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## Hidden History of Securities Damages

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# Hidden History of Securities Damages

Allen Ferrell\*

*Approaches to calculating fraud on the market 10b-5 damages have evolved substantially from the 1970s to the present. In this Essay I discuss the various approaches used over this span of time, including the rise of the event study approach.*

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## I. INTRODUCTION

Oliver Wendell Holmes famously stated over a hundred years ago (in his 1897 lecture *The Path of the Law*) that “[f]or the rational study of the law the black-letter man may be the man of the present, but the man of the future is the man of statistics and the master of economics.”<sup>1</sup> No better proof of Holmes’s prescience can be found than Frank Easterbrook and Daniel Fischel’s *The Economic Structure of Corporate Law*.<sup>2</sup> This book pursues the rational study of corporate law by applying economic principles to its subject matter. Often clear and rigorous rational study is reflected in compelling prose. This is another point of commonality between Holmes’ writing and the *Economic Structure of*

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<sup>1</sup> Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 469 (1897).

<sup>2</sup> FRANK H. EASTERBROOK & DANIEL R. FISCHEL, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* (1991).

*Corporate Law*.<sup>3</sup> If a point can be made crisply and concisely, the authors do so.

My point of departure in this essay will be the economic analysis of securities damages in “fraud on the market” Rule 10b–5 cases, a subject discussed in the book<sup>4</sup> as well as Daniel Fischel’s seminal 1982 article.<sup>5</sup> These cases typically involve allegations that a publicly-traded company made materially false and/or misleading public statements that were then impounded into the price of the company’s stock (and possibly other securities of the firm, such as debt). The statements are presumed to be impounded into the stock price because the market quickly impounds all material public information (including materially false and/or misleading information), i.e., the market is “efficient.” These cases typically, although not inevitably, involve shareholder purchases made when the stock price was allegedly inflated as a result of materially false or misleading positive statements by the firm. Shareholders can thereby potentially be harmed by purchasing at “too high” a price and as a result suffer economic losses when the market learns the truth (usually at the moment when a “corrective disclosure” occurs revealing the information that could and should have been disclosed earlier) at some later point in time. Measurement of this economic harm is the goal when estimating securities damages. Section 11 cases, which involve materially misleading and/or false statements in a company’s registration statement, operate similarly except the burden of proof lies with defendants.

The economic analysis of securities damages in practice is largely hidden from public view. This might seem a strange statement given the substantial volume of securities class action lawsuits every year, going back decades. For instance, some 551 class action lawsuits were filed in the last two years alone (2020–2021).<sup>6</sup> But virtually all these cases are decided before trial (such as on a motion to dismiss) or settle. A mere thirty-three

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<sup>3</sup> I am reminded of a quip by Justice Scalia where he said that his goal for the Supreme Court Term was to have all his opinions combined together shorter than the longest opinion by another (rather wordy) member of the Court.

<sup>4</sup> EASTERBROOK & FISCHEL, *supra* note 2, at 344–45.

<sup>5</sup> See generally Daniel R. Fischel, *Use of Modern Finance Theory in Securities Fraud Cases Involving Actively Traded Securities*, 38 BUS LAW. 1 (1982).

<sup>6</sup> CORNERSTONE RSCH., SECURITIES CLASS ACTION FILINGS: 2021 YEAR IN REVIEW 4 (2022), <https://perma.cc/ES3C-SCCT>.

securities class action lawsuits have gone to trial since 1996.<sup>7</sup> While there are to be sure judicial decisions that discuss securities damages (and I will discuss a few) they are few and far between, and those that do exist tend to be at a high level of generality. Actual estimates of securities damages, and the analyses that underlie them, are for the most part contained either in expert reports submitted during the course of the litigation (either on behalf of the plaintiffs or the defendants) or in economic analyses presented to a securities mediator. These analyses are by and large confidential.

With this in mind, I will discuss in broad strokes how securities damage calculations have changed from the 1970s to today and how those changes relate to the insights contained in the *Economic Structure of Corporate Law* and in Fischel's 1982 article on the topic. As I will explain, their academic work has led the way in changing for the better the practice of estimating securities damages. Not coincidentally, these changes were also associated with deploying an ever-increasing financial sophistication in how securities damages are estimated. The need for combining legal acumen with sophisticated economic analysis in this area of law, the type of interdisciplinary analysis exemplified by the *Economic Structure of Corporate Law*, has never been greater.

## II. THE WILD WEST: 1970S–1993

I will begin my history with a landmark 1976 judicial opinion: Judge Sneed's well-known Ninth Circuit concurring opinion in *Green v. Occidental Petroleum Corp.*<sup>8</sup> In that opinion, Judge Sneed explained that securities damages could be calculated based on the difference between the actual price and a "value line."<sup>9</sup> The "value line" is the price that the security would have had but for the alleged materially false and/or misleading statements, i.e. the alleged securities fraud.<sup>10</sup> The difference between the two is the "inflation" in the stock price or, in other words, how much the price of the stock had been distorted by the alleged fraud.<sup>11</sup> Assuming inflation is positive, purchasers of the stock

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<sup>7</sup> Adam T. Savett, Levi & Korsinsky LLP, Securities Class Action Trials in the Post-PSLRA Era (June 2022) (unpublished presentation), available at <https://perma.cc/889P-72AR>.

<sup>8</sup> 541 F.2d 1335, 1341–46 (9th Cir. 1976) (Sneed, J., concurring in part and concurring in the result in part).

<sup>9</sup> *Id.* at 1342–46.

<sup>10</sup> *Id.*

<sup>11</sup> *Id.*

paid too much for the stock by virtue of the “inflation” in the stock at the time of purchase.<sup>12</sup> These same purchasers suffered economic losses when the “inflation” was removed from the stock price, such as when a disclosure revealed to the market the alleged fraud (“corrective disclosure”).<sup>13</sup> After the corrective disclosure, the actual price and the “value line” by definition converge as there is no longer any distortion in the price once the market knows the truth.<sup>14</sup> While Judge Sneed’s framework was enormously useful, it did leave unanswered the all-important question of how to measure the “value line”. The “value line” after all is a hypothetical price rather than an actual price.

#### A. Value Line Version 1.0

One approach that was occasionally used to estimate the “value line” during this time period was to simply take the price immediately after the corrective disclosure, which reveals to the market the information that should and could have been disclosed earlier. Suppose the stock price is \$200 at the time of purchase, the price immediately prior to the corrective disclosure is \$100 and immediately after the corrective disclosure is \$85. Using this approach, plaintiffs would simply take the \$85 as the “true value” of the stock as it was the market value immediately after the market was appraised of the truth, a benefit the market did not have in setting the market price prior to the corrective disclosure. If the stock price was \$200 at time of purchase, the “inflation” would therefore be \$115 ( $\$200 - \$85$ ) and, hence, securities damages per share would then simply be \$115 per share, assuming the investor held the shares when it dropped to \$85.

This simple approach to constructing the value line could hardly be called an economic analysis. Rather, there are a number of glaring flaws in such an approach. Turning back to the earlier example, the stock price fell from \$100 to \$85 when the corrective disclosure occurred but inflation is still estimated at \$115, a number far in excess of the \$15 stock drop. But logically the drop from \$200 to \$100 is presumably caused by nonfraud-related reasons for the simple reason that, during this time, the market had not yet learned of the alleged securities fraud. Such nonfraud-related reasons would include market and industry movements or firm-specific nonfraud related information. Indeed, the fall from \$100

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<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

to \$85 could likewise be the result, in whole or in part, of such nonfraud-related reasons (as well as being a result of normal random volatility in the stock). In short, such a simple procedure ignores all the nonfraud-related reasons stock prices move both prior to the corrective disclosure and contemporaneous with the corrective disclosure. As Easterbrook & Fischel forcefully argued, these are risks that the investor willingly takes on when making the investment in the first place.<sup>15</sup>

To be fair, the argument for using \$115 per share (assuming a purchase price of \$200) was sometimes justified as an economic matter by reasoning that absent the fraud the purchaser might never have purchased the share in the first place and hence would have thereby avoided the full economic losses on the purchase, i.e., \$115. In securities parlance, the notion that an investor would not have purchased the shares but for the fraud is often referred to as “transaction causation.” But once again, obvious problems present themselves with such an economic justification. If the purchaser would have invested the money in a different asset what is the basis for assuming that the purchaser would not have suffered any losses in that but for investment? And, perhaps more to the point, transaction causation as the economic basis for estimating securities damages does not lend itself to damages estimates in class actions.<sup>16</sup> Is it really true that, on a class-wide basis, but for the alleged securities fraud, all the members of the proposed class would have uniformly decided not to purchase the stock as opposed, for instance, to purchasing the stock at the value line, i.e., the price they would have obtained at the time of purchase but for the fraud? What would be the basis for such an assertion?

As one moves into the 1980s, Value Line Version 1.0 with all its flaws was supplanted by Value Line Version 2.0.

## B. Value Line Version 2.0

Responding to the failure of Value Line Version 1.0 to adjust the value line for market and industry movements, plaintiff experts adopted the so-called “comparable index” approach.<sup>17</sup> The comparable index approach represented a significant increase in economic sophistication, including the use of regression analysis

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<sup>15</sup> EASTERBROOK & FISCHEL, *supra* note 2.

<sup>16</sup> See, e.g., *Ludlow v. BP, P.L.C.*, 800 F.3d 674, 683 (5th Cir. 2015).

<sup>17</sup> See Bradford Cornell & R. Gregory Morgan, *Using Finance Theory to Measure Damages in Fraud on the Market Cases*, 37 UCLA L. REV. 883, 897 (1990) (labelling this the comparable index approach).

as we will see. And, indeed, the comparable index approach was commonly used by plaintiff experts in the 1980s and even into the 1990s (and on occasion even beyond).

Under this approach, plaintiffs' experts utilized a regression analysis to quantify the historical relationship between the stock price movements and movements in the market (often proxied by the S&P 500).<sup>18</sup> Suppose the regression analysis documents that a one percent movement in the market is associated with a two percent movement in the stock price (a beta of 2). On a day on which the market moves by one percent, the predicted return on that day would therefore be 2% ( $2 \times 1\%$ ). Or if the beta is found to be 0.5, this implies that if the market falls on a particular day the predicted return for that day is -0.5% ( $0.5 \times -1\%$ ).

With predicted returns so calculated, plaintiffs then assumed that the value line price moved on all days based solely on the stock's predicted returns, i.e., market movements. Consider the following example in which the class period begins Monday and the corrective disclosure occurs late Thursday with an ending price on Friday of \$85:

Day	Stock Price	Predicted return	Value Line	Inflation
Monday	\$200	-5%	\$110.16	\$89.84
Tuesday	\$180	-10%	\$104.65	\$75.35
Wednesday	\$120	-5%	\$94.18	\$25.82
Thursday	\$100	-5%	\$89.47	\$10.53
Friday	\$85		\$85	0

The value line price for Thursday is \$89.47, as 0.95 (representing a 5% predicted decline on Thursday) times \$89.47 generates \$85 on Friday. The rest of the value line prices are generated in similar fashion. Inflation is simply the difference between the actual price and the value line.

A glaring flaw with the comparable index approach is that any deviation between the predicted return and the actual return is automatically assumed to represent the impact of the fraud and the revelation thereof. For instance, in the above example, inflation falling from \$89.84 to \$10.53 implies that an investor who purchased on Monday and sold on Thursday (prior to the corrective disclosure) suffered damages of \$79.31 (inflation at time of purchase minus inflation at time of sale). But presumably the stock-price fall from \$200 to \$100 was entirely due to nonfraud

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<sup>18</sup> Later it became standard to include not only general market movements but also industry movements.

factors, including firm-specific nonfraud factors, because the corrective disclosure had not yet occurred.

This is not a minor oversight in the model. There is a great deal of firm-specific price movements that are not explainable by reference to market and industry movements.<sup>19</sup> Indeed, many securities class action cases involve companies that have declining stock prices because the company is performing poorly long before any corrective disclosure occurs. As for the corrective disclosure price movement itself, the price could likewise reflect nonfraud firm-specific information that is released alongside the corrective information (so-called “confounding information”). In the above example, the fall from \$100 to \$85 might have been caused, at least in part, by confounding information.

### C. Comparable Company Approach to Value Line

Another approach that was often used as a basis for estimating securities damages by plaintiffs during this time period (and on occasion even later in time) was the use of company multiples such as a price-to-earnings ratio or EBITDA-to-enterprise-value ratio.<sup>20</sup> Suppose a company falsely disclosed its earnings were \$3 billion when in reality it was just \$1 billion. Further suppose that “comparable companies”, i.e., companies in the “same” industry, trade at a price-to-earnings ratio on average (or with a median) of 15. Simply applying this P/E ratio to the misstated earnings (\$2 billion) would imply that the company’s total market equity capitalization was “inflated” by \$30 billion ( $\$2 \text{ billion} \times 15$ ). A per-share estimate of inflation would be obtained simply by dividing this amount by the total number of shares.

Even on its own terms, the comparable company approach to the value line would be limited to cases involving misstatements of a particular financial metric that then could be valued by reference to a comparable multiple. It is interesting to note that this approach does not use the stock price of the firm in question in analyzing the price impact of the misstated information (although the prices of other firms are being used) even though it supposedly is estimating the economic losses in that stock due to the alleged securities fraud.

Delaware jurisprudence has had long experience with valuing firms including comparable companies, albeit in the context

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<sup>19</sup> Richard Roll, *R-squared*, 43 J. FIN. 541, 557–66 (1988).

<sup>20</sup> SHANNON PRATT & ALINA V. NICULITA, *VALUING A BUSINESS: THE ANALYSIS AND APPRAISAL OF CLOSELY HELD COMPANIES* 251 (5th ed. 2008).



of corporate litigation rather than securities litigation. While to be sure the Delaware Court of Chancery will consider comparable multiples in valuation, the gold standard for valuation lies elsewhere: discounted cash flow analysis. A comparable company approach to valuation standing alone faces a tough road in Delaware courts.

The stance of the Delaware Court of Chancery is understandable given the challenges with using multiples as a basis for valuation. For instance, how does one define the set of comparable companies? As the name implies a key input to a comparable company analysis is a set of companies that are comparable to the firm being valued. As a valuation textbook explains, “microeconomic factors that drive the [comparable] companies should be sufficiently similar to the microeconomic factors that drive the subject company.”<sup>21</sup> To put it mildly, this can be a nontrivial and contested inquiry. Potential factors that have been cited by the Delaware Court of Chancery in defining industry include the firm’s growth prospects, maturity of business, size and product markets. Even when a set of comparable companies have been identified, their trading multiples can vary significantly. Does the company being valued more closely resemble the median of the comparable companies or some subset of the distribution?

Turning to the use of a comparable company multiple in estimating the securities damages, such as was done in the misstated earnings example above, there are yet further challenges on top of the ones identified by Delaware Chancery. After all, securities damages are concerned with generating a value line over time, rather than a valuation at just one moment in time as is typically the concern in Delaware Chancery. Does one constantly change the multiple being used over the class period? How often does the multiple change? How does one adjust the value line to include not only the value of the misstated information, such as the misstated \$2 billion in earnings in the example above, but also changes in market and industry factors (to the extent that these are not fully reflected in the multiple being used) or nonfraud firm-specific information that is potentially impacting over the class period the value of the firm, its stock price and the appropriate multiple for the company.

*Event Study methodology approach to the value line:* During the 1980s, Easterbrook and Fischel pointed the way to a different

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<sup>21</sup> *Id.* at 262.

and better approach: the use of the event study.<sup>22</sup> An event study is a widely used and generally accepted statistical framework for testing whether there was, in fact, a stock price movement associated with the disclosure of new value-relevant public information, such as a corrective disclosure, versus the stock price movement being a function of market and industry factors or random volatility. The general idea is that if there is a stock price movement (that is statistically significant) and it can reliably be ascribed to the corrective disclosure than this can be a basis for estimating the value line. More specifically, the stock price movement so measured reflects the “inflation” in the stock price that is now removed by virtue of the corrective disclosure.

The event study framework controls for market and industry effects (estimated with the use of a regression such as the one discussed in the context of the comparable index approach) on the stock price, thereby isolating the portion of the stock price movement that is firm-specific (the “abnormal return”). In the earlier example the abnormal return would be \$10 as the stock price fell from \$100 to \$85 with \$5 of the decline (5% of \$100) being explainable by market movements.

Moreover, the event study determines whether the observed abnormal return on a particular date, such as the date of the corrective disclosure, is outside the range of typical random stock price fluctuations observed for that stock. If the stock price movement is indistinguishable from random price fluctuations (i.e., falls within the confidence interval), the movement is fully explainable by movements in the market and industry and cannot be attributed to the new firm-specific information announced on the event date, such as a corrective disclosure date.<sup>23</sup> An abnormal return is typically considered “statistically significant” in an event study if it lies outside the 95% confidence interval (i.e., lies outside the range that accounts for 95% of random price fluctuations).

It is important to note that if there is a statistically significant price movement on the date of the corrective disclosure (or corrective disclosures) according to the event study that does not necessarily mean that this is the firm-specific price reaction to that information. As one textbook explains:

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<sup>22</sup> Fischel, *supra* note 6, at 17; EASTERBROOK & FISCHEL, *supra* note 2, at 326–29; *see also* Cornell & Morgan, *supra* note 18, at 903–23.

<sup>23</sup> *See, e.g.*, Charles J. Corrado, *Event Studies: A Methodology Review*, 51 ACCT. & FIN. 207, 209–11 (2011).

An event study can tell us that something happened, but it can't tell us *why*. To explain positive or negative abnormal returns, we must closely examine the events and institutions involved . . . . The event study technique does not eliminate the need to assess cause through deductive reasoning; it only . . . helps delineate what needs to be explained.<sup>24</sup>

One particularly important issue in this vein is confounding information: the possibility that contemporaneous with the disclosure of corrective information there is nonfraud related information also being released. In other words, if there is a statistically significant abnormal return on the corrective disclosure date, there is still the further question of what information can account for the price movement. This last inquiry of exploring what might explain statistically significant abnormal returns plays an important part in the evolution of securities damages estimates as we move forward in time, as we will see.

Generally speaking, plaintiff experts in the 1980s infrequently used the event study methodology. By and large, event study methodology was used, if at all, in the course of assessing plaintiff experts' value line generated using one of the other approaches to the value line. However, all this was to change in the 1990s.

### III. THE RISE OF THE EVENT STUDY: 1993–2005

The year 1993 marks an important demarcation point in the history of securities damages. This was the year that the Supreme Court decided *Daubert v. Merrell Dow Pharmaceuticals, Inc.*<sup>25</sup> The *Daubert* Court emphasized the gatekeeper role of courts to ensure that expert analysis comports with Federal Rule of Civil Procedure 703 which requires an expert to rely on facts and data “of a type reasonably relied upon by experts in the particular field in forming opinions upon the subject.”<sup>26</sup>

In the aftermath of the *Daubert* opinion, event study methodology became essentially required in many courts. For instance, the court in *In re Imperial Credit Industries, Inc. Securities Litigation*<sup>27</sup> excluded under *Daubert* a plaintiffs' expert damages report because the report did “not contain an event study or similar

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<sup>24</sup> RONALD J. GILSON & BERNARD S. BLACK, *THE LAW AND FINANCE OF CORPORATE ACQUISITIONS* 221 (2d ed. 1995) (emphasis in original).

<sup>25</sup> 509 U.S. 579 (1993).

<sup>26</sup> *Id.* at 595.

<sup>27</sup> 252 F. Supp. 2d 1005, 1015 (C.D. Cal. 2003).

analysis.” In so doing, the court noted that 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.”<sup>28</sup>

Indeed, the same year *Daubert* was decided, a lower court in the *In re Oracle Securities Litigation*<sup>29</sup> case strongly criticized the plaintiffs’ expert’s use of a price-to-earnings comparable company approach to the value line.<sup>30</sup> The court noted that this approach failed to adjust for nonfraud related reasons that might move stock price, including nonfraud firm-specific information and random volatility in the stock price. The court also noted that the failure to employ an event study meant that the “results reached by [plaintiffs’ expert] cannot be evaluated by standard measures of statistical significance.”<sup>31</sup> While the *Oracle Securities Litigation* decision did not involve a *Daubert* challenge to an expert, these observations would prove important in why courts began to require the use of an event study on pain of having the expert’s testimony excluded.

As a result of these developments, in the 1990s the comparable company approach to the value line dramatically declined in importance and frequency, as did the comparable index approach (Value Line Approach 2.0), both being supplanted by the event study methodology. In fact, shortly after the *Daubert* decision, it was standard practice at plaintiff law firms, such as Milberg Weiss (the dominant securities plaintiff law firm at the time), to run an event study at the very beginning of the litigation in order to understand potential securities damages.<sup>32</sup>

The rise of the event study methodology in the 1990s represents a significant advance on the prior approaches in terms of financial sophistication of assessing securities damages. An evolution in sophistication that continued as we will see into modern times. While event studies reigned supreme in the 1990s, there was still the important question of what to do with a statistically significant abnormal return associated with a corrective disclosure date in terms of generating the value line.

Two immediate issues presented themselves. The first is the issue of confounding information referenced earlier. What if alongside a corrective disclosure (such as an announcement that

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<sup>28</sup> *Id.*

<sup>29</sup> 829 F. Supp. 1176 (N.D. Cal. 1993).

<sup>30</sup> The defendants’ expert in this matter was Professor Fischel. *Id.* at 1181–82.

<sup>31</sup> *Id.* at 1181.

<sup>32</sup> Based on my conversations with securities lawyers at the time.

the firm misstated profits) there was negative nonfraud-related information also being released at the same time? What portion, if any, of a statistically significant abnormal return can be ascribed to the corrective disclosure given the potential price impact of the other negative information? An event study by itself cannot explain why there is abnormal return. Curiously, this issue was by and large glossed over or ignored during this time period in plaintiffs' expert analyses proffering damages estimates. Rather, like event studies in the 1980s, this issue mostly arose in the context of defendants' experts arguing that plaintiffs' expert damages analyses using the event study approach were overstated as some, or all, of the abnormal return did not represent damages arising from the alleged securities fraud but rather the price impact of contemporaneous nonfraud-related disclosures. These arguments were very rarely adjudicated, however, as the vast majority of cases that survived a motion to dismiss and summary judgment simply settled. The issue of confounding information, and the need to affirmatively address it when proffering a securities damage estimate, became far more prominent in the years after 2005, the year when the Supreme Court issued its decision in *Dura Pharmaceuticals, Inc. v. Broudo*<sup>33</sup> on securities damages and causation, which I will turn to shortly.

The second issue involves the mechanics of calculating the value line. Consider again the simple example of a stock which has a price of \$200 at the beginning of the class period and then over time falls to \$100. At this point there is an announcement of a corrective disclosure (with no confounding information) with the stock dropping from \$100 to \$85. Suppose the event study indicates that the abnormal price component of the \$15 price movement is \$10 and that the \$10 is statistically significant, i.e., not explainable by normal random volatility in the stock. Under the event study approach, what is the "inflation" at the beginning of the class period?

Plaintiffs' experts at this time would often use the "constant percentage" approach in answering this question. Mechanically, this meant that one takes the abnormal stock *return* ( $\$10/\$100 = 10\%$ ) and multiply that return percentage by the stock price to calculate inflation at any point in time. In this example, inflation would therefore be \$20 when the stock price was \$200 with that inflation falling to \$10 (when the stock price was \$100)

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<sup>33</sup> 544 U.S. 336 (2005).

immediately prior to the corrective disclosure and finally zero once the stock price is \$85 and the market has learned the truth.

In a situation where the stock price is falling prior to the corrective disclosure, which was and is quite common in securities cases, this approach would increase “inflation” earlier in the class period and hence securities damages relative to simply taking the dollar amount of the abnormal stock price movement (\$10) and applying it to the beginning of the class period and every point thereafter (the latter approach being called “constant dollar”). Using constant percentage, someone who purchased at \$200 and sold prior to the corrective disclosure at \$100 suffered economic losses of \$10 (\$20 inflation at time of purchase minus \$10 of inflation at time of sale) ascribable to the fraud according to the “constant percentage” approach. In other words, constant percentage can have the effect of causing inflation to fall as the stock price falls even prior to any corrective disclosure despite the fact that the stock price was falling presumably for nonfraud-related reasons during this period—whether that be market, industry or firm-specific information—given that the market had not learned of the corrective disclosure.

The need to identify when purchases occurred during the class period and how long those shares were held given that inflation varied over the class period led to the use of so-called trading models in the 1990s by plaintiffs’ experts. Essentially these models made assumptions about the types of traders in the marketplace and how long they held their shares for—assumptions that were largely if not entirely ungrounded in empirical data.<sup>34</sup> These models ran into significant problems under *Daubert*. The most important of these decisions was the *Kaufman v. Motorola*<sup>35</sup> opinion in 2000 in which the court excluded under *Daubert* a plaintiff expert’s trading model. In the years after *Kaufman v. Motorola* the use of trading models declined significantly and became quite infrequent after 2005.<sup>36</sup>

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<sup>34</sup> DANIEL R. FISCHER ET AL., NAT’L LEGAL CTR. FOR THE PUB. INT., *THE USE OF TRADING MODELS TO ESTIMATE AGGREGATE DAMAGES IN SECURITIES FRAUD LITIGATION: AN UPDATE* (2006).

<sup>35</sup> *Kaufman v. Motorola, Inc.*, No. 95 C 1069, 2000 WL 1506892, at \*1–2 (N.D. Ill. Sept. 21, 2000).

<sup>36</sup> In 2005 there was another judicial decision critical of trading models. See *In re Broadcom Corp. Sec. Litig.*, No. SACV01275GLTMLGX, 2005 WL 1403756, at \*2–3 (C.D. Cal. June 3, 2005).

## IV. THE MODERN ERA: 2005–PRESENT

Another Supreme Court decision, *Dura Pharmaceuticals*, marks the beginning of my last period. In discussing securities damages in “fraud on the market” Rule 10b–5 cases, the Court made several important observations. First, the Court explained that securities damages exist not to “provide investors with broad insurance against market losses, but to protect them against those economic losses that misrepresentations actually cause.”<sup>37</sup> The Court noted that economic losses by an investor can be caused not by the alleged misrepresentation but rather by “changed economic circumstances, changed investor expectations, new industry-specific or firm-specific facts, conditions, or other events.”<sup>38</sup> The Court went on to critically note that the securities complaint at issue in that case failed to “claim that [the company’s] share price fell significantly after the truth became known.”<sup>39</sup> The Court’s focus on when “the truth became known”<sup>40</sup> and whether or not that caused a share price reaction helped set the stage for the modern era of securities damages. I will now turn to two developments in the years after the *Dura* decision reflecting the Court’s emphasis on excluding non-fraud related economic losses from securities damages estimates.

First, the use of the constant percentage approach by plaintiffs’ experts offering a securities damages estimate dropped off dramatically in favor of the constant dollar approach after the *Dura* decision. It follows from the constant dollar approach that so-called “in and out” traders, investors that purchased during the class period but sold before the first purported corrective disclosure, are ineligible to be members of the class. Indeed, this is reflected in the holding of *Dura* itself: an investor who purchases at an inflated price and then sells at the same inflated price has not suffered any damages caused by the alleged securities fraud.

Second, the issue of confounding information became far more of a focal point. In a manner and degree that was not generally true in the 1990s, securities damage estimates needed to adequately distinguish and adjust for confounding information versus corrective information. For this reason, in part, analyst reports and market commentaries during the class period took on renewed importance as resources to understand what was

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<sup>37</sup> *Dura Pharms., Inc.*, 544 U.S. at 345.

<sup>38</sup> *Id.* at 343.

<sup>39</sup> *Id.* at 347.

<sup>40</sup> *Id.*

important to the market and why. The issue of confounding information was reflective of a broader level of technical sophistication in the securities damages analysis, a process that Easterbrook and Fischel were instrumental in starting.<sup>41</sup>

I will provide three examples of this increased technical sophistication in the context of event study analysis as illustrative of this trend. The traditional event study used in securities damages often used one-day event windows to estimate the abnormal return associated with a corrective disclosure. But suppose during that same trading day, albeit at a different point in time, there was nonfraud negative information released. While the abnormal return estimated using the one-day event window will capture the impact of both disclosures, an intraday event study can potentially isolate the impact of the corrective information.

Another important issue is that of “heteroscedasticity.” Heteroscedasticity is a potential serious problem as its presence violates the assumption of the regression underlying event studies.<sup>42</sup> An example of heteroscedasticity would be a situation in which the abnormal returns calculated by the event study increase in volatility over time. A standard way to correct a regression model which suffers from heteroscedasticity is to perform generalized least squares (GLS) regression when running an event study, which gives more weight to observations from periods believed to be more stable and less weight to observations from periods believed to be more volatile.<sup>43</sup>

My third example is based on Patton and Vernando, who examined whether the daily beta of a stock (typically estimated in an event study based on months of trading data prior to the event for which an abnormal return is being measured) increases with the release of the firm’s quarterly earnings announcement.<sup>44</sup> They find that in fact the daily beta can increase on this information event (and revert back to the old beta several days later).<sup>45</sup> This potential increase in the beta, an effect that would not be

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<sup>41</sup> See generally EASTERBROOK & FISCHEL, *supra* note 2; Fischel, *supra* note 6.

<sup>42</sup> See, e.g., JEFFREY M. WOOLDRIDGE, *INTRODUCTORY ECONOMETRICS: A MODERN APPROACH* 268–69 (5th ed. 2009). Wooldridge summarizes the problems caused by heteroscedasticity: “whenever the variance of the unobserved factors changes across different segments of the population . . . the OLS standard errors . . . are no longer valid for constructing confidence intervals and *t* statistics.” *Id.* The *t*-statistic is necessary to determine the statistical significance of individual dates, such as corrective disclosure dates.

<sup>43</sup> See, e.g., *id.* at 280–88.

<sup>44</sup> Andrew J. Patton & Michela Verardo, *Does Beta Move with News? Firm-Specific Information Flows and Learning About Profitability*, 25 R. FIN. STUD. 2789 (2012).

<sup>45</sup> *Id.* at 2789.



captured by traditional event study analysis, has been used in the context of securities damages event study analysis in measuring abnormal returns and whether they are statistically significant.<sup>46</sup>

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<sup>46</sup> See, e.g., *Smilovits v. First Solar, Inc.*, No. CV12-0555, 2019 WL 7282026, at \*11 (D. Ariz. Dec. 27, 2019).