

No. 11-1085

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IN THE  
**Supreme Court of the United States**

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AMGEN INC., *et al.*,

*Petitioners,*

*v.*

CONNECTICUT RETIREMENT  
PLANS AND TRUST FUNDS,

*Respondent.*

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

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

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**INTEREST OF *AMICI***

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**SUMMARY OF THE ARGUMENT**

This Court’s decision in *Basic v. Levinson*, 485 U.S. 224 (1988), endorsed the “fraud-on-the-market” theory, under which 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 two presumptions allow plaintiff investors to establish that they have relied, indirectly, on allegedly false or misleading public statements of corporate managers. The fraud-on-the-market presumptions assume a critical role in securities class actions under Fed. R. Civ. P. 23, because they render the element of reliance a common issue once plaintiffs establish that the market for the relevant security is efficient.

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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.

Like this Court’s decision last term in *Erica P. John Fund, Inc. v. Halliburton Co.*, 131 S. Ct. 2179 (2011), this case involves an effort to require plaintiffs to prove the merits of their case at class certification. In *Halliburton*, this Court unanimously rejected the Fifth Circuit’s requirement that plaintiffs prove loss causation—an element of their claims on the merits—as a necessary prerequisite to applying *Basic*’s presumptions and certifying a class. *See id.* at 2186. Similarly, in this case, Petitioners argue that a different element of plaintiffs’ merits case—the materiality of the defendants’ misrepresentations—must be proven at the class-certification stage as a prerequisite to invoking *Basic*’s presumptions.

Also as in *Halliburton*, Petitioners support their effort to alter the *Basic* framework by questioning the economic premises on which the *Basic* presumptions rest. As the *Basic* Court acknowledged, the fraud-on-the-market theory rested on an economic premise—well supported in the economic literature and accepted by Congress—“that the market price of shares traded on well-developed markets reflects all publicly available information.” 485 U.S. at 246. This underlying theory is the “efficient markets hypothesis,” and it is one of the most widely accepted theories in the social sciences.

The principal purpose of this brief is to address the criticism of the efficient markets hypothesis by Petitioners and their *amici*. We 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. While recent work has identified anomalies in market behavior that are of interest to theoretical economists, those anomalies (to the extent they actually exist) are too small to undermine the SSEMH’s usefulness for the purposes that this Court employed it in *Basic*.

The second point concerns the uses and limitations of particular forms of economic proof. Under *Basic*, plaintiffs must demonstrate that the market for the security at issue in a class action is sufficiently efficient to warrant application of the *Basic* presumptions, and the lower courts have generally analyzed this issue under 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, contrary to the suggestion of some of Petitioners’ *amici*, that these factors are both economically appropriate and manageable for trial courts. In particular, trial courts can and do rely on the most direct test of market efficiency—an “event study” that demonstrates cause and effect relationships between new information and contemporaneous changes in market price. The critical point, however, is that while event studies can effectively demonstrate whether a particular security trades in an efficient market, such studies are generally not sufficiently fine-grained to determine whether particular statements alleged to be fraudulent moved the market for a security. Accordingly, the sort of economic analysis that Petitioners and their *amici* would demand to establish materiality

at the class certification stage—in contrast to the well-established analyses currently applied to show market efficiency for a security generally—would be unworkable in most circumstances.

Third, the showing that Petitioners and their *amici* demand is not only unworkable in practice, but also inappropriate in principle. However materiality is shown, materiality is a quality of the defendants' statements or omissions—not of the individual plaintiffs' response to those statements or omissions. In other words, materiality is a common question to all class members, and therefore irrelevant to the showing that *Basic* requires. The economic proof that Petitioners demand will be unitary for all members of the plaintiff class; moreover, it will be identical to any showing required of plaintiffs on the merits. Moreover, the economic arguments Petitioners offer to challenge the SSEMH—e.g., that markets do not process all forms of information in the same way or at identical speeds—do not go to the legal question of materiality defined by this Court.

Finally, *amici* also note that the SSEMH was not simply a theory that the Court found helpful in *Basic*, but was actually central to this Court's interpretation of *Congress's* intent. If economic revisionism is to drive a departure from *Basic's* formula, that decision should be made by Congress rather than by this Court.

## 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.

#### A. The meaning of an “efficient market.”

Courts and commentators have recognized that stock markets respond to and reflect material information—including false information—for at least two centuries.<sup>2</sup> Eugene Fama’s seminal work in this area distinguished among three different types of market efficiency:

“Weak-form” efficiency means that historical prices are not predictive of future prices. Excess profits cannot be earned using strategies based on historical prices.

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2. See, e.g., *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. 35, 456 (1984). William O. Douglas, who was intimately involved in drafting the Securities Act, articulated this understanding in 1934:

[E]ven though an investor has neither the time, money, nor intelligence to assimilate the mass of information in the registration statement, there will be those who can and who will do so, whenever there is a broad market. The judgment of those experts will be reflected in the market price.

William O. Douglas, *Protecting the Investor*, 23 Yale L. Rev. 522, 524 (1934).



“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.<sup>3</sup>

Although all three models are sometimes described as variations of the efficient markets hypothesis, references to that hypothesis in the context of describing how financial markets actually operate typically refer to the “semi-strong” version (SSEMH).<sup>4</sup> Critically, the SSEMH

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3. See 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).

4. See Eugene Fama, *Efficient Capital Markets: II*, 46 J. Fin. 1575, 1575 (1991) (“I take the market efficiency hypothesis to be the simple statement that security prices fully reflect all available information . . . . A weaker and economically sensible version of the efficiency hypothesis says that prices reflect information to the point where the marginal benefits of acting on the information (the profits to be made) do not exceed the marginal cost.”). 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).

is the version upon which *Basic*'s presumption rests. The presumption's point, after all, is that the market can be "fooled" by public, material misrepresentations, such that false information is reflected in the market price for the company's securities. Under the broadly rejected theory of "strong form" efficiency, no deception would be possible because *all* true information, including truths known only privately, would be reflected in market prices.<sup>5</sup>

The SSEMH is a theory of *informational* efficiency and 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 accurately reflect the true value of a company. Virtually no financial economists believe that securities markets are fundamentally efficient.<sup>6</sup> But *Basic*'s presumption of reliance rested 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

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5. 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).

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

U.S. at 247 (emphasis added).<sup>7</sup> “For purposes of accepting the presumption of reliance,” the Court explained, “we need only believe that market professionals generally consider most publicly announced material statements about companies, thereby affecting stock market prices.” *Id.* at 247 n.24.

For purposes of class certification and the fraud-on-the-market doctrine, the critical aspect of the SSEMH is an efficient market’s ability to incorporate public information in the security price. The SSEMH holds that market prices respond promptly to new material information.<sup>8</sup> 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

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7. Justice White’s dissent, which criticized the majority for “implicitly suggesting that stocks have some ‘true value,’” 485 U.S. at 255 (White, J., dissenting), thus misconstrued the majority’s reasoning. See Ian Ayres, *Back to Basics: Regulating How Corporations Speak to the Market*, 77 Va. L. Rev. 945, 983 (1991) (noting that the dissent in *Basic* misconstrued the concept of efficiency on which the majority relied). The Court equated market price with “true value” only in the limited sense that a market price, reflecting public information, is the best available estimate of value. 485 U.S. at 244 (majority opinion).

8. 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”).

there is about each [publicly traded] company.”<sup>9</sup> In such a market, 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, because that statement is itself incorporated into the price.

The vast majority of finance academics believe that U.S. markets for public securities are informationally efficient.<sup>10</sup> 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.<sup>11</sup> As Professor Malkiel recently explained, however, “such

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9. Burton G. Malkiel, *A Random Walk Down Wall Street* 269 (10<sup>th</sup> ed. 2011); see also Ronald Gilson & Bernard Black, *The Law and Finance of Corporate Acquisitions* 146-57 (2d ed. 1995) (concluding that a variety of mechanisms ensure the informational efficiency of modern financial markets).

10. See, e.g., Esther Bruegger & Frederick Dunbar, *Estimating Financial Fraud Damages with Response Coefficients*, 35 J. Corp. L. 11, 46 (2009) (“[M]ost 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 that “by and large, public securities market prices are efficient”).

11. *But cf.* Stephen Brown, *The Efficient Markets Hypothesis: The Demise of the Demon of Chance?* 51 Accounting & Fin. 79, 82 (2011) (noting popular confusion as to what SSEMH really means, and pointing out that SSEMH actually implies that market participants will be unable to foresee the collapse of bubbles).

obituaries are greatly exaggerated,” and both academic research and experience “resoundingly confirm[]” the validity of the SSEMH. Malkiel, *Random Walk*, at 268-69.<sup>12</sup>

**B. Variations in the efficiency with which generally efficient markets process particular kinds of information are not sufficiently significant to undermine *Basic*’s presumption.**

In the real world, of course, financial markets do not exhibit *perfect* efficiency. If markets perfectly reflected all public information in the stock price, there would be no incentive for any investor to analyze that information when making investment decisions—and then there would be no mechanism for such information to be reflected in stock prices. Even semi-strong form efficient markets must provide sophisticated investors an incentive to analyze public information.<sup>13</sup> But such markets are more than sufficiently efficient to support *Basic*’s fraud-on-the-market presumption.

Efforts to test or criticize the SSEMH focus on whether investors can “earn above-average returns

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12. See also Ray Ball, *The Global Financial Crisis and the Efficient Market Hypothesis: What Have We Learned?* 21 J. Applied Corp. Fin. 8, 10 (2009); Daniel Fischel, *Efficient Capital Markets, the Crash, and the Fraud on the Market Theory*, 74 Cornell L. Rev. 907, 915-17 (1989).

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

without accepting above-average risks.”<sup>14</sup> If investors who closely analyze the market cannot consistently earn above-average returns based on public information, this is a signal that the market price has already incorporated such information. Hence, empirical efforts to test the SSEMH focus on efforts to generate above-average returns by trading strategies based on public information. Numerous papers have purported to document findings inconsistent with the SSEMH ever since Professor Fama’s pathbreaking article in 1970. But anomalies identified by these critiques tend “to disappear, reverse, or attenuate”—either because they are quickly arbitrated away or because they were simply statistical aberrations in the first place.<sup>15</sup> And efforts to achieve above-average returns through investment strategies based on these critiques have been well-documented failures.<sup>16</sup>

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14. Burton G. Malkiel, *The Efficient Market Hypothesis and its Critics*, 17 J. Econ. Perspectives 59, 60 (2003). Some of the critiques cited by Petitioners’ *amici* criticize the efficient markets hypothesis but fail to demonstrate that the anomalies they identify can be exploited to generate abnormal returns. *See, e.g.*, William O. Fisher, *Does the Efficient Market Theory Help Us Do Justice in a Time of Madness?* 54 Emory L. J. 843 (2005). Without such a demonstration, there is simply no empirical confirmation that those critiques are of sufficient magnitude to undermine *Basic*’s presumption.

15. William Schwert, *Anomalies and Market Efficiency*, in *Handbook of Economics and Finance* 940 (2003); *see also* Malkiel, *Random Walk*, at 274 (observing that “many of these predictable patterns may simply be the results of data mining” and that “[g]iven enough time and massaging of data series, it is possible to tease almost any pattern out of most data sets”).

16. *See* Malkiel, *Random Walk*, at 267-300; Ball, 21 J. Applied Corp. Fin. at 15 (noting that funds established to take advantage of behavioral economics strategies have failed to outperform the market). Professors Fang, Jacobsen and Qin provide evidence

Recent critics of the SSEMH have cited work by behavioral economists, who have suggested that short-run momentum in market movements may be caused by certain psychological feedback mechanisms, such as “bandwagon effects.” These effects, however, are too small to undermine the basic point of the SSEMH. 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 exists.<sup>17</sup> In any event, the behavioral literature involves such extremely small pricing variances that it could have, at most, only a *de minimis* impact on SSEMH.<sup>18</sup>

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that several well-known technical trading strategies perform quite poorly in out-of-sample tests. See Jiali Fang, Ben Jacobsen, & Yafeng Qin, *Predictability of the Simple Technical Trading Rules: An Out-of-Sample Test* (June 13, 2012), available at <http://ssrn.com/abstract=2066182>.

17. See Malkiel, *Random Walk*, at 276.

18. See Malkiel, 17 J. Econ. Perspectives at 61-62. A recent analysis of the finance literature concludes that “BF (Behavioral Finance) lags behind EMH (Efficient Market Hypothesis) in terms of the quantity, dynamics, scope, and international reach of citations. BF is far from stealing a march on the EMH, and the latter is still used as the benchmark.” Dariusz Wojcik, Nicholas Kreston, & Sarah McGill, *Freshwater, Saltwater, and Deepwater: Efficient Market Hypothesis versus Behavioral Finance*, Oxford University School of Geography and the Environment Working Paper No. 12-03 (February 21, 2012), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2008788](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2008788); see also Xi Li & Rodney Sullivan, *The Limits to Arbitrage Revisited: The Accrual and Asset Growth Anomalies*, 67 Fin. Analysts J. 50 (July/August 2011), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1907313](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1907313) (documenting that highly publicized accrual and asset growth anomalies are an artifact of inadequate risk adjustment).

To undermine *Basic*'s fraud-on-the-market doctrine, these critiques would have to show anomalies far greater in magnitude than any demonstrated to date. Even the anomalies for which the evidence is strongest have not proven large enough that a trading strategy based on them can generate above-average returns.<sup>19</sup> The question under *Basic* is simply whether the market for a security is efficient in the sense that a court may reasonably presume that materially false or misleading new information about a company affects the stock price in some manner. Nothing in *Basic* turns on the magnitude of the effect. Rather, the question is simply whether information affects the stock to some extent, so that the price a purchaser or seller pays or collects can be said to reflect, to some degree, the impact of that information on the market.

Similarly, economic evidence that markets may process different sorts of information at different rates does not undermine *Basic*'s presumption. The critical question is not the speed of adjustment, but rather whether a market generally reacts to material information, such that a material misstatement or omission would distort the market price.<sup>20</sup> Arguments about the *timing* of market adjustment might affect the damages to which particular plaintiffs are entitled, but such concerns generally have not been considered a barrier to class certification.<sup>21</sup>

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19. See note 16, *supra*.

20. See Donald C. Langevoort, *Basic at Twenty: Rethinking Fraud on the Market*, 2009 *Wisc. L. Rev.* 151, 169-70.

21. See, e.g., *Blackie v. Barrack*, 524 F.2d 891, 909 (9th Cir. 1975); 6 Alba Conte & Herbert B. Newberg, *Newberg on Class Actions* § 18:27 (4th ed. 2002) ("A particularly significant aspect of the Rule 23(b)(3) approach is the recognition that individual damages questions do not preclude a Rule 23(b)(3) class action when the issue of liability is common to the class.").



The 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 this theory.<sup>22</sup> Although SSEMH is not entirely free of anomalies, those anomalies are sufficiently limited that, as a practical matter, the idea that prices efficiently incorporate information is an indispensable foundation for how we organize the real world.<sup>23</sup> Critically, *amici* are unaware of any research (let alone empirically tested theory) suggesting that any of the purported anomalies 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.

## **II. Courts Are Able to Evaluate the Efficiency of Markets for Particular Securities under Current Law.**

Petitioners and their *amici* have suggested that courts are *unable* to adequately determine whether markets for particular securities are efficient, but that courts *can* determine materiality by economic studies assessing the market impact of the alleged misrepresentations at issue. Both suggestions fundamentally misunderstand what economic proof can and cannot accomplish.

In conducting a general assessment of a market’s efficiency, lower courts have successfully employed a multi-factor analysis developed in *Cammer v. Bloom*, 711

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

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

F. Supp. 1263 (D.N.J. 1989), and *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D. Tex. 2001). That analysis is not perfect, but it is workable—particularly when courts emphasize economic event studies demonstrating that market prices move in response to new information.

In contrast, event studies and similar economic tools have a much harder time assessing the market impact of particular statements or omissions (including those that may form the basis of a securities fraud suit). *Amici* thus disagree with suggestions by Petitioners and their *amici* that courts should demand this sort of proof to establish materiality, much less as a predicate for class certification. We submit, moreover, that demanding such proof would amount to a frontal assault on *Basic*, which did not demand any such showing.

**A. Event studies work well to determine whether a stock trades in an efficient market.**

*Cammer* and *Krogman* identify eight widely adopted factors to assess market efficiency: (1) average weekly trading volume; (2) analyst 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 courts should primarily rely on an event study as the best 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.<sup>24</sup> Event studies are not a direct test of market efficiency, but they have 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.<sup>25</sup>

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 is sufficiently large that simple random movement can be rejected as the cause. Thus, a widely accepted method 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 the dates on which statistically significant abnormal returns were

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24. 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).

25. 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 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’ing 111, 111-137 (1998).

observed to 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 be made of the extent to which *new* material information, rather than random chance, is responsible for changes in the price of the security.<sup>26</sup>

The feasibility of event studies as a 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 is inconclusive, the other *Cammer/Krogman* factors provide useful additional evidence from which the presence (or absence) of semi-strong form efficiency may be inferred. Moreover, these factors tend to weed out markets most likely to be affected by the kinds of anomalies (to the extent they actually exist) identified by critics of the efficient market hypothesis.<sup>27</sup>

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26. 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).

27. See, e.g., Nicholas Barberis & Richard Thaler, *A Survey of Behavioral Finance*, in 1B *Handbook of the Economics of Finance* 1112 (George M. Constantinides, et al., eds., 2003) (noting that the active presence of arbitrageurs reduces anomalies and promotes informational efficiency); Ronald J. Gilson & Reinier Kraakman, *The Mechanisms of Market Efficiency Twenty Years Later: The Hindsight Bias*, 28 Iowa J. Corp. L. 715, 734-36 (2003)

For example, average weekly trading volume can be linked to information dissemination to the market because volume helps investment analysts decide which stocks to follow<sup>28</sup> and is thus a useful indicator of efficiency. Likewise, extensive analyst coverage implies strong interest in information about a company's securities,<sup>29</sup> although the post-*Cammer* explosion of alternative methods by which information is disseminated to investors has made traditional analyst coverage less central. And a security issuer's eligibility to file SEC Form S-3<sup>30</sup> 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 marketplace." *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, particularly large institutional holders, of a security is likely a valid indicator of, though not a prerequisite for, market efficiency.

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(observing that many anomalies disappear when economists study larger issuers).

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

29. 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).

30. 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](http://www.sec.gov/about/forms/forms-3.pdf).

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 useful in the context that courts actually employ them. As Professors Cornell and Rutten explain, “[t]he 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.*” Bradford Cornell & James Rutten, *Market Efficiency, Crashes, and Securities Litigation*, 81 Tul. L. Rev. 443, 456 (2006) (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.

**B. Event studies do *not* work well in determining whether particular statements alleged to be fraudulent moved the market for a security, and in most cases would also functionally duplicate the class certification test that this Court rejected in *Halliburton*.**

Petitioners have argued that measures of overall market efficiency do not guarantee that the market will process all types of information efficiently, and they suggest that plaintiffs be required to prove not only that “the misrepresentation at issue [was] material,” but also that “the market [was] efficient as to that misrepresentation” as prerequisites to class certification. Petitioners’ Brief

at 34. Likewise, Petitioners' *amici* have suggested that "[i]n determining reliance, courts should look to market movement caused by an alleged misrepresentation, rather than to overall market efficiency," and that this inquiry could be done by event studies. *See* Brief of Law Professors as *Amici Curiae* in Support of Petitioners, at 26-27. The trouble with these suggestions, as an economic matter, is that event studies are considerably more effective in determining the overall efficiency of the market in which a particular security trades than they are at evaluating the market impact of particular statements that may form the basis of litigation.

The strongest event studies look at the performance of a stock over a significant period of time and evaluate the impact on the stock price of multiple information releases over the course of that period. Although event studies sometimes evaluate the overall efficiency of the market for a particular security by looking at the impact of a single information release, such a study will get much more reliable results if the release to be evaluated can be chosen with the purpose of empirical testing in mind. If that is possible, researchers can choose a release that is isolated, rather than compounded with other news about the company or broader developments that affect the performance of the market as a whole. In these circumstances, event studies are a reliable guide to efficiency of the market in which a stock trades.

What Petitioners and their *amici* propose, however, would require event studies focused on the particular statements or omissions that plaintiffs claim to be fraudulent. This sort of study is problematic for a number of reasons. First, stocks rarely rise when the false statement

initially occurs, because many if not most securities cases involve either fraudulent omissions or false statements that are designed to conceal problems that defendants do not wish to disclose.<sup>31</sup> The company's statements may thus falsely confirm the market's expectations—thereby producing no rise in price but preventing a price *decline* that would have occurred had the company revealed the truth.<sup>32</sup> Similarly, sometimes firms will reveal *some* losses but fraudulently minimize the damage by making materially incomplete disclosures. *See Schleicher*, 618 F.3d at 683-84. In all these common scenarios, there is no practicable way to measure the “front-end” price impact of the initial false statement or omission; instead, economists will seek to infer price impact from the later drop in stock price after the truth comes out.<sup>33</sup>

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31. *See, e.g.*, Donald C. Langevoort, *Capping Damages for Open-Market Securities Fraud*, 38 Ariz. L. Rev. 639, 654 (1996) (observing that “most open-market frauds” involve attempts to cover up “adverse business developments”); Jennifer H. Arlen & William J. Carney, *Vicarious Liability for Fraud on Securities Markets: Theory and Evidence*, 1992 U. Ill. L. Rev. 691, 726 (collecting empirical evidence and concluding that “concealing adverse business developments was the most common source of fraud charges, followed by concealing self-dealing and illegal acts”).

32. *See, e.g.*, Frank Torchio, *Proper Event Study Analysis in Securities Litigation*, 35 J. Corp L. 159, 164 (2009) (“[S]ignificant stock price reactions are not expected in an efficient market when alleged misstatements merely confirm the market's prior expectations.”); Bhagat & Romano, 4 Am. L. & Econ. Rev. at 143 (noting that under the SSEMH “only an unanticipated event can change the price of a stock”).

33. *See* David Tabak, *Loss Causation and Damages in Shareholder Class Actions: When It Takes Two Steps to Tango*,



As a practical matter, the test Petitioners and their *amici* propose would most often rely on identifying a price drop upon the release of negative information that exposes the truth. In that scenario, price impact and loss causation become one and the same—and this case becomes functionally identical to *Halliburton*. Last term, this Court rejected the Fifth Circuit’s requirement that plaintiffs prove loss causation as a predicate to class certification. *Halliburton*, 131 S. Ct. at 2185-86. The Court explained that “[t]he fact that a subsequent loss may have been caused by factors other than the revelation of a misrepresentation has nothing to do with whether an investor relied on the misrepresentation in the first place, either directly or presumptively through the fraud-on-the-market theory.” *Id.* at 2186. Hence, “[l]oss causation has no logical connection to the facts necessary to establish the efficient market predicate to the fraud-on-the-market theory.” *Id.*

Similarly to *Halliburton*, this case finds Petitioners conflating materiality and a price impact upon disclosure

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NERA Working Paper, May 2004 (available at [http://www.nera.com/extImage/200405Tabak\\_Loss\\_Causation.pdf](http://www.nera.com/extImage/200405Tabak_Loss_Causation.pdf)) (“[O]ne would not expect the stock price to move when defendants did not make a statement, so there is no reason to examine the stock price at the time of an alleged omission. An alternative way of showing the effect of the omission is by examining the stock price when the information was finally disclosed.”); Torchio, 35 J. Corp. L. at 164 (noting that “it is incorrect and improper to use an event study to analyze or quantify the effect of information that was alleged to have been omitted,” and stating that “an omission would be considered material to investors if a subsequent correct and complete statement caused a significant stock price reaction”).

of fraud-related truth.<sup>34</sup> Significantly, neither Petitioners nor their *amici* even assert that their proposal would, in fraudulent omission or concealment cases, require anything other than the showing that *Halliburton* rejected. As an economic matter, the price impact that Petitioners seek to require will be functionally identical to loss causation in the majority of actual cases. The two concepts are properly distinct when a plaintiff’s case rests upon an affirmative misrepresentation of new information by a company—perhaps an announcement of an attractive new product, unanticipated by the market, that the company knows it lacks the technology to actually produce. In such a scenario, one could measure the increase in the stock’s price after the positive (but fraudulent) announcement. Loss causation, on the other hand, would assess the drop in price after the truth was revealed. But because most securities fraud cases turn on omissions or misstatements that confirm existing expectations, rather than on affirmative statements announcing positive information that is both new and unexpected, economists must infer the *ex ante* price impact from the *ex post* loss, *see supra* n. 32—which would result in exactly the same mini-trial on loss causation that *Halliburton* rejected. As the Court

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34. In *Halliburton*, this Court rejected Halliburton’s effort to characterize the Fifth Circuit’s rule as requiring proof not of loss causation but of “price impact,” meaning “the effect of a misrepresentation on a stock price.” *Id.* at 2187. As the Court rightly explained, “loss causation is a familiar and distinct concept in securities law; it is not price impact.” *Id.* Our point here is simply that where initial price impact is *inferred* from loss causation, because there is no initial price increase from the defendant’s fraudulent omission (or false reaffirmation of the market’s expectations), *Halliburton*’s reasoning demands rejection of a price impact requirement as well.

stated there, all the reasons that loss causation remains a distinct requirement from reliance—for instance, that a subsequent price drop “could instead be the result of other intervening causes” than the defendant’s fraudulent statement, even if plaintiffs relied on that statement, 131 S. Ct. at 2186—are reasons not to require proof of loss causation prior to class certification. And because price impact will generally rely on the same economic proof as loss causation, this Court should reject a price impact requirement as well.

A second problem with using event studies to prove price impact arises when the particular statements at issue take an idiosyncratic form. Although Petitioners have suggested that “a market can be efficient . . . as to some types or sources of information but not others,” Petitioners’ Brief at 32, it is not practicable to test the efficiency of a market as to each and every potentially identifiable category of information. The Fifth Circuit’s decision in *Oscar Private Equity Investments v. Allegiance Telecom, Inc.*, 487 F.3d 261 (5th Cir. 2007), for example, involved a claim that a telecommunications company had misstated the number of new lines it had installed during the first three quarters of 2001. Later, when Allegiance restated its line counts downwards, its stock dropped. The Fifth Circuit refused to apply *Basic*’s presumption that the false statements had impacted stock prices initially because it doubted that information about “line counts” was, in general, something the market absorbed. *Id.* at 269. But it would have been exceptionally difficult for plaintiffs to establish how line-count data is perceived by markets as a category of information, because economists would likely lack sufficient information to create an appropriate model and evaluate the impact of telecommunications line counts *per se* on securities markets.

A third problem is that a defendant's potentially fraudulent statements, as well as their disclosures of fraud-related truth, will often be compounded with other, simultaneous releases of information about the company or developments that affect securities prices generally. In such circumstances, event studies do not provide good mechanisms for separating out the impact of relevant information.<sup>35</sup> As a result, courts lack adequate economic tools to determine whether the market "is efficient as to a particular misrepresentation," Petitioner's Brief at 34, much less the extent of "market movement caused by an alleged misrepresentation," Petitioners' Law Professors' Brief at 27.

Requiring securities plaintiffs to demonstrate the market impact of particular statements would also create strong incentives for companies to release information in such a way as to make such demonstrations difficult. Companies exercise a large degree of discretion and control over the timing of information releases. If Rule 10b-5 plaintiffs were required to show a measurable market impact from any alleged misrepresentation, which—as above—would typically come from market reaction to disclosures of fraud-related truth, companies forced to make such disclosures could easily muddy the waters by releasing other news about the company. As Professor Fisch observes,

Faced with the need to reveal their fraud,  
defendants can deliberately introduce additional

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35. *See, e.g.*, Langevoort, 2009 *Wis. L. Rev.* at 187 ("When [event studies] do not [produce determinate results], it is often not because there was no observable effect, but because there were too many possible causes.").

causal factors. For example, before disclosing a fraud, corporate officials may release “unrelated” negative information that preemptively reduces stock price. This behavior is sometimes described as “walking down the stock price.” Defendants may also bundle a corrective disclosure with good news that offsets the effect of the negative information on stock price. Still another alternative is to delay a corrective disclosure until immediately after market or industry bad news has caused stock prices to fall.<sup>36</sup>

That sort of obfuscation would only compound the already-significant difficulties inherent in pinpointing the economic impact of allegedly fraudulent statements.

It is true that plaintiffs will eventually have to prove such impact at trial on the merits. But it is more realistic to expect such proof after the completion of discovery. Discovery will often help, for example, in determining

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36. Jill E. Fisch, *Cause for Concern: Causation and Federal Securities Fraud*, 94 Iowa L. Rev. 811 (2009); *see also* Langevoort, 2009 Wisc. L. Rev. at 187 (noting, in the context of a regime requiring plaintiffs to prove loss causation at class certification, that “the optimal strategy for a company is always to release corrective disclosure as part of a larger package, including more lies if necessary”). Evidence in the finance literature confirms that corporate managers do sometimes intentionally release several unrelated information items related to the company’s financial prospects on the same day so as to obfuscate the impact of a particular announcement they are concerned about. *See* Sanjai Bhagat, David Hirshleifer, Ming Dong, & Robert Noah, *Do Tender Offers Create Value? New Methods and Evidence*, 76 J. Fin. Econ. 3 (2005).

which items of news about a company are related to the initial fraud. In *Oscar*, for example, the defendant telecommunications company not only restated its line counts downward, but simultaneously disclosed unexpectedly low earnings and other unfavorable financial information. *See* 487 F.3d at 264. While an event study would have struggled to distinguish the price impact of these different disclosures, discovery might well have revealed that the untruthful “line counts” announcement was in fact related to the simultaneous disappointing earnings announcement because the number of lines that a telecommunications company has presumably influences its earnings, and a lower count might decrease earnings. In that case, an event study should not treat the two announcements as unrelated.

Moreover, the company’s internal assessments of its performance and the relative importance of particular developments and news may well assist the finder of fact in teasing out both the impact of particular statements and the extent to which distinct developments are in fact related. Discovery might reveal, for example, if the company intentionally chose to reveal unrelated “bad” news simultaneously with a corrective disclosure in order to mask the disclosure’s effect—which could well be highly relevant to the factfinder’s assessment of whether the stock price reaction was related to the fraud. Discovery might also reveal if the defendants falsely attributed fraud-related bad news to other, unrelated factors. It is thus critical to ensure that, when plaintiffs are ultimately asked to establish the impact of allegedly fraudulent statements, they have the benefit of a fully-developed factual record.

### **III. Plaintiffs Should Not Be Required to Prove that Particular Statements Are Material, Much Less that They Affected the Market, as a Predicate to Class Certification.**

Petitioners argue that courts should require securities plaintiffs to prove the materiality of defendants' misrepresentations as a prerequisite to class certification. *Amici* submit that the critical question is not whether the issue of materiality overlaps with the merits, but whether establishing materiality is necessary as a prerequisite to determining that common questions predominate in the case. It is not. While materiality may be a predicate to showing reliance on the defendant's misrepresentations, it is *not* a prerequisite to showing all that Rule 23 requires, which is simply that reliance can be adjudged at trial as a common question subject to unitary proof for all class members.

Petitioners compound their error by asserting that plaintiffs should have to prove market impact in addition to meeting this Court's established test for materiality. As defined by this Court, materiality is a distinct concept from market impact. And in any event, market impact—like materiality—is a common question subject to unitary proof. As such, it is irrelevant to the Rule 23 inquiry.

#### **A. Materiality is not a legal predicate for class certification under the fraud-on-the-market theory.**

Although Rule 23 imposes a number of requirements for certifying a plaintiff class, fraud-on-the-market cases generally revolve around the question of commonality. In

such cases, the sole question is whether “the questions of law or fact common to class members predominate over any questions affecting only individual members.” Fed. R. Civ. P. 23(b)(3). It is true that this Court has said that plaintiffs will sometimes have to prove matters that are also merits issues to meet the requirements for class certification. *See Wal-Mart Stores, Inc. v. Dukes*, 131 S. Ct. 2541, 2552 n.6 (2012). But merits issues are relevant only insofar as they go to the actual prerequisites that Rule 23 requires. Plaintiffs must show that common issues predominate, for example, but Rule 23 does *not* require a showing that plaintiffs actually relied on the defendants’ misrepresentations or that plaintiffs were harmed. Likewise, plaintiffs under *Basic* must show that the stock in question traded in an efficient market, but that is only because so doing will allow them to establish reliance on a unitary basis at trial.

Petitioners’ position would make sense if the point of the fraud-on-the-market theory was to establish that a misrepresentation had *harmed* each member of the plaintiff class. But courts invoke fraud-on-the-market only to answer a much narrower question: whether plaintiffs’ claims (particularly the element of reliance) can be established on a common, class-wide basis. What *Basic* presumes is that a purchaser of a security traded in an efficient market relies on *all* material public statements, because all of those statements will be incorporated in the security’s price. That is all that is required to determine that the reliance question is common to all class members. At class certification, courts can remain agnostic as to whether the alleged misrepresentations are material, because materiality is inherently a common question. *Basic* simply presumes that *if* the misrepresentation is



material, then it will have been incorporated in the stock price and relied upon—in a unitary way—by each member of the plaintiff class.

*Basic*'s references to materiality in its discussion of the fraud-on-the-market presumption should be read in this light. At no point in its opinion did the *Basic* Court state that materiality is a *prerequisite* for class certification. Rather, what the Court said was that, in an efficient market, courts should presume that plaintiffs rely on material statements and misrepresentations. Hence, the Court said that “[f]or purposes of accepting the presumption of reliance . . . we need only believe that market professionals generally consider most publicly announced material statements about companies, thereby affecting stock market prices.” 485 U.S. at 246 n.24. In an efficient market, in other words, plaintiffs may establish that the whole class relied by showing that the relevant statements were material. But what Petitioners forget is that class certification does not require proof of *reliance*; rather, a class may be certified if plaintiffs can show that reliance will be provable on a unitary basis.<sup>37</sup> As long as

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37. References to materiality or effects on market price in this Court's more recent cases are of a similar character. *See Dura Pharmaceuticals, Inc. v. Broudo*, 544 U.S. 336, 341-42 (2005) (describing *Basic* as “presuming that the price of a publicly traded share reflect a material misrepresentation and that plaintiffs have relied upon that misrepresentation”); *cf. Halliburton*, 131 S. Ct. at 2182 (describing “*Basic*'s fundamental premise” as being “that an investor presumptively relies on a misrepresentation so long as it was reflected in the market price at the time of his transaction”). In each instance, the Court invokes materiality as a way to establish reliance in an efficient market, but the Court never suggests that establishing reliance is necessary for *class certification*. Rather, all that is necessary is to show that reliance

the market for the relevant security is efficient, plaintiffs can show reliance at trial simply by making one showing that the misrepresentations in question were material.

**B. Economic proof of market impact is not the same thing as materiality, and in any event market impact is always a common question.**

This Court has held that a statement is material when there is “a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of information made available.” *Matrixx Initiatives, Inc. v. Siracusano*, 131 S. Ct. 1309, 1318 (2011) (quoting *Basic*, 485 U.S. at 231-32). This standard is grounded in the attitude of the reasonable investor, not on a demonstration of quantifiable market impact from a particular statement.<sup>38</sup> It is altogether possible, for example, that a reasonable investor might find that a particular statement “altered the total mix of information,” even if the market impact of that particular statement cannot be teased out from the total effect of all news and developments that affected the market at a given moment.

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may be proven for the class as a whole, without individualized proof. This is why, in *Halliburton*, the Court described the *Basic* presumption as having only three elements—“that the alleged misrepresentation were publicly known . . . that the stock traded in an efficient market, and that the relevant transaction took place ‘between the time the misrepresentations were made and the time the truth was revealed,’” 131 S. Ct. at 2185 (quoting *Basic*, 485 U.S. at 248)—without mentioning materiality.

38. See, e.g., *Basic*, 485 U.S. at 240 (“[M]ateriality depends on the significance the reasonable investor would place on the withheld or misrepresented information.”).

In any event, questions about market impact are concededly common ones and thus no barrier to class certification. As Petitioners' *amici* explain, market impact would have to be proven by event studies that attempt to tease out the impact of the particular statements or omissions that form the basis for the plaintiffs' claims. *See* Law Professors' Brief at 27-30. No one contends, however, that market impact is not a common question, and the methods of economic proof that Petitioners' *amici* propose—manageable or not—are unitary in nature. Plaintiffs' claims of market impact, in other words, will stand or fall as a class; hence, resolution of that issue cannot be a predicate to class certification.

**C. Economic revisionism is not a valid basis for overruling this Court's statutory precedents.**

Petitioners and their *amici* pervasively stress the impact of class certification on the settlement dynamics of securities fraud litigation. At bottom, Petitioners argue that materiality should be a prerequisite to certification not because proof on that issue is necessary to determine whether common issues predominate, but simply because “[i]f materiality is not determined before class certification, it frequently will not be considered at all.” Petitioners' Brief at 24. But concerns about settlement pressures are not a reason to add new requirements to Rule 23 or to alter this Court's interpretation of Congress's intent in *Basic*. Congress, after all, has not been inattentive to concerns about class action litigation in securities cases, but it has chosen not to impose the requirements that Petitioners now ask this Court to invent.

Critically, this Court’s adoption of the fraud-on-the-market presumption in *Basic* rested not on the Court’s own view of economic theory, but on Congress’s intent in the securities laws. As this Court noted, “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). SSEMH and its fraud-on-the-market corollary is thus entrenched in Congress’s own understanding of the Securities Exchange Act as well as in the Act’s implementation by the SEC.

This Court has recognized “the ‘special force’ of the doctrine of stare decisis with regard to questions of statutory interpretation.” *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011) (quoting *John R. Sand & Gravel Co. v. United States*, 552 U.S. 130, 139 (2008)). Even if a consensus of economists had rejected the SSEMH, this Court would hesitate to rewrite a statutory scheme predicated on the belief that securities markets efficiently incorporate information. Fortunately, there is no conflict between economic consensus and *stare decisis* here. While research revealing anomalies in the market may be relevant for theoretical purposes, these revisionist critiques do not undermine the SSEMH as it operates in

the practical context of securities litigation. Rejecting the SSEMH would thus fly in the face of economic consensus *and* upset the fundamental assumptions of the regulatory scheme that Congress enacted.

### CONCLUSION

The judgment of the United States Court of Appeals for the Ninth Circuit should be affirmed.

Respectfully submitted,

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