

No. 17-664

In the Supreme Court of the United States

PETRÓLEO BRASILEIRO S.A. – PETROBRAS, ET AL.,
Petitioners,

v.

UNIVERSITIES SUPERANNUATION SCHEME LIMITED,
ET AL.,
Respondents.

*On Petition for a Writ of Certiorari to the United States
Court of Appeals for the Second Circuit*

**BRIEF ON BEHALF OF FINANCIAL
ECONOMISTS AND LEGAL SCHOLARS
AS AMICI CURIAE IN SUPPORT OF THE
PETITION FOR A WRIT OF CERTIORARI**

LAW OFFICE OF DAVID R.
LURIE, PLLC

David R. Lurie
194 President Street
Brooklyn, New York 11231
(347) 651-0194
david@davidlurielaw.com

Counsel for Amici Curiae

November 28, 2017

TABLE OF CONTENTS

	<u>Page</u>
TABLE OF AUTHORITIES	II
INTEREST OF <i>AMICI</i>	1
SUMMARY OF ARGUMENT	5
ARGUMENT	7
I. AN EMPIRICAL STUDY THAT FAILS TO TEST FOR DIRECTIONAL MARKET PRICE MOVEMENT CANNOT RELIABLY EVALUATE MARKET EFFICIENCY.....	7
II. NON-EMPIRICAL “INDIRECT” FACTORS CANNOT SUBSTITUTE FOR AN EMPIRICAL SHOWING OF DIRECTIONAL MARKET PRICE MOVEMENT.	11
CONCLUSION.....	14

TABLE OF AUTHORITIES

	<u>Page(s)</u>
Cases	
<i>Cammer v. Bloom</i> , 711 F. Supp. 1264 (D.N.J. 1989)	12 n.9
<i>Halliburton Co. v. Erica P. John Fund, Inc.</i> , __ U.S. ___, 134 S. Ct. 2398, 189 L. Ed. 2d 339 (2014) (“ <i>Halliburton II</i> ”)	<i>passim</i>
<i>Erica P. John Fund, Inc. v. Halliburton Co.</i> , 563 U.S. 804 (2011) (“ <i>Halliburton I</i> ”).....	7
<i>In re Petrobras Sec. Litig.</i> , 862 F.3d 250 (2d Cir. 2017)	<i>passim</i>
<i>Krogman v. Sterritt</i> , 202 F.R.D. 467 (N.D. Tex. 2001)	12 n.10
<i>Waggoner v. Barclays PLC</i> , No. 16-1912-cv, 2017 U.S. App. LEXIS 22115 (2nd Cir. Nov. 6, 2017).....	<i>passim</i>

TABLE OF AUTHORITIES (cont'd)

	<u>Page(s)</u>
Rules	
Sup. Ct. R. 37.6	1 n.1
Other Authorities	
Brad M. Barber, et al., <i>The Fraud-on-the-Market Theory and the Indicators of Common Stocks</i> , 19 J. Corp. L. 285 (1994)	13 n.12
Sanjai Bhagat, David Hirshleifer, Ming Dong & Robert Noah, <i>Do Tender Offers Create Value? New Methods and Evidence</i> , 76 J. Fin. Econ. 3 (2005)	9 n.7
Sanjai Bhagat & R.H. Jefferis, <i>Voting Power in the Proxy Process: The Case of Antitakeover Charter Amendments</i> , 30 J. Fin. Econ. 193 (1991)	9 n.7
Alon Brav & J. B. Heaton, <i>Event Studies in Securities Litigation: Low Power, Confounding Effects, and Bias</i> , 3 Wash. U. L. Rev. 583 (2015)	13
Alon Brav & J. B. Heaton, <i>Market Indeterminacy</i> , 28 J. Corp. L. 517 (2003).....	13 n.12

TABLE OF AUTHORITIES (cont'd)

	<u>Page(s)</u>
Brief of Financial Economists as <i>Amici Curiae</i> in Support of Respondents in <i>Halliburton Co. v. Erica P. John Fund, Inc.</i> , 134 S. Ct. 2398 (2014)	<i>passim</i>
Gur Huberman & Tomer Regev, <i>Contagious Speculation and a Cure for Cancer: A Nonevent that Made Stock Prices Soar</i> , 56 J. Fin. 387 (2001)	10 n.6
Owen A. Lamont & Richard H. Thaler, <i>Anomalies: The Law of One Price in Financial Markets</i> , 17 J. Econ. Persp. 195 (2003)	12 n.11
Owen A. Lamont & Richard H. Thaler, <i>Can the Market Add and Subtract? Mispricing in Tech Stock Carve-Outs</i> , 111 J. Pol. Econ. 227 (2003)	12 n.11
Paul C. Tetlock, <i>All the News That's Fit to Reprint: Do Investors React to Stale Information?</i> , 24 Rev. Fin. Stud. 1481 (2011)	12 n.11

INTEREST OF *AMICA*¹

Amici are:

Sanjai Bhagat, Provost Professor of Finance, Leeds School of Business, University of Colorado Boulder.

Colin C. Blaydon, William and Josephine Buchanan Professor of Management, Director Emeritus, Center for Private Equity and Entrepreneurship and Dean Emeritus, Tuck School of Business, Dartmouth College.

Kent D. Daniel, William von Mueffling Professor of Business, Columbia University Business School.

David J. Denis, Roger S. Ahlbrandt, Sr. Chair and Professor of Business Administration, Joseph M. Katz Graduate School of Business, University of Pittsburgh.

Darrell Duffie, Dean Witter Distinguished Professor of Finance, Stanford University Graduate School of Business.

B. Espen Eckbo, Tuck Centennial Chair in Finance and Director, Lindenauer Center for Corporate Governance, Tuck School of Business, Dartmouth College.

¹ This brief has been filed after providing notice to the parties over 10 days prior to the due date and with the written consent of the parties; and, pursuant to Supreme Court Rule 37.6 counsel for *amici* affirms that 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 to the preparation or submission of this brief.

Ronald J. Gilson, Marc and Eva Stern Professor of Law and Business, Columbia University Law School and Charles J. Meyers Professor of Law and Business Emeritus, Stanford University Law School

Joseph Grundfest, William A. Franke Professor of Law and Business, Stanford University Law School and Co-Director Rock Center on Corporate Governance, Stanford University.

Charles J. Hadlock, A.J. Pasant Endowed Professorship in Finance, Eli Broad College of Business, Michigan State University.

Kose John, Charles William Gerstenberg Professor of Banking and Finance, Leonard N. Stern School of Business, New York University.

Vojislav Maksimovic, William A. Longbrake Chair in Finance, Robert H. Smith School of Business, University of Maryland.

Steven Mann, Associate Professor, Neeley School of Business, Texas Christian University.

Vassil Mihov, Associate Professor, Neeley School of Business, Texas Christian University.

Jeffrey M. Netter, Chair of Department of Finance, Georgia Bankers Association Chair of Banking and Josiah Meigs Distinguished Teaching Professor, Terry College of Business, University of Georgia.

Gordon M. Phillips, C.V. Starr Foundation Professor and Faculty Director, Center for Private Equity and Entrepreneurship, Tuck School of Business, Dartmouth College.

Paul P. Pfleiderer, C.O.G. Miller Distinguished Professor of Finance and Senior Associate Dean for Academic Affairs, Stanford University Graduate School of Business.

Jay R. Ritter, Cordell Eminent Scholar of Finance, Warrington College of Business, University of Florida.

Mauricio Rodriguez, Chair, Department of Finance, Neeley School of Business, Texas Christian University.

Mark Weinstein, Associate Professor, Marshall School of Business, University of Southern California.

Russell Wermers, Professor of Finance and Director, Center for Financial Policy, Robert H. Smith School of Business, University of Maryland.

Robert Whitelaw, Edward C. Johnson 3d Professor of Entrepreneurial Finance, Leonard N. Stern School of Business, New York University.

Jaime F. Zender, Baughn Professor of Finance, Leeds School of Business, University of Colorado Boulder.

Amici are academic financial economists and legal scholars who teach and write about the public

securities markets. *Amici* are very familiar with the economic concept of market efficiency and believe that courts should continue to give significant consideration to economic principles when defining the legal standard for identifying efficient markets. Many of the current amici also submitted a brief to this Court addressing that topic in connection with *Halliburton Co. v. Erica P. John Fund, Inc.*, __ U.S. __, 134 S. Ct. 2398, 2410, 189 L. Ed. 2d 339 (2014) (“*Halliburton II*”) (citing Brief of Financial Economists as *Amici Curiae* in Support of Respondents in *Halliburton Co. v. Erica P. John Fund, Inc.*, 134 S. Ct. 2398 (2014) (“Economists’ Amicus in *Halliburton II*”).

Amici submit this brief to express their view that, in *In re Petrobras Sec. Litig.*, 862 F.3d 250 (2d Cir. 2017), the United States Court of Appeals for the Second Circuit erred by holding that:

- (i) Market efficiency can be established without an empirical finding of price impact or directionality, i.e., that the market price of a security predictably increases in response to unexpected good news, and predictably decreases in response to unexpected bad news; and
- (ii) That the satisfaction of certain so-called indirect factors can excuse a plaintiff’s failure to make an analytically sound empirical

showing of predictable market price movement.²

SUMMARY OF ARGUMENT

Under the precedents of this Court, securities fraud plaintiffs invoking the “fraud-on-the-market” presumption of reliance must prove that the subject securities trade in an efficient market, *i.e.*, that the market price of the securities predictably absorbs and reflects public information. If plaintiffs cannot establish such general price impact,³ they must demonstrate actual reliance on purported misstatements.

In *Petrobras*, and its subsequent decision in *Waggoner v. Barclays, PLC*,⁴ however, the Second Circuit held that plaintiffs can benefit from the

² All *amici* share the view that the factors and evidence upheld by the Second Circuit in *Petrobras* were not sufficient to demonstrate the efficiency of the Petrobras securities markets, although each individual signatory may not endorse to the same degree every statement of economic theory or practice made in this brief.

³ A plaintiff may also demonstrate that a security’s market price reflected the particular alleged misrepresentations at issue in an action.

⁴ No. 16-1912-cv, 2017 U.S. App. LEXIS 22115 (2nd Cir. Nov. 6, 2017). In *Waggoner* the Second Circuit drew a distinction between market efficiency and directional price impact and, applying and “building” on, *Petrobras*, held (i) a plaintiff does not need to proffer empirical evidence, and (ii) the trial court need not make any finding whatsoever of “directional” price impact. The *Waggoner* court also held that defendants can only rebut the fraud-on-the-market presumption by showing, by a preponderance of the evidence, a complete lack of price impact of the alleged misstatement.

fraud-on-the market presumption of reliance absent *any* evidence of a predictable market price effect. *Amici* respectfully submit that the Second Circuit erred, and that its decisions are at direct odds with the foundational economic premises of *Basic* and its progeny.

First, the Second Circuit erroneously held that market efficiency can be established without an empirical demonstration of price directionality, *i.e.*, that the market price of a security predictably increases in response to unexpected good news, and predictably decreases in response to unexpected bad news.

As this Court recently explained, the fraud-on-the-market presumption is grounded on the “modest premise” of financial economics that an efficient market reasonably promptly reflects publicly disseminated information through market pricing, *i.e.*, “price impact.” *Halliburton II*, 134 S. Ct. at 2410, 2414 (citing Economists’ Amicus in *Halliburton ID*). In the absence of a cognizable showing of “price impact, *Basic*’s fraud-on-the-market theory and presumption of reliance collapse.” *Id.* at 2414.

Establishing price impact requires an economically and statistically rigorous empirical demonstration that a security’s market price moves in a predictable direction in response to unexpected good or bad material information. Such an empirical showing is the only way to reliably conclude that misrepresentations are actually “reflected in the market price” of the subject security, as this Court’s

precedents require. *Halliburton II*, 134 S. Ct. at 2414 (quoting *Erica P. John Fund, Inc. v. Halliburton Co.*, 563 U.S. 804, 812 (2011) (“*Halliburton I*”).

Second, the Second Circuit erroneously held that a trial court can find market efficiency without *any* empirical showing of market price impact.⁵ Thus, the Second Circuit concluded that a plaintiff can invoke the fraud-on-the-market presumption based solely upon purported “indirect” (*i.e.*, *non*-empirical) indices of efficiency, such as the existence of large trading volumes, analyst coverage or eligibility for a form of simplified SEC registration.

Amici disagree. *None* of the “indirect” factors examine the actual market price performance of a security; therefore, *none* of them can establish whether a security actually trades in an efficient market.

ARGUMENT

I. AN EMPIRICAL STUDY THAT FAILS TO TEST FOR DIRECTIONAL MARKET PRICE MOVEMENT CANNOT RELIABLY EVALUATE MARKET EFFICIENCY.

According to the Second Circuit, there are two types of “[d]irect evidence of price impact[:]” *first*, evidence that that the “price of a stock moves, in one

⁵ 2017 U.S. App. LEXIS 22115, at **32-33 (“building” on *Petrobras* holding by rejecting requirement of empirical evidence of price impact).

direction or the other, when new information becomes available,” and, *second*, evidence that the “stock price moves in the *direction* that it would be expected to move in light of the new information.” 2017 U.S. App. LEXIS 22115, at *32 n.28 (emphasis in original). Contrary to the holding of the court below, *only* evidence of predictable directional movement can establish market efficiency, and thereby satisfy the price impact standard reaffirmed by this Court in *Halliburton II*.

Economists have debated various aspects of the efficient market hypotheses for decades, and continue to do so today.⁶ But there is one “modest premise” on which nearly all economists agree: the foundational condition for an efficient market is the reasonably prompt movement of the market price of a security in a predictable manner, upward in response to unexpected good news, and downward in response to unexpected bad news. *See* Economists’ Amicus in *Halliburton II*, at 3, 9-14.

As this Court recognized in *Halliburton II*, absent such predictable directional price movement, there is no reason to conclude that the market in a security reflects all public, material information, and therefore that it is efficient. *See* 134 S. Ct. at 2416 (requiring proof of “price impact,” *i.e.*, that misrepresentations are “reflected in the market

⁶ There are, for example, ongoing debates, about how fully and quickly markets reflect all publicly available information about a security and whether prices reflect the fundamental or “accurate” value of the underlying stock.

price [of a security]” to establish market efficiency).⁷ *Halliburton II* explained that price impact is the foundational rationale for presuming reliance, and, “[i]n the absence of price impact, *Basic’s* fraud-on-the-market theory and presumption of reliance collapse.” *Id.* at 2414.

Consistent with the foregoing, *amici*, along with most other financial economists, agree that any valid analysis of market efficiency must satisfy two foundational requisites:

- *First*, the analysis must commence with the *ex-ante* formulation of hypotheses predicting how the market in the security at issue should respond to specific types of unexpected good, and unexpected bad, news; and
- *Second*, the analysis must include a statistically valid examination of trading data directed at determining whether the subject security’s market price consistently moves upwards or downwards in accordance with the *ex-ante* predictions.

⁷ Economic scholarship has demonstrated the importance of considering unexpected good news and unexpected bad news, rather than just good news and bad news, when analyzing market responses. *See, e.g.*, Sanjai Bhagat, David Hirshleifer, Ming Dong & Robert Noah, *Do Tender Offers Create Value? New Methods and Evidence*, 76 J. Fin. Econ. 3 (2005); Sanjai Bhagat & R.H. Jefferis, *Voting Power in the Proxy Process: The Case of Antitakeover Charter Amendments*, 30 J. Fin. Econ. 193 (1991).

Unless these two foundational requisites are satisfied, there is no reliable basis to conclude that the dissemination of information is reflected in a timely manner in the price of a security, and therefore that the security trades in an efficient market. Accordingly, the Second Circuit’s holding must be rejected as inconsistent with both the holdings of this Court and with the settled “modest premise” of economic theory underlying the fraud-on-the-market presumption.

Plaintiffs suggest that it is too burdensome to require them to proffer evidence of predictable pricing directionality, in accordance with the economic premises of the fraud-on-the-market presumption.⁸ Requiring a party invoking a presumption that is expressly grounded upon an economic theory to satisfy the empirical standards underlying that theory, however, is hardly unduly onerous. To the contrary, allowing a plaintiff to benefit from the fraud-on-the-market presumption absent a cognizable empirical basis for finding

⁸ Plaintiffs also state that it may be “impossible *in some circumstances*” to make an *ex ante* prediction of whether a security’s price should move up or down in response “to a *certain piece* of information.” Brief in Opposition to Petition for Writ of *Certiorari* in *Petroleo Brasileiro S.A. – Petrobras, et al. v. Universities Superannuation Scheme Limited, et al.*, No 17-644, November 2017, at 20 (quotation omitted; emphasis added). This is true, but unremarkable. The efficient market hypothesis does not undertake to predict the market’s response to all public information, but rather solely to those items of information for which a positive or a negative market price response is demonstrably predictable, such as an unexpected earnings or merger offer announcement.

market efficiency would render the price impact rule reiterated in *Halliburton II* a virtual nullity.

II. NON-EMPIRICAL “INDIRECT” FACTORS CANNOT SUBSTITUTE FOR AN EMPIRICAL SHOWING OF DIRECTIONAL MARKET PRICE MOVEMENT.

The Second Circuit held in *Petrobras* that a court may find market efficiency absent *any* empirical analysis of directional price impact when it “holistic[ally]” concludes that a sufficient number of “indirect” factors are satisfied. 862 F.3d at 278. The Second Circuit has since stated that *Petrobras* permits a finding of efficiency without *any* empirical showing of price impact whatsoever. *Waggoner*, 2017 U.S. App. LEXIS, at **32-33. *Amici* disagree.

The “indirect” factors courts have examined include: the average weekly trading volume; the number of analysts covering the issuer; the number of market makers transacting in the issuer’s securities; whether the issuer was eligible to file the SEC’s simplified security registration form;⁹ the capitalization of the company; the bid-ask spread of the securities; and the percentage of stock not held by insiders.¹⁰

None of the foregoing factors involves *any* empirical analysis of the market pricing of a

⁹ See *Petrobras*, 862 F.3d at 276 (citing *Cammer v. Bloom*, 711 F. Supp. 1264, 1287 (D.N.J. 1989)).

¹⁰ See *Waggoner*, 2017 U.S. App. LEXIS, at **25-26 (citing *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D. Tex. 2001)).

security, let alone an inquiry into whether the price in fact moves reasonably promptly in predicted directions in response to unexpected material information. Indeed, most of the purported indirect factors will be satisfied by virtually *every* large publicly traded company. Yet not all large companies' securities actually trade in efficient markets.¹¹ Conversely, almost all small publicly traded companies will not satisfy most or all of the factors, although some such companies' securities likely trade in efficient markets.

For this reason, such “indirect” factors cannot serve as a proxy or substitute for an economically and statistically valid empirical study of directionally predictable price movement. Indeed, a scholarly article the Second Circuit cited in purported support of its *Petrobras* holding makes this very point; it states that the authors are unaware of *any* “peer-reviewed study in the finance literature that uses the *Cammer* factors to test whether a security traded in an efficient market or

¹¹ A substantial body of academic literature establishes that securities of large companies do not always trade in efficient markets. *See, e.g.*, Paul C. Tetlock, *All the News That's Fit to Reprint: Do Investors React to Stale Information?*, 24 *Rev. Fin. Stud.* 1481 (2011) (finding evidence of overreaction to stale news in large cross-section of stocks); Gur Huberman & Tomer Regev, *Contagious Speculation and a Cure for Cancer: A Nonevent that Made Stock Prices Soar*, 56 *J. Fin.* 387 (2001); Owen A. Lamont & Richard H. Thaler, *Anomalies: The Law of One Price in Financial Markets*, 17 *J. Econ. Persp.* 195 (2003); Owen A. Lamont & Richard H. Thaler, *Can the Market Add and Subtract? Mispricing in Tech Stock Carve-Outs*, 111 *J. Pol. Econ.* 227 (2003).

not.” Alon Brav & J. B. Heaton, *Event Studies in Securities Litigation: Low Power, Confounding Effects, and Bias*, 93 Wash. U. L. Rev. 583, 601 n.39 (2015) (quoted in *Petrobras*, 862 F.3d at 278-79).¹² *Amici* submit that the Court should likewise reject the substitution of such indirect factors for a valid empirical showing of price impact.

¹² See also Alon Brav & J. B. Heaton, *Market Indeterminacy*, 28 J. Corp. L. 517, 535 (2003) (“[D]ecisions [using the *Cammer* factors] reveal considerable lack of scientific sophistication, poor appreciation of market efficiency theory, and arbitrary variation from case to case.”); *id.* at 236 (“[W]e doubt such tests as are common in fraud on the market cases should pass a serious reliability review under *Daubert v. Merrell Dow Pharms., Inc.*”). *Amici* are likewise aware of no finance literature endorsing the use of any of these indirect factors to demonstrate whether a security trades in an efficient market. To the contrary, there is literature suggesting the opposite. See, e.g., Brad M. Barber, et al., *The Fraud-on-the-Market Theory and the Indicators of Common Stocks*, 19 J. Corp. L. 285, 307, 310 (1994) (“firm size, percentage bid-ask spread, return volatility, price, and institutional holdings . . . either fail the significance test or yield results counter to our expectations. . . . [Moreover,] the number of market makers and institutional holdings do not [even] marginally contribute to distinguishing efficient from inefficient firms.”).

CONCLUSION

For the foregoing reasons, *amici* respectfully submit that this Court should grant a writ of certiorari.

Respectfully submitted,

LAW OFFICE OF DAVID
R. LURIE, PLLC

By: /s/ David R. Lurie
David R. Lurie
194 President Street
Brooklyn, New York 11231
(347) 651-0194
david@davidlurielaw.com

Counsel for Amici Curiae

November 28, 2017