⁰ *Ibid.*, at 31.

About the Author

Kristin M. Feitzinger

M.B.A., M.S., B.S., Stanford University

Kristin Feitzinger is a vice president of Cornerstone Research. She has more than two decades of experience addressing securities and valuation issues arising in class actions, breach of contract, and general damages litigation. She particularly focuses on Rule 10b-5 and Section 11 disclosure cases involving equity and debt trades. Having consulted on more than a hundred securities cases, including some of the largest class actions in recent history, she has handled all aspects of securities litigation, directing research on market efficiency, loss causation, materiality, and damages issues. Ms. Feitzinger also consults on Securities and Exchange Commission matters.

Her experience spans all stages of the litigation process, including exposure analysis and settlement estimation; class certification; expert reports and depositions; summary judgment filings; and mediation, arbitration, trials, and regulatory agency hearings. Ms. Feitzinger is a frequent speaker on issues related to securities class and regulatory actions.

The views expressed in this report are solely those of the author, who is responsible for the content, and do not necessarily reflect the views of Cornerstone Research.

The author requests that you reference Cornerstone Research in any reprint of the information included in this study. Please direct any questions to:

Kristin M. Feitzinger
Cornerstone Research
650.470.7136
kfeitzinger@cornerstone.com

Cornerstone Research

For more than 25 years, Cornerstone Research staff have provided economic and financial analysis and expert testimony in all phases of complex litigation and regulatory proceedings. The firm's industry-leading research is recognized for its innovative reporting on securities class actions and modeling of settlement outcomes. Cornerstone Research staff have expertise in trade execution and pricing, risk management, market microstructure, public and private equity and fixed income, structured finance, and derivatives. Cornerstone Research has more than 500 staff and offices in Boston, Chicago, London, Los Angeles, Menlo Park, New York, San Francisco, and Washington.

www.cornerstone.com

