No. 09-1403

IN THE

Supreme Court of the United States

ERICA P. JOHN FUND, INC., FKA ARCHDIOCESE OF MILWAUKEE SUPPORTING FUND, INC.,

Petitioner,

v.

HALLIBURTON CO., et al.,

Respondents.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

BRIEF OF FINANCIAL ECONOMISTS AS *AMICI CURIAE* IN SUPPORT OF PETITIONER

WILLIAM C. FREDERICKS
ANN M. LIPTON
BERNSTEIN LITOWITZ BERGER & GROSSMANN LLP
1285 Avenue of the Americas
New York, NY 10019
(212) 554-1400

Additional Counsel for Dr. Sanjai Bhagat

ERNEST A. YOUNG
Counsel of Record
127 Turvey Court
Chapel Hill, NC 27514
(919) 613-8506
young@law.duke.edu

Counsel for Amici Curiae

234923

COUNSEL PRESS
(800) 274-3321 • (800) 359-6859

TABLE OF CONTENTS

Table of Contents

TABLE OF CITED AUTHORITIES

Page

CASES

Page

FEDERAL ADMINISTRATIVE MATERIALS

OTHER AUTHORITIES

Cited Authorities

Page

INTEREST OF AMICI

Amici are academic financial economists whose scholarship and teaching focuses on public securities markets.[1] Sanjai Bhagat is the Provost Professor of Finance at the University of Colorado. Daniel Bernhardt is the IBE Distinguished Professor of Finance and Economics at the University of Illinois. Matthew T. Billett is Professor of Finance at the University of Iowa. Michael Bradley is the F.M. Kirby Professor of Investment Banking, Emeritus, at Duke University. Francis Longstaff is the Allstate Professor of Insurance and Finance at the University of California at Los Angeles. Robert Parrino is the Lamar Savings Centennial Professor of Finance at the University of Texas. Marti Subrahmanyam is the Charles E. Merrill Professor of Economics and Finance at New York University.

STATEMENT

In *Basic v. Levinson,* 485 U.S. 224 (1988), this Court endorsed a rebuttable presumption of reliance on the integrity of securities prices determined in well developed markets. *Basic* held that, under the "fraud-on-the-market" theory, courts may presume that securities prices in an open and developed market reflect all material public information and that investors rely on the integrity of the market price. Together, these

1. Pursuant to Rule 37.6, *amici* affirm that no counsel for a party authored this brief in whole or in part, and that no person other than *amici* and their counsel made a monetary contribution to the preparation or submission of this brief. The parties have filed letters giving blanket consent to the filing of amicus briefs in this case.

two presumptions allow plaintiff investors to establish that they have relied, indirectly, on allegedly false or misleading public statements of corporate managers. In establishing these presumptions, *Basic* relied in part on an important underlying economic theory—the "efficient markets hypothesis."

This case concerns the relevance of the efficient markets hypothesis to the certification of securities fraud class actions under Fed. R. Civ. P. 23. A plaintiff must prove reliance on a false statement as an element of his securities fraud claim. If each plaintiff had to submit individual proof of reliance—e.g., that he bought a security based on falsely positive statements by management about the company's prospects—then individual issues would frequently predominate and courts would deny class certification. The fraud-on-the-market doctrine, however, allows a presumption of reliance if plaintiffs purchased their securities in a well-developed, impersonal market. The reliance issue thus becomes a common one of showing that the market for the relevant security is sufficiently efficient to warrant the *Basic* presumption.

The Fifth Circuit has departed from this established approach in a series of decisions, including the present one, that requires plaintiffs to prove "loss causation" at class certification. It apparently did so in part based on certain economic literature criticizing aspects of the efficient markets hypothesis. The principal purpose of this brief is to address that criticism. *Amici* wish to make three central points: First, the version of the efficient markets hypothesis that this Court relied upon in *Basic*—what financial economists today refer to more precisely as the "semi-strong" version of the efficient market hypothesis

("SSEMH")—remains widely accepted as a fundamental principle of modern financial economic theory. That is true even though—like *all* useful social science theories applicable to human behavior—it is not "perfect" and does not explain *every* conceivable price movement for *every* market-traded economic asset.

The second point concerns the showing by which litigants may demonstrate or disprove the efficiency of the market for the security at issue in a class action. Lower courts have generally applied a multi-factor test developed in two district court decisions, *Cammer v. Bloom*, 711 F. Supp. 1263 (D.N.J. 1989), and *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D. Tex. 2001). *Amici* believe that these factors are both helpful and manageable for trial courts. The most *direct* test of market efficiency from an economic perspective is an "event study," because it asks whether there is a cause and effect relationship between new information and contemporaneous changes in market price—the hallmark of an efficient market. The other *Cammer/Krogman* factors (e.g. bid-ask spreads, trading volume, amount of analyst coverage, etc.) are indirect indicators of efficiency, and their role should generally be limited to confirming an evaluation of general market efficiency in cases where an event study's conclusions are questionable or unclear.

Third, *Amici* reject the Fifth Circuit's suggestion that concerns about the limitations of the SSEMH require that plaintiffs show "something more" than the general efficiency of the market for a particular security in order to merit a presumption at class certification that investors relied on the integrity of the market price. Rule 23 requires only that the common issues "predominate"

over individual issues for class certification, and economic criticisms of the SSEMH at the margins do not mean that the fraud-on-the-market's general presumption of reliance is misplaced—especially at the early stages of litigation. If lower courts properly apply the *Cammer/Krogman* analysis—and in particular, if plaintiffs provide event study analysis indicating that the security's price moves in response to company-specific news—then the loss causation showing required by the Fifth Circuit would only rarely, if ever, add anything meaningful or reliable for purposes of determining whether investors should be presumed to have relied on the integrity of the market price.

ARGUMENT

I. The Efficient Markets Hypothesis Remains a Sound and Well-Accepted Basis for the Fraud-on-the-Market Presumption of Reliance in Securities Class Actions.

Basic endorsed the presumption that "in an open and developed securities market, the price of a company's stock is determined by the available material information regarding the company and its business." 485 U.S. at 242 (quoting *Peil v. Speiser*, 806 F.2d 1154, 1160-61 (3rd Cir. 1986)). In so doing, this Court cited one of the most important social science hypotheses of the last century.

A. The meaning of an "efficient market."

Basic drew upon a longstanding recognition that stock markets respond to and reflect material information—

including false information.[2] Similarly, in a famous 1970 article, Eugene Fama distinguished among three different models of market efficiency:

> "Weak-form" efficiency requires that historical prices are not predictive of future prices. Excess profits cannot be earned using strategies based on historical prices.
>
> "Semi-strong form" efficiency implies that all public information is reflected in a stock's current market price, and that security prices adjust to new publicly available information so that it is impossible to earn excess returns by trading on that information.
>
> "Strong-form" efficiency implies that all information in the market, whether public or private, is accounted for in the market price. Investors cannot consistently earn excess profits over a long period of time—even if they have inside information.[3]

---

2. This recognition dates back at least two centuries. *See Rex v. De Berenger*, 3 M. & S. 67, 105 Eng. Rep. 536 (K.B. 1814); *see also* Barbara Black, *Fraud on the Market: A Criticism of Dispensing with Reliance Requirements in Certain Open Market Transactions*, 62 N. C. L. Rev. 435, 456 (1984).

3. Eugene Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. Fin. 383 (1970). *See also Schleicher v. Wendt*, 618 F.3d 679, 685 (7th Cir. 2010) (Easterbrook, J.) (explaining the difference between these three forms of market efficiency).

All three constructs are sometimes described as "variations" of "the" efficient markets hypothesis; however, in the context of describing how financial markets actually operate, references to the "efficient market hypothesis" typically refer to the "semi-strong" version (SSEMH). For example, Professor Fama states that "I take the market efficiency hypothesis to be the simple statement that security prices fully reflect all available information . . . . A weaker and economically more sensible version of the efficiency hypothesis says that prices reflect information to the point where the marginal benefits of acting on information (the profits to be made) do not exceed the marginal cost."[4]

The critical aspect of the SSEMH for class certification purposes is an efficient market's ability to incorporate material public information in the security price, so that class members may be presumed to have relied on the integrity of the market price without regard to whether they individually relied on a particular statement. Most discussions of market efficiency, however, focus on whether investors can "earn above-average returns without accepting above-average risks."[5] In the fraud-on-the-market context, the unavailability of above-average returns plays a crucial confirmatory role: If investors who

4. Eugene Fama, *Efficient Capital Markets: II*, 46 J. Fin.1575, 1575 (1991). Standard finance textbooks provide similar definitions. *See, e.g.*, Richard Brealey, Stewart Myers & Franklin Allen, *Principles of Corporate Finance* 317-18 (10th ed. 2011); Stephen A. Ross, Randolph W. Westerfield & Jeffrey Jaffe, *Corporate Finance* 430-31 (9th ed. 2010).

5. Burton G. Malkiel, *The Efficient Market Hypothesis and its Critics*, 17 J. Econ. Perspectives 59 (2003).

closely analyze the market cannot consistently earn above-average returns based on material public information, this is a signal that the market price has already incorporated such information.

Basic's presumption of reliance drew upon the SSEMH—*not* the "strong form" of market efficiency. The presumption's point, after all, is that the market can be "fooled" by public, material misrepresentations, such that the false information is reflected in the market price for the company's securities. In contrast, under the broadly rejected theory of "strong form" efficiency, no deception would be possible because all privately-available truths would also be reflected in market prices.[6]

The SSEMH holds that market prices respond promptly to new material information.[7] Modern financial markets are "amazingly successful devices for reflecting new information rapidly. The response time may not be immediate; sometimes there is underreaction for a short period. But by and large, prices reasonably reflect whatever public knowledge there is about each [publicly-

6. *See Schleicher*, 618 F.3d at 685 ("Many economists think that the strong form of the hypothesis has been refuted, but the weak and semi-strong forms are widely accepted. And the fraud-on-the-market doctrine rests on the semi-strong form."); *see also* Daniel Fischel, *Efficient Capital Markets, the Crash, and the Fraud on the Market Theory*, 74 Cornell L. Rev. 907, 910-11 (1989).

7. *See, e.g.*, Donald Langevoort, *Theories, Assumptions and Securities Regulation: Market Efficiency Revisited*, 140 U. Pa. L. Rev. 851, 851 (1992) (describing the theory's "central insight . . . that a variety of forces impound available information into stock prices fast enough that arbitrage opportunities cannot be exploited systematically").

traded] company."[8] A variety of mechanisms serve to ensure modern financial markets' efficiency in terms of responding to new information and distilling the market's overall response into a price.[9]

The SSEMH is a theory of *informational* efficiency, and as such it must be distinguished from theories of *fundamental* efficiency. "Informational efficiency" posits that stock prices will reflect publicly available information quickly and in a generally unbiased manner. In contrast, "fundamental efficiency" posits that stock prices will accurately reflect the present value of a company's expected after-tax cash flows.[10] Fundamental efficiency is more of an intellectual construct than a "theory," inasmuch as virtually no financial economists believe that securities markets are "fundamentally efficient."[11]

Some criticisms of the fraud-on-the-market doctrine conflate these two forms of efficiency. Justice White's dissent in *Basic*, for example, criticized the majority

---

8. Burton G. Malkiel, *A Random Walk Down Wall Street* 269 (10th ed. 2011).

9. *See, e.g.*, Ronald Gilson & Bernard Black, *The Law and Finance of Corporate Acquisitions* 146-57 (2d ed. 1995).

10. Fischel, 74 Cornell L. Rev. at 912-13.

11. *See, e.g.,* Andrei Shleifer, *Inefficient Markets: An Introduction to Behavioral Finance* 5, 24 (2000) (noting the "overwhelming" empirical evidence in favor of informational efficiency, while observing that "[fundamental] efficiency only emerges as an extreme special case, unlikely to hold under plausible circumstances").

for "implicitly suggesting that stocks have some 'true value.'" 485 U.S. at 255 (White, J., dissenting in part).[12] But *Basic*'s presumption of reliance relied only on informational efficiency—that is, the notion that "in an open and developed securities market, the price of a company's stock is determined by *the available material information* regarding the company and its business." 485 U.S. at 247 (majority opinion) (emphasis added).[13] The inability to discern a single, "true" value for Basic's shares was immaterial, from an economic perspective, to the claim in the case: that a lie by corporate managers concerning a possible merger depressed Basic's stock price below what it would otherwise have been. *See id.* at 228, 245.[14]

---

12. *See also* Ian Ayres, *Back to Basics: Regulating How Corporations Speak to the Market*, 77 Va. L. Rev. 945, 983 (1991) (observing that Justice White's critique emphasized fundamental efficiency, while the majority relied only on informational efficiency).

13. *See also* 485 U.S. at 247 n.24 ("For purposes of accepting the presumption of reliance in this case, we need only believe that market professionals generally consider most publicly announced material statements about companies, thereby affecting stock market prices."). To the extent the Court equated market price with "true value," it did so only in the limited sense that a market price, reflecting public information, is the best available estimate of value. *Id.* at 244.

14. *See also Eckstein v. Balcor Film Investors*, 8 F.3d 1121, 1129-30 (7th Cir. 1993) ("We call a market 'efficient' because the price reflects a consensus about the value of the security being traded—not necessarily because the price captures the true value of the firm's assets but because the price is the best available device to assess the significance of additional bits of information."); Ayres, 77 Va. L. Rev. at 983 ("[E]ven in a market that is not fundamentally efficient . . . an informationally efficient market will

The vast majority of finance academics believe that U.S. markets for public securities are informationally efficient.[15] Of course, professional investment advisors (who have an interest in persuading others to believe that they can consistently outperform the market) and members of the financial press periodically proclaim that the efficient market hypothesis has "failed"—citing most recently its failure to avert the 2008 stock market crash.[16] As Professor Malkiel explained earlier this year, however, "such obituaries are greatly exaggerated," and both academic research and experience "resounding[ly] confirm[]" the validity of SSEMH.[17]

This is not to say that real-world financial markets exhibit *perfect* informational efficiency. If markets were *perfectly* efficient such that prices reflected all publicly

---

tend to generate detrimental price effects when corporations lie.").

15. *See, e.g.*, Esther Bruegger & Frederick Dunbar, *Estimating Financial Fraud Damages With Response Coefficients*, 35 J. Corp. L. 11, 46 (2009) (noting that "most academic studies accept the hypothesis that capital markets are efficient"); Ivo Welch, *Views of Financial Economists on the Equity Premium and on Professional Controversies*, 73 J. Bus. 501, 537 (2000) (finding that more than 79% of finance academics agreed with the proposition "I believe that, by and large, public securities market prices are efficient").

16. Empirical evidence consistently shows that professionally managed mutual funds more often than not perform less well than their relevant market benchmark indices in any given year. This powerfully confirms just how informationally efficient modern financial markets are. *See* Malkiel, *Random Walk*, at 292; Ray Ball, *The Global Financial Crisis and the Efficient Market Hypothesis: What Have We Learned?* 21 J. Applied Corp. Fin. 8, 8 n.6 (2009).

17. Malkiel, *Random Walk*, at 268-69; *see also* authorities cited in note 31, *infra*.

available information, there would no incentive for *any* investor to analyze public information when making investment decisions—but if investors did not analyze public information, there would be no mechanism for such information to become reflected in market prices, and the markets would not be efficient.[18] Thus, even the most efficient U.S. securities markets, such as those for stocks traded on the New York Stock Exchange ("NYSE"), must be "sufficiently inefficient" so that at the margin sophisticated investors have an incentive to analyze public information.[19] Such markets are more than efficient *enough*, however, to support *Basic*'s fraud-on-the-market presumption.

B. Academic critiques of the efficient markets hypothesis do not undermine its utility.

Since Professor Fama's pathbreaking 1970 article, numerous papers have purported to document findings inconsistent with SSEMH. These critiques—and their refutations—focus on the predictability of stock movements and the corresponding possibility of above-average returns. The well-documented and widespread failures of investment strategies based on these critiques confirms that U.S. financial markets process information

18. Sanford Grossman & Joseph Stiglitz, *On the Impossibility of Informationally Efficient Markets*, 70 Am. Econ. Rev. 393, 404-05 (1980).

19. *See, e.g.,* Bradford Cornell & James Rutten, *Market Efficiency, Crashes, and Securities Litigation*, 81 Tul. L. Rev. 443, 447 (Dec. 2006); Zohar Goshen & Gideon Parchomovsky, *The Essential Role of Securities Litigation*, 55 Duke L.J. 711, 730 (2006) (noting that "it is precisely this inefficiency that creates an incentive to invest in information and constantly pushes the market to become more efficient").

very efficiently.[20] And recent research demonstrates that none of the current critiques seriously challenges the explanatory power of the SSEMH.

Researchers periodically identify anomalies in financial markets that allegedly allow investors to make excessive profits based on technical analysis of historical market data.[21] Once identified, however, anomalies tend "to disappear, reverse, or attenuate"[22]—either because they have since been arbitraged away or because they were simply statistical aberrations.[23] It is questionable whether any truly repetitive and exploitable pattern that might be discovered in the stock market can ever be exploited for more than a short period as such anomalies

---

20. Malkiel, *Random Walk* at 267-300; Ball, 21 J. Applied Corp. Fin. at 15 (noting that funds established to take advantage of behavioral strategies failed to outperform the market).

21. A strong publication bias favors reporting anomalous results, as professional journals are likely to find research purporting to identify anomalies in an important theory (such as SSEMH) to be far more interesting than "boring" findings that simply confirm what an already well-accepted existing theory would predict. Malkiel, *Random Walk* at 274; *see also* William Schwert, *Anomalies and Market Efficiency*, in *Handbook of Economics and Finance* 941 (2003).

22. *See, e.g.*, Schwert, *supra*, at 940 (noting that analysis of data from subsequent periods has undermined earlier evidence that returns can be predicted using variables such as dividend yields or inflation).

23. *Id.; see also* Malkiel, *Random Walk* at 274 ("[M]any of these predictable patterns may simply be the results of data mining. . . . Given enough time and massaging of data series, it is possible to tease almost any pattern out of most data sets.").

would likely "self-destruct" as larger numbers of other investors sought to exploit it.[24]

One academic critique of the SSEMH, for example, is that securities prices under-react to certain types of news events—notably unexpected dividend announcements and earnings "surprises." Such studies suggest that trading stocks promptly after certain types of news comes out will generate abnormal returns in subsequent days, resulting in short-term price momentum that could theoretically be exploited to generate excess profits.[25] However, as Professor Fama has found, investors often *over-react* to the same types of information, and post-event continuation of abnormal returns is not much more frequent than post-event reversals.[26] Moreover, many of these anomalies disappear when exposed to different models for expected "normal" returns.[27] Most purported anomalies "can reasonably be attributed to chance"[28] and "certainly do not appear to offer investors a dependable way to earn abnormal returns."[29]

---

24. Malkiel, 17 J. Econ. Perspectives at 71-72.

25. *See id.* at 72 (summarizing this research).

26. *See* Eugene Fama, *Market Efficiency, Long-Term Returns, and Behavioral Finance*, 49 J. Fin. Econ. 283, 285, 304 (1998).

27. *See id.* at 284; *see also* Schwert (2003) (noting that careful scrutiny of efficient market anomalies have raised more concerns about the asset pricing models used to construct the expected returns than about the efficiency of the market).

28. Fama, 49 J. Fin. Econ. at 284.

29. Malkiel, *Random Walk,* at 273; *see also* Fama, 46 J. Fin. at 1602 (observing that although "some event studies suggest

Recent critics of the SSEMH have cited the work of behavioral economists, who have suggested that short-run momentum may be caused by certain psychological feedback mechanisms, such as "bandwagon effects." The relevant effects, however, are too small to undermine the basic point of the SSEMH. Other empirical work has demonstrated that an investment strategy predicated on the SSEMH would do much better than a momentum-based strategy, even in periods where some degree of momentum clearly does exist.[30] Even assuming *arguendo* that economic behavioralists and "technical analysts" can ultimately validate their data, it would have only a *de minimis* impact on SSEMH because such data involves such extremely small pricing variances.[31]

Similarly, none of these critiques meaningfully undermines *Basic's* fraud-on-the-market doctrine. To justify a presumption of reliance, the market in question

---

that stock prices do not respond quickly to specific information," "some anomalies, spurious and real, are inevitable"; the "main point" is that "[w]ith few exceptions, the evidence is supportive" of the SSEMH).

30. Malkiel, *Random Walk*, at 276.

31. *See* Malkiel, 17 J. Econ. Perspectives at 61-62. Although "irrational exuberance" and subsequent market crashes do refute "value efficiency" hypotheses that market prices always accurately reflect "true" value, such phenomena do nothing to "refute" the SSEMH. *See, e.g.,* Fischel, 74 Cornell L. Rev. at 915-17; Ball, 21 J. Applied Corp. Fin. at 10; Stephen Brown, *The Efficient Markets Hypothesis: The Demise of the Demon of Chance?* Accounting & Fin. 1, 4 (2010) (noting popular confusion as to what SSEMH really means, and how SSEMH actually implies that market participants will be unable to foresee the collapse of bubbles); Malkiel, *Random Walk* at 267-300.

need only be *efficient enough* to incorporate, to at least some extent, the impact of materially false or misleading new positive information about a company (or, in the case of omitted or concealed new material adverse information, *efficient enough* so that it would have incorporated, to at least some extent, the impact of the concealed information had it been disclosed). Conversely, even assuming *arguendo* that critics can identify anomalies that can be temporarily exploited to generate excess profits by investing in particular securities before market prices "revert to the mean," the market for such securities would have to be decidedly far down the efficiency spectrum before one could reasonably presume that investors would *not* be defrauded if they purchased securities at market prices during a period when company managers were providing materially false or misleading information to the market. Despite the anomalies that have been discovered, the major U.S. securities markets are typically efficient enough to justify the limited presumptions at issue here—that is, that a false statement will impact price at least to some degree. As we discuss further in Part III, this is all that plaintiffs need prove at class certification.

In sum, SSEMH has been subjected to "perhaps the most intensive and extensive testing of any hypothesis in all of the social sciences"—and this extraordinary scrutiny has confirmed the strong empirical support for the theory.[32] Moreover, although SSEMH is not entirely free of anomalies, such anomalies are sufficiently limited that, as a practical matter, the idea that prices efficiently

32. Sanjai Bhagat & Roberta Romano, *Empirical Studies of Corporate Law*, in 2 *Handbook of Law and Economics* 948 n. 1 (Polinsky & Shavell, eds 2007).

incorporate information is an indispensable foundation for how we organize the real world.[33] That the hypothesis is not perfect—and does not explain every aspect of every price movement in all circumstances in a complex financial world—is ultimately neither particularly surprising nor significant: all theories have anomalies, and no theory can explain everything.[34]

Although we focus here on the state of the economic literature, it is worth noting that the SSEMH and its fraud-on-the-market corollary is entrenched in Congress's own understanding of the Securities Exchange Act as well as in the Act's implementation by the Securities Exchange Commission. As this Court noted in *Basic*, "Congress expressly relied on the premise that securities markets are affected by information, and enacted legislation to facilitate an investor's reliance on the integrity of those markets." 485 U.S. at 246. Similarly, the SEC has stated that its Form S-3, which applies to registrations of most corporations relevant to this discussion, "is predicated on the Commission's belief that the market operates efficiently for these companies, *i.e.*, that the disclosure in Exchange Act reports and other communications by the registrant, such as press releases, has already been disseminated and accounted for by the market place." Exchange Act Release No. 6331, 46 Fed. Reg. 41,902 (Aug. 18, 1981). Rejecting the SSEMH would thus both fly in the face of economic consensus and upset the fundamental assumptions of the regulatory scheme that Congress enacted.

---

33. Ball, 21 J. Applied Corp. Fin. at 15.

34. *Id.* at 12, citing Thomas Kuhn, *The Structure of Scientific Revolutions* (2d ed. 1970).

The practice of relying on the integrity of market prices for securities is entrenched in commercial practice, law and regulation because actual market security prices are "efficient enough," notwithstanding any occasional anomalies.[35] *Amici* are unaware of any research (let alone tested theory) suggesting that any of the purported anomalies referenced above might be so strong—or the concepts underpinning SSEMH so weak—that the market price for a publicly traded security in the U.S. would *not* be distorted by materially false or misleading public statements by the company's managers, other than in rare circumstances.[36] And in those circumstances, as we discuss in the next section, courts have ample tools for weeding out cases where the fraud-on-the-market presumption is inappropriate.

II. Courts Have Workable and Adequate Means to Assess the Efficiency of the Market for a Security.

Basic left to the lower courts development of appropriate means to assess whether a market trades with sufficient efficiency to justify a presumption that prices on that market react to material public information. Two leading decisions—*Cammer* and *Krogman*—have identified eight widely used factors to assess market efficiency: (1) average weekly trading volume; (2) analyst

35. Ball, 21 J. Applied Corp. Fin. at 16. *See also* Fischel, 74 Cornell L. Rev. at 915.

36. Examples might include cases involving securities of companies with such small market capitalization and thin trading that one would doubt the market for them was more than minimally efficient, or where the market recognized the falsity of the statements at issue.

coverage; (3) number of market makers; (4) SEC Form S-3 eligibility; (5) price reaction to unexpected information (*e.g.,* an "event study"); (6) market capitalization; (7) bid-ask spreads; and (8) percentage of shares held by non-insiders (the public "float"). *See Cammer,* 711 F. Supp. at 1285-87; *Krogman,* 202 F.R.D. at 477-78. The financial economics literature does not identify any single test or method for classifying a particular market as "efficient" or "inefficient," and some of these factors are more helpful than others from an economic perspective. In particular, *amici* believe that courts should primarily rely on an event study as the most direct evidence of market efficiency, with the other factors used as a supplement when event study results are inconclusive.

Cammer correctly noted that "one of the most convincing ways to demonstrate [market] efficiency would be to illustrate, over time, a cause and effect relationship between company disclosures and resulting movements in stock price." 711 F. Supp. at 1291. The customary method for establishing such a connection is an "event study," which uses well-accepted statistical methods to isolate the impact of information on market prices.[37] Event studies are not a direct test of market efficiency, but they have now been used for over 30 years to identify markets in which efficiency may be inferred. Such studies have formed the basis for hundreds of academic articles.[38]

---

37. David Tabak & Frederick Dunbar, *Materiality and Magnitude: Event Studies in the Courtroom*, in *Litigation Services Handbook, The Role of the Financial Expert*, Ch. 19 (3d ed. 2001).

38. *See* Sanjai Bhagat & Roberta Romano, *Event Studies and the Law, Part I*, 4 Am. L. & Econ. Rev. 141, 142 (2002) ("The event study methodology is well accepted and extensively used in

An event study begins by specifying a model of what price movements are "expected" based on market factors and then testing whether the deviation from expected price movements are sufficiently large that simple random movement can be rejected as the cause. Thus, a widely accepted method for performing an event study involves preparing a regression model over an appropriate period that quantifies the relationship between the market price of the relevant security and broad general market and industry factors, using actual historical prices and index data. By comparing (a) the dates on which statistically significant abnormal returns were observed to (b) the information that was publicly disclosed during (or immediately preceding) the time period when the market was open for trading on those dates, an empirically valid assessment can then be made of the extent to which new material information, rather than random chance, is responsible for changes in the price of the subject security.[39]

An event study is a highly useful tool for assessing market efficiency, as the absence of price responses to a sample of unambiguously material news disclosures would raise questions about the market's sensitivity to information. Conversely, the presence of statistically

---

finance. . . . Its use in policy analysis in recent years has become more widespread."); John Binder, *The Event Study Methodology Since 1969*, 11 Rev. Quant. Fin. & Acc'ting 111, 111-137 (1998).

39. *See* Bruegger & Dunbar, 35 J. Corp. L. at 33 (noting that event studies only detect impact of unexpected information, given that securities prices are not expected to react to information the market already anticipates). For useful discussions of event study methodology, *see, e.g.* Bhagat & Romano, 2 *Handbook of Law and Economics* at 945; Frank Torchio, *Proper Event Study Analysis in Securities Litigation*, 35 J. Corp. L. 159, 163-64 (2009).

significant price responses to certain events (e.g. unexpected earnings, dividend or merger and acquisitions news, which would be expected by an objective observer to result in a price reaction in a reasonably efficient market) is powerful confirmation of efficiency.[40] The feasibility of this type of general empirical test of market efficiency means that courts will only infrequently need to resort to the other *Cammer/Krogman* factors to assess whether a market exhibits the basic hallmarks of informational efficiency.

Nonetheless, if the basic event study methodology is inconclusive, the other *Cammer/Krogman* factors provide useful additional evidence from which the presence (or absence) of sufficient efficiency may be inferred. For example, average weekly trading volume, measured as a fraction of shares outstanding, can be linked to information dissemination to the market because volume helps investment analysts decide which stocks to follow[41] and is thus a useful indicator of efficiency. Likewise, extensive analyst coverage implies strong interest in and

---

40. It may also be possible to show that even a security that traded on a relatively inefficient market still traded with sufficient efficiency to infer that its market price responded, to at least some extent, to the misrepresentations at issue in the case. As discussed in Part III below, however, such analysis will frequently not be possible absent a full factual record, and is also subject to the inherent risk of being confounded by defendants who have the ability to manipulate the nature and timing of their own disclosures.

41. *See* Randall Thomas & James Cotter, *Measuring Securities Market Efficiency in the Regulatory Setting,* 63 L. & Contemp. Probs. 105, 108 (2000).

demand for information about a company's securities,[42] although the post-*Cammer* explosion of alternative methods by which information is disseminated to investors has made traditional analyst coverage less central.[43] And a security issuer's eligibility to file SEC Form S-3[44] is also a good confirmatory indicator, as it demonstrates the SEC's own "belief that the market operates efficiently for these companies, *i.e.* that the disclosure in [prior filings] and other communications by the registrant, such as press releases, has already been disseminated and accounted for by the market place." *Cammer*, 711 F. Supp. at 1284 (quoting Exchange Act Release No. 6331 46 Fed. Reg. at 41,904). Finally, the prevalence of non-insider holders, particular large institutional holders, of a security is likely a valid indicator of, though not a prerequisite of, market efficiency.[45] Other *Cammer/Krogman* factors, such as the bid-ask spread, large market capitalization, and number of market makers, provide weaker indicators of the degree of market efficiency.

---

42. *See* Brad Barber, Paul Griffin & Baruch Lev, *The Fraud on the Market Theory and Indicators of Common Stock's Efficiency*, 19 Iowa J. Corp. Law 285, 302 (1994).

43. For example, in recent years Internet news and blog coverage, 24-hour cable news networks, email, and other media—as well as online access to SEC filings—have dramatically increased the ability of investors to obtain and monitor information about publicly-traded securities and the market in general.

44. SEC Form S-3 allows certain public companies that have met federal reporting requirements for more than one year to incorporate prior SEC filings by reference without repeating the information. See www.sec.gov/about/forms/forms-3.pdf.

45. *See Krogman,* 202 F.R.D. at 478 (stating that courts should "consider the percentage of shares held by the public, rather than insiders").

For the most part, the *Cammer/Krogman* factors "do not speak directly to efficiency, but instead speak to whether a market is 'open and developed'"; accordingly "they are best understood as constituting an indirect test by which courts infer efficiency for reliance purposes."[46] *Cammer* distinguished between "an *open market* . . . in which anyone, or at least a large number of persons, can buy or sell," "a *developed market* . . . which has a relatively high level of activity and frequency, and for which trading information (e.g., price and volume) is widely available," and an "*efficient market* . . . which rapidly reflects new information in price."[47] But *Basic* itself held that the presumption would be appropriate for all markets that are "open and developed," 485 U.S. at 241-42. Moreover, any distinctions between "open and developed" markets and "efficient" ones are not important from an economic perspective for purposes of determining whether courts reasonably may presume that investors relied on the integrity of a security's market price.

Critiques of the *Cammer/Krogman* approach to judging market efficiency thus have the same limitation as the critiques of the efficient market hypothesis discussed in Part I: They may suggest limitations of the analysis as a matter of economic theory, but the *Cammer/Krogman* factors remain generally useful in the context that courts actually employ them. As Cornell and Rutten explain,

---

46. Cornell & Rutten, 81 Tul. L. Rev. at 455.

47. *Cammer,* 711 F. Supp. at 1276 (citing Bromberg & Lowenfels, *Securities Fraud and Commodities Fraud*, § 8.6 (1988)). As *Cammer* further noted, "[t]hese terms are cumulative in the sense that a developed market will almost always be an open one. And an efficient market will almost invariably be a developed one." *Id.*

> The dispositive question for reliance is not whether the market is truly efficient, *but whether it is efficient enough that reasonable investors can be presumed to have relied on the market price.* The *Cammer* and *Krogman* criteria, by assessing the extent to which the market is "open and developed," attempt to infer the threshold level of efficiency required for reliance. The precise extent to which prices reflect information is irrelevant to the reliance question. As long as any deviations from rational pricing are sufficiently difficult to exploit that reasonable investors ignore them, it is appropriate to presume that investors relied on the integrity of the market price. . . . .

Cornell & Rutten, 81 Tul. L. Rev. at 456. (emphasis added). They thus correctly conclude that "[t]here is . . . little dispute that with respect to such securities, reliance on the integrity of market prices (and thus on the defendants' statements) is appropriately presumed." *Id* at 457. In other words, "[f]rom an economic perspective, the courts in *Cammer* and *Krogman* got it right." *Id* at 456.

III. The Fifth Circuit's Requirement that Plaintiffs Prove Loss Causation at Class Certification is Unwarranted.

The Fifth Circuit in this case required plaintiffs to prove loss causation at the class certification stage as a precondition to the application of *Basic*. The court also stated that, in the alternative, it would allow plaintiffs to establish their entitlement to a presumption of reliance by showing that the market price of the security moved

upward in response to the initial false statement. *Archdiocese of Milwaukee Supporting Fund, Inc. v. Halliburton*, 597 F.3d 330, 335 (5th Cir. 2010). The Fifth Circuit's approach in this case reflects its earlier judgment, in *Oscar Private Equity Investments v. Allegiance Telecom, Inc.*, 487 F.3d 261, 269 (5th Cir. 2007), that "[t]he assumption that every material misrepresentation will move a stock in an efficient market is unfounded, at least as market efficiency is presently measured." That judgment, however, is simply incorrect as a matter of economics. Moreover, it contravenes this Court's analysis in *Basic* as well as Congress's and the SEC's judgments in constructing an enforcement regime predicated on efficient securities markets. It is also, as we stress in this section, a particularly inappropriate judgment to make at the *class certification* stage of a securities lawsuit.

A. The Fifth Circuit's approach goes beyond the economic showing that *Basic* required and misunderstands the significance of securities price reactions.

Rule 23 requires simply that "the questions of law or fact common to class members predominate over any questions affecting only individual members, and that a class action is superior to other available methods for fairly and efficiently adjudicating the controversy." Fed. R. Civ. P. 23(b)(3). When the *Cammer/Krogman* analysis indicates that the market for a particular security is efficient, that means that the *predominant* factors affecting the security's price are the sum of publicly available information about that security. Even if some anomalies persist in that market, it makes sense to presume in such circumstances that the security was affected by public

material information, and that most investors relied on the price as a reflection of that information.

That is all Rule 23 requires, and it is all that *Basic* presumed. As the Court recognized,

> We need not determine by adjudication what economists and social scientists have debated through the use of sophisticated statistical analysis and the application of economic theory. For purposes of accepting the presumption of reliance in this case, we need only believe that market professionals generally consider most publicly announced material statements about companies, thereby affecting stock prices.

485 U.S. at 246-47 n.24. This presumption is rebuttable, moreover, by "[a]ny showing that severs the link between the alleged misrepresentation and either the price received (or paid) by the plaintiff, or his decision to trade at a fair market price." *Id.* at 248. But the burden to make such a showing is on the defendant, once the basic efficiency of the market is established, and the link must be severed not by a general attack on the efficient markets hypothesis but by a particularized demonstration that the plaintiff investors did not rely on that market in this case. Any argument that the market price was restored to its proper level as a result of the market becoming aware of the truth is plainly a common question, and one that is more appropriate for resolution upon a fully developed factual record, rather than at the preliminary class certification stage. *Id.* at 249 n.29.

Oscar's facts demonstrate why *Basic*'s approach makes good sense. *Oscar* involved a claim that a telecommunications company, Allegiance Telecom, had misstated the number of new lines it had installed during the first three quarters of 2001. Later on, Allegiance restated its line counts downwards, while simultaneously also disclosing unexpectedly low earnings and other unfavorable financial information. Allegiance's stock price dropped. The plaintiffs alleged that Allegiance's earlier (and false) line count data had materially inflated its stock price, and that they had been harmed when the underlying truth was disclosed.

The Fifth Circuit, however, refused to apply *Basic*'s presumption that material misstatements affect stock prices. Instead, it suggested "two additional explanations, besides immateriality, for why a misrepresentation might fail to affect the stock price":

> First, it might be that even though the market for the defendant's shares has been demonstrated efficient by the usual indicia, the market is actually inefficient with respect to the particular type of information conveyed by the material misrepresentation, i.e. analysts and market makers do poorly at digesting line-count information. . . . A second possible explanation . . . is that the market was strong-form efficient with respect to that type of information, i.e., due to insider trading, the restated line count was reflected by the stock price well before the 4Q01 corrective disclosure.

Id. at 269. The Fifth Circuit held that plaintiffs must affirmatively prove that Allegiance's misstated line

counts had impacted stock prices, and that to do so the plaintiffs had to show that the price dropped in response to Allegiance's admission that its previous statements had been false. Because simultaneous "confounding" negative information—such as the lower expected earnings—had been disclosed at the same time as the line count restatement, the plaintiffs did not meet their burden (under Fifth Circuit precedent) of proving that the price had dropped specifically in response to the restatement. The court of appeals thus vacated the district court's class certification order. *Id.* at 271.

Contrary to the court of appeals' conclusion, neither the possibility of inefficiency or of "strong form" efficiency, was a reason to "resist application of the semi-strong efficient-market hypothesis." *Id.* Each of the court's speculations involved facts that, if proven, might rebut application of the fraud-on-the-market presumption to Allegiance's stock, and *Basic* incorporates an opportunity for such a showing. But each of *Oscar*'s proffered scenarios is sufficiently atypical that the burden of rebuttal should rest with defendants. Markets are generally able to assimilate various kinds of material technical information, such as line counts in the telecommunications industry (which the Fifth Circuit itself apparently conceded were adequately alleged to be material), and insider trading will only rarely be so pervasive as to render the market for a stock "strong-form efficient." *See* Part I.A, *supra,* (noting that "strong form" efficiency is an exceptional case and decidedly not a presumptive description of how U.S. financial markets actually work).

The bottom line is that, although critics of SSEMH have identified various "anomalies" in securities markets over the years, those anomalies are very slight, occur on

the margin, and have little impact on most investors. Even though security prices may take longer to adjust to some types of information than others, *Basic*'s assumption that a material misstatement will quickly impact securities prices *in some way* remains a highly reasonable assumption, and that is all that is required. *See Basic*, 485 U.S. at 248 (recognizing that reliance only requires a link between the price paid and the misrepresentation). Where plaintiffs can establish the indicia of a "sufficiently efficient" market, it is reasonable to presume that security prices were impacted by materially false or misleading statements to at least some degree. Thus, common issues of reliance predominate under Rule 23, and the burden appropriately shifts to defendants to prove otherwise.

There are also serious analytical problems with requiring plaintiffs to prove that stock prices fell in response to a disclosure that the previous statement was false. Stock prices, as a financial matter, generally represent an estimate of the company's future cash flows.[48] A disclosure that a previous statement was false will only impact stock prices if it simultaneously causes the market to reassess that estimate. But the market may reassess likely future cash flows (and thus adjust the price) for reasons related to the fraud, even absent an admission of the falsity of a prior statement.

For example, a firm may announce that it has a new product with certain features likely to be very attractive to consumers, while simultaneously concealing that the product does not function properly. Investors may gauge

48. *See* Z. Bodie, A. Kane and A. J. Marcus, *Investments* 613 (2d ed. 2009).

the firm's prospects positively, only to reconsider when revenues from product sales fail to meet expectations. The price of the stock would then fall, even in the absence of an admission that any of the company's prior descriptions of the product were false. By the time (if any) that the company actually admits that its product had always been unmarketable, there may be very little, if any, stock price reaction. The market will have "discovered" that information on its own from the company's poor financial performance.

The facts of *Oscar* illustrate the problem with trying to disentangle the impact of multiple disclosures of unfavorable information. There, Allegiance's new "line counts" served as a data point for estimating future revenues, and the market's assessment of that information would have factored into the stock's price. The Fifth Circuit required that the plaintiffs distinguish the impact on Allegiance's stock price of subsequent revelations that the line counts were inflated from the impact of other simultaneously announced unfavorable information, including disappointing earnings. But Allegiance's earnings might well have been disappointing precisely because Allegiance had not installed as many lines as it had previously reported to the market. From a financial perspective, in other words, disentangling Allegiance's line counts from its earnings reports may be a meaningless exercise. *Oscar*'s loss causation standard thus may require plaintiffs to distinguish the impact of events that, in many cases, will not actually be economically distinct.

B. The Fifth Circuit's approach would force courts to undertake a much more doubtful economic inquiry than the *Cammer*/*Krogman* factors at a premature stage of the case.

The showing required by the Fifth Circuit—either that the stock moved upwards in response to the false statement or dropped upon disclosure of the statement's falsity, *see Halliburton*, 597 F.3d at 335—raises no issues unique to particular plaintiffs and thus would seem to have little to do with the actual issue of commonality under Rule 23. It is, rather apparently, simply an effort to make class certification more difficult because of underlying concerns about the coercive effect of class certification on settlement. *See Oscar*, 487 F.3d at 267 ("We cannot ignore the *in terrorem* power of certification."). But even if it were appropriate for courts to add new requirements to Rule 23 based on such policy concerns, the Fifth Circuit's rule would go too far in the opposite direction.

The primary difference between the Fifth Circuit's approach and the event study methodology discussed in Part II, *supra*, is that while the latter simply requires a demonstration that material information affects the price of the relevant security in a statistically significant manner, the former requires a demonstration that the particular fraudulent statement or omission had that effect. Although in principle one could conduct an event study to "prove" that the price of a security moved in response to a specific piece of false news, there are fundamental reasons to reject such a requirement—especially at class certification.

First, depending on the nature of the defendant's misrepresentation, the necessary event study may simply

be infeasible. For example, if the alleged misconduct involved an omission of material information, "it is an oxymoron to have an event study of an *omitted* piece of information."[49] Moreover, no price reactions would be expected in response to misleading statements that (falsely) reconfirm pre-existing market expectations.[50] Prices only react to *unexpected* news, because *expected* news is already incorporated into the security's market price. Thus, a fraudulently inflated earnings report will have no detectable effect on price (and indeed may have been fraudulently inflated precisely to *avoid* a price drop) if it reports earnings in line with market expectations. Moreover, as the Seventh Circuit pointed out in *Schleicher,* a company may commit fraud to slow its losses rather than to actually raise its stock price. 618 F. 3d at 683-84. Under such circumstances, the stock price may fall, but not nearly as *much* as it would have had the company reported the full truth. A requirement that plaintiffs prove an "uptick" in securities prices following a false statement would thus be *expected* to fail to detect artificial inflation in a significant number of situations where it exists.

Similarly, it is frequently difficult to isolate the market's reaction to a *particular* disclosure—both initially and with respect to disclosure of the fraud—because corporations may announce multiple news items on a single day. Disentangling the effects of each item can pose a difficult challenge. Worse, the timing and manner in which a disclosure is made is almost always controlled by the defendant corporation. If plaintiffs bear the burden of

---

49. *See, e.g.,* Frank Torchio, *Proper Event Study Analysis in Securities Litigation*, 35 J. Corp. Law 159, 163-64 (Fall 2009).

50. *See, e.g.,* Bhagat & Romano, 2 *Handbook of Law and Economics* at 948; Torchio, 35 J. Corp. Law at 164-66.

showing market reaction to a particular disclosure early in the proceedings, corporate managers can be expected to intentionally obscure their disclosures (for example, by dribbling them out over time, or by mixing announcements of "bad" news with simultaneous disclosures of multiple other pieces of information) to render the inquiry as difficult as possible.[51] Even though various techniques exist to sort out confounding factors, doing so before completion of fact discovery and an opportunity to analyze all relevant facts can be expected to produce unreliable results in many cases, raising further questions as to the utility of embarking on such an analysis at an early stage in the litigation. *See generally Schleicher*, 618 F.3d at 686 (explaining that the Fifth Circuit's approach "would do more than just 'tighten' the requirements for class certification. It would make certification impossible in many securities suits, because when true and false statements are made together it is often impossible to disentangle the effects with any confidence").

None of this is to deny that plaintiffs ultimately must prove loss causation to prevail on the merits. But

---

51. For evidence that firms strategically announce information with an eye toward stock prices, *see* Sanjai Bhagat, Ming Dong, David Hirshleifer & Robert Noah, *Do Tender Offers Create Value? New Methods and Evidence*, 76 J. Fin. Econ. 3, 4 (2005) (noting that "firms sometimes deliberately time the announcement of takeover bids to be simultaneous with unrelated announcements"). Likewise, evidence suggests that poorly-performing companies intentionally make their disclosures difficult to read in an attempt to confuse the market about their financial performance. *See* Feng Li, *Annual Report Readability, Current Earnings, and Earnings Persistence*, 45 J. Accounting & Econ. 221 (2008).

proving a stock price decline in response to either partial or complete disclosures relating to a fraud can be highly complex,[52] and courts should not rely on disclosure-specific event studies unless they have been prepared with the benefit of a fully developed factual record.[53] Moving loss causation forward to a pre-merits phase, before the issues in the case have been fully developed, will either render class litigation impracticable or force courts to rely on partial and dubious statistical evidence. At the end of the day, the Fifth Circuit's new requirement threatens to undermine—not enhance—the economic rationality of securities litigation.

52. *See*, e.g., Bruegger & Dunbar, 35 J. Corp. L. at 14.

53. Moreover, attempts to assess the statistical significance of a discrete type of company-specific event (such as concealment of a particular type of problem with a company-specific product) may involve a sample size of one, reducing the statistical power of such an analysis. *See* Bhagat & Romano, 4 Am. L. & Econ. Rev. at 149. It is thus even more important to ensure that such studies are prepared on the basis of a full and complete factual record.

CONCLUSION

The decision of the United States Court of Appeals for the Fifth Circuit should be reversed.

Respectfully submitted,

ERNEST A. YOUNG
Counsel of Record
127 Turvey Court
Chapel Hill, NC 27514
(919) 613-8506
young@law.duke.edu

Counsel for Amici Curiae

WILLIAM C. FREDERICKS
ANN M. LIPTON
BERNSTEIN LITOWITZ BERGER & GROSSMANN LLP
1285 Avenue of the Americas
New York, NY 10019
(212) 554-1400

Additional Counsel for Dr. Sanjai Bhagat