

‘Fraud on the Market’ and the Economics of Securities Litigation Claims in Europe

Authors:

Benoit d’Udekem, Vice President

Chris Feige, Vice President

Marc Van Audenrode, Managing Principal

Hadrien Vasdeboncoeur, Manager

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1. Introduction

In most countries around the world, regulators require companies issuing securities that are bought and sold on stock exchanges to publicly disclose information that can have a material effect on those securities' prices. Disclosures are required to protect investors and ensure that they have accurate information about the financial position of the issuing company so that they can make appropriate judgments about the value of the securities.

Such disclosures typically are contained in the financial statements required by the agencies regulating securities transactions, as well as in other timely disclosures of price-relevant information such as press releases, proxy statements, and investor relations communications. However, if issuers do not disclose relevant information fully, correctly, or in a timely fashion, investors may have incorrect or incomplete information with which to make investment decisions, and that information is only corrected when the issuer makes 'corrective' or 'curative' disclosures. Regardless of whether the misstatements were intentional or simply oversights, investors may believe that the misstatements caused them to overpay when they purchased the securities and suffer losses as a result of any decline in share price at the time of the curative disclosures. These investors may bring claims against the issuing company, seeking damages to compensate for these losses.

For example, in one of the largest and most notorious cases of accounting misstatements and fraud, the US energy company Enron produced financial and other statements that portrayed it as a highly profitable company with limited risks from 1997 until its demise in 2001. Enron's shares traded at over \$90 per share in 2000, but as details regarding Enron's actual financial condition, as well as the extent of its misrepresentations, emerged in 2000 and 2001, the share price declined rapidly, ultimately reaching a price of less than \$1 before Enron filed for bankruptcy. Shareholders, including employees, filed actions against Enron, eventually winning a record-setting \$7.2 billion settlement.¹

Other misstatements, which may be less catastrophic, occur relatively frequently as companies provide multiple, typically extensive, financial statements each year, and make various public statements, which may contain misstated information. A key economic question in securities litigation is how to determine the amount of harm that can be attributed to the alleged misstatements and that may be considered as damages.

Securities litigation and the legal frameworks around the determination of damages have been developing in different jurisdictions in Europe over the past ten years. This white paper provides a brief overview of the classical approach to determining damages that is prevalent in many European jurisdictions; describes the alternative framework called 'Fraud on the Market' that has been commonly accepted in US courts; summarizes the evolving state of legal frameworks in some of the leading European jurisdictions; and explains the economics and practicalities of calculating inflation damages.

The authors of this paper provided economic assistance on the Fortis/Ageas and Steinhoff securities settlements, as well as on other securities claims and settlements in the UK, the Netherlands, Germany, and Belgium, among other jurisdictions.

¹ Note that the settlements in the Enron case were paid by co-defendants, not Enron itself.

2. Traditional Economic Damages Analysis

Different legal jurisdictions throughout the world have developed different systems for dealing with investor claims resulting from financial misstatements, but one of the primary differences relates to the mechanism for recognizing harm, estimating claims, and awarding damages.

Generally, the classic economic concept of damages is based on 'rescission', which seeks to 'rescind' or 'unwind' transactions in order to restore all parties to the positions they would have been in had the transactions never taken place.

A classic approach to damages would require investors to establish several links between the alleged misstatements and the investors' individual investment decisions and activities:

- First, that the misstatement was relevant to the investor's assessment of value and that she would have valued the security meaningfully differently had the misstatement not been made (*materiality*).
- Second, that her decision to purchase or sell the security relied upon on the misstatement and that, absent the misstatement, she would have made different investment decisions (*reliance*).
- Third, that had she made those alternative decisions, her investment would have been more profitable (or lost less) than her actual investment, and therefore that she suffered harm (*loss causation*).

The requirement to prove these links creates a significant burden for investors. For example, institutional investors may build models that estimate the value of a particular security but may also use sector and market-wide modelling tools, and combine those with a review of industry publications, analyst reports, insights gained in meetings with the company, and various other pieces of information that guide their investment decisions. For such investors to prove that, absent the misstatement, they would have made a different investment decision that would have been more profitable requires a significant amount of analysis of their models, documents, and information.

3. Fraud on the Market and Inflation Damages

In the US, a framework commonly known as 'Fraud on the Market' has been generally accepted for over thirty years, and has begun to become more accepted in European jurisdictions. The Fraud on the Market framework includes a presumption that any investor who purchased (or sold) shares in the open market² from the time the misstatements were made can be assumed to have relied upon those misstatements in making her investment decision.³ Thus, the Fraud on the Market framework removes a considerable burden of proof for individual

2 Open market refers to the secondary market for shares where shareholders have purchased shares from other market participants. There are often different laws and frameworks relevant to shares purchased directly from the issuer.

3 This assumption is premised on the efficiency of financial markets, namely that the share price at any given moment reflects all the publicly available information about the underlying firm. That is, as the effect of any disclosures by a company are deemed to be immediately incorporated into the share price, investors are deemed to have been influenced by the misstatements, regardless of whether they were aware of the disclosure itself. A detailed discussion of this so-called 'semi-strong' market efficiency assumption, and alternative assumptions, is beyond the scope of this article. In the US, plaintiffs often need to show that the market for the security at issue is efficient to show that Fraud on the Market applies.

claimants, who need only demonstrate that the misstatements had a material impact on the value of the securities at the time they transacted.

Within the Fraud on the Market framework, the approach to damages is often different than under a rescission approach. Under the Fraud on the Market framework, rather than calculating damages based on the cost to rescind the transaction entirely, it is assumed that investors would have bought or sold the shares when they actually did, but at the prices that would have prevailed had there not been misstatements. As a result, estimating damages under Fraud on the Market typically requires estimating what the share price would have been 'but for' the misstatements (ie, in a counterfactual world absent the misstatements).

Because in most (but not all) cases the effect of a misstatement is to inflate the share price relative to what it would have been, the difference between the actual and counterfactual price is termed 'inflation', and the damages calculated under this method are sometimes referred to as 'inflation damages.'⁴

One important additional component of the Fraud on the Market approach is that it makes class or collective actions in securities litigation more likely and easier for claimants. The individual inquiry into each investor's investment process and reliance on a misstatement required in a classical damages approach means that there is limited benefit to groups of claimants bringing claims together, as they will each have separate reliance cases. Under Fraud on the Market, this individual inquiry is not required, so groups of claimants can more easily work together and bring collective or class actions. Similarly, settlements can be reached more easily, where all claimants' claims can be valued in a consistent manner under inflation damages where they are assumed to have relied on the misstatements.⁵ For example, the authors of this article were recently involved in developing the economics and claim approach in the Steinhoff securities settlement⁶, where claimants who purchased shares in the secondary market were compensated based on their inflation damages claims.

4. Overview of Securities Litigation Damages Approaches in Europe

Outside of the US, securities litigation historically has been relatively rare. However, in recent years, some European jurisdictions have begun to adopt elements of the Fraud on the Market framework and inflation damages, along with other legislative developments, which in turn have accompanied increased class and collective securities litigation. Below is a brief summary of developments in some of the key jurisdictions for securities litigation in Europe.

4 Often called 'out-of-pocket' damages in the US.

5 This follows from the point that, under rescission damages, the claimants often have the burden of proof to demonstrate that, absent the misstatements, they would have valued the shares differently and made different investment decisions. That is, they must show how misstatements would have affected their own valuation of the shares. In an inflation damages framework, the misstatements are deemed to have affected the prevailing market price of the shares, which affects all investors, and the inflation amount is estimated by reference to the market price. Thus, while investors may have purchased shares at different points in time, their damages are estimated from a common basis, the market share price inflation.

6 Steinhoff Global Settlement, <https://www.steinhoffsettlement.com>.

Netherlands: From 2005 to 2021, five settlements had been reached under the Collective Settlement of Mass Damage Act (WCAM), the Dutch collective actions procedure in which investors alleged damages because of purported misrepresentations made by listed companies: *Dexia Bank* (2007)⁷, *Vedior* (2009)⁸, *Shell* (2009)⁹, *Converium* (2012)¹⁰ and *Fortis/Ageas* (2017–18).¹¹ Similarly, in late 2021, *Steinhoff* entered a global settlement, outside of WCAM, with a range of investors alleging harm due to accounting misstatements made by the company. All of these settlements relied to some degree on the assumption that all investors purchasing on the open market were assumed to have relied on the alleged misstatements, and therefore effectively incorporated the Fraud on the Market framework. In addition, *Ageas* and *Steinhoff* relied upon the inflation damages approach to calculating claims and damages.

As of 1 January 2020, the new Mass Damage Settlement Act in Collective Action (WAMCA) became law.¹² This law does not change the Fraud on the Market or damages approach, but allows for damages compensation in one collective procedure, through the intervention of an interest group (without claims being filed individually), which is more akin to a traditional class action. As of January 2022, several pending cases had been filed under the WAMCA seeking monetary damages, but none of them had been resolved.¹³

Germany: The main frameworks for pursuing misstatement claims in Germany are Sections 97 and 98 of WpHG (the Securities Trading Act), which allow investors to claim the difference between the actual price paid and the but-for price had the issuer made timely disclosures. In this respect, claims made under Sections 97 and 98 of WpHG closely align with the Fraud on the Market theory of damages and the inflation approach to damages calculations. Alternatively, under tort law (specifically under Section 826 BGB), investors may seek rescission damages intended to unwind the transaction and return the shares back to the company. In these cases, investors must prove reliance to make successful damages claims.

France: Shareholders of public companies in France may pursue civil actions against the issuer, its directors or officers, and former management, although there is no mechanism for class action in securities cases. In these civil actions, the French Supreme Court has held that reliance can be presumed and that claimants do not need to demonstrate that the misstatements affected the share price, effectively adopting a Fraud on the Market approach. At the same time, damages are limited to the 'loss of opportunity' from the misstatements. That is, investors may only be compensated for being unable to make a better investment decision based on accurate information, and

7 Court of Appeal of Amsterdam, 'ECLI:NL:GHAMS:2007:AZ7033 (Dexia Bank)', 25 January 2007.

8 Court of Appeal of Amsterdam, 'ECLI:NL:GHAMS:2009:BJ2691 (Vedior)', 15 July 2009.

9 Court of Appeal of Amsterdam 'ECLI:NL:GHAMS:2009:BI5744 (Shell)' (fn. 68).

10 Court of Appeal of Amsterdam, 'ECLI:NL:GHAMS:2010:BO3908', 12 November 2010; Court of Appeal of Amsterdam, 'ECLI:NL:GHAMS:2012:BV1026 (Converium)', 17 January 2012.

11 Court of Appeal of Amsterdam 'ECLI:NL:GHAMS:2017:2257 (Ageas I)' (fn. 15); Court of Appeal of Amsterdam 'ECLI:NL:GHAMS:2018:2422 (Ageas II)' (fn. 15). Two settlement agreements were submitted to the court. The first settlement agreement was not declared binding by the court primarily because of unjustified differences in treatment between the claimants who had been involved in pre-settlement litigation and those who had not. The second, revised settlement agreement was declared binding for all parties, but only after these differences had been reduced and justified.

12 The new article 3:305a of the Dutch Civil Code.

13 Although the WAMCA became effective in 2020, this law offers the possibility of claiming damages in a collective action for events that occurred on or after 15 November 2016. At the time of this writing, the Central Register of Collective Actions indicates that 45 writs have been registered.

courts have tended to award the same indemnity per share to all claimants in such cases rather than assessing individual circumstances. While the indemnification of lost opportunity is more limited than the full restitution of the claimants' position under a rescission approach, it does not align with inflation, where claimants are compensated for the difference between the price paid (or received) and what the price should have been absent the misstatements.

UK: In the UK, the primary statutory mechanism for shareholders to bring claims is Section 90 / Schedule 10 and Section 90A / Schedule 10A of the Financial Services and Markets Act 2000 (FSMA). While there have been limited claims brought under these provisions to date, by 2022 there had been an increase in such claims. These sections of FSMA provide that investors of UK-listed securities may hold the issuers liable for losses caused by misstatements, omissions, or delays of information in relation to the securities in certain circumstances. Section 90 / Schedule 10 pertains specifically to misstatements or omissions in relation to listing materials, also known as prospectus liability, and does not require claimants to prove reliance. In contrast, Section 90A / Schedule 10A claims pertain to 'open market' liability and cover all other misstatements or omissions by issuers, as well as dishonest delays in providing information. Such claims (except for dishonest delay) do require claimants to prove reliance.

While damages theories associated with Section 90A / Schedule 10A historically have not been extensively tested in UK courts, the courts generally have ruled that claimants need to individually prove reliance. For example, in *Tesco*, which tested the UK legal framework, the court held that 'reliance will ultimately have to be established in the case of each investor'.¹⁴ This finding was reaffirmed in the subsequent *HP/Autonomy* judgment, and, as a result, UK courts seem to have rejected the Fraud on the Market theory.

Tesco settled before the court could reach a conclusion on the appropriate damages calculation methodology. However, the *HP/Autonomy* judgment found that the approach to damages will be fact-specific. As such, the decision over whether damages will be based on the assumption that claimants would have purchased shares at a different price, or would have never purchased shares and made a different investment altogether, is based on the specific facts of the case. A separate trial was required to decide exactly how the damages will be calculated in *HP/Autonomy*, and additional cases, such as the *RSA* trial, will likely further define the damages approach in UK courts.

5. Economics of Estimating Share Price Inflation

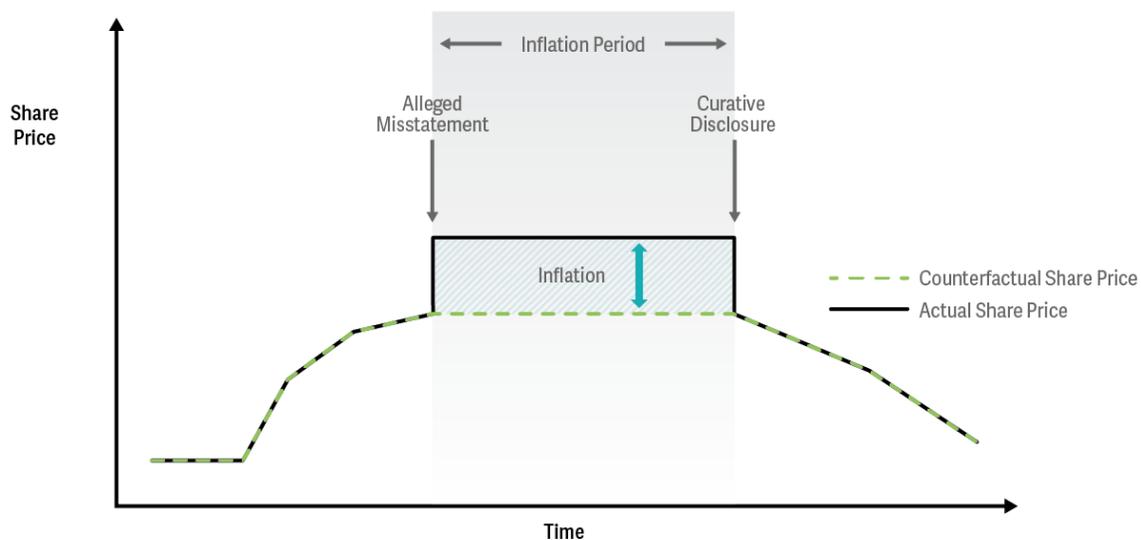
The remainder of this paper will discuss in detail how inflation damages under the Fraud on the Market framework are calculated, highlighting significant nuances. As securities litigation continues to develop across European jurisdictions, this approach to estimating economic harm is expected to become increasingly relevant. While this discussion is focused on the practicalities of estimating damages, it is intended for a broad range of practitioners to develop an understanding of the work of economists supporting these cases.

¹⁴ <https://hsfnotes.com/bankinglitigation/2019/12/16/high-court-orders-claimants-to-provide-disclosure-to-prove-investment-decisions-were-made-in-reliance-on-defective-publications-in-the-tesco-section-90a-fsma-group-litigation/>

a. Share Price Inflation Over the Inflation Period

Figure 1 illustrates the concept of Fraud on the Market by comparing the actual share price of a hypothetical issuer (black line) in a world where an issuer made misstatements, and a counterfactual or 'but-for' share price (dashed green line) in a world where the issuer did not make misstatements.¹⁵ Once the issuer makes the alleged misstatement, the actual share price remains inflated above the counterfactual share price until the firm provides the correct information to the public in one or more curative disclosures.¹⁶ This period of time is often called the 'inflation period'.

Figure 1
Illustration of Share Price Inflation



For example, imagine a company that overstated its EBITDA in its half-year financial statement. The company later recognises the misstatement and makes a curative disclosure to provide the correct EBITDA to the market. On the date of the curative disclosure, one might expect the share price to decline, as the market had previously factored the higher EBITDA into its evaluation of the company and may revise its valuation of the company to account for the lower EBITDA. The amount that the market overvalued a share of the company as a result of the overstatement of EBITDA is equal to the inflation in the share price.

¹⁵ For clarity, the share price is shown as staying at a single level, but in practice, market prices rise and fall during the inflation period for reasons unrelated to the misstatements.

¹⁶ The same principles apply to cases where misinformation results in artificially low share prices. The difference between the firm's counterfactual and actual share prices is then known as deflation. To incur damages, investors must have sold shares at artificially deflated prices and not have repurchased them at deflated prices. This may occur, for instance, in the event of short-selling where a short seller borrows and then sells shares at a deflated price but repurchases shares, to return to the lender of shares, after the disclosure when the deflation is removed from the share price.

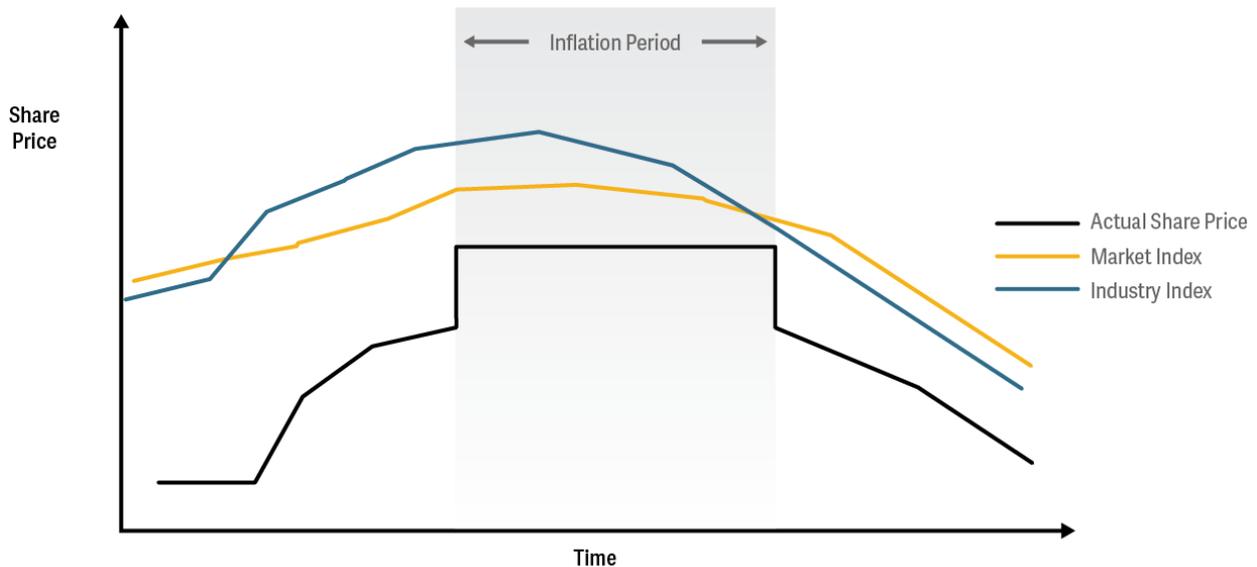
Investors who purchased shares during the inflation period overpaid for each share by the amount of the inflation, while investors who sold shares during the inflation period were overpaid by the same amount. Investors who bought during the inflation period but sold their shares while the price was still inflated by the same amount would not be damaged.

b. Use of Market Models and Event Studies

Calculating inflation requires estimating the counterfactual share price. This is typically done by evaluating the share price reaction to the curative disclosure.¹⁷ However, it is important to not simply compare the share price before and after the misstatement, as the share price would also be expected to change on the date of the curative disclosure due to factors unrelated to the curative disclosure. To estimate inflation, one must identify the share price change that would be expected absent the curative disclosure, and remove that component from the actual price change, leaving only the share price change associated with the curative disclosure.

As a first step in identifying the expected change in the share price absent the curative disclosure, economists typically build a market model, which can be used to predict the return of the at-issue shares on the disclosure date (ie, daily change in share price), based on the returns of market and peer indices. As in Figure 2, the market index (orange) and the industry index (blue) might move in similar patterns to the share price of the company that made the misstatement, but each would have daily variations and somewhat different longer-term trends.

Figure 2
Use of Indexes in Market Models

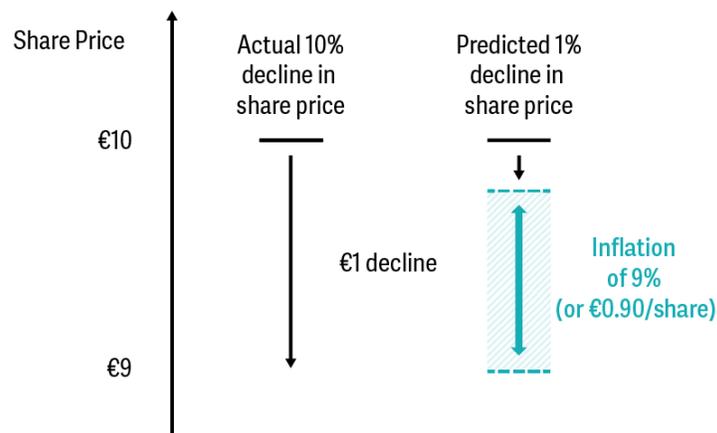


¹⁷ Evaluating inflation as of the date of the curative disclosure is perhaps the most common approach; however, an alternative approach can be to estimate the inflation at the date of the misstatement. This approach works when the misstatement is not confounded by releases of other, unrelated information, and when the misstatement is an affirmative misstatement to which the market can react. In contrast, when a misstatement involves the omission of information, estimating inflation as of the date of the misstatement is inappropriate, since the market cannot reasonably react to omitted information.

Regression analysis allows economists to evaluate how the historical returns for the indices relate to the returns of the company that made the misstatement prior to the curative disclosure. Using the results of the regression, we can then use the returns of the indices on the date of the curative disclosure to predict the return of the at-issue shares on that date.

Once we have the predicted return (based on the market and industry indices) on the date of the curative disclosure, we can subtract that from the total return on the date of the curative disclosure. As shown in Figure 3, for example, if the share price declined by 10% on the date of the curative disclosure, but the market model predicted that the share price would have declined by 1% simply based on market and industry indices, one could conclude that the 'abnormal' return, which is the portion of the return not explained by the market model, is 9% (10% – 1%).¹⁸ This abnormal return is the estimate of the impact of company-specific news, and may be the basis for an estimate of inflation, assuming, as discussed below, that the finding is statistically significant, and that no other information is disclosed on the same date that may have (at least partly) caused the share price to change.

Figure 3
Illustration of Inflation Estimate



c. Determining Significance

It is important to note that a market model does not predict the exact return on any date, whether it was a curative disclosure date or not. Individual share returns do not move in lockstep with the overall market or other indices. As a result, there are abnormal returns on most days, often considered to be 'noise' resulting from a wide array of investors interpreting information and executing trades in the market.¹⁹ Thus, an abnormal return on the curative disclosure date cannot automatically be assumed to be caused by the curative disclosure or any other company-

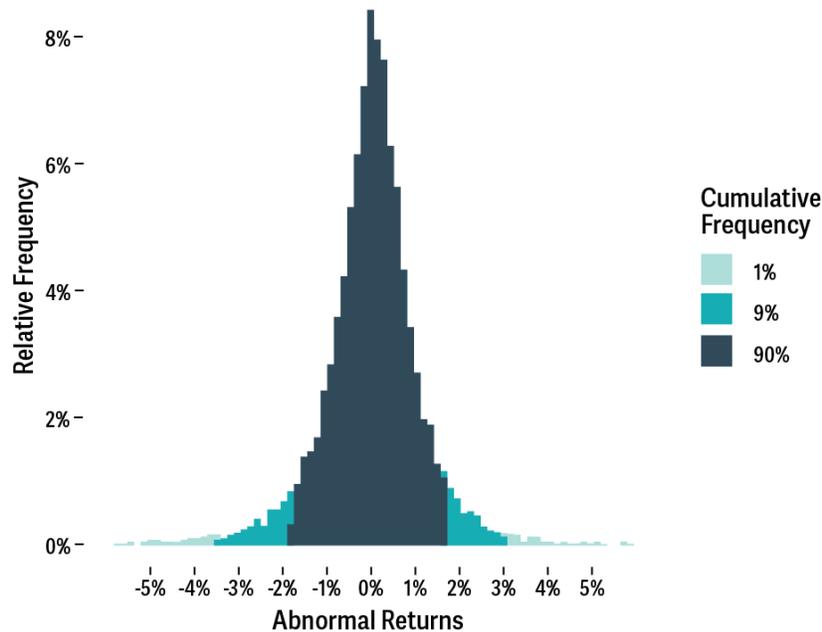
¹⁸ Corrado (fn. 46) at 209–210.

¹⁹ In economic terms this is known as the predictive 'error' of the model.

specific news on that date. Instead, the abnormal return must be 'statistically significant' – that is, it must be large enough for one to conclude that it was not caused by normal fluctuations and market noise.²⁰

To test the statistical significance of an abnormal return, economists look at the range and frequency of historical abnormal returns using the same market model and evaluate whether a particular abnormal return is large or small relative to prior ones. For example, Figure 4 shows a distribution of abnormal returns.²¹ A relatively larger abnormal return will be more likely to fall into the lighter blue tails, where it is larger than 90% or 99% of all abnormal returns.²² An abnormal return that falls into these tails would then be considered to be statistically significant using a 90%, 95%, or 99% threshold. In US courts, the conventional threshold at which abnormal returns are considered statistically significant is often the 90% or 95% probability level.^{23,24}

Figure 4
Distribution of Abnormal Returns



20 Baker (fn. 8) at 1232.

21 In this plot, the horizontal axis shows a hypothetical range of observed abnormal returns while the vertical axis shows the frequency at which each level of abnormal return occurs, totaling 100% across all observations. For instance, in this plot approximately 8% of abnormal returns are 0%.

22 For instance, the dark blue shading indicates that 90% of all abnormal returns fall within the range of +/- 2%. An abnormal return of 5% in this case would be larger than at least 90% of observed abnormal returns.

23 Gold, Korman, and Nabi, 'Federal Securities Acts and Area of Expert Analysis', *Litigation Services Handbook: The Role of the Financial Expert, 6th Edition*, edited by Weil, Lentz and Evans, John Wiley & Sons, 2017.

24 Note that these statistical significance levels are not definitive thresholds, but rather a statistical finding of confidence. That is, the abnormal return is deemed highly unlikely to be due to random noise in the data.

d. Calculating Per-Share Inflation

If the abnormal return on the date of the curative disclosure is statistically significant and there is no confounding information (discussed below), then the abnormal return can be used to calculate the inflation in the share price. This calculation effectively turns the abnormal return into a per-share inflation value. In the example above, illustrated in Figure 3, the actual return was a 10% decline, while the return predicted by the market model was a 1% decline, and therefore, the abnormal return was a 9% decline.

If there is only one misstatement and one curative disclosure, the estimate of inflation throughout the entire inflation period would be based on the abnormal return at the point of that curative disclosure. Often the inflation may remain a fixed amount – for example, in Euro terms – throughout the inflation period if the misstatement would have a fixed impact on share price. In other cases, it may be fixed in percentage terms if the impact would change as the share price changes. In still other cases, a misstatement may be tied to an underlying factor that changes in value over time, such that inflation fluctuates in relation to another indicator. For example, the inflation associated with a misstatement about ownership of an oil field may fluctuate over time as oil prices change. Ultimately, case-specific circumstances define how the inflation determined at the time of the curative disclosure applies throughout the inflation period.

6. Additional Complexities in Estimating Share Price Inflation

a. Confounding Information Unrelated to Misstatements

An important factor to keep in mind is that curative disclosures are not always the sole piece of relevant information in the market on the date of the curative disclosure, and that there may be additional unrelated disclosures, ie, 'confounding information' that could cause an abnormal return. The event studies discussed above are structured such that they can only identify the total abnormal, or company-specific, return on a particular date, but cannot individually identify or isolate the impact of multiple disclosures (ie, other than curative disclosures) on the same date, especially if the unrelated disclosures are made in the same information release. For example, it is not unusual for curative disclosures to be made alongside other financial information releases, such as preliminary earnings estimates or financial statements. The release of such information can also cause share price reactions.

If there are multiple price-relevant pieces of information disclosed to the market on the date of a curative disclosure, the entire abnormal decline in the share price on the date of the curative disclosure may not have been caused by the curative disclosure. As a result, the abnormal return may not be an appropriate estimate of the inflation in the share price. In our example above, we assumed that the entire 9% abnormal return resulted from the curative disclosure. However, it would be crucial to evaluate whether there was other price-relevant news released by the company, or released into the market, on the curative disclosure date.

Relatedly, even if all the news on the curative disclosure date is related to the curative disclosure, it is also important to consider whether all of the information in that disclosure could have been disclosed earlier and, if so, when. For example, 'event-driven' securities claims are often made, in which the curative disclosure is a negative event that affected the company, such as an accident. The allegations are often that the company misled investors about the risks of such an accident or its safety practices by failing to disclose the risks fully. However, when the accident happens the price reacts, at least in part, to the accident itself, not solely to the disclosure of the higher

risk of that accident. As a result, an abnormal return on this date would be partially due to the accident, and partially due to the disclosure of the higher-than-understood risk of the accident, which would be the basis for a shareholder claim.

There is no simple or commonly accepted practice to deal with confounding information, and when it exists on the date of a curative disclosure, creative, case-specific solutions are typically needed. For example, if the inflation can be estimated at a different point in time using market reactions to the initial misstatement, that can be a solution, although this may be challenging in practice as initial misstatements often involve a failure to disclose information and may not lead to a price impact.²⁵ Alternatively, identifying ways to allocate the abnormal return between the relevant misstatement and other confounding information is a possibility. However, depending on the details of the misstatement and the confounding information, this can be difficult. Ultimately, the existence of confounding information means that an abnormal return cannot be assumed to be solely due to a disclosure, and the evaluation of how to identify the abnormal return that can be attributed to the disclosure can be complex and must be done on a case-by-case basis.

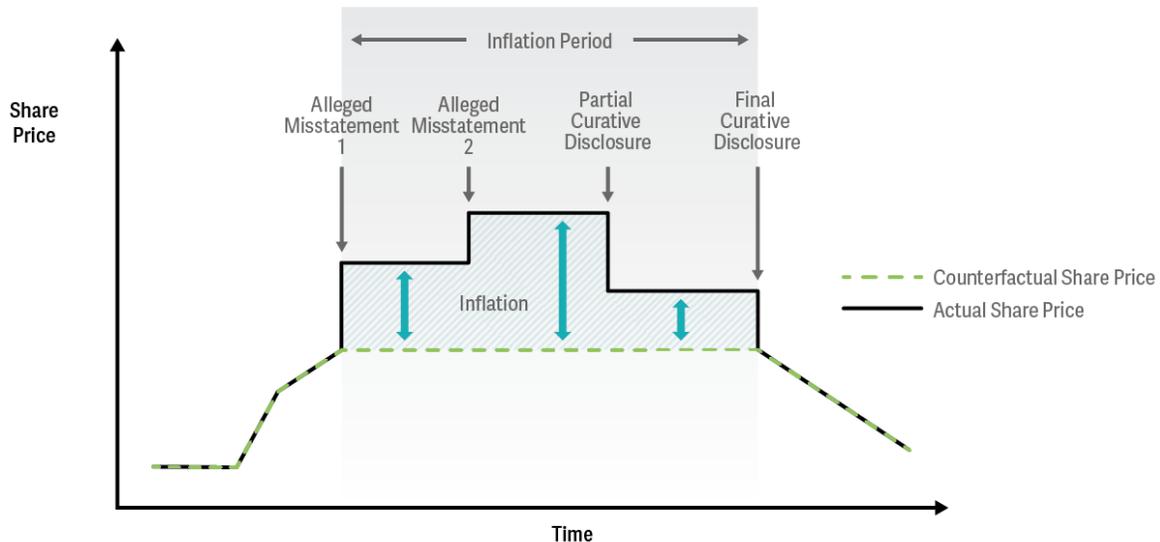
b. Multiple Misstatements and/or Curative Disclosures

The analysis presented above simplifies typical cases of misstatements and assumes that there is one misstatement and one curative disclosure. However, it is not uncommon for a firm that makes a misstatement on one date to make additional misstatements on other dates. For example, a firm that misstates its EBITDA in one period may make further EBITDA misstatements in later periods such that the total misstatement of EBITDA increases over time. Likewise, a firm may provide a curative, but incomplete, disclosure of a misstatement. For example, the firm may initially announce that EBITDA was likely overstated by between €10 million and €20 million, and upon further investigation, disclose that EBITDA was overstated by €50 million.

As illustrated in Figure 5, one can imagine an initial misstatement leading to an inflated share price, followed by a second misstatement that leads to further inflation. Then a partial curative disclosure could be made that reduces inflation, followed by a final curative disclosure that fully eliminates all inflation.

²⁵ These so-called 'price maintenance' varieties of securities cases are common where firms are alleged to have withheld negative news from the market. In these cases, the share price at the time of the misstatement may not actually change, but would have declined in a but-for world where the firm discloses the right information. For instance, a technology firm may fail to disclose that its new product has failed to meet expectations or will be delayed.

Figure 5
Multiple Misstatements and Curative Disclosures



In cases of multiple misstatements and/or curative disclosures, the same approaches to estimating inflation discussed above can be used, but the amount of per-share inflation may change over the inflation period. Additional misstatements may increase the amount of the inflation in the share price, and partial curative disclosures may reduce the amount of the inflation in the share price, without fully eliminating the inflation.

7. Calculating Inflation Damages

Using the inflation estimate, damages can be calculated as the difference between the total amount the investor overpaid on all share purchases during the inflation period, less the total amount the investor was overpaid on all share sales during the inflation period.²⁶

The simplest approach to calculating inflation damages is to take all purchases and sales of shares by a particular investor and calculate the inflation at the time of each purchase and each sale (with all purchases and sales before and after the inflation period incurring no inflation damages). In practice, however, purchases and sales are often matched such that one can think about a particular share's purchase and sale date and the net inflation associated

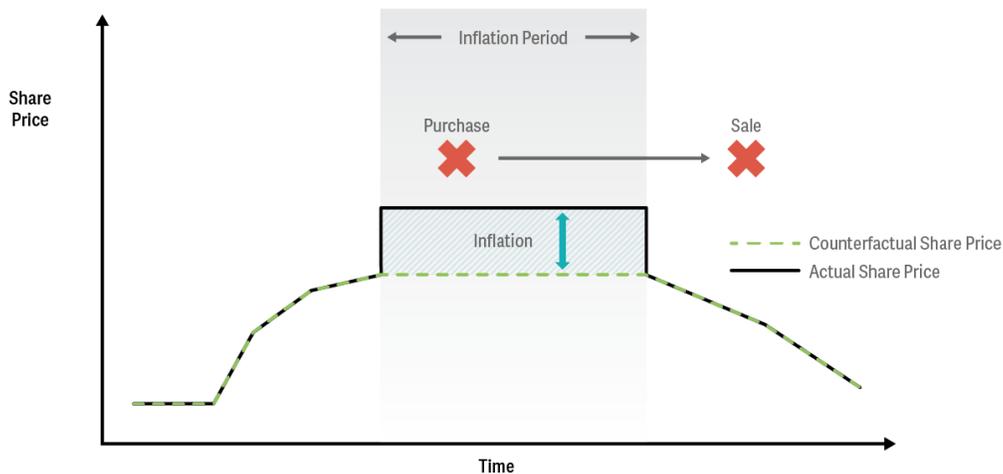
²⁶ In many cases, claims are limited to the amount of actual total losses for a particular shareholder. As such, a shareholder may have calculated inflation damages, but if the shareholder made a profit on her purchases and sales of shares, she may not have a viable claim.

with a particular share.^{27,28} Damages calculations sometimes rely on such share matching, which can be done using a last-in-first-out ('LIFO') or first-in-first-out ('FIFO') approach, and include in the damages calculation only paired purchases and sales that are purchased during the inflation period and held through the date of a curative disclosure. A full description of LIFO and FIFO, the impact of the selection, and the preferences of various courts is beyond the scope of this article, although it should be noted that these approaches are well established and used in the field of accounting, among others.

To illustrate the impact of different purchase and sale dates on the calculation of inflation damages, it is easiest to simply imagine a share that is purchased and then sold (or held to the present). The overarching logic is that for a particular share, inflation damages are equal to the inflation on the purchase date less the inflation on the sale date. Below we present three combinations to illustrate the calculation in different purchase and sale date scenarios.

Share purchased during the inflation period and sold after the inflation period: In Figure 6 below, we consider a share that was purchased during the inflation period and sold after the inflation period. This share was purchased at an inflated value, but was sold at no inflation. If we calculate that inflation is €0.90, this share would have €0.90 purchase inflation, less €0 sale inflation, for a total inflation damage of €0.90.²⁹

Figure 6
Share Purchased During and Sold After the Inflation Period



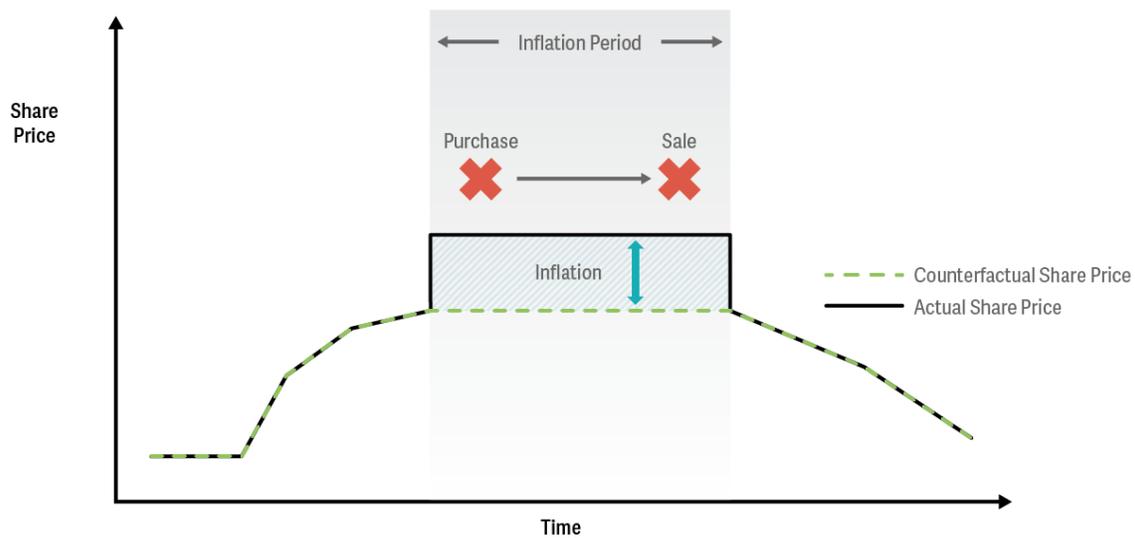
27 That is, for each share, the purchase and sale inflation amounts are netted to arrive at a net inflation amount for that share. In some cases, the inflation for the purchase or sale may be 0, as discussed below.

28 This approach is typically taken when customized approaches are taken for different kinds of shares. For instance, in some settlement agreements, shares purchased prior to the misstatement and held through to the curative disclosure may receive compensation. In these cases, it is necessary to match purchases and sales to determine the shares that fit this definition.

29 Note that we show the share as being sold after the period; however, whether the share is held or sold after the end of the inflation period is irrelevant to the calculation. The sale inflation if the share is sold after the inflation period, or still held, is €0.

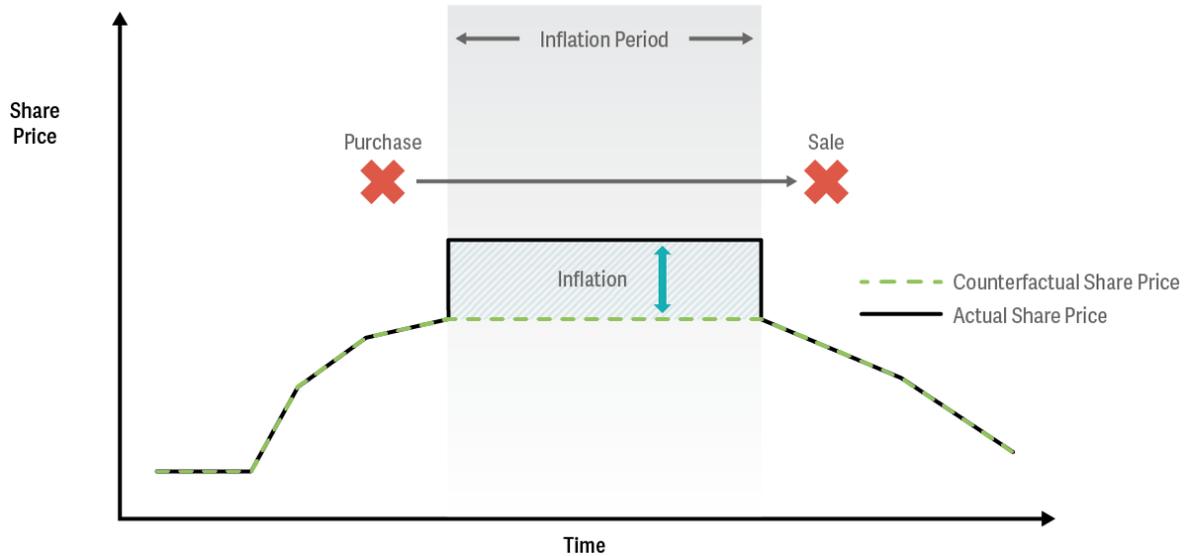
Share purchased during the inflation period and sold during the inflation period: The share in Figure 7 was purchased during the inflation period but sold prior to the curative disclosure. As such, this share was purchased at an inflated value, and then sold at an inflated value. In the simplified example where inflation is €0.90 for the entire inflation period, this share would have purchase inflation of €0.90, less sale inflation of €0.90, for total inflation damages of €0.

Figure 7
Share Purchased and Sold During the Inflation Period



Share purchased before the inflation period and sold after the inflation period: The share in Figure 8 was purchased before the inflation period and held on the date of the curative disclosure. This share was neither purchased at an inflated value, nor sold at an inflated value. As such, this share would not be damaged in an inflation context. However, an investor in this share may *feel* damaged, as she held the share while the value increased significantly with her account statements showing large gains, and then saw those account statements show losses as she held the share while the price dropped significantly after the curative disclosure. These shares are often called 'holder' shares, and are often contentious. From a purely economic perspective, these shareholders are not harmed based on the inflation approach, which assumes that shareholders would have made the same purchase and sale decisions in the counterfactual world. However, settlements sometimes compensate these shareholders small amounts. In the case of both *Steinhoff* and *Ageas*, the settlements provided for small recoveries for these so-called holder shares. For example, in the *Steinhoff* settlement, these shareholders were compensated with claims equal to €0.01 per share.

Figure 8
Share Purchased Before and Sold After the Inflation Period



As the examples above show, the *timing* of the purchase and sale of individual shares is a key consideration in the determination as to whether a given share is deemed to have suffered inflation damage.

8. Looking Forward

The economic underpinnings of the Fraud on the Market approach to estimating damages are beginning to be considered in different European jurisdictions, and are being at least partially adopted in some. As more case law is developed, both claimants and defendants alike may benefit from a deeper understanding of the nuances and complexities involved with Fraud on the Market methodologies. If acceptance of this approach continues to spread, the differences with historical rescission methodologies may end up reshaping some legal and economic considerations in awarding securities damages.