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Petrobras Strikes Heavy Blow Against Use Of Event Studies

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On July 7, 2017, the U.S. Court of Appeals for the Second Circuit issued its opinion in the securities case of In re Petrobras Securities, No. 16-1914-CV, (2d Cir. July 7, 2017). The panel, including circuit Judges Peter Hall and Debra Ann Livingston, as well as Eastern District of New York District Judge Nicholas Garaufis sitting by designation, affirmed in part and vacated in part certain decisions by Southern District of New York Judge Jed Rakoff certifying a class of Petrobras securities litigants. In the part of the decision that affirmed the lower court, the Second Circuit found no abuse of discretion in Judge Rakoff's refusal to give statistical "event study" evidence a determinative role in deciding whether the Petrobras plaintiffs were entitled to the presumption of reliance that fraud-on-the-market theory allows for securities trades in efficient markets.

The Petrobras decision strikes a heavy blow against the unreliable use of event studies to protect securities litigation defendants. Plaintiffs lawyers are sometimes accused (occasionally for good reason) of proffering methodologically unreliable opinion evidence — so-called "junk science" — in products liability cases. The single-firm event study, when applied to conclude that an alleged fraud did not cause a price impact, is an example from the defense bar. In Petrobras, the Second Circuit rejected the practice of using statistically unreliable event studies to establish — without consideration of other evidence — that alleged securities fraud had no impact on the stock price of the accused fraudster.

Developed by financial economists in the late 1960s (one of whom, University of Chicago professor Eugene F. Fama, went on to win a Nobel Prize), an event study is a statistical method for determining whether some corporate event — such as the announcement of earnings or the announcement of a proposed merger — is associated with a statistically significant change in the price of a company's stock. The main inputs to an event study are historical stock returns for the companies under study, benchmark returns like the return to the broader market and industry, and standard statistical methods like "t-tests" that test for statistical significance. In securities litigation and regulation, event studies are used primarily to detect the impact of disclosures of alleged fraud on the price of a traded security.

After the U.S. Supreme Court endorsed the fraud-on-the-market theory in the 1988 Basic v. Levinson decision, event studies became so entrenched in securities litigation as to be almost required in every case. Based on the efficient markets hypothesis that the market price of securities traded on well-developed markets reflects public information, securities litigants began to use the event study to help answer two crucial questions. First, was there a price impact at the time of an alleged misrepresentation

or corrective disclosure? Second, if there was a price impact, how much of it was caused by the alleged misrepresentation or corrective disclosure as opposed to other, unrelated factors?

In proposing answers to these questions, litigants were not shy in asserting the event study's impressive academic pedigree. But the methodology that litigants' experts used in court differed dramatically from the methodology economists used in academic research. Securities litigation event studies are almost always single-firm event studies that examined the price moves of the lone security of the single firm involved in the litigation, while almost all academic research event studies are multifirm event studies that examine the returns of many firms. Importing a methodology that economists developed for use with multiple firms into a single-firm context created a substantial difficulty: low statistical power.

Statistical power is the methodological ability to detect a true effect (e.g., a price impact due to fraud) when it exists. Statistical power is the flip side of the problem of statistical significance. We use statistical significance to protect against the possibility of concluding there was an effect when there was none. But another kind of mistake is just as pernicious: failing to recognize an effect that is there. We may observe an abnormal return that is not statistically significant and conclude that there was no price impact, when in fact there was one.

In a paper published with my co-author Alon Brav, a finance professor at Duke University, "Event Studies in Securities Litigation: Low Power, Confounding Effects, and Bias," 93 Wash. U.L. Rev. 583 (2015), we demonstrated how unreliable the event study can be when applied in securities litigation to conclude that alleged fraud did not cause a price impact. We showed how a company could commit a large, value-destroying fraud but get away with it because the application of an event study would suggest that the price impact was statistically insignificant. But this is because the methodology is unreliable in that application. It cannot do what its proponents claim to do: detect fraud when it exists.

The fact that courts have ignored the problem of low statistical power has long been a boon to securities fraud defendants in cases involving publicly traded securities. As a result, defense experts have successfully argued that even very large price declines associated with corrective disclosures were not evidence of price impact. These problems have so far shown up, as in Petrobras, in fights over whether a market is efficient for purposes of invoking the fraud-on-the-market presumption of reliance. Judicial findings of market efficiency for fraud-on-the-market purposes have always been somewhat at odds with academic research. There is no generally accepted method in financial economics for determining whether a security trades in an efficient market, and the so-called Cammer factors that are important in the courts have no general acceptance — indeed, are not even used — in academic research for that purpose. Nevertheless, under existing law courts must decide when information transmission in markets is sufficient to allow the use of the fraud-on-the-market doctrine.

In practice, this has meant that plaintiffs must show the existence of statistically significant price reactions to firm-specific news. From the start, this is an odd test, one that seems to assume that prices are not efficient unless price reactions are large enough to be statistically significant. This reflects a misunderstanding. Prices can react efficiently to information without the price reactions themselves being so large as to approach statistical significance, which is just a measure of how big the price reaction is compared to past price reactions. But more importantly, requiring conventional levels of statistical significance when statistical power is low effectively gives a free pass to economically meaningful securities fraud because the single-firm event study cannot detect price impacts below a very high threshold. Ignoring low statistical power, courts have concluded that economically large price impacts are immaterial or indicative of inefficient markets for the stock of accused fraudster. In doing so, courts err because of a mistaken premise that statistical insignificance indicates the absence of a price impact.

Brav and I were encouraged when Judge Shira Scheindlin cited our paper and others in two securities litigation opinions, one in 2015 (Carpenters Pension Trust Fund of St. Louis v. Barclays PLC, 310 F.R.D. 69, 85 (S.D.N.Y. 2015)) and one in 2016 (Strougo v. Barclays PLC, 312 F.R.D. 307, 321 (S.D.N.Y. 2016)) to point out the poor fit between the academic pedigree of event studies as used in academic research and their use in securities litigation. Still, the event study continued in its unreliable application — often in the hands of paid academic economists who know better — to claim price impacts were nonexistent or statistically insignificant and that the securities at issue traded in inefficient markets, an assertion they would be embarrassed to make to their academic colleagues.

In Petrobras, the Second Circuit has taken an important additional step that is likely to make it much harder to use unreliable event-study evidence to escape securities litigation. Writing for panel, Judge Garaufis observed that "[e]vent studies offer the seductive promise of hard numbers and dispassionate truth, but methodological constraints limit their utility in the context of single-firm analyses." Petrobras, 2017 WL 2883874, at *20. The opinion then cited the problems Brav and I analyzed and concluded that "[t]hese 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." Id.

This is not to say that improvements are not possible that may salvage the event-study analysis. In an important paper, economist and lawyer, professor Jonah Gelbach of the University of Pennsylvania Law School, and his colleagues have developed methods to deal with the problem of valid inference in the single-firm event study. See Jonah B. Gelbach et al., "Valid Inference in Single-Firm, Single-Event Studies," 15 Am. L. & Econ. Rev. 495 (2013). And courts could solve many of the problems of event-study use by simply requiring litigants and their experts to report the results of a "power analysis" for all event studies. A power analysis will tell the court whether the litigant's event study was reliable for detecting price impacts of various sizes. Surely a securities litigant should not be heard to say that a misrepresentation or corrective disclosure caused no price impact based on a test that had little or no power to detect that price impact in the first place, and one could expect a court to exclude any such evidence under Fed. R. Evid. 403 as misleading or Fed. R. Evid. 702 as unreliable.

But however the use of event studies in securities litigation evolves from here, it is likely the new Petrobras decision will mark an important turning point in the abuse of a methodology with an impressive pedigree in academic research, but a widespread misapplication in litigation of great consequence to investor welfare.

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Heaton's paper, "Event Studies in Securities Litigation: Low Power, Confounding Effects, and Bias," 93 Wash. U.L. Rev. 583 (2015), which he co-authored with Alon Brav, was cited and discussed in the Second Circuit's opinion in In re Petrobras Securities.