In The Supreme Court of the United States

HALLIBURTON CO. AND DAVID LESAR,

Petitioners,

V

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

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Fifth Circuit

BRIEF OF TESTIFYING ECONOMISTS AS AMICI CURIAE IN SUPPORT OF RESPONDENT

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INTEREST OF AMICI CURIAE 1

Amici are testifying economists who use statistical methods, including event studies, to examine the efficiency of markets for particular stocks and to determine the impact of public information on the price of stocks. Amici pursue such work both in academic and professional capacities. Amici include: Finnerty, Professor of Finance, Fordham University; Steve Feinstein, Associate Professor of Finance, Babson College; H. Nejat Seyhun, The Jerome B. & Eilene M. York Professor of Business Administration, Professor of Finance, Michigan University, Ross School of Business; Anthony Saunders, John M. Schiff Professor of Finance, New York University, Stern School of Business; Frank Torchio, Adjunct Professor of Finance, Rochester University, Simon Business School; Mark E. Zmijewski, Leon Carroll Marshall Professor of Accounting, The University of Chicago Booth School of Business; Tavy Ronen, Associate Professor of Finance and Economics, Rutgers Business School; and Israel Shaked, Professor of Finance, Boston University School of Management.

SUMMARY OF ARGUMENT

The fraud-on-the-market (FOTM) presumption adopted in *Basic Inc. v. Levinson*, 485 U.S. 224 (1988), creates a rebuttable inference that securities buyers and sellers rely on the market price to reflect

¹ No counsel for a party authored this brief in whole or in part, nor did any person or entity, other than *amici* or their counsel, make a monetary contribution intended to fund the preparation or submission of this brief. This brief is submitted pursuant to the consent of the parties, on file with this Court.

publicly disseminated information relating to those securities. This inference is well-supported by the economics literature and is established in securitiesfraud cases by scientifically valid economic evidence.

To trigger the FOTM presumption, plaintiffs generally must meet the multi-factor test developed in *Cammer v. Bloom*, 711 F. Supp. 1263 (D.N.J. 1989), and *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D. Tex. 2001). The factors of the test are valid indicators that the market for a stock is informationally efficient.

Applying these factors, testifying economists typically use an array of tools in reaching their opinions in favor of or against the informational efficiency of the market for a particular security. They examine institutional trading, analyst reports, trading volume, share price reactions to new information, and other market features. Typically, economists consider all relevant evidence and do not restrict their examination to a single factor or analytical tool.

One well-established and common tool is an event study, which identifies a particular event or series of events and uses statistical methods to analyze whether that event or series of events affected the price of a stock, net of other market and industry factors. Such studies can determine, typically to a statistically significant (*i.e.*, 95% confidence) level, whether an event affected the price of a stock. Event studies are not limited to securities litigation; they are one of the most well-established methodologies in economics and are widely used throughout corporate finance and economics generally. There are a

number of generally accepted ways in which such studies can be performed.

There is little dispute among economists that statistically significant price movement in response to new, material public information is evidence that such information is promptly incorporated into stock prices. Thus, economic evidence that the market price for a stock tends to be responsive to new, material public information relating to that stock supports an inference that purchasers and sellers reasonably relied on the price to reflect such information. Such evidence, which is specific to a particular stock (and the impact of new public information on the price of that stock), avoids many of Halliburton's broad criticisms of the Efficient Markets Hypothesis (EMH).

Plaintiffs are not the only parties to use event studies in securities litigation. Defendants frequently use event studies to attempt to show that stock price declines were attributable to factors other than the alleged misrepresentations. And government agencies often use event studies in civil cases that seek disgorgement and in criminal cases that require calculations relating to restitution and sentencing.

Depending on the specific context in which misrepresentations are made, event studies play different roles in different cases. For example, where a misrepresentation constitutes favorable, material news that was unexpected by the market, an economist may be able to use an event study to show that the misrepresentation was directly related to the unexpected price increase.

In price-maintenance cases, however, event studies may not identify any increase in securities prices at the front end of the omissions or false statements, because those misrepresentations merely maintain the price. Often, misstatements simply confirm what the market is expecting (e.g., by falsely reporting that a company met its revenue target when in fact it did not). No price reactions would be expected in response to misleading statements that (falsely) reconfirm pre-existing market expectations.

In those circumstances, event studies can be used First, event studies can analyze in two ways. disclosures unrelated to corporate misrepresentations to determine whether the market for the subject security is informationally efficient in general. If the market is efficient with regard to other information disseminated at the time of the misrepresentations, there is typically no reason to believe that the market is not efficient with respect to the information at issue. For example, if the market is found to behave efficiently with respect to important new product announcements, the market would also be expected to efficiently incorporate earnings announcements that are in line with the market's expectations, but which are nevertheless misleading.

Second, an event study can be used at the back end of a price-maintenance fraud, when the truth is revealed and the stock-price drop (an abnormal return) relating to the disclosure of the truth can be isolated from market- and industry-wide factors and from non-fraud-related company news to estimate how much of the previously inflated or maintained price was caused by the fraud. A similar exercise occurs in cases of fraudulent omissions. In these types of analyses, the value of event studies is in detecting the impact of corrective disclosures subsequent to the false statements or omissions at the front end of the fraud.

Given the different uses of event studies as one of several tools in different contexts, Petitioners' suggestion that economists must show price increases at the time of the misrepresentation is inappropriate. Such a result would not even be expected in many cases, and hence should not be required as a predicate for the FOTM presumption to attach.

ARGUMENT

A central insight of *Basic* was that investors in the secondary market rely on a stock's price as being based on the market's collective assessment of public information about that stock: "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." Basic, 485 U.S. at 247 n. 24. In other words, buyers and sellers on the secondary market use the market as a proxy for investigating public information and view the price of a stock as the market's distilled conclusion as to its value based on that information. "By accepting this rebuttable presumption," the Court wrote, "we do not intend conclusively to adopt any particular theory of how quickly and completely publicly available information is reflected in market price." *Id.* at 148 n. 28.

A. Economists Use Multiple Tools, Including Event Studies, in Assessing Whether the Market for a Particular Stock Generally Incorporates Material Public Information Relating to that Stock.

To trigger the FOTM presumption, plaintiffs generally must meet the multifactor tests developed in *Cammer v. Bloom*, 711 F. Supp. 1263 (D.N.J. 1989), and *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D. Tex. 2001). *Cammer* considered the following factors: (1) whether the security traded at a large average weekly volume; (2) whether a significant number of analysts followed and reported on the security; (3) whether the security had numerous market makers; (4) whether the company was eligible to file SEC and (5) whether S-3;empirical facts demonstrate a relation between unexpected corporate events or financial information releases, and a prompt response in the security's price. F. Supp. at 1286-87.

In addition to the five *Cammer* factors, courts have also looked at three factors enumerated in *Krogman*: (1) the company's market capitalization; (2) the relative size of the bid-ask spread for the security; and (3) the company's float – *i.e.*, the degree to which shares of the security are held by the public, rather than insiders. *See* 202 F.R.D. at 477-78. These factors typically are used as analytical tools, rather than as a rigid checklist, and "have been routinely applied by district courts considering the efficiency of equity markets." *Teamsters Local* 445 Freight Div.

Pension Fund v. Bombardier Inc., 546 F.3d 196, 204 n. 11 (2d Cir. 2008).²

Applying these factors, testifying economists typically use an array of tools in reaching their opinions. They examine institutional trading, analyst reports, trading volume, and other factors. Not surprisingly, efficiency findings are common (and appropriate) in cases involving large public companies that issue millions of shares, are actively traded by investors in open and established markets

² Petitioners' Brief, at 23, cites Bradford Cornell & James C. Rutten, *Market Efficiency, Crashes, and Securities Litigation*, 81 Tul. L. Rev. 443, 455 (2006), for the proposition that the *Cammer* factors "do not directly speak to efficiency * * * [and] are best understood as constituting an indirect test by which courts infer efficiency for reliance purposes." Of course, the article states that drawing such an inference from the *Cammer* and *Krogman* factors is entirely appropriate:

The Cammer and Krogman courts apparently assumed that if the stock is actively traded by a large number of reasonably informed investors -i.e., if the market is "open and developed" - then a threshold level of efficiency can be inferred for reliance purposes. This assumption makes economic sense. Given that a market can never be fully efficient, but that all securities markets are efficient enough to incorporate a defendant's public statements to some degree, the fundamental question in the reliance context is whether the market is efficient enough that investors can be presumed to have relied on the integrity of the market price and thus to have relied on the defendant's public statements. * * * From an economic perspective, the courts in Cammer and Krogman got it right. * * * The precise extent to which prices reflect information is irrelevant to the reliance question.

Id. at 455-56.

such as the NYSE and NASDAQ, and are followed by numerous research analysts.

Under the fifth Cammer factor, economists often use event studies to show that a market for a particular stock responds to material publicly available information. An event study identifies a particular event or series of events, and uses statistical methods to analyze whether that event or series of events affected the price of a stock net of general market and industry factors. See David Tabak & Frederick Dunbar, Materiality Magnitude: Event Studies in the Courtroom, in LITIGATION SERVICES HANDBOOK, THE ROLE OF THE FINANCIAL EXPERT, Ch. 19 (3d ed. 2001); see generally Jonathan R. Macey, Geoffrey P. Miller, Mark L. Mitchell & Jeffry M. Netter, Lessons From Financial Economics: Materiality Reliance, and Extending the Reach of Basic v. Levinson, 77 VA. L. REV. 1017, 1025-42 (1991) (discussing event study methodology).

Event studies can and do support an inference that purchasers relied on the market price to incorporate material public information. Event studies have been used not only to determine market efficiency in securities fraud litigation, but also in much broader contexts throughout the world of finance. A wide variety of events – corporate restructurings, dividend changes, proxy votes, earnings reports, and passage of legislation, among others – can be analyzed in this way. See Sanjai Bhagat & Roberta Romano, Event Studies and the Law, Part I, 4 Am. L. & Econ. Rev. 141, 142-45 (2002); Eugene Fama, Efficient Capital Markets: II, 46 J. Fin. 1575, 1600-01 (1991) (event

studies used to analyze many types of events with potential impact on stock prices).

Event-study methodology is well-accepted in the professional and academic communities, and event studies are widely used. See Bhagat & Romano, 4 AM. L. & ECON. REV. at 142 ("The event study methodology is well accepted and extensively used in finance. * * * Its use in policy analysis in recent years has become more widespread."). As one scholar has noted, "[t]here are 17,500 working papers that contain the phrase 'Event study." Stephen J. Brown, The Efficient Markets Hypothesis: The Demise of the Demon of Chance?, 51 Acc'ting & Fin. 79, 84 (2011); see also John Binder, The Event Study Methodology Since 1969, 11 REV. QUANT. Fin. & Acc'ting 111, 111-37 (1998) (discussing history of event study methodology and the plethora of papers using it).

There are a number of generally accepted ways in which event studies can be performed. Generally, the economist selects information events that would be expected to have a significant valuation impact on the stock price. Through the event study the economist tests whether the actual impact on the stock price was statistically significant.

In certain circumstances an event study can look at the days in which the price of the security is subject to a statistically significant abnormal return, *i.e.*, a return not explained by market and industry share price movements. The economist might then examine the abnormal returns to see if they plausibly can be explained by company-specific events. The economist also could consider unexpected news that theoretically should impact the price to see if such a

statistically significant price impact is observed, remaining mindful of the implications of the event study design regarding observations of statistical significance.

Another way to perform an event study is to divide the days of the class period ex ante into expected news days and non-news days before examining price movements, and then compare the stock's price movements in the two categories to see if there is a statistically significant difference in price movement between the two categories. If the study finds a difference in price movement between the two sample sets (e.g., earnings-release dates versus nonearnings-release dates), that is statistical evidence that the market incorporates new public information into the price of the stock. Such an event study methodology simply tests on an overall basis whether a group of predefined expected news days has a greater likelihood of statistically significant stock price returns versus the remaining group of days in the class period.³

In short, event studies analyze whether a stock's price reacts to new material information using a test for statistical significance, net of general market and industry movements. An event study thus can support an inference of informational efficiency

³ Not every (or even most) of the predefined news dates in an event study would be expected to move the stock price *ex ante*, by an amount high enough to be statistically significant. There is no inherent reason why every news item included actually would contain "new" material information that would alter expectations as to the stock's performance or value by a statistically significant amount (*e.g.*, released earnings that simply meet pre-existing guidance).

without needing to measure the precise degree to which every piece of information is incorporated into a stock price or whether the market "correctly" reacted to each piece of news during the relevant period.

Furthermore, event studies have successfully addressed many of the objections to the EMH. For example, while skeptics often criticize the EMH because of the so-called "joint hypothesis" problem – that any test for efficiency also depends upon a theory for correctly determining the "normal" return on a stock absent the news and hence turns on *two* hypotheses (that the news is incorporated and that the model used to perform the test is valid) – event studies solve this problem:

[A] powerful advantage of daily data is that they can attenuate or eliminate the jointhypothesis problem, that market efficiency must be tested jointly with an asset-pricing model. Thus, when the stock-price response to an event is large and concentrated in a few days, the way one estimates daily expected returns (normal returns) in calculating abnormal returns has little effect inferences.

Fama, 46 J. FIN. at 1601.4

⁴ Petitioners' Brief, at 22, cites the 1991 Fama paper for the proposition that "market efficiency *per se* is not testable." That quote is out of context and misleading, however. As Professor Fama explained, "event studies give the most direct evidence of efficiency." 46 J. FIN. at 1577. When Professor Fama stated that "market efficiency *per se* is not testable," he was raising the issue of the joint hypothesis. *Id.* at 1576. But the quote from

B. Event Studies Showing that the Market for a Stock Generally Incorporates Material Public Information Support the Inference of Price Reliance.

The FOTM presumption looks to whether it is reasonable to infer that investors relied on market price to incorporate material public information about a security. An event study that demonstrates that a particular stock's price generally incorporates public information in an efficient manner directly supports the inference that buyers and sellers relied on the price of the stock to incorporate such information regardless whether they had direct personal knowledge of the information.

him in the text above explains how event studies solve that problem, and he concludes that event studies are highly useful for testing market efficiency:

Event studies are now an important part of finance, especially corporate finance. In 1970 there was little evidence on the central issues of corporate finance. Now we are overwhelmed with results, mostly from event studies. Using simple tools, this research documents interesting regularities in the response of stock prices to investment decisions, financing decisions, and changes in corporate control. The results stand up to replication and the empirical regularities, some rather surprising, are the impetus for theoretical work to explain them. In short, on all counts, the event-study literature passes the test of scientific usefulness.

Id. at 1600. The paper concludes that event studies constitute "[t]he cleanest evidence of market efficiency (the least encumbered by the joint-hypothesis problem)," *id.* at 1602, and that the evidence from event studies supports "the conclusion that prices adjust efficiently to firm-specific information," *id.* at 1607.

That inference holds true regardless whether the market is truly or perfectly efficient and regardless of whether every implication of the EMH can be proven. What matters is "whether the market for a stock is efficient enough that reasonable investors can be presumed to have relied on the market price." Cornell & Rutten, 81 TUL. L. REV. at 456 (emphasis added); cf. Fama, 46 J. FIN. at 1575 ("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 costs.").

Contrary to Petitioners' arguments, the accuracy, precision, or universality of the EMH, either in general or as to a specific stock, has little or nothing to do with that question. It does not matter whether particular market participants draw different conclusions from the same data, weigh some information more than other information, or even are wrong about the significance or future implications of particular data. Market price, after all, is a collective phenomenon, factoring in and averaging out numerous judgments to yield a particular price at any given time. What matters is that purchasers generally rely on the market price to reflect the best estimate of a fair price for a stock that is available at a reasonable transaction cost, given the publicly available information on that stock.

Although this case involves the commonality of reliance, not the commonality of damages, it is worth mentioning that company-specific event studies also bypass much of the criticism of the EMH as they account for (and "net out" from damages) general market and industry-wide movements, including bubbles. In other words, economists using event studies exclude from their damages calculations market factors other than the misrepresentations or omissions at issue.⁵ They isolate the artificial inflation attributable to the securities fraud for each day during the class period. The event study methodology thus provides a means on a class-wide basis for excluding unrelated market movements from damages.

Because events studies show that a specific stock's price generally responds to economically significant new information quickly, many EMH controversies "based on issues regarding the definition and measurement of risk, and the relationship between risk and return" simply play no role in the matter, and there is "agreement that these issues do not invalidate the event study methodology." Bhagat & Romano, 4 AM. L. & ECON. REV. at 143 n. 1.

Event studies also provide a powerful rebuttal of Petitioners' criticism that the fraud-on-the-market theory merely assumes the necessary facts for class certification, rather than proving them. Pet. Br. at 27. Rather, by establishing the fact of informational efficiency as to a particular stock (coupled with existing background evidence that the stock market

⁵ Thus, in considering the 42% drop in Halliburton's stock price on December 7, 2001, in apparent response to Halliburton announcing the last in a series of adverse asbestos verdicts and judgments, JA 230, 343-44, an event study could be useful in netting out or controlling for any potential alternative factors relating to that price drop.

in general is informationally efficient as to a broad class of securities traded on well-developed markets), they allow a court to draw an inference that the class members reasonably relied on the price of the stock to incorporate such information. A court's finding to that effect thus does not assume anything, but in fact concludes based on the evidence that *Basic*'s general presumption of price reliance is in fact accurate as to the particular stock and during the particular time period at issue.

C. Event Studies Are Widely Used by Defendants and Government Agencies.

In considering the utility of event studies, it is telling that they are not simply a tool used by plaintiffs, but are widely used by defendants and government agencies as well. For example, defendants use event studies to present defenses to strict-liability claims under Section 11 of the Securities Act of 1933, 15 U.S.C. § 77k, which imposes strict liability on issuers for misstatements and omissions in registration statements:

Section 111 was designed assure compliance with the disclosure provisions of the Act by imposing a stringent standard of liability on the parties who play a direct role in a registered offering. If a plaintiff purchased a security issued pursuant to a registration statement, he need only show a material misstatement oromission establish his prima facie case. Liability against the issuer of a security is virtually absolute, even for innocent misstatements.

Herman & MacLean v. Huddleston, 459 U.S. 375, 381-82 (1983).

Section 11(e), however allows defendants to avoid liability if they prove that the stock's price decline was not the result of the misrepresentation or the registration omission in statement, defendants use event studies to establish this negative-causation defense. E.g., In re Metropolitan Sec. Litig., No. CV-04-25-FVS, 2010 U.S. Dist. LEXIS 4209, at *13 (E.D. Wash. Jan. 20, 2010); In re Countrywide Fin. Corp. Sec. Litig., 588 F. Supp.2d 1132, 1170 (C.D. Cal. 2008); Carpe v. Aquila, Inc., No. 02-0388-CV-W-FJG, 2005 U.S. Dist. LEXIS 44667, at *26 (W.D. Mo. Mar. 23, 2005); Goldkrantz v. Griffin, No. 97 Civ. 9075 (DLC), 1999 U.S. Dist. LEXIS 4445, at *11-*12 (S.D.N.Y. Apr. 6, 1999).

In addition, the SEC often relies on event studies in seeking disgorgement, which requires the Government to distinguish between lawful and unlawful profits, and in proving the materiality of false statements:

The fraud-on-the-market theory is useful to those attempting to satisfy the reliance requirement in private rule 10b-5 suits such as *Basic*. The acceptance of the theory by lower courts and the United States Supreme Court, however, also provided an intellectual basis for the application of financial economics in other contexts such as the SEC's use of financial economics in its enforcement actions. The two primary elements of rule 10b-5 cases that directly relate to SEC

securities fraud cases are materiality and disgorgement.

Mark L. Mitchell & Jeffrey M. Netter, *The Role of Financial Economics in Securities Fraud Cases: Applications at the Securities and Exchange Commission*, 49 Bus. Law. 545, 548 (1994); *see also, SEC v. Snyder*, Civ. A. No. H-03-04568, 2006 U.S. Dist. LEXIS 81830, at *7, *28 (S.D. Tex. Aug. 22, 2006) (discussing SEC use of event study to determine egregiousness and disgorgement).

Similarly, in criminal securities-fraud cases brought by the Government, a highly significant factor affecting sentence calculations under the Guidelines is frequently the calculation of market losses, and "the entire theory of market loss is based" on "the conventional market efficiency theory." Kevin P. McCormick, Comment: Untangling the Capricious Effects of Market Loss in Securities Fraud Sentencing, 82 Tul. L. Rev. 1145, 1166 (2008); see also United States v. Peppel, 707 F.3d 627, 646 (6th Cir. 2013) (loss calculation assumes that investors who bought or held stock during the fraud relied "on what Basic, Inc. v. Levinson * * * described as the 'integrity' of the existing market price") (quoting United States v. Ebbers, 458 F.3d 110, 126-27 (2d Cir. 2006)); United States v. Ferguson, 584 F. Supp.2d 447, 452 (D. Conn. 2008) ("sentencing courts must calculate guidelines loss against the backdrop of an efficient market").

In calculating enhancements for market losses under the Guidelines in securities-fraud prosecutions; event studies are used to disaggregate losses caused by the fraud from losses caused by other factors. See United States v. Nacchio, 573 F.3d 1062, 1072-80 (10th Cir. 2009). The Government also uses event studies to compute restitution and forfeiture amounts in criminal securities cases, which also require disaggregation. See United States v. Gushlak, 728 F.3d 184, 199-202 (2d Cir. 2013). The Government must also prove the materiality of false statements or omissions in criminal securities prosecutions and sometimes seeks to do so via stockprice movements, in which case it often uses event studies. See United States v. Schiff, 538 F. Supp.2d 818, 835-38 (D.N.J. 2008).

Hence, a decision in this case could have wide implications for the use of event studies by the Government and defendants, not merely by plaintiffs. If event studies are deemed inadequate to show that stock prices generally react to material new information, then their use by the Government and defendants alike to measure the impact of a particular disclosure or series of disclosures on a company's stock price also will be undermined.

D. Event Studies Play Different Roles in Different Cases.

Economists appropriately use event studies differently different situations. Often, misstatements or omissions simply confirm what the market is expecting (for example, by reporting that a company met its revenue targets when in fact it did not or by failing to disclose an adverse, unexpected No price reactions would be expected in response to misleading statements or omissions that (falsely) reconfirm pre-existing market expectations. Frank Torchio, Proper Event Study Analysis on Securities Litigation, 35 J. CORP. L. 159, 164-66 (2009). Prices react only to unexpected material news, because expected news is already incorporated into the security's market price. Thus, a fraudulently inflated earnings report that meets market expectations will have no detectable effect on price (and indeed may have been fraudulently inflated precisely to avoid a price drop).

Moreover, as Judge Easterbrook observed in *Schleicher v. Wendt*, 618 F.3d 679, 683-84 (7th Cir. 2010), a company may commit fraud to slow its losses rather than to actually raise its stock price. 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 fail to detect artificial inflation in a significant number of situations where it actually exists.

Economists treat these situations differently. In price-maintenance cases, event studies may not identify any *increase* in securities prices at the front end of such omissions or false statements, because those misrepresentations merely *maintain* price. In such situations, an economist would use an event study to show a stock price drop at the back end, when the truth is revealed. An abnormal return can be isolated by removing market-wide and industry-wide factors and non-fraud-related company news on the disclosure date, and thus an event study can determine how much of the drop was related to the revelation of the truth. In other words, the economist would use an event study to detect the impact of

corrective disclosures, not of the false statements or omissions at the front end of the fraud. It is from the impact of the newly revealed truth at the back end that one can then estimate the previous artificial price inflation or maintenance that existed when the truth was suppressed by omission or false statement.

Event studies are an important (though not exclusive) tool, and they are not used the same way in every case. An economist using an event study as one tool to determine whether the *Basic* presumption is appropriate in a given circumstance should not be confined, as Halliburton suggests, to having to demonstrate a securities price increase at the time of the misrepresentation in order for the presumption to attach.

CONCLUSION

For the foregoing reasons, this Court should affirm the decision below.

Respectfully submitted,

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