

In the
United States Court of Appeals
for the Second Circuit

August Term, 2016

(Argued: November 2, 2016 Decided: July 7, 2017)

Docket No. 16-1914-cv

IN RE PETROBRAS SECURITIES

UNIVERSITIES SUPERANNUATION SCHEME LIMITED, EMPLOYEES
RETIREMENT SYSTEM OF THE STATE OF HAWAII, NORTH CAROLINA
DEPARTMENT OF STATE TREASURER,

Plaintiffs-Appellees,

PETER KALTMAN, individually and on behalf of all others similarly situated, DIMENSIONAL EMERGING MARKETS VALUE FUND, DFA INVESTMENT DIMENSIONS GROUP INC., on behalf of its series Emerging Markets Core Equity Portfolio, Emerging Markets Social Core Equity Portfolio and T.A. World ex U.S. Core Equity Portfolio, DFA INVESTMENT TRUST COMPANY, on behalf of its series The Emerging Markets Series, DFA AUSTRIA LIMITED, solely in its capacity as responsible entity for the Dimensional Emerging Markets Trust, DFA International Core Equity Fund and DFA International Vector Equity Fund by Dimensional Fund Advisors Canada ULC solely in its capacity as Trustee, DIMENSIONAL FUNDS PLC, on behalf of its sub-fund Emerging Markets Value Fund, DIMENSIONAL FUNDS ICVC, on behalf of its sub-fund Emerging Markets Core Equity Fund, SKAGEN AS, DANSKE INVEST MANAGEMENT A/S, DANSKE INVEST MANAGEMENT COMPANY, NEW YORK CITY EMPLOYEES' RETIREMENT SYSTEM, NEW YORK CITY POLICE PENSION

FUND, BOARD OF EDUCATION RETIREMENT SYSTEM OF THE CITY OF NEW YORK, TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK, NEW YORK CITY FIRE DEPARTMENT PENSION FUND, NEW YORK CITY DEFERRED COMPENSATION PLAN, FORSTA AP-FONDEN, TRANSAMERICA INCOME SHARES, INC., TRANSAMERICA FUNDS, TRANSAMERICA SERIES TRUST, TRANSAMERICA PARTNERS PORTFOLIOS, JOHN HANCOCK VARIABLE INSURANCE TRUST, JOHN HANCOCK FUNDS II, JOHN HANCOCK SOVEREIGN BOND FUND, JOHN HANCOCK BOND TRUST, JOHN HANCOCK STRATEGIC SERIES, JOHN HANCOCK INVESTMENT TRUST, JHF INCOME SECURITIES TRUST, JHF INVESTORS TRUST, JHF HEDGED EQUITY & INCOME FUND, ABERDEEN EMERGING MARKETS FUND, ABERDEEN GLOBAL EQUITY FUND, ABERDEEN GLOBAL NATURAL RESOURCES FUND, ABERDEEN INTERNATIONAL EQUITY FUND, each a series of Aberdeen Funds, ABERDEEN CANADA EMERGING MARKETS FUND, ABERDEEN CANADA SOCIALLY RESPONSIBLE GLOBAL FUND, ABERDEEN CANADA SOCIALLY RESPONSIBLE INTERNATIONAL FUND, ABERDEEN CANADA FUNDS EAFE PLUS EQUITY FUND AND ABERDEEN CANADA FUNDS GLOBAL EQUITY FUND, each a series of Aberdeen Canada Funds, ABERDEEN EAFE PLUS ETHICAL FUND, ABERDEEN EAFE PLUS FUND, ABERDEEN EAFE PLUS SRI FUND, ABERDEEN EMERGING MARKETS EQUITY FUND, ABERDEEN FULLY HEDGED INTERNATIONAL EQUITIES FUND, ABERDEEN INTERNATIONAL EQUITY FUND, ABERDEEN GLOBAL EMERGING MARKETS EQUITY FUND, ABERDEEN GLOBAL ETHICAL WORLD EQUITY FUND, ABERDEEN GLOBAL RESPONSIBLE WORLD EQUITY FUND, ABERDEEN GLOBAL WORLD EQUITY DIVIDEND FUND, ABERDEEN GLOBAL WORLD EQUITY FUND, ABERDEEN GLOBAL WORLD RESOURCES EQUITY FUND, ABERDEEN EMERGING MARKETS EQUITY FUND, ABERDEEN ETHICAL WORLD EQUITY FUND, ABERDEEN MULTI-ASSET FUND, ABERDEEN WORLD EQUITY FUND, ABERDEEN LATIN AMERICA EQUITY FUND, INC., AAAID EQUITY PORTFOLIO, ALBERTA TEACHERS RETIREMENT FUND, AON HEWITT INVESTMENT CONSULTING, INC., AURION INTERNATIONAL DAILY EQUITY FUND, BELL ALIANT REGIONAL COMMUNICATIONS INC., BMO GLOBAL EQUITY CLASS, CITY OF ALBANY PENSION PLAN, DESJARDINS DIVIDEND INCOME FUND, DESJARDINS EMERGING MARKETS FUND,

DESJARDINS GLOBAL ALL CAPITAL EQUITY FUND, DESJARDINS OVERSEAS EQUITY VALUE FUND, DEVON COUNTY COUNCIL GLOBAL EMERGING MARKET FUND, DEVON COUNTY COUNCIL GLOBAL EQUITY FUND, DGIA EMERGING MARKETS EQUITY FUND L.P., ERIE INSURANCE EXCHANGE, FIRST TRUST/ABERDEEN EMERGING OPPORTUNITY FUND, GE UK PENSION COMMON INVESTMENT FUND, HAPSHIRE COUNTY COUNCIL GLOBAL EQUITY PORTFOLIO, LONDON BOROUGH OF HOUNSLOW SUPERANNUATION FUND, MACKENZIE UNIVERSAL SUSTAINABLE OPPORTUNITIES CLASS, MARSHFIELD CLINIC, MOTHER THERESA CARE AND MISSION TRUST, MTR CORPORATION LIMITED RETIREMENT SCHEME, MYRIA ASSET MANAGEMENT EMERGENCE, NATIONAL PENSION SERVICE, NPS TRUST ACTIVE 14, OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM, WASHINGTON STATE INVESTMENT BOARD, ABERDEEN LATIN AMERICAN INCOME FUND LIMITED, ABERDEEN GLOBAL EX JAPAN PENSION FUND PPIT, FS INTERNATIONAL EQUITY MOTHER FUND, NN INVESTMENT PARTNERS B.V., acting in the capacity of management company of the mutual fund NN Global Equity Fund and in the capacity of management company of the mutual fund NN Institutioneel Dividend Aandelen Fonds, NN INVESTMENT PARTNERS LUXEMBOURG S.A., acting in the capacity of management company SICAV and its Sub-Funds and NN (L) SICAV, for and on behalf of NN (L) Emerging Markets High Dividend, NN (L) FIRST, AURA CAPITAL LTD., WGI EMERGING MARKETS FUND, LLC, BILL AND MELINDA GATES FOUNDATION TRUST, BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM, TRUSTEES OF THE ESTATE OF BERNICE PAUAHI BISHOP, LOUIS KENNEDY, individually and on behalf of all others similarly situated, KEN NGO, individually and on behalf of all others similarly situated, JONATHAN MESSING, individually and on behalf of all others similarly situated, CITY OF PROVIDENCE, individually and on behalf of all others similarly situated, UNION ASSET MANAGEMENT HOLDING AG,

Plaintiffs,

v.

PETRÓLEO BRASILEIRO S.A. PETROBRAS, BB SECURITIES LTD., MERRILL
LYNCH, PIERCE, FENNER & SMITH INCORPORATED, BANK OF CHINA
(HONG KONG) LIMITED, BANCA IMI, S.P.A., SCOTIA CAPITAL (USA) INC.,
THEODORE MARSHALL HELMS, PETROBRAS GLOBAL FINANCE B.V.,
PETROBRAS AMERICA INC., CITIGROUP GLOBAL MARKETS INC., ITAU
BBA USA SECURITIES, INC., J.P. MORGAN SECURITIES LLC, MORGAN
STANLEY & CO. LLC, MITSUBISHI UFJ SECURITIES (USA), INC., HSBC
SECURITIES (USA) INC., STANDARD CHARTERED BANK, BANCO
BRADESCO BBI S.A.,

Defendants-Appellants,

JOSE SERGIO GABRIELLI, SILVIO SINEDINO PINHEIRO, PAULO ROBERTO
COSTA, JOSE CARLOS COSENZA, RENATO DE SOUZA DUQUE,
GUILLHERME DE OLIVEIRA ESTRELLA, JOSE MIRANDA FORMIGL FILHO,
MARIA DAS GRACAS SILVA FOSTER, ALMIR GUILHERME BARBASSA,
MARIANGELA MOINTEIRO TIZATTO, JOSUE CHRISTIANO GOME DA
SILVA, DANIEL LIMA DE OLIVEIRA, JOSE RAIMUNDO BRANDA PEREIRA,
SERVIO TULIO DA ROSA TINOCO, PAULO JOSE ALVES, GUSTAVO TARDIN
BARBOSA, ALEXANDRE QUINTAO FERNANDES, MARCOS ANTONIO
ZACARIAS, CORNELIS FRANCISCUS JOZE LOOMAN,
PRICEWATERHOUSECOOPERS AUDITORES INDEPENDENTES,

Defendants.

Before:

HALL, LIVINGSTON, *Circuit Judges*, AND GARAUFIS, *District Judge*.*

Appeal from an order of the United States District Court for the Southern District of New York (Rakoff, J.) certifying two classes under Federal Rule of Civil Procedure 23(b)(3): one asserting claims under the Securities Exchange Act of 1934 (the “Exchange Act”), and the second asserting claims under the Securities Act of 1933 (the “Securities Act”). Appellants assert two challenges.

First, Appellants challenge both class definitions insofar as they include all otherwise eligible persons who purchased debt securities in “domestic transactions,” as defined in *Morrison v. National Australia Bank Ltd.*, 561 U.S. 247 (2010). Because the district court must verify the domesticity of individual over-the-counter transactions in globally traded notes, Appellants argue that both classes fail to satisfy the requirements for certification under Rule 23. We hold that the district court committed legal error by failing to address the need for such *Morrison* inquiries in its analysis of predominance under Rule 23(b)(3). We therefore vacate this portion of the district court’s order and remand for further proceedings. In addition, we clarify the narrow scope of the “implied” Rule 23 requirement of “ascertainability.”

Second, Appellants assert that the district court erred in finding that the Exchange Act class was entitled to a presumption of reliance under *Basic Inc. v. Levinson*, 485 U.S. 224 (1988). We find no abuse of discretion in the district court’s blended analysis of direct and indirect evidence of market efficiency. We therefore affirm as to this issue.

AFFIRMED IN PART, VACATED IN PART, AND REMANDED.

JEREMY A. LIEBERMAN, Mark I. Gross, Emma Gilmore, John A. Keho & Brenda F. Szydlo (*on the brief*), Pomerantz LLP, New York, NY, *for the Plaintiffs-Appellees*.

* Judge Nicholas G. Garaufis, of the United States District Court for the Eastern District of New York, sitting by designation.

LEWIS J. LIMAN, Jared Gerber & Mitchell A. Lowenthal (*on the brief*), Cleary Gottlieb Steen & Hamilton LLP, New York, NY, for Defendants-Appellants *Petróleo Brasileiro S.A. – Petrobras, Theodore Marshall Helms, Petrobras Global Finance B.V., and Petrobras America Inc.*

JAY B. KASNER, Boris Bershteyn, Scott D. Musoff & Jeremy A. Berman (*on the brief*), Skadden, Arps, Slate, Meagher & Flom LLP, New York NY, for Defendants-Appellants *BB Securities Ltd., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Bank of China (Hong Kong) Limited, Banca IMI, S.p.A., Scotia Capital (USA) Inc., Citigroup Global Markets Inc., Itau BBA USA Securities, Inc., J.P. Morgan Securities LLC, Morgan Stanley & Co. LLC, Mitsubishi UFJ Securities (USA), Inc., HSBC Securities (USA) Inc., Standard Chartered Bank, and Banco Bradesco BBI S.A.*

GARAUFIS, *District Judge:*

This expedited appeal arises out of an order entered in the United States District Court for the Southern District of New York (Rakoff, J.) certifying two classes in this securities fraud action against *Petróleo Brasileiro S.A. – Petrobras* (“Petrobras”) and various other defendants. *See In re Petrobras Sec. Litig.* (the “*Certification Order*”), 312 F.R.D. 354 (S.D.N.Y. 2016).

Petrobras is a multinational oil and gas company headquartered in Brazil and majority-owned by the Brazilian government. Though Petrobras was once among the largest companies in the world, its value declined precipitously after the exposure of a multi-year, multi-billion-dollar money-laundering and kickback scheme, prompting a class action by holders of Petrobras equity and debt securities (“Plaintiffs”) against multiple defendants (“Defendants”): Petrobras and certain wholly owned subsidiaries (the “Subsidiaries”; collectively with Petrobras, the “Petrobras Defendants”¹); former officers and directors of the Petrobras Defendants; several underwriters of Petrobras debt securities (the “Underwriter Defendants”²); and Petrobras’s independent auditor.

The district court certified two classes (the “Classes”) for money damages under Federal Rule of Civil Procedure 23(b)(3): the first asserts claims under the Securities Exchange Act of 1934 (the “Exchange Act”), 15 U.S.C. §§ 78a *et seq.*; and

¹ The Petrobras Defendants include Petrobras itself, along with two wholly owned subsidiaries (Petrobras Global Finance B.V. and Petrobras America Inc.) and Petrobras’s United States Representative (Theodore Marshall Helms).

² The Underwriter Defendants include the following underwriters of Petrobras debt securities: BB Securities Ltd., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Bank of China (Hong Kong) Limited, Banca IMI, S.p.A., Scotia Capital (USA) Inc., Citigroup Global Markets Inc., Itau BBA USA Securities, Inc., J.P. Morgan Securities LLC, Morgan Stanley & Co. LLC, Mitsubishi UFJ Securities (USA), Inc., HSBC Securities (USA) Inc., Standard Chartered Bank, and Banco Bradesco BBI S.A.

the second asserts claims under the Securities Act of 1933 (the “Securities Act”),
15 U.S.C. §§ 77a *et seq.*³ On appeal, the Petrobras Defendants and the Underwriter Defendants (collectively, “Appellants”) contest the *Certification Order* on two grounds.

First, Appellants challenge both class definitions insofar as they include all otherwise eligible persons who purchased Petrobras debt securities in “domestic transactions.” Because Petrobras’s debt securities do not trade on a domestic exchange, the district court must assess each class member’s over-the-counter transactions for markers of domesticity under *Morrison v. National Australia Bank Ltd.*, 561 U.S. 247 (2010). Appellants assert that the need for such assessments precludes class certification, particularly in light of concerns over the availability and content of the necessary transaction records. We first address Appellants’ arguments regarding the “implied” Rule 23 requirement of “ascertainability,” taking this opportunity to clarify the scope of the contested ascertainability doctrine: a class is ascertainable if it is defined using objective criteria that

³ Plaintiffs-Appellees are the three class representatives in the underlying action: Universities Superannuation Scheme Limited (representing the Exchange Act Class); and the Employees Retirement System of the State of Hawaii and the North Carolina Department of State Treasurer (jointly representing the Securities Act Class).

establish a membership with definite boundaries. That threshold requirement is met here. However, we next hold that the district court committed legal error by finding that Rule 23(b)(3)'s predominance requirement was satisfied without considering the need for individual *Morrison* inquiries regarding domestic transactions. We therefore vacate this portion of the *Certification Order*.

Second, with regard to the Exchange Act Class, the Petrobras Defendants⁴ challenge the district court's finding that Plaintiffs were entitled to a presumption of reliance under the "fraud on the market" theory established in *Basic Inc. v. Levinson*, 485 U.S. 224 (1988). We find no abuse of discretion in the district court's determination that Plaintiffs met their burden under *Basic* with a combination of direct and indirect evidence of market efficiency. We therefore affirm as to this issue.

For the reasons set forth below, we AFFIRM IN PART and VACATE IN PART the judgment of the district court and REMAND the case for further proceedings consistent with this opinion.

⁴ The Underwriter Defendants are not named as defendants with respect to Plaintiffs' Exchange Act claims. They therefore limit their arguments on appeal to the first issue described in text, concerning putative class members' proof of "domestic transactions."

BACKGROUND

We provide here a brief summary of the proceedings below as relevant for the issues on appeal. For additional background on Plaintiffs' allegations and causes of action, see the district court's prior orders. *See In re Petrobras Sec. Litig.* (the "July 2015 Order"), 116 F. Supp. 3d 368, 373–77 (S.D.N.Y. 2015) (summarizing the original consolidated complaint); *In re Petrobras Sec. Litig.* (the "December 2015 Order"), 150 F. Supp. 3d 337 (S.D.N.Y. 2015) (discussing new allegations in the amended pleadings).⁵

I. Factual Background

A. Plaintiffs' Allegations of Corruption at Petrobras

Plaintiffs' claims arise out of a conspiracy that began in the first decade of the new millennium, at which time Petrobras was expanding its production capacity. The company used a competitive bidding process for major capital expenditures, including the construction and purchase of oil refineries. Over a

⁵ As compared to the original consolidated complaint, the operative pleading at the time of this appeal (the Consolidated Fourth Amended Complaint, filed November 30, 2015) adds allegations concerning Defendants' continued misconduct in 2015; provides additional details regarding the locations of the named plaintiffs' transactions in Petrobras securities; and omits certain causes of action that were dismissed in earlier proceedings. *See July 2015 Order*, 116 F. Supp. 3d at 386–89 (dismissing claims asserted under Brazilian law based on a finding that they were subject to mandatory arbitration).

period of several years, a cartel of contractors and suppliers coordinated with corrupt Petrobras executives to rig Petrobras's bids at grossly inflated prices. The excess funds were used to pay billions of dollars in bribes and kickbacks to the corrupt executives and to government officials. In addition, the inflated bid prices artificially increased the carrying value of Petrobras's assets. Plaintiffs allege that Petrobras knew about the kickback cartel, and was complicit in concealing information from investors and the public.

Brazil's Federal Police discovered the scheme during a money-laundering investigation, and ultimately arrested a number of the individuals involved. As details of the scandal emerged, Petrobras made corrective disclosures that, according to Plaintiffs, significantly understated the extent of incorrectly capitalized payments and inflated asset values. Even so, the value of Petrobras's securities declined precipitously. Plaintiffs allege that, "[a]t its height in 2009, Petrobras was the world's fifth-largest company, with a market capitalization of \$310 billion"; by early 2015, its worth had allegedly declined to \$39 billion. 4th Am. Compl. ¶ 2.

B. Petrobras Securities

Petrobras's common and preferred shares trade on a Brazilian stock exchange, the BM&F BOVESPA. The company sponsors American Depository Shares ("ADS")⁶ that represent its common and preferred shares. Those ADS are listed and trade on the New York Stock Exchange ("NYSE").

In addition, Petrobras has issued multiple debt securities (the "Notes"; collectively with ADS, "Petrobras Securities") underwritten by syndicates of domestic and foreign banks. The Notes do not trade on any U.S. exchange. Investors trade Notes in over-the-counter transactions, whether in connection with an initial debt offering or in the global secondary market.

II. Procedural History

In December 2014 and January 2015, Petrobras investors filed five putative class actions asserting substantially similar claims against Petrobras and other defendants. The district court consolidated those actions in February 2015 and

⁶ American Depository Shares "represent an interest in the shares of a non-U.S. company that have been deposited with a U.S. bank." *Investor Bulletin: American Depository Receipts*, Office of Inv'r Educ. & Advocacy, SEC 1 (Aug. 2012), <https://www.sec.gov/investor/alerts/adr-bulletin.pdf>. ADS "allow U.S. investors to invest in non-U.S. companies" and also "give non-U.S. companies easier access to the U.S. capital markets. Many non-U.S. issuers use [ADS] as a means of raising capital or establishing a trading presence in the U.S." *Id.*

certified the Classes in February 2016. The district court also presided over several individual actions involving similar claims.⁷

A. Plaintiffs' Causes of Action

As relevant for this appeal, Plaintiffs assert a cause of action under the Exchange Act against the Petrobras Defendants, and three causes of action under the Securities Act against various Petrobras and Underwriter Defendants.

1. Claims Under the Exchange Act

Plaintiffs' Exchange Act claims are brought against Petrobras and the Subsidiaries on behalf of holders of Petrobras ADS and Notes. Plaintiffs assert that, during the class period of January 22, 2010, to July 28, 2015, the Petrobras Defendants made two types of false and misleading statements in violation of Section 10(b) of the Exchange Act and Rule 10b-5. *See* 15 U.S.C. § 78j(b); 17 C.F.R. § 240.10b-5. First, the Petrobras Defendants produced financial statements with inflated asset values. Second, they assured Petrobras investors that the company

⁷ See, e.g., *In re Petrobras Sec. Litig.*, 193 F. Supp. 3d 313, 315 (S.D.N.Y. 2016) (By the time of the *Certification Order*, “no fewer than 27 substantial entities, such as pension funds, institutional investors, and others, had ‘opted out’ of the class action and brought their own, individual actions.”).

adhered to ethical management principles and maintained strict financial controls to prevent fraud and corruption.

2. Claims Under the Securities Act

Plaintiffs rely on similar factual allegations in their claims under the Securities Act, brought on behalf of Petrobras Noteholders. Plaintiffs allege that the Petrobras Defendants and the Underwriter Defendants made materially false representations in registration statements and other documents connected with offerings of Petrobras Notes in May 2013 and March 2014 (the “Offerings”), thereby establishing liability under Sections 11, 12(a)(2), and 15 of the Securities Act. *See* 15 U.S.C. §§ 77k, 77l(a)(2), 77o.

B. **The Certification Order**

On February 2, 2016, the district court granted Plaintiffs’ motion to certify two classes under Rule 23(b)(3), one asserting claims under the Exchange Act and the other asserting claims under the Securities Act. *Certification Order*, 312 F.R.D. 354.

Because Petrobras Notes do not trade on any U.S.-based exchange, Noteholders in both Classes are only entitled to assert claims under the Exchange Act and the Securities Act if they can show that they acquired their Notes in “domestic transactions.” *Morrison*, 561 U.S. at 267. To ensure compliance with

Morrison, the district court limited both class definitions to “members [who] purchased Notes in domestic transactions.” *Certification Order*, 312 F.R.D. at 360.

The Exchange Act Class is defined, in relevant part,⁸ as:

[A]ll purchasers who, between January 22, 2010 and July 28, 2015, . . . purchased or otherwise acquired [Petrobras Securities], including debt securities issued by [the Subsidiaries] on the [NYSE] or pursuant to other domestic transactions, and were damaged thereby.

Id. at 372.

The Securities Act Class is defined, in relevant part, as:

[A]ll purchasers who purchased or otherwise acquired [Notes] in domestic transactions, directly in, pursuant and/or traceable to [U.S.-registered public offerings on May 15, 2013, and March 11, 2014] . . . , and were damaged thereby.^[9]

Id. The Securities Act Class definition is temporally limited to purchases made “before Petrobras made generally available to its security holders an earnings

⁸ Both class definitions exclude “Defendants, current or former officers and directors of Petrobras, members of their immediate families and their legal representatives, heirs, successors or assigns, and any entity in which Defendants have or had a controlling interest.” *Certification Order*, 312 F.R.D. at 372–73.

⁹ This definition applies to claims under Sections 11 and 15 of the Securities Act. The class definition as to claims under Section 12(a)(2) is identical, except that it limits class membership to purchasers who acquired Notes *directly in* one of the U.S.-registered Offerings. *Certification Order*, 312 F.R.D. at 372. Unlike claims under Sections 11 and 15, class membership with regard to Section 12(a)(2) does not extend to those who acquired a Note “pursuant and/or traceable to” one of the Offerings. *Id.*

statement covering a period of at least twelve months beginning after the effective date of the offerings.” *Id.* This language conforms to the limitations inherent in Section 11, given the absence of any allegation that Plaintiffs relied on any such earnings statement.¹⁰ See 15 U.S.C. § 77k(a).

III. The Instant Appeal

On June 15, 2016, a panel of this Court granted Appellants’ timely filed petition for permission to appeal the *Certification Order* under Federal Rule of Civil Procedure 23(f) and Federal Rule of Appellate Procedure 5(a). On August 2, 2016, a separate panel granted Appellants’ motion for a stay pending resolution of this expedited interlocutory appeal.

DISCUSSION

A plaintiff seeking certification of a Rule 23(b)(3) class action bears the burden of satisfying the requirements of Rule 23(a)—numerosity, commonality, typicality, and adequacy of representation—as well as Rule 23(b)(3)’s requirements: (1) that “the questions of law or fact common to class members

¹⁰ Prior to the *Certification Order*, the district court had already dismissed all Section 11 claims “based on purchases of the 2014 Notes made after May 15, 2015,” the date on which Petrobras filed earning statements “covering the twelve-month period following the effective date of the 2014 Notes’ offering.” *December 2015 Order*, 150 F. Supp. 3d at 344 (citing 15 U.S.C. § 77k(a)).

predominate over any questions affecting only individual members" (the "predominance" requirement); and (2) that "a class action is superior to other available methods for fairly and efficiently adjudicating the controversy" (the "superiority" requirement). Fed. R. Civ. P. 23(a), (b)(3); *In re U.S. Foodservice Inc. Pricing Litig.*, 729 F.3d 108, 117 (2d Cir. 2013) ("To certify a class, a district court must . . . find that each [Rule 23] requirement is 'established by at least a preponderance of the evidence.'" (quoting *Brown v. Kelly*, 609 F.3d 467, 476 (2d Cir. 2010))). This Court has also "recognized an implied requirement of ascertainability in Rule 23," which demands that a class be "sufficiently definite so that it is administratively feasible for the court to determine whether a particular individual is a member." *Brecher v. Republic of Argentina*, 806 F.3d 22, 24 (2d Cir. 2015) (internal quotation marks and citations omitted).

Appellants do not challenge the district court's findings with regard to the class certification elements under Rule 23(a). Rather, they assert two arguments under Rule 23(b)(3). Appellants first argue that both Classes fail to satisfy ascertainability, predominance, and superiority because putative class members must establish, on an individual basis, that they acquired their securities in "domestic transactions." The Petrobras Defendants assert a second

predominance challenge specific to the Exchange Act Class: they argue that the district court erred in finding that Plaintiffs successfully established a class-wide presumption of reliance under the “fraud on the market” theory.

I. Standard of Review

“We review a district court’s conclusions as to whether the requirements of Federal Rule of Civil Procedure 23 were met, and in turn whether class certification was appropriate, for abuse of discretion.”¹¹ *In re Vivendi, S.A. Sec.*

¹¹ We note that although we have sometimes stated in the past that we “apply[] a ‘noticeably less deferential’ standard when the district court has denied class certification,” *Roach v. T.L. Cannon Corp.*, 778 F.3d 401, 405 (2d Cir. 2015) (quoting *In re Nassau Cty. Strip Search Cases*, 461 F.3d 219, 224–25 (2d Cir. 2006)), this language apparently arose from a misreading of earlier Second Circuit cases. Moreover, it is out of step with recent Supreme Court authority.

The first case to suggest that we apply a different standard to denials of class certification was *Lundquist v. Security Pacific Automotive Financial Services Corp.*, 993 F.2d 11, 14 (2d Cir. 1993) (per curiam). *Lundquist* cited *Robidoux v. Celani*, 987 F.2d 931, 935 (2d Cir. 1993), and *Abrams v. Interco Inc.*, 719 F.2d 23, 28 (2d Cir. 1983), for the proposition that “we are noticeably less deferential to the district court when that court has denied class status than when it has certified a class.” *Id.* But *Abrams* and *Robidoux* do not support this proposition. *Abrams* states, in relevant part: “Abuse of discretion can be found far more readily on appeals from the denial or grant of class action status than where the issue is, for example, the curtailment of cross-examination or the grant or denial of a continuance,” because “courts have built a body of case law with respect to class action status.” 719 F.2d at 28 (emphasis added) (citation omitted). *Robidoux* repeated that “abuse of discretion can be found more readily on appeals from the denial of class status *than in other areas*, for the courts have built a body of case law with respect to class action status.” 987 F.2d at 935 (emphasis added) (citing *Abrams*, 719 F.2d at 28).

Litig., 838 F.3d 223, 263 (2d Cir. 2016) (citations omitted). “While we review the district court’s construction of legal standards *de novo*, we review the district court’s application of those standards for whether the district court’s decision falls within the range of permissible decisions.” *Roach v. T.L. Cannon Corp.*, 778 F.3d 401, 405 (2d Cir. 2015) (citing *Myers v. Hertz Corp.*, 624 F.3d 537, 547 (2d Cir. 2010)). “To the extent that the district court’s decision as to class certification is premised on a finding of fact, we review that finding for clear error.” *UFCW Local 1776 v. Eli Lilly & Co.*, 620 F.3d 121, 130–31 (2d Cir. 2010)

Thus, neither *Abrams* nor *Robidoux* applied a different standard to denials versus grants of class certification. Rather, both cases stated that this Court is more likely to find abuse of discretion in appeals involving the *issue* of class certification—whether certification was granted or denied—when compared with *other types of legal issues*. It appears that *Lundquist* misinterpreted that comparison. In sum, no Second Circuit case provides any reasoning or justification for the idea that we review denials of class certification with more scrutiny than grants.

The Supreme Court has never drawn a distinction between the standard used to review district court denials or grants of class certification. *See, e.g., Tyson Foods, Inc. v. Bouaphakeo*, — U.S. —, 136 S. Ct. 1036, 1045–46 (2016). Recent Supreme Court class certification cases emphasize that courts must “conduct a rigorous analysis” to determine whether putative class plaintiffs meet Rule 23’s requirements. *Comcast Corp. v. Behrend*, — U.S. —, 133 S. Ct. 1426, 1432 (2013); *see also Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338, 351 (2011). That said, we need not decide the issue here. We take this opportunity, however, to point out the distinction as one that need not and ought not be drawn. Should the resolution of this issue prove determinative of the outcome in a future matter, the question can likely be resolved by this Court’s protocol for the circulation of opinions at that time.

(citing *In re Initial Pub. Offering Sec. Litig.* (“*In re IPO*”), 471 F.3d 24, 40–41 (2d Cir. 2006)); *see also In re Vivendi*, 838 F.3d at 263.

II. “Domestic Transactions” as a Condition for Class Membership

The two certified Classes include all claims arising out of Petrobras Notes purchased in “domestic transactions” during the class period, thereby capturing the broadest membership possible under *Morrison*. Appellants argue that the difficulties inherent in assessing putative class members’ transaction records make the Classes uncertifiable for several reasons, the most important of which, for our purposes, are (1) the ascertainability doctrine, which has seen recent developments in this Circuit and others; and (2) predominance. We hold that both class definitions satisfy the ascertainability doctrine as it is defined in this Circuit. We further hold, however, that the district court erred in conducting its predominance analysis without considering the need for individualized *Morrison* inquiries. On that basis, we vacate the district court’s certification decision and remand for further proceedings.

A. Extraterritoriality and Federal Securities Law

1. Defining “Domestic Transactions”: Morrison and Absolute Activist

“It is a longstanding principle of American law that legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States.” *Morrison*, 561 U.S. at 255 (internal quotation marks and citation omitted). Based on that presumption against extraterritoriality, the Supreme Court held in *Morrison* that the reach of U.S. securities law is presumptively limited to (1) “transactions in securities listed on domestic exchanges,” and (2) “domestic transactions in other securities.” *Id.* at 267 (discussing Section 10(b) of the Exchange Act); *see also id.* at 268 (noting that “[t]he same focus on domestic transactions is evident in the Securities Act”).¹²

As noted in the margin, we assume that a purchase of Petrobras ADS qualifies under *Morrison’s* first prong as long as the transaction occurs on the

¹² The district court applied *Morrison’s* extraterritoriality analysis to Plaintiffs’ claims under both the Exchange Act and the Securities Act. *See July 2015 Order*, 116 F. Supp. 3d at 386. In addition, all parties appear to have proceeded under the assumption that *Morrison* applies to ADS in the same manner that it applies to common stock. Appellants have not challenged these conclusions on appeal, and we therefore see no need to address them.

NYSE, a “domestic exchange.” *See City of Pontiac Policemen’s & Firemen’s Ret. Sys. v. UBS AG*, 752 F.3d 173, 180–81 (2d Cir. 2014) (holding that mere *listing* on a domestic exchange is not sufficient to establish domesticity if the relevant securities transaction did not *occur* on a domestic exchange). The Notes, however, do not trade on any domestic exchange.¹³ Therefore, to assert claims under federal securities laws, Noteholders must show in some other manner that the Notes they hold were acquired in a “domestic transaction.”

This Court’s decision in *Absolute Activist* elaborated on that standard: for “securities that are not traded on a domestic exchange,” a transaction is considered “domestic if [1] irrevocable liability is incurred or [2] title passes within the United States.” *Absolute Activist Value Master Fund Ltd. v. Ficeto*, 677 F.3d 60, 67 (2d Cir. 2012). In other words, for a transaction to qualify as domestic, either (1) the purchaser must have “incurred irrevocable liability within the United States to take and pay for a security, or . . . the seller [must have] incurred irrevocable liability within the United States to deliver a

¹³ “[A]lthough the Notes were listed or intended to be listed on the [NYSE], they did not *trade* there. . . . [M]ere listing, without trading, is insufficient to satisfy Morrison’s first prong.” *December 2015 Order*, 150 F. Supp. 3d 337, 339–40 (emphasis added) (citing *City of Pontiac*, 752 F.3d at 179–81).

security,” or (2) legal title to the security must have transferred in the United States. *Id.* at 68.

The location or residency of the buyer, seller, or broker will not necessarily establish the situs of the transaction. *Id.* at 68–69. Rather, plaintiffs demonstrate the location where irrevocable liability was incurred or legal title transferred by producing evidence “including, but not limited to, facts concerning the formation of the contracts, the placement of purchase orders, . . . or the exchange of money.” *Id.* at 70.

2. The District Court’s Pre-Certification *Morrison* Inquiries

Before certifying the Classes, the district court twice adjudicated *Morrison*-based challenges to Plaintiffs’ claims. When the class action was first consolidated, the court dismissed, without prejudice, all Securities Act claims based on Plaintiffs’ failure “to allege that they purchased the relevant securities in domestic transactions.” *July 2015 Order*, 116 F. Supp. 3d at 386.

Plaintiffs responded with new allegations and documentary evidence regarding Notes transactions for each of the four putative named plaintiffs. Defendants once again moved to dismiss. The district court found that two of the named plaintiffs had adequately pleaded domestic transactions based on their acquisition of Notes directly from U.S. underwriters in the Offerings.

December 2015 Order, 150 F. Supp. 3d at 340. For example, one plaintiff’s “traders in Raleigh, North Carolina purchased Notes on May 13, 2013, and March 10, 2014, from underwriters in New York, New York.” *Id.* The district court found that this plaintiff had alleged “the kinds of facts required by *Absolute Activist*, including New York area code phone numbers on the confirmations sent by representatives of the underwriters.” *Id.* at 340 n.5.

The district court determined that the other two named plaintiffs had failed to satisfy the *Morrison* inquiry and dismissed their Securities Act claims. *Id.* at 340–43. One plaintiff, for example, presented a confirmation slip stating that Petrobras Notes had been purchased “in U.S. dollars and that the Notes were held in ‘[s]afekeeping of securities abroad, depository country: U.S.A.’” *Id.* at 341 (quoting the 4th Am. Compl.). According to the district court, this “language suggests that the purchase occurred *outside* the United States because it refers to the United States as ‘abroad.’” *Id.* (emphasis added). The district court similarly found insufficient an allegation that an investment manager “located in the United Kingdom[] instructed its U.S. affiliate, located in Chicago, Illinois, to transfer Petrobras Notes to [the plaintiff entity,] located in the United Kingdom.” *Id.* The court noted that “a ‘transfer,’ rather than a purchase, [was]

all that [was] alleged. Moreover, the allegations suggest that irrevocable liability was incurred in the United Kingdom," where both the plaintiff and the investment manager were located, "rather than in the United States." *Id.*

In an attempt to preserve those claims, Plaintiffs offered two alternative methods for establishing domestic transactions as a matter of law. First, Plaintiffs argued that a securities transaction should qualify as "domestic" if *beneficial* title is transferred when the transaction is settled through a domestic securities depository, such as the Depository Trust Company ("DTC") located in New York City. *Id.* The district court disagreed, finding that "[t]he mechanics of DTC settlement are actions needed to *carry out* transactions, but they involve neither the substantive indicia of a contractual commitment necessary to satisfy *Absolute Activist's* first prong nor the formal weight of a transfer of [legal] title necessary for its second." *Id.* at 342 (emphasis added); *see also id.* ("[T]he Second Circuit has [] indicated that domestic 'actions needed to carry out transactions, and not the transactions themselves,' are insufficient to satisfy *Morrison*." (quoting *Loginovskaya v. Batratchenko*, 764 F.3d 266, 275 (2d Cir. 2014))). The district court also expressed concern that, "assuming the parties are correct that most securities transactions settle through the DTC or similar depository

institutions, the entire thrust of *Morrison* and its progeny would be rendered nugatory if all DTC-settled transactions necessarily fell under the reach of the federal securities laws.” *Id.*

Finally, Plaintiffs proposed a method for constructively establishing the domesticity of Notes transactions: “allegations that a plaintiff purchased Notes ‘on the offering date and at the offering price’ [should be] sufficient to demonstrate irrevocable liability because all the underwriters who sold in the initial offerings only did so in the United States.” *Id.* at 342 (quoting the 4th Am. Compl.). The district court rejected this theory, noting that certain documents related to the Offerings “imply that some underwriters *did* initially offer the Notes outside the United States.” *Id.* (emphasis added).¹⁴

¹⁴ The district court resolved similar factual and legal questions in the related individual actions. See *In re Petrobras Sec. Litig.*, 152 F. Supp. 3d 186, 192–93 (S.D.N.Y. 2016) (finding that several “plaintiffs [had] failed to adequately allege they purchased Notes in domestic transactions” and granting leave to amend); *Internationale Kapitalanlagegesellschaft mbH v. Petróleo Brasileiro S.A. (In re Petrobras Sec. Litig.)*, No. 15 CIV. 6618 (JSR), 2016 U.S. Dist. LEXIS 46570 (S.D.N.Y. Mar. 24, 2016) (granting in part a motion to dismiss after analyzing various allegations, trade confirmations, trade memoranda, and investment manager employment records).

B. Ascertainability

"Most [] circuit courts of appeals have recognized that Rule 23 contains an implicit threshold requirement that the members of a proposed class be readily identifiable," often characterized as "an 'ascertainability' requirement." *Sandusky Wellness Ctr., LLC v. Medtox Sci., Inc.*, 821 F.3d 992, 995 (8th Cir. 2016) (internal quotation marks and citation omitted) (collecting cases). "[C]ourts ascribe widely varied meanings to that term," however. *Briseno v. ConAgra Foods, Inc.*, 844 F.3d 1121, 1124 n.3 (9th Cir. 2017) (describing two versions of the ascertainability requirement); *see generally* Geoffrey C. Shaw, Note, *Class Ascertainability*, 124 Yale L.J. 2354, 2366–88 (2015) (describing different conceptions of ascertainability and critiquing the proffered justifications).

In *Brecher v. Republic of Argentina*, we offered our first and, thus far, only affirmative definition¹⁵ of the implied ascertainability requirement:

[T]he touchstone of ascertainability is whether the class is sufficiently definite so that it is administratively feasible for the court to determine whether a particular individual is a member. A class is ascertainable when

¹⁵ We cursorily defined ascertainability in the negative in a 2006 opinion, noting that "ascertainability [] is an issue distinct from the predominance requirement." *In re IPO*, 471 F.3d at 45. We did "not further define[]" ascertainability's "content" until *Brecher*, however. 806 F.3d at 24.

defined by objective criteria that are administratively feasible and when identifying its members would not require a mini-hearing on the merits of each case.

Brecher, 806 F.3d at 24–25 (internal quotation marks and citations omitted). Based on this language, Appellants argue for a “heightened” ascertainability requirement under which any proposed class must be “administratively feasible,” over and above the evident requirements that a class be “definite” and “defined by objective criteria,” and separate from Rule 23(b)(3)’s requirements of predominance and superiority.

We take this opportunity to clarify the ascertainability doctrine’s substance and purpose. We conclude that a freestanding administrative feasibility requirement is neither compelled by precedent nor consistent with Rule 23, joining four of our sister circuits in declining to adopt such a requirement. The ascertainability doctrine that governs in this Circuit requires only that a class be defined using objective criteria that establish a membership with definite boundaries. Applying that doctrine, we determine that ascertainability is not an impediment to certification of the Classes as currently defined.

1. The Proceedings Below and Arguments on Appeal

In its *Certification Order*, the district court rejected Defendants’ argument that, “because of the nuances of the ‘domestic transaction’ standard, determining

[class membership] and damages will be an *administratively unfeasible* task for this Court, for putative class members who receive notice of the action, and for future courts facing claims from class members who have not properly opted out.” 312 F.R.D. at 363–64 (emphasis added) (footnote omitted).

Appellants renew that argument on appeal, packaged as a challenge to the district court’s finding “that the *Morrison* determination is ‘administratively feasible.’” *Id.* at 364 (quoting *Brecher*, 806 F.3d at 24). Appellants cite heavily to cases from the Third Circuit, which has formally adopted a “heightened” two-part ascertainability test under which plaintiffs must not only show that “the class is ‘defined with reference to objective criteria,’” but also that “there is ‘a reliable and administratively feasible mechanism for determining whether putative class members fall within the class definition.’” *Byrd v. Aaron’s Inc.*, 784 F.3d 154, 166 (3d Cir. 2015), *as amended* Apr. 28, 2015 (quoting *Hayes v. Wal-Mart Stores, Inc.*, 725 F.3d 349, 355 (3d Cir. 2013)); *see also Carrera v. Bayer Corp.*, 727 F.3d 300, 305 (3d Cir. 2013); *Marcus v. BMW of N. Am., LLC*, 687 F.3d 583, 592-95 (3d Cir. 2012).

With all due respect to our colleagues on the Third Circuit, we decline to adopt a heightened ascertainability theory that requires a showing of

administrative feasibility at the class certification stage. The reasoning underlying our decision in *Brecher* does not suggest any such prerequisite, and creating one would upset the careful balance of competing interests codified in the explicit requirements of Rule 23. In declining to adopt an administrative feasibility requirement, we join a growing consensus that now includes the Sixth, Seventh, Eighth, and Ninth Circuits. See *Briseno*, 844 F.3d at 1123; *Sandusky*, 821 F.3d at 995–96; *Rikos v. Procter & Gamble Co.*, 799 F.3d 497, 525 (6th Cir. 2015), *cert. denied*, — U.S. —, 136 S. Ct. 1493 (2016); *Mullins v. Direct Digital, LLC*, 795 F.3d 654, 657–58 (7th Cir. 2015), *cert. denied*, — U.S. —, 136 S. Ct. 1161 (2016); see also *Byrd*, 784 F.3d at 177 (Rendell, J., concurring) (“suggest[ing]” that the Third Circuit “retreat from [its] heightened ascertainability requirement” by eliminating the administrative feasibility prong).

2. Our Decision in *Brecher v. Republic of Argentina*

Brecher was one of several opinions in which we assessed a class action initiated by holders of Argentinian bonds “[a]fter Argentina defaulted on between \$80 and \$100 billion of sovereign debt in 2001.” *Brecher*, 806 F.3d at 23 (listing prior decisions). The district court originally “certified a class under a continuous holder requirement, *i.e.*, the class contained only those individuals who [] possessed beneficial interests in a particular bond series issued by the

Republic of Argentina from the date of the complaint [] through the date of final judgment.” *Id.*

When the district court granted summary judgment to the plaintiffs, we vacated in part after finding that the district court’s method of calculating aggregate damages had likely produced impermissibly inflated awards. *See Seijas v. Republic of Argentina*, 606 F.3d 53, 58–59 (2d Cir. 2010); *Hickory Sec., Ltd. v. Republic of Argentina*, 493 F. App’x 156, 160 (2d Cir. 2012) (summary order). On remand, the district court “modif[ied] the class definition by removing the continuous holder requirement and expanding the class to all holders of beneficial interests in the relevant bond series[,] without limitation as to time held.” *Brecher*, 806 F.3d at 24. The defendants appealed once again.

We concluded that, without the continuous holder requirement, the modified class was unascertainable. *Id.* at 26. We first defined the elements of ascertainability, explaining that a proposed class: (1) must be “sufficiently definite so that it is administratively feasible for the court to determine whether a particular individual is a member”; and (2) must be “defined by objective criteria that are administratively feasible,” such that “identifying its members would not require a mini-hearing on the merits of each case.” *Id.* at 24 (citations omitted).

These requirements operate in harmony: “the use of objective criteria cannot alone determine ascertainability when those criteria, taken together, do not establish the definite boundaries of a readily identifiable class.^{16”} *Id.* at 25 (footnote in original as n.2).

Turning to the facts of the case, we expressed concern that the class was insufficiently bounded:

The secondary market for Argentine bonds is active and has continued trading after the commencement of this and other lawsuits. . . . Further, all bonds from the same series have the same trading number identifier (called a CUSIP/ISIN), making it practically impossible to trace purchases and sales of a particular beneficial interest. Thus, when it becomes necessary to determine who holds bonds that fall inside (or outside) of the class, it will be nearly impossible to distinguish between them once traded on the secondary market without a criterion as to time held.

Id. at 25–26 (citations omitted). We concluded that “[t]his case presents [] a circumstance where an objective standard—owning a beneficial interest in a bond series without reference to time owned—is insufficiently definite to allow

¹⁶ “Of course, ‘identifiable’ does not mean ‘identified’; ascertainability does not require a complete list of class members at the certification stage.” *Brecher*, 806 F.3d at 25 n.2 (citation omitted).

ready identification of the class or the persons who will be bound by the judgment.” *Id.* at 25 (footnote omitted).

As this summary clarifies, we reached our decision in *Brecher* by asking whether the class was defined by objective criteria that made the class’s membership sufficiently definite, not whether the class was administratively feasible.¹⁷ See, e.g., *id.* at 26 (“The lack of a defined class period . . . makes the modified class *insufficiently definite* as a matter of law.” (emphasis added)). The opinion’s language about “administrative feasibility” and “mini-hearings” was not strictly part of the holding, and was not intended to create an independent element of the ascertainability test; rather, that language conveyed the *purpose* underlying the operative requirements of definiteness and objectivity. That is, a class must be “sufficiently definite *so that* it is administratively feasible for the court to determine whether a particular individual is a member”; a class must be “defined by objective criteria” *so that* it will not be necessary to hold “a mini-

¹⁷ The Ninth Circuit highlighted this distinction in their survey of the circuit case law on ascertainability. *Briseno*, 844 F.3d at 1126 n.6 (“[A]dministrative feasibility played no role in the [*Brecher*] decision, which instead turned on the principle that a class definition must be objective and definite.”).

hearing on the merits of each case.” *Id.* at 24 (emphasis added) (citations omitted).

This interpretation finds further support in the district court cases we cited in *Brecher’s* articulation and application of the ascertainability standard. *Compare Bakalar v. Vavra*, 237 F.R.D. 59, 65 (S.D.N.Y. 2006) (declining to certify a class seeking recovery of artworks traceable to a particular estate—an objective criterion—because the movants were unable to *identify* the specific artworks, and were therefore also unable to identify “the owners, possessors or individuals who participated in transfers of such works”), *with Ebin v. Kangadis Food Inc.*, 297 F.R.D. 561, 567 (S.D.N.Y. 2014) (acknowledging the challenge of identifying individuals who purchased a particular brand of olive oil during the class period, but finding the class ascertainable because “ascertainability . . . is designed only to prevent the certification of a class whose membership is *truly indeterminable*” (emphasis added) (internal quotation marks and citations omitted)), *and Charron v. Pinnacle Grp. N.Y. LLC*, 269 F.R.D. 221, 229 (S.D.N.Y. 2010) (finding that ascertainability was satisfied because the proposed class was “defined by objective criteria—namely, whether a given apartment is rent-regulated” and “owned by the [defendant corporation]; and whether the

putative Class member is a tenant" on a fixed date—"thus allowing the Court to readily identify Class members without needing to resolve the merits of Plaintiffs' claims").¹⁸

3. Ascertainability and Rule 23

Having concluded that our decision in *Brecher* did not create an independent administrative feasibility requirement, we now consider whether such a requirement is compulsory under Rule 23, or at least complementary to the requirements enumerated therein. We find that it is neither. In pursuing this analysis, we are mindful that "[c]ourts are not free to amend [the Federal Rules

¹⁸ *Weiner v. Snapple Beverage Corp.*, No. 07 CIV. 8742 (DLC), 2010 WL 3119452 (S.D.N.Y. Aug. 5, 2010), which was also cited in *Brecher*, appears to have treated administrative feasibility as an independent requirement alongside objective criteria and definite class membership. *See id.* at *12 (finding that "Plaintiffs [] failed to prove that it would be administratively feasible to ascertain the members of the putative class" because "the process of verifying class members' claims would be extremely burdensome for the court or any claims administrator"). That language was pure dicta, however: the district court denied class certification on predominance grounds, *see id.* at *10–11, and discussed superiority and ascertainability only to show that, even if predominance had been satisfied, "potentially serious impediments to class certification [would] remain," *id.* at *12 (emphasis added).

In any event, our opinion in *Brecher* did not cite to *Weiner*'s fact-based analysis. We cited only to *Weiner*'s articulation of the legal standard for ascertainability, which quoted directly from *Charron*. *See Weiner*, 2010 WL 3119452, at *12 (quoting *Charron*, 269 F.R.D. at 229). Meanwhile, *Brecher* cited approvingly to *Ebin*, which explicitly disagreed with *Weiner*'s ascertainability analysis. *See Ebin*, 297 F.R.D. at 567 (*Weiner* "goes further than this Court is prepared to go, and, indeed, would render class actions against producers almost impossible to bring.").

of Civil Procedure] outside the process Congress ordered.” *Amchem Prods., Inc. v. Windsor*, 521 U.S. 591, 620 (1997). “The text” of Rule 23 thus “limits judicial inventiveness.” *Id.*

The heightened ascertainability test, as articulated by the Third Circuit and endorsed by Appellants, treats administrative feasibility as an absolute standard: plaintiffs must provide adequate “assurance that there can be ‘a reliable and administratively feasible mechanism for determining whether putative class members fall within the class definition.’” *Byrd*, 784 F.3d at 164–65 (quoting *Hayes*, 725 F.3d at 355); *cf. Mullins*, 795 F.3d at 663 (“When administrative inconvenience is addressed as a matter of ascertainability, courts tend to look at the problem in a vacuum, considering only the administrative costs and headaches of proceeding as a class action.” (citation omitted)).

On its face, this test appears to duplicate Rule 23’s requirement that district courts consider “the likely difficulties in managing a class action.”¹⁹ Fed. R. Civ.

¹⁹ Certain arguments that appeared in Appellants’ briefs under the heading of ascertainability are properly construed as challenges to superiority. This includes, for example, due process concerns regarding notice to absent class members. *See Fed. R. Civ. P. 23(c)(2)(B); Hecht v. United Collection Bureau, Inc.*, 691 F.3d 218, 222 (2d Cir. 2012) (“Absent class members have a due process right to notice and an opportunity to opt out of [certain types of] class litigation,” and “Rule 23 protects that right by providing a

P. 23(b)(3)(D). This apparent redundancy is misleading, however, because of a key difference in analytical orientation. Whereas ascertainability is an absolute standard, manageability is a component of the superiority analysis, which is explicitly comparative in nature: courts must ask whether “a class action is *superior to other available methods* for fairly and efficiently adjudicating the controversy.” Fed. R. Civ. P. 23(b)(3) (emphasis added). We share the concern voiced by our sister circuits that heightened ascertainability and superiority could push in opposite directions. Though a court may not ignore concerns about the manageability of a putative class action, it may be that challenges of administrative feasibility are most prevalent in cases “in which there may be no realistic alternative to class treatment,” *Briseno*, 844 F.3d at 1128 (agreeing with *Mullins*, 795 F.3d at 663–64), underscoring the importance of a comparative inquiry. This concern is particularly acute in light of our admonition that “failure to certify an action under Rule 23(b)(3) on the sole ground that it would be unmanageable is disfavored and should be the exception rather than the rule.” *In re Visa Check/MasterMoney Antitrust Litig.*, 280 F.3d 124, 140 (2d Cir.

parallel statutory requirement of notice and the opportunity to opt out for classes certified under subdivision (b)(3).” (citations omitted)).

2001), overruled on other grounds by *In re IPO*, 471 F.3d at 39–40 (internal quotation marks and citation omitted).

The proposed administrative feasibility test also risks encroaching on territory belonging to the predominance requirement, such as classes that require highly individualized determinations of member eligibility. *See, e.g., Mazzei v. The Money Store*, 829 F.3d 260, 272 (2d Cir. 2016) (internal quotation marks omitted), cert. denied, — U.S. —, 137 S. Ct. 1332 (2017). Like superiority, predominance is a comparative standard: “Rule 23(b)(3) [] does *not* require a plaintiff seeking class certification to prove that each element of her claim is susceptible to classwide proof. What the rule does require is that common questions ‘*predominate* over any questions affecting only individual [class] members.’” *Amgen Inc. v. Conn. Ret. Plans & Tr. Funds*, 568 U.S. 455, 133 S. Ct. 1184, 1196 (2013) (quoting Fed. R. Civ. P. 23(b)(3); other quotation marks, citations, and alterations omitted).

We conclude that an implied administrative feasibility requirement would be inconsistent with the careful balance struck in Rule 23, which directs courts to weigh the competing interests inherent in any class certification decision. *Accord Briseno*, 844 F.3d at 1128 (“[A] freestanding administrative feasibility

requirement" would "have practical consequences inconsistent with the policies embodied in Rule 23."); *Mullins*, 795 F.3d at 658 ("The policy concerns motivating the heightened ascertainability requirement are better addressed by applying carefully the explicit requirements of Rule 23(a) and especially (b)(3)."); *Byrd*, 784 F.3d at 177 (Rendell, J., concurring) (concluding that the Third Circuit's "heightened ascertainability requirement . . . contravenes the purpose of Rule 23 and . . . disserves the public"); *see also* *Shaw*, 124 Yale L.J. at 2366 ("Rule 23 already safeguards the interests that the ascertainability requirement supposedly protects and adequately guards against the problems that the requirement supposedly forestalls.").

Our decision in *Brecher* did not create an administrative feasibility requirement, and we decline to adopt one now. The ascertainability requirement, as defined in this Circuit, asks district courts to consider whether a proposed class is defined using objective criteria that establish a membership with definite boundaries. This modest threshold requirement will only preclude certification if a proposed class definition is indeterminate in some fundamental way. If there is no focused target for litigation, the class itself cannot coalesce, rendering the class action an inappropriate mechanism for adjudicating any

potential underlying claims. In other words, a class should not be maintained without a clear sense of who is suing about what. Ascertainability does not directly concern itself with the plaintiffs' ability to offer *proof of membership* under a given class definition, an issue that is already accounted for in Rule 23.²⁰

4. Application

The district court's analysis in the *Certification Order* is not precisely consistent with the ascertainability standard articulated in this opinion. The district court focused primarily on the types of feasibility concerns that we hold are not controlling of the ascertainability analysis, and effectively addressed ascertainability as a component of superiority. 312 F.R.D. at 363–64. Nonetheless, the district court's findings reflect an understanding that objective criteria would permit the identification of class members. We agree.

²⁰ This clarified conception of ascertainability supports, rather than supplants, the plain text of Rule 23. As we noted above in our discussion of *Brecher*, a class must be “sufficiently definite” and “defined by objective criteria” *so that* “it is administratively feasible for the court to determine whether a particular individual is a member” (a superiority concern) and *so that* “identifying [the class’s] members would not require a mini-hearing on the merits of each case” (a predominance concern). *Brecher*, 806 F.3d at 24 (emphasis added) (citation omitted). So understood, the ascertainability requirement merely gives name to a particularly vexing type of class defect that would cause a proposed class to founder on the shoals of predominance, superiority, or both. Ascertainability provides a guiding principle for the otherwise murky analysis of classes that, though ostensibly defined by objective criteria, nonetheless present fatal challenges of determinability.

The Classes include persons who acquired specific securities during a specific time period, as long as those acquisitions occurred in “domestic transactions.” *Id.* at 372. These criteria—securities purchases identified by subject matter, timing, and location—are clearly objective. The definition is also sufficiently definite: there exists a definite subset of Petrobras Securities holders who purchased those Securities in “domestic transactions”²¹ during the bounded class period. Appellants vigorously challenge the *practicality* of making the domesticity determination for each putative class member, but as we explain above, the ascertainability analysis is limited to narrower question of whether those determinations are objectively *possible*.

Unlike in *Brecher* or the cases cited therein, neither the parties nor the properties that are the subject of this litigation are fundamentally indeterminate. Finding no error in the district court’s conclusion on this point, we reject Appellants’ contention that the classes defined by the district court fail on ascertainability grounds.

²¹ As explained in the sections that follow, legal questions as to the “domesticity” of any given transaction—and the resulting individualized determinations of class member eligibility—go to the core of the predominance analysis, and are not properly analyzed as issues of ascertainability.

C. Predominance

1. Legal Standard

A district court may only certify a class under Federal Rule of Civil Procedure 23(b)(3) if “questions of law or fact common to class members predominate over any questions affecting only individual members.” This “predominance” requirement is satisfied if: (1) resolution of any material “legal or factual questions . . . can be achieved through generalized proof,” and (2) “these [common] issues are more substantial than the issues subject only to individualized proof.” *Mazzei*, 829 F.3d at 272 (quoting *Myers*, 624 F.3d at 547).

The distinction between “individual” and “common” questions is thus central to the predominance analysis. As the Supreme Court has explained:

An individual question is one where “members of a proposed class will need to present evidence that varies from member to member,” while a common question is one where “the same evidence will suffice for each member to make a *prima facie* showing or the issue is susceptible to generalized class-wide proof.”

Tyson Foods, Inc. v. Bouaphakeo, — U.S. —, 136 S. Ct. 1036, 1045 (2016) (alteration omitted) (quoting 2 William B. Rubenstein, Newberg on Class Actions § 4:50, at 196–97 (5th ed. 2012)).

The predominance inquiry is a core feature of the Rule 23(b)(3) class mechanism, and is not satisfied simply by showing that the class claims are framed by the common harm suffered by potential plaintiffs. *Amchem Prods.*, 521 U.S. at 623–24 (noting that “predominance criterion is far more demanding” than the “commonality” requirement under Rule 23(a)); *see also Johnson v. Nextel Commc’ns Inc.*, 780 F.3d 128, 138 (2d Cir. 2015). Where individualized questions permeate the litigation, those “fatal dissimilit[ies]” among putative class members “make use of the class-action device inefficient or unfair.” *Amgen*, 133 S. Ct. at 1197 (citation omitted); *see also* 7AA Charles Alan Wright & Arthur R. Miller, Federal Practice and Procedure § 1778, at 141 (3d ed. 2005). (“[W]hen individual rather than common issues predominate, the economy and efficiency of class-action treatment are lost and. . . the risk of confusion is magnified.” (footnote omitted)).

The predominance inquiry mitigates this risk by “ask[ing] whether the common, aggregation-enabling, issues in the case are *more prevalent or important* than the non-common, aggregation-defeating, individual issues.” *Tyson Foods*, 136 S. Ct. at 1045 (emphasis added) (quoting Rubenstein, *supra*, at 195–96); *see also id.* (The “inquiry tests whether proposed classes are sufficiently cohesive to

warrant adjudication by representation." (quoting *Amchem Prods.*, 521 U.S. at 623)). For this reason, the Supreme Court has emphasized district courts' "duty to take a 'close look' at whether common questions predominate over individual ones." *Comcast Corp. v. Behrend*, — U.S. —, 133 S. Ct. 1426, 1432 (2013) (quoting *Amchem Prods.*, 521 U.S. at 615); *see also Tyson Foods*, 136 S. Ct. at 1045 (2016) (The predominance requirement "calls upon courts to give *careful scrutiny* to the relation between common and individual questions in a case." (emphasis added)). This analysis is "more [] qualitative than quantitative," Rubenstein, *supra*, at 197 (footnote omitted), and must account for the nature and significance of the material common and individual issues in the case, *see Roach*, 778 F.3d at 405.

2. Application

A proper assessment of predominance in this action involves two predicate questions about the role of *Morrison* inquiries. First, is the determination of domesticity material to Plaintiffs' class claims? *See Amchem Prods.*, 521 U.S. at 623 (explaining that predominance "trains on the legal or factual questions that qualify each class member's case as a genuine controversy"). If so, is that determination "susceptible to generalized class-wide proof" such that it represents a "common" question rather than an "individual"

one? *Tyson Foods*, 136 S. Ct. at 1045 (internal quotation marks and citation omitted). We find that the district court failed to meaningfully address the second question. That omission was an error of law, and we vacate the certification decision on that basis. Only by answering *both* predicate questions can the district court properly assess whether, in the case as a whole, common issues are “more prevalent or important” than individual ones. *Id.* (citation omitted).

With regard to the first question, “[*Morrison* makes clear that [determining] whether [federal securities law] applies to certain conduct is a ‘merits’ question.]” *Absolute Activist*, 677 F.3d at 67 (quoting *Morrison*, 561 U.S. at 254). In other words, a putative class member only has a viable cause of action if the specific Petrobras Securities sued upon were purchased in a qualifying “domestic transaction.” *City of Pontiac*, 752 F.3d at 179; *see also Morrison*, 561 U.S. at 273 (holding that securities fraud claims that lack a domestic connection must be dismissed for “fail[ure] to state a claim on which relief can be granted”).

The district court clearly recognized *Morrison’s* importance because the class definitions import *Morrison’s* unelaborated legal standard, namely that Petrobras Securities must have been purchased in “domestic transactions.” *See*

Certification Order, 312 F.R.D. at 372. Indeed, it appears that the district court consciously sought to certify encompassing classes that would extend as far as *Morrison* allows. *See id.* at 364 (rejecting a proposed limitation to the class definition because it “would cut off purchasers who have valid claims under *Morrison’s second prong*”). When it came to predominance, however, the district court did not mention *Morrison* at all. The court found that predominance was satisfied, explaining that, “with the exception of reliance^[22] and damages, plaintiffs’ claims rest almost exclusively on class-wide questions of law and fact centered around” Petrobras’s alleged misconduct “and the effects of these actions and events on the market.” *Id.* at 364. The court proceeded to discuss reliance and damages in great detail, *id.* at 364–72, but made no mention of *Morrison*.²³

²² As discussed in greater detail below, the Exchange Act claims include a reliance element that must be satisfied on an individual basis unless the plaintiffs establish a class-wide presumption of reliance under the “fraud on the market” theory. *See* Discussion Section III.A, *infra*.

²³ The district court did address *Morrison*-related issues when analyzing superiority. *Certification Order*, 312 F.R.D. at 363–64. Notably, the district court expressed its “confiden[ce] that the *Morrison* determination is administratively feasible.” *Id.* at 364. We are unable to transplant those findings into the predominance context, however, because of substantive differences among the three inquiries. *See* Discussion Section II.B.3, *supra*.

The *Certification Order* is susceptible to two possible readings: either the district court implicitly held that *Morrison* inquiries constituted a common issue, or the court simply sidestepped the question. Either way, given the nature of the *Morrison* inquiries at issue, the district court cannot be said to have “give[n] careful scrutiny to the relation between [the] common and individual questions” central to this case. *See Tyson Foods*, 136 S. Ct. at 1045.

On the available record, the investigation of domesticity appears to be an “individual question” requiring putative class members to “present evidence that varies from member to member.” *Id.* (citation omitted). As discussed above, a plaintiff may demonstrate the domesticity of a particular transaction by producing evidence “including, but not limited to, facts concerning the formation of the contracts, the placement or purchase orders, the passing of title, or the exchange of money.” *Absolute Activist*, 677 F.3d at 70; *see also* Discussion Section II.A, *supra*. These transaction-specific facts are not obviously “susceptible to [] class-wide proof,”²⁴ nor did Plaintiffs suggest a form of representative proof

²⁴ As did the district court, we reject Plaintiff’s argument that a securities transaction is “domestic” under *Morrison* and *Absolute Activist* if it settles through the DTC. *See December 2015 Order*, 150 F. Supp. 3d at 342. *See generally* Br. of the Depository Tr. Co. as

that would answer the question of domesticity for individual class members. *See Tyson Foods*, 136 S. Ct. at 1045–46 (explaining that class plaintiffs may rely on representative samples to prove class-wide liability where they can show “that each class member could have relied on that sample to establish liability if he or she had brought an individual action”).

In cases that have applied *Morrison* and *Absolute Activist*—including the district court’s own experience adjudicating Petrobras-specific inquiries—factfinders have considered various types of evidence offered to prove the domesticity of various types of transactions. *See, e.g., Loginovskaya*, 764 F.3d at 274–75 (finding that domestic wire transfers failed to satisfy *Absolute Activist* because they were “actions needed to carry out the transactions, and not the transactions themselves”); *In re Petrobras Sec. Litig.*, 152 F. Supp. 3d 186, 193 (S.D.N.Y. 2016) (explaining that the high-level documentation provided by various plaintiffs was insufficient to plead a domestic transaction); *December 2015 Order*, 150 F. Supp. 3d at 340–41 (finding that two proposed class representatives failed to plead domestic transactions in Petrobras Notes).

Amicus Curiae Not in Support of Any Party, ECF No. 293 (describing the DTC’s history and its procedures for settling securities transactions).

The district court suggested that the pertinent locational details for each transaction are likely to be found in the “record[s] routinely produced by the modern financial system,” and “are highly likely to be documented in a form susceptible to the bureaucratic processes of determining who belongs to a Class.” *Certification Order*, 312 F.R.D. at 364. Even if that fact is true, however, it does not obviate the need to consider the plaintiff-specific nature of the *Morrison* inquiry.

The two approved class representatives with Notes-based claims were both located in the United States, placed their Notes purchase orders in the United States, and procured their securities directly from United States underwriters as part of the initial Notes Offerings. *See December 2015 Order*, 150 F. Supp. 3d at 340. Appellants argue that those transactions are the easy case. As the Underwriter Defendants observe, the Classes as currently defined potentially “include[] numerous foreign and domestic entities that purchased securities from other foreign and domestic entities, possibly through foreign and domestic intermediaries, using different methods, under different circumstances, and reflected in different types of records (assuming any records of the purchases exist at all).” Underwriter Defs.’ Br. at 3.

Significantly, the Classes include investors who purchased Notes in the initial Offerings, as well as investors who purchased their Notes on the secondary market. *See Certification Order*, 312 F.R.D. at 372. Aftermarket purchasers asserting claims under Sections 11 and 15 of the Securities Act must not only establish that they acquired their Notes in a domestic secondary transaction, but must also show that the particular Notes they acquired are “traceable to” one of the U.S.-registered Offerings. *See id.* The *Certification Order* offers no indication that the district court considered the ways in which evidence of domesticity might vary in nature or availability across the many permutations of transactions in Petrobras Securities.

The need for *Morrison* inquiries nominally presents a common question because the need to show a “domestic transaction” applies equally to each putative class member. However, Plaintiffs bear the burden of showing that, more often than not, they can provide common *answers*. *Amgen*, 133 S. Ct. at 1196. In this case, the potential for variation across putative class members—who sold them the relevant securities, how those transactions were effectuated, and what forms of documentation might be offered in support of domesticity—appears to generate a set of individualized inquiries that must be considered

within the framework of Rule 23(b)(3)'s predominance requirement. *See Tyson Foods*, 136 S. Ct. at 1045–46 (explaining that “[a]n individual question is one where members of a proposed class will need to present evidence that varies from member to member . . .” (internal quotation marks and citation omitted)).

Consider, for instance, the Supreme Court's recent *Amgen* decision, which similarly involved class claims under Section 10(b) the Exchange Act. 133 S. Ct. 1184. Such claims require a showing that the defendants made a “material misrepresentation or omission.” *Id.* at 1195. Materiality—like domesticity—is thus an “essential predicate” of an Exchange Act claim. *Id.* The *Amgen* Court held, however, that *proof* of materiality was not required for the purpose of satisfying predominance at the class certification stage. *Id.* Because materiality is determined objectively from the perspective of the “‘reasonable investor,’ materiality can be proved through evidence *common to the class*.¹ *Id.* (emphasis added) (quoting *TSC Industries, Inc. v. Northway, Inc.*, 426 U.S. 438, 445 (1976)). “In no event will the individual circumstances of particular class members bear on the [materiality] inquiry.” *Id.* at 1191. “Consequently, materiality is a common question for purposes of Rule 23(b)(3).” *Id.* at 1196 (internal quotation marks, alteration, and citation omitted).

In the present action, by contrast, it cannot be said that the class members' *Morrison* inquiries will "prevail or fail in unison." *Id.* The district court has already adjudicated several individualized *Morrison* inquiries, preserving some plaintiffs' claims and dismissing others. *See* Discussion Section II.A.2, *supra*. "[W]ithout *class-wide* evidence" of domesticity, "the fact-finder would have to look at every class member's [transaction] documents to determine who did and who did not have a valid claim." *Mazzei*, 829 F.3d at 272 (citing *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338, 350 (2011)) (affirming a finding that predominance was not satisfied because the class claims turned on individualized determinations of privity). The predominance analysis must account for such individual questions, particularly when they go to the viability of each class member's claims.²⁵

²⁵ An instructive example may be found in *Myers v. Hertz Corporation*, a case in which the class claims turned on a "complex, disputed issue" and "a number of subsidiary questions" concerning employee exemptions under the Fair Labor Standards Act. 624 F.3d at 548. We cautioned that "the predominance requirement [will only be] satisfied[] if the plaintiffs can show that some of [those] questions can be answered with respect to the members of the class as a whole through generalized proof and that those common issues are more substantial than individual ones." *Id.* at 549 (internal quotation marks and citations omitted).

Finally, we emphasize that district courts are authorized to implement management strategies tailored to the particularities of each case. In addition to modifying class definitions and issuing class-wide rulings, district courts can, for example, bifurcate the proceedings to home in on threshold class-wide inquiries; sever claims not properly adjudicated on a class-wide basis to isolate key common issues; or certify subclasses that separate class members into smaller, more homogenous groups defined by common legal or factual questions.²⁶ See Fed. R. Civ. P. 23(c)(4), (c)(5); *see also In re Nassau Cty. Strip Search Cases*, 461 F.3d 219, 227 (2d Cir. 2006); *In re Visa Check*, 280 F.3d at 141 (summarizing various class action “management tools” and collecting cases). While these options need not necessarily be exercised or even planned for prior to class certification, the possibility of post-certification procedural tailoring does not attenuate the obligation to take a “close look” at predominance when assessing the motion for certification itself.

For the foregoing reasons, we vacate the district court’s certification of the Classes insofar as they include all otherwise eligible class members who acquired

²⁶ For instance, the district court might certify a subclass—or a separate class—of Petrobras ADS holders who purchased their securities on the NYSE, or of Petrobras Noteholders who acquired their Notes directly through one of the initial Offerings.

their Securities in “domestic transactions.” We take no position as to whether, on remand, the district court might properly certify one or more classes that capture some or all of the Securities holders who fall within the Classes as currently defined.²⁷ Our purpose is merely to outline the contours of the robust predominance inquiry that Rule 23 demands. We leave the adjudication thereof to the district court in the first instance.

III. “Fraud on the Market” and the Presumption of Reliance

The second issue on appeal concerns the district court’s finding that the Exchange Act Class was entitled to a presumption of class-wide reliance on the market price of Petrobras’s ADS and Notes. In reaching that conclusion, the district court found that Plaintiffs satisfied their burden of showing that the Petrobras Securities traded in efficient markets, as required under the “fraud on

²⁷ Moreover, our analysis is limited to the current record, and should not be taken as expressing an opinion on the wide range of conceivable circumstances in which plaintiffs may assert class claims in connection with foreign-issued securities that do not trade on a domestic exchange. For instance, a district court might find that the transaction records for a particular security among particular parties display certain common indicia of domesticity. Class plaintiffs may propose a mechanism for assembling a representative sample of the manner in which a given security will trade, with an emphasis on the domesticity factors highlighted in *Absolute Activist*. A district court could also carefully weigh the relationship between common and individual questions in the case and determine that any variation across plaintiffs is, on balance, insufficient to defeat predominance.

the market" theory established in *Basic Inc. v. Levinson*, 485 U.S. 224 (1988). The Petrobras Defendants challenge that finding, arguing that the district court erred in the relative weight it assigned to the parties' competing evidence. We find no error of law in the district court's blended consideration of direct and indirect evidence of market efficiency, nor do we find any clear error in the district court's factual analysis. We therefore affirm as to this issue.

A. The "Fraud on the Market" Theory

1. Legal Standard

Plaintiffs alleging claims under Section 10(b) of the Exchange Act must prove "(1) a material misrepresentation or omission by the defendant; (2) scienter; (3) a connection between the misrepresentation or omission and the purchase or sale of a security; (4) reliance upon the misrepresentation or omission; (5) economic loss; and (6) loss causation." *Halliburton Co. v. Erica P. John Fund, Inc.* ("Halliburton II"²⁸), — U.S. —, 134 S. Ct. 2398, 2407 (2014) (citation omitted). The key element for the purpose of this appeal is reliance, the element

²⁸ The case commonly referred to as "Halliburton I" is *Erica P. John Fund, Inc. v. Halliburton Co.*, 563 U.S. 804 (2011).

that establishes a sufficient “connection between a defendant’s misrepresentation and a plaintiff’s injury.” *Id.* (citation omitted).

On its face, the reliance element would appear to preclude class certification on predominance grounds: “[e]ach plaintiff would have to prove reliance individually,” with the result that “common issues would not ‘predominate’ over individual ones.” *Id.* at 2416 (citation omitted). The Supreme Court resolved that tension almost three decades ago in *Basic Inc. v. Levinson*, reasoning that “[a]n investor who buys or sells stock at the price set by the market does so in reliance on the integrity of that price,” and so “an investor’s reliance on any public material misrepresentations [] may be *presumed* for purposes of a Rule 10b-5 action.” 485 U.S. at 247 (emphasis added).

In 2014, the Court affirmed the continued vitality of the “fraud on the market” theory, and clarified that the so-called “*Basic* presumption actually incorporates two constituent presumptions:”

First, if a plaintiff shows that the defendant’s misrepresentation was public and material and that the stock traded in a generally efficient market, he is entitled to a presumption that the misrepresentation affected the stock price.

Second, if the plaintiff also shows that he purchased the stock at the market price during the relevant period, he is entitled to a further presumption that he purchased

the stock in reliance on the defendant's misrepresentation.

Halliburton II, 134 S. Ct. at 2414. If a putative class successfully establishes the *Basic* presumption, "defendants must be afforded an opportunity . . . to defeat the presumption through evidence that [the] alleged misrepresentation [at issue in the plaintiffs' legal claim] did not actually affect the market price of the stock." *Id.* at 2417.

2. Market Efficiency and the Cammer Factors

"The fraud-on-the-market theory rests on the premise that certain well developed markets are efficient processors of public information," meaning that "the 'market price of shares' will 'reflect all publicly available information.'" *Amgen*, 133 S. Ct. at 1192 (quoting *Basic*, 485 U.S. at 246 (alteration omitted)).

This Court "has not adopted a test for the market efficiency of stocks or bonds." *Teamsters Local 445 Freight Div. Pension Fund v. Bombardier Inc.*, 546 F.3d 196, 204 n.11 (2d Cir. 2008). A test based on the so-called "Cammer factors" has been "routinely applied by district courts considering the efficiency of equity markets," and has also been applied, in modified form, "to bond markets with a recognition of the differences between the manner in which debt bonds and equity securities trade." *Id.*; see also *Cammer v. Bloom*, 711 F. Supp.

1264, 1286–87 (D.N.J. 1989) (articulating five factors); *Krogman v. Sterritt*, 202 F.R.D. 467, 478 (N.D. Tex. 2001) (describing three additional factors that are commonly included in *Cammer* analyses); *In re Enron Corp. Sec.*, 529 F. Supp. 2d 644, 747–49 (S.D. Tex. 2006) (applying the *Cammer* factors in modified form to debt securities).

All but one of the *Cammer* factors examine indirect indicia of market efficiency for a particular security, such as high trading volume, extensive analyst coverage, multiple market makers, large market capitalization, and an issuer’s eligibility for simplified SEC filings. The fifth *Cammer* factor, however, invites plaintiffs to submit direct evidence, consisting of “empirical facts showing a cause and effect relationship between unexpected corporate events or financial releases and an immediate response in the stock price.” *Cammer*, 711 F. Supp. at 1287; see also *Halliburton II*, 134 S. Ct. at 2415 (“[P]laintiffs [] can and do introduce evidence of the existence of price impact in connection with ‘event studies’—regression analyses that seek to show that the market price of the defendant’s stock tends to respond to pertinent publicly reported events.” (citation and emphasis omitted)).

B. Application

At the outset, the Petrobras Defendants assert an error of law: they challenge the district court’s purported holding that Plaintiffs were entitled to the *Basic* presumption based solely on their *indirect* evidence of market efficiency. This argument mischaracterizes the district court’s analysis. True, the court noted that “Petrobras was one of the largest and most-analyzed firms in the world throughout the Class Period,” and explained that in instances where “the indirect [Cammer] factors overwhelmingly describe a large and well-functioning market for Petrobras securities, common sense suggests that the market would materially react to material disclosures.” *Certification Order*, 312 F.R.D. at 367. The opinion did not stop there, however. The court proceeded with an “involved analysis” of Plaintiffs’ empirical evidence—which Defendants disputed as to “almost every aspect”—and “ultimately conclude[d] that plaintiffs [had] satisfied the fifth Cammer factor.” *Id.*; *see also id.* at 367–71. Anything to the contrary was, at most, a holding in the alternative. We therefore decline to reach the Petrobras Defendants’ legal question—whether plaintiffs may satisfy the *Basic* presumption without *any* direct evidence of price impact—because the issue is not squarely presented for our review.

Having confirmed the *existence* of Plaintiffs' direct evidence of market efficiency, we turn to the Petrobras Defendants' attack on the *quality* of that evidence. They argue, first, that the district court gave undue weight to Plaintiffs' empirical test, which measured the magnitude of responsive price changes in Petrobras Securities without considering the direction of those changes, and second, that the district court unduly discounted Defendants' rebuttal evidence. We find these arguments unpersuasive.

In the class certification proceedings, the parties' "experts [] sparred over whether any direct evidence of [Cammer's] fifth factor existed." *Id.* at 367. Plaintiffs' expert ran multiple event studies and reported that "there were more likely to be big price movements on days when important Petrobras events occurred, demonstrating [that] the markets in Petrobras securities were responsive to new information." *Id.* at 367–68. Defendants responded with numerous challenges to "the execution and the sufficiency" of that test. *Id.* at 368. They specifically criticized the test's failure to examine directionality, that is, "whether the price of a security moved up or down as expected based on the precipitating market event." *Id.* at 369; *see also id.* at 370 (describing the defense expert's position that "in an efficient market, the price of a security should *always*

move in response to the release of new value-relevant information that is materially different from expectations"). Plaintiffs' expert conducted supplementary analyses of directional price impact, but the district court accorded them "only limited weight" after Defendants highlighted certain methodological flaws. *Id.* at 369–70. As to the non-directional analysis, the court declined to "let the perfect become the enemy of the good":

In this case, where the indirect *Cammer* factors lay a strong foundation for a finding of efficiency, a statistically significant showing that statistically significant price returns are more likely to occur on event dates is sufficient as direct evidence of market efficiency and thereby to invoke *Basic*'s presumption of reliance at the class certification stage.

Id. at 371.

We find that the district court's conclusion "falls within the range of permissible decisions." *Roach*, 778 F.3d at 405 (citation omitted). The district court properly declined to view direct and indirect evidence as distinct requirements, opting instead for a holistic analysis based on the totality of the evidence presented. *See, e.g., In re JPMorgan Chase & Co. Sec. Litig.*, No. 12 CIV. 03852 (GBD), 2015 WL 10433433, at *7 (S.D.N.Y. Sept. 29, 2015) ("Defendants' criticisms of Plaintiffs' event study distract[] from the central

question: Does the weight of the evidence tip in favor of the finding that the market for JPMorgan’s common stock was efficient during the Class Period?”).

The Petrobras Defendants’ contentions on appeal amount to an intensified reformulation of the claim we bypassed above: not only should putative class plaintiffs be required to offer direct evidence of market efficiency, they argue, but the evidence must specifically consist of empirical data showing that the price of the relevant securities predictably moved up in response to good news and down in response to bad news. The gravamen of their claim is that plaintiffs would only be entitled to the *Basic* presumption after making a substantial showing of market efficiency based on directional empirical evidence alone, irrespective of any other evidence they may have offered.²⁹

We reject this proposition. In short, the Petrobras Defendants are attempting to relabel a *sufficient* condition as a *necessary* one. We noted in *Bombardier* that “[a]n event study that correlates the disclosures of unanticipated,

²⁹ The Petrobras Defendants’ arguments focus on the class certification stage, but a class, once certified, bears the burden of establishing the *Basic* presumption at trial. See *Halliburton II*, 134 S. Ct. at 2414. It would be a strange standard indeed that imposed a stricter burden for class certification than on the final merits adjudication. Presumably, then, the Petrobras Defendants would require that direct evidence take precedence over indirect evidence both at the certification stage and with the ultimate finder of fact.

material information about a security with corresponding fluctuations in price has been considered *prima facie* evidence of the existence of such a causal relationship.” *Bombardier*, 546 F.3d at 207–08 (citing *In re Xcelera.com Sec. Litig.*, 430 F.3d 503, 512–14, 516 (1st Cir. 2005)). We never suggested, however, that such evidence was the *only* way to prove market efficiency; indeed, we explicitly declined to adopt any particular “test for the market efficiency of stocks or bonds.” *Id.* at 204 n.11.

The Supreme Court has similarly declined to define a precise evidentiary standard for market efficiency, but the Court’s opinions consistently suggest that the burden is not an onerous one. *See Halliburton II*, 134 S. Ct. at 2410 (“Even the foremost critics of the efficient-capital-markets hypothesis acknowledge that public information generally affects stock prices,” and so “[d]ebates about the precise *degree* to which stock prices accurately reflect public information are [] largely beside the point.”); *id.* at 2417 (Ginsburg, J., concurring) (interpreting the holding in *Halliburton II* as “impos[ing] no heavy toll on securities-fraud plaintiffs with tenable claims”); *Amgen*, 133 S. Ct. at 1192 (“[I]t is reasonable to presume that most investors . . . will rely on [a] security’s market price as an unbiased assessment of the security’s value in light of all public information.”);

Basic, 485 U.S. at 246 n.24 (“For 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.”); *see also id.* at 246 (“The presumption is supported by common sense and probability.”).

The Petrobras Defendants’ proposed evidentiary hierarchy unreasonably discounts the potential probative value of indirect evidence of market efficiency. As noted above, all but one of the widely used *Cammer* factors focus on elements that would logically appear in, or contribute to, an efficient securities market. Those factors would add little to the *Basic* analysis if courts only ever considered them after finding a strong showing based on direct evidence alone.

Indeed, indirect evidence is particularly valuable in situations where direct evidence does *not* entirely resolve the question. Event studies offer the seductive promise of hard numbers and dispassionate truth, but methodological constraints limit their utility in the context of single-firm analyses. *See generally* Alon Brav & J. B. Heaton, *Event Studies in Securities Litigation: Low Power, Confounding Effects, and Bias*, 93 Wash. U. L. Rev. 583 (2015); *see also id.* at 588 n.11 (collecting academic criticism of single-firm event studies). Notably, small

sample sizes may limit statistical power, meaning that only very large-impact events will be detectable.³⁰ *See id.* at 589–605. In addition, it can be extremely difficult to isolate the price impact of any one piece of information in the presence of confounding factors, such as other simultaneously released news about the company, the industry, or the geographic region. *See id.* at 605–08. These methodological challenges counsel against imposing a blanket rule requiring district courts to, at the class certification stage, rely on directional event studies and directional event studies alone.

In sum, the district court properly considered a combination of direct and indirect evidence in reaching its conclusion that Petrobras ADS and Notes both trade in efficient markets. The court conducted a rigorous analysis of the parties' proffered evidence and objections. We find no abuse of discretion, and therefore

³⁰ Brav and Heaton caution courts against misinterpreting studies that fail to find statistically significant price changes: “[W]hile a statistically significant reaction to a firm-specific news event is evidence that information was reflected in the price (absent confounding effects), the converse is *not true*—the failure of the price to react so extremely as to be [detectable] does *not* establish that the market is inefficient; it may mean only that the” effect size was not large enough to be detected in the available sample. Brav & Heaton, 93 Wash. U. L. Rev. at 602 (emphasis added). “While some courts have been sensitive to this distinction . . . , other courts have remained inattentive to this fact, which has generated inaccurate findings in some securities cases.” *Id.* (footnote omitted).

affirm the district court's finding that Plaintiffs were entitled to a presumption of reliance on the market price of the Petrobras Securities. We caution that this determination is limited to the district court's class certification order, and is not binding on the ultimate finder of fact.

CONCLUSION

For the foregoing reasons, the district court's *Certification Order* is AFFIRMED IN PART and VACATED IN PART, and the case is REMANDED to the district court for further proceedings consistent with this opinion.