UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA

CASE NO. 21-MD-2989-ALTONAGA/DAMIAN

In re:

JANUARY 2021 SHORT SQUEEZE TRADING LITIGATION

_____/

This Document Relates to the Federal Securities Tranche

DEFENDANTS ROBINHOOD MARKETS, INC., ROBINHOOD FINANCIAL LLC AND ROBINHOOD SECURITIES, LLC'S MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT OF THEIR MOTION TO EXCLUDE THE OPINIONS OF DR. ADAM WERNER ON MARKET EFFICIENCY

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PRELIMINARY STATEMENT

Plaintiffs rely on two reports from their expert, Adam Werner, in their motion for class certification. In the opening report, Dr. Werner concludes that the markets for certain Affected Stocks were efficient for the year leading up to the Class Period, and in the rebuttal, he reaches the same conclusion for the weeks leading up to the Class Period. But in reaching those conclusions, Dr. Werner creates entirely new methodologies out of whole cloth that are inconsistent with the academic literature and his own approach as an expert in prior cases. He also analyzes the wrong legal standard. Dr. Werner's opinions regarding market efficiency are thus unreliable and unhelpful, and should be excluded under FRE 702 and *Daubert*.

To begin, Dr. Werner provides in his *opening* report a series of opinions concerning market efficiency that should be excluded. *First*, Dr. Werner's efficiency opinions in his opening report are unhelpful because they concern the wrong time period, namely the *full year* preceding the Class Period. Plaintiffs contend they were injured when they sold certain stocks during the Class Period. Reliance on the integrity of the market is an element of their claims. That reliance can be proved on a class-wide basis only if Plaintiffs are entitled to a *presumption* of market efficiency at the time they sold their shares (*i.e.*, during the Class Period). In other words, to certify a class, the evidence must show the markets were efficient during the Class Period itself. But Dr. Werner never analyzed efficiency during the Class Period. Instead, he looked only at the entire preceding year. Because even Dr. Werner concedes it would be inappropriate to assume efficiency during the Class Period based on his conclusions about the entire preceding year, he has provided no opinions that are helpful in analyzing the relevant questions for the purpose of establishing reliance. Dr. Werner's suggested class-wide damages framework is doomed by the same error. He relies on the premise that the January 27, 2021 closing price (*i.e.*, the closing price the day before the Class Period begins) was the "fair price" because he says the markets for the Affected Securities were efficient for the year before that date. But again, an analysis of the full year is incapable of determining whether the closing price on the *last day* of that year was the result of an efficient market. (*See* Part I.A.)

Second, the test for efficiency in Dr. Werner's opening report—which he calls a "news/no news" test—is unreliable even aside from his time-frame problem. The purported purpose of this test is to study whether the stocks at issue behave differently on days when there is news about the company as compared to days when there is not. The idea is that a difference

between "news" and "non-news" days suggests that the news *caused* the stock-price movements, which is relevant because a stock is generally deemed efficient if it reacts to new, value-relevant information. But Dr. Werner's "news/no news" test improperly sweeps in articles about the price movements themselves and associated trading volume. This test is entirely circular and illogical. Dr. Werner uses this overly broad definition of "news" because he misunderstands the legal standard, which he wrongly believes requires a type of efficiency inconsistent with the definition used by financial economists. This methodological error is particularly acute here given the widespread news coverage of price movements for "meme stocks." (*See* Part I.B.)

Third, Dr. Werner's efficiency opinions are also unreliable because, in the middle of his work on this case, he stopped using the definition of "news" that he has used in every prior case in favor of his new, results-oriented approach untethered from the academic literature. One of Robinhood's experts recreated Dr. Werner's "news/no news" test using the methodologies Dr. Werner applied in prior cases, and came to very different results, by which most of the Affected Stocks did not trade in efficient markets—even for the year before the Class Period. Dr. Werner's creation of a new methodology therefore biased his result, providing yet another reason to conclude that his opinions are unreliable. (*See* Part I.C.)

In his rebuttal report, Dr. Werner presents a different test—which he calls a "binomial test"—to study market efficiency for the week before the Class Period (January 21 to 27, 2021). This test is unhelpful and unreliable because it too suffers from fatal methodological errors. Here, Dr. Werner considers stock-price movements for the stocks at issue only on days when there was potentially value-relevant news. Because he observes significant stock price movement in the Affected Stocks on many of those "news days," he concludes that the markets must be operating efficiently (*i.e.*, reacting to that news). But he ignores the days when there was no such news. Without a comparison of the "news" days with the "non-news" days, Dr. Werner's binomial test cannot yield reliable conclusions because it is entirely possible that the prices for the Affected Stocks were moving on *all* days regardless of whether there was potentially value-relevant news. That would undermine—rather than support—market efficiency. And that is exactly what happened here. When one of Robinhood's experts looked at both the "news" and "non-news" days, he found no difference—meaning that the binomial test cannot reliably support a conclusion here of market efficiency. (*See* Part II.)

Dr. Werner's market efficiency opinions should be excluded for all these reasons.

BACKGROUND[1]

In January 2021, retail investors banded together via online forums to drive up the price of certain stocks, including by attempting to "squeeze" short investors. (*See* Ex. 5, Grenadier Report ¶¶ 24, 39-41.) This spike in retail investor trading activity resulted in extreme market volatility and dramatic run-ups of the price of dozens of stocks. (*Id.* ¶ 38.) Nine of those stocks—AMC, BBBY, BB, EXPR, GME, KOSS, NOK, TR and TRVG—are the subject of this litigation; Plaintiffs call them the "Affected Stocks." (*See* ECF No. 527, Am. Compl. ¶ 1.)

The stock-price movements in the Affected Stocks in January 2021 were extraordinary. For example, GME's stock price rose a remarkable 788% in the five trading days immediately before the Class Period (*i.e.*, through January 27, 2021). (Ex. 5, Grenadier Report ¶ 76.) KOSS's stock price rose 1,591% over the same five-day period. (*Id.*) Eight of the nine stocks at issue (all but TRVG) experienced their single highest five-day return in the previous twenty-five years. (*Id.* ¶ 78.) Moreover, between January 21 and January 27, 2021, the total daily trading volume for the Affected Stocks increased almost fifteen-fold. (*See id.* ¶¶ 92-96.) As a result of this unprecedented volatility, Robinhood's NSCC deposit requirements increased substantially. (*Id.* ¶ 54 & fig. 1.) Robinhood thus began imposing limits on trading on its platform, including increased margin requirements and, ultimately, a position close only ("PCO") on certain stocks on January 28, 2021, followed by share purchase limits in following days. Alleging that these restrictions caused the prices of the Affected Stocks to decline, Plaintiffs brought suit. The Court allowed Plaintiffs' Section 9(a)(2) and 10(b) market manipulation claims to proceed, ruling that Plaintiffs who sold while those restrictions were in place (*i.e.*, the Class Period) had stated a claim. (ECF No. 503, MTD Order at 15, 33, 47-48.)

Class discovery proceeded, and on February 16, 2023, the parties exchanged expert reports. Robinhood proffered reports from Steven Grenadier, a professor of financial economics at Stanford Graduate School of Business who chaired the finance department at Stanford, and Daniel R. Fischel, an emeritus professor of law and business at University of Chicago Law and Business Schools and former dean of the Law School. Plaintiffs proffered the testimony of Dr. Adam Werner. Dr. Werner recently retired as a lecturer in economics at

[1] A detailed factual and procedural history is laid out in Robinhood's Opposition to Plaintiffs' Motion for Class Certification (*see* Opp. at 3-12), but the facts most relevant to this motion are summarized herein. All defined terms used herein have the same meaning set forth in Robinhood's Opposition to Plaintiffs' Motion for Class Certification.

California Polytechnic State University, San Luis Obispo. (Ex. 1, Werner Dep. Tr. 8:4-5.) Dr. Werner has not held the position of Professor at any university and has never published an article in a peer-reviewed journal of economics or finance. (*Id.* at 19:10-20:14.) Dr. Werner is an experienced expert witness for plaintiffs in securities cases and has been hired by the Rosen Law Firm as an expert in over ten cases. (*Id.* at 12:18-22.) He has never testified on behalf of a defendant in a securities class action, nor that a market was inefficient. (*Id.* at 14:17-18:2.)

In his opening report, Dr. Werner analyzed market efficiency for the year before the Class Period. (Ex. 8, Werner Report ¶ 1.) To do so, he examined the five *Cammer* factors and the three *Krogman* factors. (*See id.* ¶¶ 31, 80 (citing *Cammer v. Bloom*, 711 F. Supp. 1264 (D.N.J. 1989); *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D. Tex. 2001)).)[2] The only one of these factors, however, that is a "direct test" of market efficiency is the fifth *Cammer* factor, which examines "price reaction to new information." (*Id.* ¶ 31; Ex. 1, Werner Dep. Tr. 138:5-142:3.) The other factors are structural and simply measure whether conditions are in place that *could* support market efficiency, and without which market efficiency is generally absent. (Ex. 8, Werner Report ¶ 23; Ex. 5, Grenadier Report ¶ 68.) While a number of the Affected Stocks meet structural conditions for efficiency (such as trading volume and analyst coverage), and may trade efficiently *in normal times*, that does not mean the Affected Stocks traded efficiently during the "meme stock" events immediately preceding and during the Class Period. (Ex. 5, Grenadier Report ¶¶ 63-72; Ex. 6, Grenadier Rebuttal ¶¶ 29-33.) Efficiency at a particular time can be determined by a direct test of price reaction to new information (*Cammer* factor 5).

Dr. Werner acknowledges that *Cammer* factor 5 is "more informative than the other factors in determining market efficiency." (Ex. 1, Werner Dep. Tr. 142:4-143:17.) In purporting to analyze that factor, Dr. Werner conducted what he calls a "news/no news" test. (Ex. 8, Werner Report ¶ 68.) He admits he conducted this test in a manner he has never done before. (Ex. 1, Werner Dep. Tr. 173:16-175:19.) As a first step, he ran a regression to find out

[2] The Eleventh Circuit has declined to require district courts to use the *Cammer* factors or any other set of factors. *See Local 703, I.B. of T. Grocery & Food Emps. Welfare Fund v. Regions Fin. Corp.*, 762 F.3d 1248, 1254-56 (11th Cir. 2014). The court has explained that under the efficient market hypothesis, "in an open and developed securities market, the price of a company's stock is determined by the available material information regarding the company and its business." *FindWhat Investor Grp. v. FindWhat.com*, 658 F.3d 1282, 1310 (11th Cir. 2011) (quoting *Basic, Inc. v. Levinson*, 485 U.S. 224, 241 (1988)).

"how the Affected Companies' stock prices typically behaved in relation to the overall stock market and industry-specific factors." (Ex. 8, Werner Report ¶ 56.) Based on that regression, Dr. Werner identified days on which the residual price movements for each stock were statistically significantly different from what would be expected for that company after controlling for market and industry factors. (*Id.* ¶ 65.) Dr. Werner then looked at the number of "news releases about a subject company that can be identified through the news aggregating database, Factiva." (*Id.* ¶ 68.) Dr. Werner dubbed the 10% of days with the most such articles "high information flow days"; the remainder, "low information flow days." (*Id.* ¶¶ 70-71.) Dr. Werner then compared the proportion of days with statistically significant returns in the "high information flow" group to the proportion of such days in the "low information flow" group. (*Id.* ¶ 75.) Based on his unreliable analysis, he concluded that the market was efficient for seven of the nine Affected Stocks (all but KOSS and TR). (Ex. 1, Werner Dep. Tr. 46:5-16.)

On March 28, 2023, the parties exchanged rebuttal reports. In his rebuttal, Dr. Werner analyzed efficiency for the three weeks before the Class Period. (Ex. 9, Werner Rebuttal ¶ 17.) He again examined the *Cammer/Krogman* factors. (*See id.*) In analyzing *Cammer* factor 5, he now borrowed, for his definition of news, the potentially value-relevant news identified by Defendants' experts, and performed a "binomial test" that considered only the days *with* news in the final week before the Class Period. (*Id.* ¶ 48-49.) He ignored the days *without* news. (*Id.* ¶ 49-50.) Dr. Werner concluded on the basis of this test that six of the seven remaining Affected Stocks were efficient during the three weeks before the Class Period.

Dr. Werner did not examine efficiency during the Class Period in either of his reports. (Ex. 1, Werner Dep. Tr. 31:11-17.) This was not a decision Dr. Werner made; he testified that the Rosen Law Firm instructed him to do this. (*Id.* at 29:23-31:23.) The two tests at issue on this *Daubert* motion—the "news/no news" test from Dr. Werner's opening report, and the binomial test from the rebuttal report—are the only direct tests of efficiency (*i.e.*, tests under *Cammer* factor 5) that Dr. Werner conducted for this case.

On April 28, 2023, Plaintiffs moved for class certification (ECF No. 559), relying on Dr. Werner's opinion that the Affected Stocks traded in efficient markets. (*Id.* at 17-21.)

LEGAL STANDARDS

Federal Rule of Evidence 702, as explained by *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), and its progeny, requires courts to "act as

'gatekeepers' which admit expert testimony only if it is both reliable and relevant. District courts are charged with this gatekeeping function to ensure that speculative, unreliable expert testimony does not reach the jury under the mantle of reliability that accompanies the appellation 'expert testimony.'" *Rink v. Cheminova, Inc.*, 400 F.3d 1286, 1291 (11th Cir. 2005) (citing *Daubert*, 509 U.S. at 589; *McCorvey v. Baxter Healthcare Corp.*, 298 F.3d 1253 (2002)). The Eleventh Circuit has developed three criteria for assessing the demands of *Daubert*:

> "(1) the expert is qualified to testify competently regarding the matters he intends to address; (2) the methodology by which the expert reaches his conclusions is sufficiently reliable as determined by the sort of inquiry mandated in *Daubert*; and (3) the testimony assists the trier of fact, through the application of scientific, technical, or specialized expertise, to understand the evidence or to determine a fact in issue. The Eleventh Circuit refers to these requirements as the 'qualifications,' 'reliability,' and 'helpfulness' prongs, respectively."

Geyer v. NCL (Bahamas) Ltd., 203 F. Supp. 3d 1212, 1215 (S.D. Fla. 2016) (citations omitted). "The party offering the expert has the burden of satisfying each of these three elements by a preponderance of the evidence." *Rink*, 400 F.3d at 1292.

ARGUMENT

Under FRE 702 and *Daubert*, the Court should exclude Dr. Werner's opinions on market efficiency, including the "news/no news" test in his opening report (*see infra* Part I) and the binomial test in his rebuttal (*see infra* Part II).

I. DR. WERNER'S OPINIONS CONCERNING EFFICIENCY IN HIS OPENING REPORT ARE UNHELPFUL AND UNRELIABLE.

Dr. Werner's news/no news test from his opening report is inadmissible for three reasons. *First*, Dr. Werner does not study efficiency during the Class Period. Instead, he studies only the full year *before* the Class Period. But, as Plaintiffs themselves note, efficiency in the year before the Class Period is not at issue in this case and Dr. Werner concedes that his conclusion that markets were efficient during the year preceding the Class Period cannot establish efficiency during the Class Period. Moreover, even looking at the year he studied, the law clearly prohibits commingling of data that can mask the relevant issues. Here, there were extreme, unprecedented trading frenzies in the Affected Stocks in the weeks immediately preceding the Class Period. Analyzing a full year of data—even if relevant—clearly masks this atypical activity most proximate to the relevant time period and constitutes just the sort of

misleading commingling that courts have found unreliable under *Daubert*. (*See infra* Part I.A.)

Second, based on a fundamental misunderstanding of the meaning of efficiency, Dr. Werner's definition of "news" sweeps in news that has no bearing on the value of the stock. That is fundamentally at odds with the academic literature and the approach Dr. Werner himself has applied in other cases. (*See infra* Part I.B.) *Third*, until this case—indeed, until partway through his work on this case—Dr. Werner had *never* used this methodology before, and the methodologies he used in prior cases yield vastly different results. The inference is unmistakable that Dr. Werner deliberately chose the methodology he used in this case to arrive at the conclusion of efficiency that Plaintiffs need for class certification. That unscientific and results-oriented process renders his methodology unreliable and inadmissible. (*See infra* Part I.C.)

A. Dr. Werner's Analysis of the Year Preceding the Class Period Is Unhelpful.

Most of Dr. Werner's opening report is dedicated to analyzing efficiency of the markets for the Affected Stocks in the year preceding the Class Period. (Ex. 8, Werner Report ¶¶ 21-90.) But, as Dr. Werner admits, market efficiency is not a static condition and the fact that a market may have been efficient during an entire preceding year does nothing to establish efficiency *within* the Class Period. Indeed, this case is the perfect example of how market conditions can and do change, with the unprecedented flurry of trading activity in the weeks immediately preceding the Class Period leading to stock prices so extreme that a number of the relevant companies had to issue statements cautioning that the skyrocketing prices could not be explained by any news relevant to the company's value. Dr. Werner's conclusion therefore does not "assist[] the trier of fact . . . to determine a fact in issue." *Geyer*, 203 F. Supp. 3d at 1215. Dr. Werner's opinion as to efficiency for the year preceding the Class Period is therefore unhelpful and inadmissible. *See Lee-Bolton v. Koppers Inc.*, 319 F.R.D. 346, 376 (N.D. Fla. 2017) (excluding expert's testimony that "d[id] not provide information about" the pertinent factual questions and was therefore "unhelpful to the class certification issues in th[e] case").

1. Werner's Analysis of Efficiency for the Year Preceding the Class Period Does Not Tend To Prove Reliance Within the Class Period.

Plaintiffs assert market manipulation claims on a class-wide basis. (ECF No. 503, MTD Order at 1.) Reliance on the integrity of the market is an element of those claims. (*Id.* at 38 (citing *ATSI Commc'ns, Inc. v. Shaar Fund, Ltd.*, 493 F.3d 87, 101 (2d Cir. 2007)).) The Supreme Court held in *Basic Inc. v. Levinson*, 485 U.S. 224 (1988), that securities plaintiffs may establish reliance on a class-wide basis by showing that the market was efficient at the time they

transacted—in other words, during the Class Period. *Id.* at 247.

Dr. Werner does not even attempt to answer that question. Instead, he analyzes efficiency *outside* the Class Period. (Ex. 8, Werner Report ¶ 1 (analyzing efficiency for the year before the Class Period); Ex. 9, Werner Rebuttal ¶ 17 (analyzing efficiency for the three weeks before the Class Period).) But as Plaintiffs concede, reliance outside the Class Period is not an element of Plaintiffs' claims. (ECF No. 559, Mot. to Certify at 4, 15.) And not even Dr. Werner contends that the factfinder should infer from his analysis of the year *before* the Class Period that the markets for the Affected Stocks were efficient *during* the Class Period. To the contrary, Dr. Werner expressly opines that his analysis of the time before the Class Period *does not* apply to the Class Period. (Ex. 8; 9, Werner Report ¶ 1 n.1; Werner Rebuttal ¶ 17).

Because Dr. Werner's analysis as to efficiency answers the wrong question by addressing the wrong time period, his conclusion as to efficiency is unhelpful and must be excluded. *See Prosper v. Martin*, 989 F.3d 1242, 1247-50 (11th Cir. 2021) (affirming exclusion of expert's testimony on a factual issue that "was not relevant"), *cert. denied,* 142 S. Ct. 435 (2021); *United States v. Reddy*, 534 F. App'x 866, 874-75 (11th Cir. 2013) (excluding portion of expert opinion that analyzed period outside indictment); *City of Tuscaloosa v. Harcros Chems., Inc.*, 158 F.3d 548 (11th Cir. 1998) (excluding portion of opinion based on inapplicable data set).

2. Werner's Analysis of Efficiency for the Full Year Prior to the Class Period Also Does Not Help the Fact-Finder Determine Damages.

Under *Comcast Corp. v. Behrend*, 569 U.S. 27 (2013), Plaintiffs also must proffer a methodology to calculate damages on a class-wide basis. This is distinct from the reliance element. Here too, Plaintiffs rely on Dr. Werner's opinions regarding market efficiency, which derive from his "news/no news" test. (Ex. 9, Werner Rebuttal ¶ 115; Ex. 8, Werner Report ¶¶ 92-99.) Dr. Werner's proposed framework for a damages methodology would use the closing price on January 27, 2021, as the "fair price" in the but-for world (*i.e.*, the price at which each stock would have traded but for Robinhood's alleged misconduct). But as further explained in Robinhood's Opposition, for the January 27, 2021 closing price to be even a starting point to determine the but-for price, that price would have to reflect the price *in an efficient market*. (*See* Opp. at 27-28.) Just as his "news/no news" test cannot establish market efficiency during the Class Period for the reasons set forth in the preceding section, the test also cannot demonstrate that the closing price on January 27, 2021, reflected the price in an efficient market.

As an initial matter, Dr. Werner specifically *excluded* January 27, 2021, from his

regression model due to the "potentially abnormal returns" on that day. (Ex. 8, Werner Report ¶ 63.) He thus concedes that the returns on January 27, 2021, are so potentially aberrational that they must be excluded from his model, yet argues an analysis of 365 *other* days somehow confirms the efficiency of the price on January 27, 2021. That makes no sense.

Even setting this admission aside, Dr. Werner's analysis is unreliable because it commingles a relevant subset of data with a larger, more general data set. Multiple Eleventh Circuit cases have held that this requires exclusion of the general analysis. In *City of Tuscaloosa v. Harcros Chemicals, Inc.*, the court excluded the opinion of an expert who "commingled" Florida and Alabama data where the allegations related to activity only in Alabama. 158 F.3d at 566-67. Reasoning that "[i]ncluding [such] data . . . skews any cumulative measurements," the court found the analysis unreliable. *Id.* Likewise, in *United States v. Reddy*, the expert's period of study covered both the indictment period and several months thereafter. 534 F. App'x at 872, 874. Noting that "any portion [of an expert's opinion] that does not meet *Daubert* standards is not permitted," the court held that the portion of the expert's analysis that "fell outside of the indictment period" was properly excluded. *Id.* at 871, 874-75.

Such improper "commingling" is precisely what Dr. Werner has done here. Even divorced from the specific facts of this case, it is obvious that an analysis of efficiency across the 366 days ending January 27, 2021, cannot itself reliably determine whether the markets for these stocks were efficient on that single day, because it improperly commingles a general data set with a narrower one. By analogy, a study showing that demand for Miami Heat jerseys over a full year was no higher than demand for jerseys of other NBA teams would be unhelpful in determining whether demand for Miami Heat jerseys was higher *during the NBA finals*. Both could easily be true. Indeed, as Dr. Werner conceded, efficiency is not a static condition of markets, and may change over time. (*See, e.g.*, Ex. 2, FXCM Dep. Tr. 67:22-68:3 (agreeing that it is "possible for a market to be efficient at one point in time but not another"); *id.* at 141:19-143:5 (discussing Werner's decision to conduct distinct analyses of different sub-periods because "the stock traded differently before and after" a given date).)

That is particularly obvious here. As the Court has already detailed in prior rulings, the period immediately before the Class Period is starkly different from the preceding months. (*See, e.g.*, ECF No. 503, MTD Order at 5-8.) Trading volume in the Affected Stock skyrocketed in January 2021. (*Compare* Ex. 8, Werner Report ¶¶ 32-34 *with* Ex. 9, Werner

Rebuttal ¶¶ 19-21.) So did prices. (Ex. 5, Grenadier Report ¶ 80 (noting that a portfolio comprised of the nine Affected Stocks held for the week before the Class Period outperformed one million randomly selected analogous portfolios simulated from the last 25 years).) Widespread news commentary at the time—including commentary cited by Dr. Werner—expressly discussed the "unprecedented" behavior of the market. (*See, e.g.*, Ex. 24.)

By failing to separate out the unprecedented time immediately before the Class Period from the entire preceding year, Dr. Werner commingles data sets with noticeably different characteristics, from which different conclusions about efficiency could naturally follow. The Court cannot conclude that a market was efficient where the evidence indicates that there is such a substantial variation within the period analyzed. *See, e.g.*, *In re Northfield Lab'ys, Inc. Sec. Litig.*, 267 F.R.D. 536, 548-49 (N.D. Ill. 2010) (refusing to certify a class where the evidence showed that the market was efficient for only part of the period analyzed); *Brokop v. Farmland Partners Inc.*, No. 18-cv-2104, 2021 WL 4916240, at *17-18 (D. Colo. July 23, 2021), *report and recommendation adopted in relevant part,* 2021 WL 4913970, at *16 (D. Colo. Sept. 30, 2021) (refusing to certify a class for the period during which efficiency was not shown). Dr. Werner's analysis of efficiency therefore does not "assist[] the trier of fact . . . to determine a fact in issue," *Geyer*, 203 F. Supp. 3d at 1215, and the Court should exclude it.

B. Dr. Werner's Analysis Is Unhelpful and Unreliable Because It Sweeps in Stock-Price Movements With No Connection to Value-Relevant News.

Even aside from the time frame problem discussed above, Dr. Werner's "news/no news" test fails to reliably establish market efficiency because Dr. Werner defines "news" so broadly as to include articles (such as ones about the "meme stock" price movements themselves) with no connection to the value of the company.

1. Dr. Werner Did Not Apply the Academic Understanding of Efficiency.

At deposition, Dr. Werner testified on multiple occasions that his report does *not* apply the academic definition of efficiency widely adopted by his peers and colleagues. (*See, e.g.*, Ex. 1, Werner Dep. Tr. at 66:8-69:5, 78:3-80:14, 82:4-21.) Instead, Dr. Werner tries his hand at interpreting Supreme Court precedent—even though he has no legal training whatsoever—and concludes (erroneously) that the Supreme Court articulated a new, more "plaintiff friendly" standard for efficiency in *Halliburton Co. v. Erica P. John Fund, Inc.*, 573 U.S. 258, 272 (2014) (*Halliburton II*). That is simply not true, and Dr. Werner has deviated from

the area of his expertise and is offering an unhelpful and unreliable opinion.

In his opening report, Dr. Werner explains that an efficient market is one in which "all publicly available information is incorporated in the security price and any new information that impacts the economic outlook of the firm gets quickly reflected in its security price." (Ex. 8, Werner Report ¶ 21.) That definition of an efficient market is accurate and comports with the understanding of academics in the field. For example, Prof. Andrei Shleifer at Harvard University has observed that, in an efficient market, "[w]hen investors learn something about fundamental values of securities, they quickly respond to the new information," and "prices should not react to changes in demand or supply of a security that are not accompanied by news about its fundamental value," *i.e.*, "the net present value of its future cash flows." (Ex. 12, Dep. Ex. 179, *Inefficient Markets* 2, 5.) Dr. Werner acknowledges that Prof. Shleifer is a "leading authority on corporate finance," and Prof. Shleifer was the first authority to whom Dr. Werner looked when asked to define a financial concept. (Ex. 1, Werner Dep. Tr. 265:13-267:2.)

But rather than apply this well-accepted academic definition of efficiency, Dr. Werner claims that the Supreme Court in *Halliburton II* changed the rules for securities litigation and adopted a definition of efficient markets that simply requires that movements in stock price be explained by *any* news about the Company, regardless of whether that news is value relevant. (*Id.* at 65:5-68:6, 165:6-167:5.) As a result of that mistaken premise (encouraged by his discussion with plaintiffs' lawyers), Dr. Werner has eschewed academic literature in favor of what he—as an economist, and not a lawyer—believes that case law requires of him. That plainly does not pass muster under *Daubert*. *Daubert* is intended to root out junk science, not to encourage it. *See McCorvey*, 298 F.3d at 1256 (noting that *Daubert* serves "to ensure that speculative, unreliable expert testimony does not reach" the finder of fact); *Korsing v. United States*, No. 16-cv-22190, 2017 WL 7794276, at *9 (S.D. Fla. Aug. 24, 2017) (rejecting an expert's testimony based on *Daubert*'s concern with "junk science").

In fact, far from rejecting the definition of efficiency in the academic literature, *Halliburton II* reaffirmed reliance on that definition. In *Basic*, the Court explained that "[r]ecent empirical studies have tended to confirm Congress' premise that the market price of shares traded on well-developed markets reflects all publicly available information," citing an article by Prof. Fischel. *Basic*, 485 U.S. at 246 & n.24 (citing Fischel, *Use of Modern Finance Theory in Securities Fraud Cases Involving Actively Traded Securities*, 38 Bus. Law. 1 (1982)). More than

thirty years later, the *Halliburton II* Court reviewed the "academic debates" about market efficiency that the parties and *amici curiae* brought to the Court's attention. The Court acknowledged the occasional deviations from efficiency that are documented by academics in the field but adhered to the value-relevant news based definition of market efficiency grounded in the literature. *Halliburton II*, 573 U.S. at 270-72. As the Seventh Circuit explained, "[t]he efficient capital markets hypothesis has been criticized, but in *Halliburton II*, the Supreme Court rejected arguments to overrule *Basic*. Whatever the empirical merits of critiques of the efficient market hypothesis, as a matter of law it remains the foundation for fraud-on-the-market claims." *In re Allstate Corp. Sec. Litig.*, 966 F.3d 595, 605 n.2 (7th Cir. 2020) (internal citations omitted).

In short, *Halliburton II* did no more than affirm *Basic*'s embrace of the financial principle from the academic literature that, in an efficient market, a company's stock price should move in response to news about the value of that company and should remain relatively stable in the absence of such news. *See Halliburton II*, 573 U.S. at 269-73; (Pl. Ex. 34, Fischel, *Efficient Capital Markets* 907 ("[C]ourts have expressly based their acceptance of the [fraud-on-the-market] theory not on the legislative history of the securities laws but rather on the academic support for the efficient markets hypothesis.").) Dr. Werner's arm-chair legal analysis that *Halliburton II* sets forth a standard of efficiency under which price movements in response to news that has *no* bearing on the value of the company, or indeed no news at all, has no basis in law or academia. (Ex. 1, Werner Dep. Tr. 65:19-68:6, 84:12-85:9, 160:14-161:11.) In applying a definition of market efficiency that is inconsistent with the academic understanding, Dr. Werner has thus rendered an opinion that is not scientific opinion testimony admissible under *Daubert* and FRE 702. *See, e.g.*, *In re Welding Fume Prods. Liab. Litig.*, No. 1:03-CV-17000, 2005 WL 1868046, at *7 (N.D. Ohio Aug. 8, 2005) (excluding an expert's opinions that were "improperly premised on" an incorrect legal standard).

2. Dr. Werner's News/No News Test Improperly Includes News That Is Unrelated to the Economic Outlook of the Firm.

Dr. Werner's erroneous understanding of *Halliburton II* led him to conduct a news/no news test that includes "news" unrelated to the economic outlook of the firm. Indeed, it includes news that is literally only about the stock price movement. A test based on that defective definition of news can only lead to an unreliable and irrelevant conclusion.

Consistent with the academic definition of efficiency that he himself articulated in his opening report, Dr. Werner should have limited the "news" he studied to value-relevant news

(*i.e.*, news about the company's future cash flows). That is precisely what he did in previous cases, including in cases that came years *after* the *Halliburton II* decision that Dr. Werner suddenly now determined—halfway through his analysis in this case—somehow changed the ground rules. (*See, e.g.*, Ex. 11, NIO Rebuttal Report ¶¶ 16, 31, 52 (filtering out non-value-relevant information before performing the news/no news test); Ex. 26, NIO Dep. Tr. 83:14-21; *see also* Ex. 10, Innocoll Report ¶ 84 (stating importance of restricting test to news "that has potential to change investors' expectations of future cashflows").)

But as Dr. Werner testified, he did the opposite here. (Ex. 1, Werner Dep. Tr. 154:8-155:15.) Specifically, Dr. Werner defined high-information-flow days as the 10% of days with the most news articles about a given company—*i.e.*, every company, by definition, will have 10% of days count as "high information," regardless of how many or what type of news articles those are. (Ex. 8, Werner Report ¶¶ 68, 70.) By including *all* articles mentioning a company, Dr. Werner sweeps in news that has nothing to do with the company's future cash flows. For example, Dr. Werner's data set includes articles that mention only the fact that there was a bubble (*see, e.g.*, Ex. 15), only the existence of an actual or attempted short squeeze (*see, e.g.*, Ex. 27), or only a change in the stock price (*see, e.g.*, Ex. 17). The data set even includes articles that *expressly* noted the lack of value-relevant news. (*See, e.g.*, Ex. 18.) These kinds of articles should not change an investor's estimate of future cash flows. (Ex. 6, Grenadier Rebuttal ¶ 12.) As such, the mere correlation of stock-price movements and news about those price movements proves nothing about efficiency, and indeed price movements *in response to* such information would be evidence of *in*efficiency, not efficiency. *See FindWhat*, 658 F.3d at 1310 ("A corollary of the efficient market hypothesis is that disclosure of confirmatory information—or information already known by the market—will not cause a change in stock price.").

Dr. Werner's failure to filter out these articles is also refuted by directly relevant authorities on which he relies. In particular, Dr. Werner cites a 2004 paper by Ferrillo, Dunbar and Tabak (Ex. 8, Werner Report ¶¶ 73, 76), and testified that he relied heavily on Dr. Tabak's approach in compiling his "news/no news" test in this case. (Ex. 1, Werner Dep. Tr. 224:23-225:13 ("So here I defer to Dr. Tabak.").) In the paper cited by Dr. Werner, Dr. Tabak and his co-authors first proposed and defended the concept of the news/no news test. (Ex. 14, Ferrillo et al. 119-20.) But in doing so, the authors expressly stated that "one would still have to be careful to . . . remove any stories that exist because they report on a price movement." (*Id.*) By his own

admission, Dr. Werner did not undertake this critical step. (Ex. 1, Werner Dep. Tr. 227:17-22.)

At deposition, Dr. Werner attempted to justify that failure by claiming that Dr. Tabak no longer requires removal of news that simply reports on price movements. (Ex. 1, Werner Dep. Tr. 225:7-13.) That is false. The only support Dr. Werner provided for this proposition was an expert report Dr. Tabak submitted for the Rosen Law Firm in *In re Alibaba Group Holding Ltd. Securities Litigation*, No. 15-mdl-2631 (S.D.N.Y.). In that report, Dr. Tabak conducted a news/no news test based specifically on earnings announcements. (Ex. 7, Alibaba Report ¶ 39.) This test is methodologically quite different from Dr. Werner's use of a database with all news articles, as earnings announcements are intimately related to investor expectations of a company's future cash flows. As a complement to his earnings-announcement test, Dr. Tabak also conducted news-mention-based searches, but specifically *excluded* from those searches "recurring pricing and market data." (*Id.* Ex. 8a n.7.) In addition, consistent with the methodology he outlined in Ferrillo et al., Dr. Tabak "reviewed the stories . . . and remov[ed] any that were solely reporting on [the stock's] price movements or volume (i.e., instances where the news was responding to the [stock] price rather than the [stock] price potentially responding to news) . . . or were deemed to be non-material because they reported data irrelevant to the value of the Company." (*Id.* ¶ 39.) This is a far cry from Dr. Werner's approach.

Dr. Werner's failure to filter out stories about stock-price movements, as directed by Dr. Tabak and his co-authors (and consistent with the remainder of the academic literature), is especially problematic given the unique facts of this case. The unexplained stock-price movements at issue were themselves one of the most important news stories of the year. (*See, e.g.*, Ex. 23.) As a result, stories reporting only on those price movements and/or the existence of an actual or attempted short squeeze comprise a meaningful portion of the stories in Dr. Werner's data set, especially in January 2021. On these unusual facts, his observation that more news is associated with more stock price movement likely reflects the fact that, as Dr. Tabak put it, "the news was responding to the [stock] price rather than the [stock] price potentially responding to news." (Ex. 7, Alibaba Report ¶ 39.) That reverse direction of causation—for which Dr. Werner did not test or adjust his results (Ex. 1, Werner Dep. Tr. 64:11-18)—skews his results and renders any conclusion of efficiency unreliable.

In sum, Dr. Werner's inability to point to *any* academics who have applied his methodology evidences the fundamental deficiencies in that methodology and requires

exclusion. *See FTC v. Simple Health Plans LLC*, No. 18-CV-62593, 2021 WL 810262, at *9 (S.D. Fla. Mar. 3, 2021) (excluding expert report that "relie[d] upon a methodology not previously used in his field"); *In re Zantac (Ranitidine) Prods. Liab. Litig.*, No. 20-MD-2924, 2022 WL 17480906, at *27 & n.26 (S.D. Fla. Dec. 6, 2022) (same). Experts do not submit reports consistent with Dr. Werner's understanding of efficiency because that understanding is unsupported by either law or economics. Because his flawed definition of "news" is designed to test his flawed interpretation of efficiency, Dr. Werner's news/no news test should be excluded. *See, e.g.*, *Broussard v. Maples*, 535 F. App'x 825, 827 (11th Cir. 2013) (excluding analysis based on invalid proxy for variable of interest); *Tershakovec v. Ford Motor Co.*, No. 17-CV-21087, 2021 WL 2592390, at *5 (S.D. Fla. May 12, 2021) (same), *report and recommendation adopted in relevant part,* 2021 WL 3578011 (S.D. Fla. Aug. 13, 2021).

3. Dr. Werner Failed To Examine the Substance of the News Articles on Which He Relies.

Dr. Werner's news/no news test is also unreliable because he did not even bother to review the news articles underlying his test. (*See* Ex. 1, Werner Dep. Tr. 232:18-233:15.)

First, because he did not bother to review the articles, Dr. Werner's data set includes articles that have nothing to do with the Affected Companies. These include articles about rapper Princess Nokia (*see, e.g.*, Ex. 19); the restaurant chain Panda Express (*see, e.g.*, Ex. 22); the crime blotter in Blackberry Township, Pennsylvania (*see, e.g.*, Ex. 20); and, inexplicably, *seven* articles about NFL quarterback Aaron Rodgers' "journey of self-actualization." (*See, e.g.*, Ex. 16 (reporting that Rodgers made a phone call to reporters "from the parking lot of a suburban Los Angeles Bed Bath & Beyond"); Ex. 1, Werner Dep. Tr. 314:8-316:10; *see also* Ex. 4, Fischel Rebuttal ¶ 22 n.33 (listing other examples of non-value-relevant news in Werner's data set).) These articles cannot show efficiency of Nokia, Express, BlackBerry, or any of the six other Affected Stocks, and illustrate the pollution that pervades Dr. Werner's data set. An expert's opinions are no better than the data on which they rely, and the conclusions that Dr. Werner draws from his low-quality data are equally low-quality and thus unreliable. *See Alcott Co. v. Raphael*, 275 F.2d 551, 557 (5th Cir. 1960); *Schoen v. State Farm Fire & Cas. Co.*, No. 21-CV-264, 2022 WL 16579767, at *8 (S.D. Ala. Nov. 1, 2022) (excluding expert's conclusion in light of low quality of data on which it was based); *Nat'l Sur. Corp. v. Ga. Power Co.*, No. 2:17-CV-68, 2019 WL 4394403, at *5 (N.D. Ga. Sept. 12, 2019) (same).

Second, Dr. Werner also did not bother to consider whether information in those

articles was unexpected. If information contained in a news article was not new, a response to that information would not indicate efficiency. *See FindWhat*, 658 F.3d at 1310 ("[I]nformation already known by the market[] will not cause a change in the stock price."). In fact, a delayed reaction to publicly available news is indicative of *in*efficiency. (*See In re Montage Tech. Grp. Ltd. Sec. Litig.*, No. 14-CV-722, 2016 WL 1598666, at *10 (N.D. Cal. Apr. 21, 2016) (reaction to old information "would actually be evidence of market inefficiency); *see also* Ex. 21 (reporting on stale news).) This is yet another reason to conclude that Dr. Werner's analysis is unreliable and inadmissible. *See Montage*, 2016 WL 1598666, at *10 (excluding testimony of expert who concluded market was inefficient without reading news he cited).

C. Dr. Werner Deliberately Departed from His Methodology in Prior Cases, Apparently To Achieve a Desired Result.

Dr. Werner also failed to follow the same methodology he followed in prior cases. The only reasonable conclusion is that he did so because applying his standard methodology would have led to the conclusion that most of the Affected Stocks did *not* trade in efficient markets, even over the full-year period he erroneously studied (*see supra* Part I.A).

"In evaluating the reliability of an expert's method, . . . a district court may properly consider whether the expert's methodology has been contrived to reach a particular result." *Rink*, 400 F.3d at 1293 n.7. "[C]herry-picking of data demonstrates unreliability and may justify the exclusion of an expert's testimony." *Zantac*, 2022 WL 17480906, at *57. An expert's contradiction of his own past practice is particularly salient evidence of such a contrived methodology. *See Cordoves v. Miami-Dade Cnty.*, 104 F. Supp. 3d 1350, 1364 (S.D. Fla. 2015) (such a contradiction evidenced a lack of "intellectual rigor"); *Zantac*, 2022 WL 17480906, at *132 (an expert's inconsistency is "evidence of results-driven reasoning, a factor in favor of exclusion," especially where all of the expert's methodological choices "favor[] the same outcome"). As a result, courts regularly exclude expert testimony where the expert's methodology was consciously or artificially chosen to reach their preferred conclusion. *See, e.g.*, *Zantac*, 2022 WL 17480906, at *119, *264 (excluding opinion of an expert whose methodology was designed to reach a desired conclusion); *Northfield*, 267 F.R.D. at 548 (same); *Bell v. Ascendant Sols., Inc.*, No. 01-CV-166, 2004 WL 1490009, at *3 (N.D. Tex. July 1, 2004) (same).

That is exactly what happened here. Prior to submitting his opening report in this case, Dr. Werner had never used the definition of "news" he used here. (Ex. 1, Werner Dep. Tr. 173:16-174:8.) In past cases, Dr. Werner restricted himself to news of major events at the

company. When Dr. Werner first embarked on his work in this case, he actually began by using the approach he had in all of his prior cases. (*Id.* at 174:6-19, 229:2-235:2.) Partway through his work on this case, he changed tack to adopt a novel methodology that was not limited to value-relevant news, but also included every news article that hit on search terms—including ones (particularly common for "meme stocks" in January 2021) reporting on unexplained stock-price movements, and even ones about unrelated topics as described above.

Had Dr. Werner used this previous methodology, his results would have looked very different. To demonstrate the results-oriented nature of Dr. Werner's departure from his prior methodology, Prof. Grenadier recreated Dr. Werner's news/no news test over the year preceding the Class Period using the methodology (and definition of "news days") that Dr. Werner has used in prior cases. (Ex. 6, Grenadier Rebuttal ¶¶ 52-54 & Ex. 1.)[3]

- In five prior cases, Dr. Werner defined "news days" as days on which a company released earnings or guidance. (Ex. 6, Grenadier Rebuttal Ex. 1A.) If Dr. Werner had used that methodology here, he would have found a cause-and-effect relationship for only three of the Affected Stocks. (*Id.*)
- In seven prior cases, Dr. Werner defined "news days" as days on which a company filed a Form 8-K or 6-K (a "current" report of material events). (*Id.* Ex. 1B.) Under that methodology, a cause-and-effect relationship existed for only two of the Affected Stocks. (*Id.*)
- In two prior cases, Dr. Werner defined "news days" as days on which a company issued a press release. (*Id.* Ex. 1C.) Under that methodology, a cause-and-effect relationship existed for only one of the Affected Stocks. (*Id.*)
- And with the combination of any of the three types of major events Dr. Werner used in his prior cases, his news/no news test would have found a cause-and-effect relationship for only two of the Affected Stocks (AMC and BBBY) in the year preceding the Class Period. (Ex. 6, Grenadier Rebuttal ¶ 53 n.96.)

Critically, Dr. Werner does not dispute these results. (Ex. 1, Werner Dep. Tr. 200:17-22.)

Dr. Werner should not be permitted to change his methodology without any basis in academic research or legal precedent to arrive at the result his clients want. *See Cordoves*, 104 F. Supp. 3d at 1364 (excluding opinion where expert's methodology "contradicted . . . his own past practice"). Such "cherry-picking" is the hallmark of an unreliable methodology and

[3] Dr. Werner may have additional reports prior to this case in which he conducted a news/no news test. Prof. Grenadier used all of Dr. Werner's publicly available reports that Prof. Grenadier was able to locate. (*See* Ex. 6, Grenadier Rebuttal ¶ 52 (listing the fourteen cases).)

requires exclusion of Dr. Werner's opinion. *See id.*; *Zantac*, 2022 WL 17480906, at *57, *132.

II. DR. WERNER'S OPINIONS CONCERNING EFFICIENCY IN HIS REBUTTAL REPORT ARE ALSO UNHELPFUL AND UNRELIABLE.

In his rebuttal report, after reviewing the analyses by Prof. Grenadier and Prof. Fischel of efficiency during and immediately preceding the Class Period, Dr. Werner conducted a new test, which he refers to as a "binomial test." (Ex. 9, Werner Rebuttal ¶¶ 45-52.) This test should also be excluded under *Daubert* because it does not actually test whether stock prices move in response to news, and thus provides no information on whether a market is efficient.

To conduct his so-called "binomial test," Dr. Werner defined a "news day" as any day that Prof. Grenadier or Prof. Fischel identified in their opening reports as having potentially value-relevant news (*i.e.*, news about the specific company that was potentially relevant to its stock price, such as a rating downgrade) in the week before the Class Period (from January 21 to January 27, 2021). (*Id.* ¶ 46.) Dr. Werner then used a basic statistical test to determine the likelihood that a given number of one-in-twenty events would occur during the week-long period he was measuring. (*Id.* ¶ 49.) In this case, those one-in-twenty events are "news days" with statistically significant stock-price movements. (*Id.*) The binomial test shows that, for six of the Affected Stocks, the probability of randomly selecting as many days with statistically significant price movements as were present among the "news days" was less than 5% (the threshold for statistical significance). (*Id.* ¶ 50.) Dr. Werner concludes (wrongly) that "we can reject the null hypothesis that the companies' security prices behave no differently on days with company-specific news than on days without company-specific news." (*Id.* ¶ 51.)

The problem is that Dr. Werner did not look at the days without company-specific news. As he admitted at deposition, the binomial test does not *compare* "news" days to "non-news" days. (Ex. 1, Werner Dep. Tr. 334:14-21.) It merely asks whether it was statistically likely for stock prices to move to that extent that frequently on "news" days during the five-trading-day period from January 21 to 27, 2021. (Ex. 9, Werner Rebuttal ¶ 49.) But this tells us nothing about "news" days vs. "non-news" days if the period at issue (January 21 to 27, 2021) was one in which the stocks became much more volatile and prices were moving significantly without regard to the presence of news. Dr. Werner's conclusion that "security prices behave [] differently on days with company-specific news than on days without company-specific news" simply does not follow from his binomial test, because the binomial test does not even consider "non-news" days. (*See* Ex. 9, Werner Rebuttal ¶ 51.)

This illustrates a second key mistake that derives from Dr. Werner's mistaken lay attempt to interpret *Halliburton II*. Dr. Werner testified at deposition that he took this approach here because he believes that *Halliburton II* rejects the notion—widely adopted by academics and Dr. Werner himself in other cases, including those after *Halliburton II*—that prices should remain stable in the absence of new information. (Ex. 1, Werner Dep. Tr. 65:19-68:6, 84:12-85:9, 100:7-19.) Of course, this notion that the Supreme Court decided in *Halliburton II* that the proper approach to efficiency is to reject the prevailing scientific view would turn *Daubert* on its head. Dr. Werner's fundamental misunderstanding of what must be shown to reach a conclusion of efficiency pollutes all of his opinions and requires exclusion. *See Welding Fume Prods.*, 2005 WL 1868046, at *7 (excluding opinion of expert who applied wrong legal standard).

In fact, the Eleventh Circuit has made clear that "a corollary of the efficient market hypothesis" is that "disclosure of . . . information already known by the market will not cause a change in the stock price." *FindWhat*, 658 F.3d at 1310. In other words, the stock price generally should not move (in significant amounts) in the *absence* of new, value-relevant information. Dr. Werner testified that the Eleventh Circuit's statement of the legal standard in *FindWhat* is correct under the academic standard of "fundamental efficiency." (Ex. 1, Werner Dep. Tr. 84:12-86:10.) He further admitted that he did not apply this standard in his work because, according to his lay opinion about *Halliburton II*, this is no longer the legal standard. (*Id.* at 65:19-68:6.) But that is simply wrong for the reasons explained above.

Dr. Werner's current premise is also belied by his own prior sworn testimony. For example, he has testified in prior cases that "if I saw all sorts of crazy stock price movements on no information, that might inform me that the stock wasn't efficient." (Ex. 3, Hi-Crush Dep. Tr. 124:25-125:4.) When confronted here with that prior testimony, Dr. Werner bizarrely refused to either agree or disagree with his own prior testimony. (Ex. 1, Werner Dep. Tr. 89:4-90:21, 97:1-98:12.) Moreover, in his reports in this case, as well as at deposition, Dr. Werner made clear that he understands the importance of comparing stock price movements on days with news to days without news. (*See, e.g.*, Ex. 1, Werner Dep. Tr. 145:16-146:4 (explaining that it is important to effect such a comparison "[b]ecause you are trying to determine whether or not the stock price reacts differently to news days as opposed to non-news days"); Ex. 8, Werner Report ¶ 73 ("After the high information flow and lesser information flow dates have been identified, statistical analysis is used to compare the stock price reactions . . . ."); Ex. 9, Werner Rebuttal

¶¶ 49, 51 (stressing the importance of observing a difference between the frequency of statistically significant price movements on days with and without news).)

Finally, in the *Alibaba* report that Dr. Werner cited as authoritative in his deposition, Dr. Tabak provides a cogent explanation of the methodological problem with Dr. Werner's rebuttal approach. In particular, Dr. Tabak explains why it is "necessary" to compare the results of news and "non-news" days:

> Establishing two such groups is necessary because even if the market for a stock were not efficient, there would generally still be some news days that were randomly associated with stock price movements. Selecting a few examples of such instances and claiming to have thereby found an association between news and stock price movements would be clearly incorrect.

(Ex. 7, Alibaba Report ¶ 37 & n.29.) Here, given the significant price movements on most days from January 21 to 27, 2021, including days without news, significant price movements on days *with* news provide no evidence that the price movements were *caused* by that news.

Prof. Grenadier confirmed this methodological deficiency in Dr. Werner's binomial test. When Prof. Grenadier compared the stock-price movements on the days (from January 21 to 27, 2021) he identified as having potentially value-relevant news for each company with the stock-price movements on the days *without* such news, he found no difference. (Ex. 13, Dep. Ex. 288, Analysis in Response to Werner Table 7.)[4] Put another way, the five trading days from January 21 to 27, 2021 for the Affected Stocks have a disproportionately large number of significant stock-price movements, on both days with and without news. Because Dr. Werner's binomial test in no way helps to determine whether there is a difference between "news" and "non-news" days, it cannot help answer whether there is a cause-and-effect relationship between news and price movements. It therefore does not inform the question whether the market was efficient during the Class Period and should be excluded.

CONCLUSION

For these reasons, Dr. Werner's market efficiency opinions should be excluded.

[4] Plaintiffs' counsel has objected to Prof. Grenadier's analysis as untimely. (Ex. 1, Werner Dep. Tr. 326:13-327:7.) But the binomial test is a new test that Dr. Werner presented for the first time in his rebuttal report and is different in kind from the tests he presented in his opening report. Prof. Grenadier prepared his analysis and provided it to Plaintiffs' counsel before both he and Dr. Werner were deposed. Thus, if any expert analysis here is untimely, it is Dr. Werner's binomial test, which should have appeared in his opening report.

REQUEST FOR HEARING

Pursuant to Local Rule 7.1(b)(2), Robinhood hereby requests an evidentiary hearing on this motion. A *Daubert* hearing is particularly appropriate in "complicated cases involving multiple expert witnesses." *United States v. Hansen*, 262 F.3d 1217 (11th Cir. 2001). This is such a case. Efficiency lies at the intersection of contested legal, economic and factual issues. The parties have together proffered three experts, who have performed a substantial number of statistical and other analyses. These analyses and the conflicts between the experts on these issues can be better elucidated through oral questioning and testimony. Moreover, this motion raises issues of credibility, determinations of which are particularly well suited to a hearing. *See Ramirez v. E.I. DuPont de Nemours & Co.*, No. 8:09-CV-321, 2010 WL 2921619, at *4 (M.D. Fla. July 23, 2010) (scheduling a hearing where a credibility determination was required to decide a *Daubert* motion).

If the Court also grants a hearing on Plaintiffs' Motion for Class Certification, Robinhood requests that the hearings be held in conjunction. The parties' arguments with respect to the two motions are closely intertwined. Accordingly, a joint hearing will provide further clarification on these issues and promote judicial efficiency.

LOCAL RULE 7.1(A)(3) CERTIFICATION

Pursuant to Local Rule 7.1(a)(3), undersigned counsel hereby certifies that on June 2, 2023, we conferred with counsel for Plaintiffs in a good faith effort to resolve by agreement the issues presented in this motion, but counsel were unable to reach an agreement.

Dated: June 7, 2023

/s/ Samuel A. Danon

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on June 7, 2023, I electronically filed the foregoing document with the Clerk of the Court using CM/ECF. I further certify that the foregoing document is being served this day on all counsel of record via transmission of Notices of Electronic Filing generated by CM/ECF or in some other authorized manner for those counsel or parties who are not authorized to receive Notices of Electronic Filing.

Dated: June 7, 2023

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