

Abuse of the Efficient-Markets Hypothesis in Private Securities Litigation

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Financial economists define an efficient market as one in which information that is relevant to the value of a stock is fully and quickly reflected in the market price of the stock. The “efficient-markets hypothesis” plays an important role in private securities litigation in that it provides the intellectual underpinning for plaintiff’s theory of reliance in class actions.

Plaintiffs in private securities litigation must show that they reasonably relied upon a misstatement or omission. Since relatively few investors read prospectuses, annual reports, Form 10Ks, or any other SEC filings, few can claim damage from a direct reliance on misstatements or omissions in corporate disclosure documents. Under the efficient-markets hypothesis, however, misstatements and omissions can be reflected in the prevailing market price through the actions of “lead steer” investors who have direct reliance and the wherewithal to set the market price. With this construct, reliance on the integrity or efficiency of the market can be tantamount to direct reliance on the actual content of disclosure documents. If these informed investors are influential enough, the stock price will stay closely linked to the mix of public information. Correspondingly, if these informed investors operate on misinformation, but still manage to influence the market price, then the price will depend to a degree on misinformation.

Complaints in private, class-action securities litigation maintain that plaintiff investors reasonably relied upon the “integrity” of the market. In the context of private securities litigation, market integrity means informational efficiency. To say that investors reasonably rely on the integrity of the market is to say that investors regularly and naturally accept and believe the efficient-market hypothesis; i.e., that public information relevant to the valuation of a stock has already been reflected fully in the market price of the stock. Information does not have to be true to be reflected in the market price. The information fully reflected by an efficient market can include credible misstatements

or omissions that perpetrate a “fraud on the market” by inflating the prevailing market price. In recognizing this, the Supreme Court’s decision in *Basic Inc. v. Levinson* served to memorialize the efficient-markets hypothesis.

This economic theory may have a fair degree of acceptance among ordinary investors, as evidenced by the enduring, 30-year popularity of Professor Burton Malkiel’s *A Random Walk Down Wall Street* (now in its 7th printing with a relatively good current-sales ranking on Amazon.com). However, one implication of the speculative bubble of 1999-2000 in the market prices of “new-economy” stocks is that market efficiency is situational. If hundreds of individual stocks can be swept aloft in a veritable tsunami of irrational exuberance, as apparently happened, then the *generality* or universality of the efficient-markets hypothesis must be questioned. Market prices of stock undoubtedly reflect information – but not full information at all times in all situations.

Even before the stock-price bubble of 1999-2000, the efficient-markets hypothesis had lost some luster among financial economists. Empirical evidence of deviations from the theory began accumulating not long after *Basic*, and has coagulated into a school of thought known as Behavioral Finance.¹ The data presented in these studies are, however, only modestly anomalous with respect to the efficient-market hypothesis, and have not eliminated economists’ presumption that the immediate stock-price reaction to new information fairly reflects the consequences and implications of that information for the overall economic value of a company. The speculative bubble in new-economy stocks in 1999-2000,

¹ For a compilation of 86 published academic studies, see *Behavioral Finance*, Edward Elgar Publishing Ltd., 2001. Also, see Andrei Shleifer, *Inefficient Markets, An Introduction to Behavioral Finance*, Oxford University Press, 2000.

which was historic, nevertheless calls into question the generality of any presumption that information is the only systematic factor determining stock prices.

In light of these developments and the continuing importance of the efficient-markets hypothesis as an intellectual underpinning for securities class actions, the presumption that informational efficiency is the natural state of securities markets has received surprisingly little examination in the realm of private securities litigation. Instead, the trend in class-action complaints appears to be to downplay the importance of the fraud-on-the-market theory of reliance.

In the past, complaints included explicit statements like the one that appears in a complaint recently filed that asserts that the defendant company's shares "were publicly traded in an efficient, open and well-informed market which assimilated the information about the company." This much candor is now exceptional. Although most complaints still note in passing that the defendant stock is listed on an exchange or qualified for Nasdaq trading, listing status alone does not, as a matter of economics, justify a presumption that investors reasonably relied on the integrity of market pricing.

The diminished visibility of the efficient-markets hypothesis in private securities litigation is surprising because, as a matter of logic, the less applicable is the efficient-markets hypothesis as a general proposition, the less reliable is the standard presumption of private securities litigation; i.e., that any stock-price inflation (the deviation of an actual stock price from a hypothetical "true value") must have been caused by alleged misstatements or omissions. Of course, as discussed below, this standard presumption potentially can be buttressed with case-specific facts and evidence.

To their credit, complaints filed in private securities litigation often emphasize the stock-price declines that occur on days with corrective disclosures. In estimating damages, financial economists can look to the stock-price deflation associated with one or more corrective disclosures as a measure of the magnitude of stock-price inflation that was present at that point in time. A

damages expert can use that point-estimate to anchor a pattern or ribbon of hypothetical inflation that plays out over the whole length of the class period. Estimates of total damages for the class of investors who bought at an inflated price can depend in large part on assumptions made regarding the manner in which inflation arose.

Rarely do complaints filed in private securities litigation mention a stock-price increase that occurs on any of the days when alleged misstatements were made. While omissions tend not to be time-stamped, complaints often cite alleged misstatements made at discrete and identifiable points in time. If complaints in private securities class actions were consistent in their embrace of the efficient-markets hypothesis, plaintiffs would be able to point with some regularity to stock-price evidence of *incremental* inflation associated with the arrival of alleged misinformation. Many complaints allege discrete positive misstatements that, in an efficient market, can be expected to cause discrete positive changes in stock price.

It will often be possible to measure how well the plaintiff's theory of liability explains the observed time-series behavior of the defendant company's stock price. One measure of overall impact is the proportion of total stock-price volatility that closely coincides with one or another alleged misstatement. A fairly conventional test of statistical significance can be performed to determine whether a set of additional variables that are constructed as indicator variables (i.e., dummy variables that mark each of the days on which alleged misstatements were made) collectively add to the explanatory power of a market model regression estimated over the class period. In short, one can readily construct a formal test of whether alleged misstatements caused stock-price inflation.

A private securities class action complaint was recently filed alleging that misstatements inflated the market price of JDS Uniphase Corp. over the course of a class period having an overall length of approximately 500 trading days. Of those days, 15 were implicated in the substantive allegations of the complaint. After adjusting for market-wide effects, the defendant company's stock-price volatility was only two percent higher when those dates were included in its estimation.

Another recent complaint alleges that misstatements inflated the market price of Seitel Inc. common stock over the course of a 430 trading-day class period. Again, there was very little difference in the statistical characteristics of percentage daily changes in stock price on the 11 days when supposedly inflationary misstatements entered the mix of information available to the market.

Days with alleged misstatements were not statistically distinguishable in either of these two examples, which I selected at random. Based on this evidence, an economist is compelled to *reject* one leg or another of the joint hypothesis that (1) these defendants actually caused stock-price inflation, and (2) the markets in question were efficient during the two respective class periods. These examples are not factually atypical, and many complaints may similarly fail a comparable test.

Any test must discriminate to be useful, of course, and not all complaints fail a comparable test. A private securities class-action complaint recently was filed alleging that misstatements materially impacted the market price of Juniper Network, Inc. over the course of less than 40 trading days during 2001. Of these days, four were implicated in the substantive allegations of the complaint, and stock-price volatility jumped a significant 20 percent when those days were included in an estimation of volatility.

A more sophisticated test would take into account the direction (not just the magnitude) of stock-price changes on days when misstatements supposedly contributed to inflation in a market price of common stock. Stock-price changes were not typically positive on the various allegation days cited in the three example complaints cited here. Of the numerous misinformation days cited in substantive allegation in one or another of the three complaints, a statistically significant stock-price increase occurred on only one day.

While expert opinion may differ on how to structure the most powerful statistical test in any given situation, any market that is efficient enough to support the fraud-on-the-market theory of reliance is efficient enough to support a test. There is no good reason to restrict our attention to the

stock-price drops that typically terminate alleged class periods. All relevant stock-price evidence should be considered.

Finally, complaints in private securities litigation can contain language that is embarrassingly inconsistent with the plaintiffs' own theory of reliance. For example, a class-action complaint was recently filed alleging that misstatements caused inflation in the stock price of Dynergy Corp. common stock. The complaint further asserts that defendants were motivated to implement a transaction with a special-purpose entity because they were afraid that investors otherwise would "eventually" notice the inconsistency between the company's accounting earnings and its cash flow, and that realization could cause a stock-price drop. Of course, in a market that is efficient enough to support a fraud-on-the-market theory of reliance, the market price of a stock reflects information presently, not eventually.

As a matter of economics, some complaints filed in private securities litigation cannot pass a statistical test commensurate with internal logical consistency. Indeed, some complaints cannot pass a laugh test of internal consistency. Moreover, while economics lacks a generally accepted causal theory of speculative bubbles, misstatements and omissions are a poor candidate explanation for speculative bubbles. No idiosyncratic effects or events can explain a phenomenon that simultaneously impacts hundreds of stocks. Plaintiffs in private class-action securities litigation seek to hold somebody – typically management – responsible for the creation of stock price inflation. The utility of this exercise is highly questionable in the context of bubble stocks, and in any event should be determined with reference to all the relevant evidence.

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