Jennifer Milici, D.C. Bar No. 987096
Joseph R. Baker, D.C. Bar No. 490802
Wesley G. Carson, D.C. Bar No. 1009899
Mika Ikeda, D.C. Bar. No. 983431
Geoffrey M. Green, D.C. Bar No. 428392
Daniel Matheson, D.C. Bar. No. 502490
Federal Trade Commission
600 Pennsylvania Avenue, N.W.
Washington, D.C. 20580
(202) 326-3695; (202) 326-3496 (fax)
jmilici@ftc.gov

Attorneys for Plaintiff Federal Trade Commission

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

FEDERAL TRADE COMMISSION, Plaintiff v. QUALCOMM INCORPORATED, a Delaware Corporation, Defendant.	Case No. 5:17-cv-00220-LHK-NMC **FEDERAL TRADE COMMISSION'S NOTICE OF MOTION AND MOTION TO EXCLUDE EXPERT TESTIMONY OF DR. EDWARD A. SNYDER, AND MEMORANDUM IN SUPPORT** **REDACTED VERSION OF DOCUMENT FILED UNDER SEAL** Date: October 18, 2018 Time: 1:30 p.m. Courtroom: 8, 4th Floor Judge: Hon. Lucy H. Koh

NOTICE OF MOTION AND MOTION

To the Honorable Court, all parties, and their attorneys of record:

Please take notice that on October 18, 2018, at 1:30 p.m., in Courtroom 8, United States Courthouse, 280 South 1st Street, San Jose, California 95113, Plaintiff Federal Trade Commission ("the FTC") will and hereby does move the Court for an order excluding the testimony of Dr. Edward A. Snyder, designated by Defendant Qualcomm Incorporated ("Qualcomm") as an expert witness in this matter, concerning (1) Dr. Snyder's analysis of modem chip supplier performance and modem chip industry performance; (2) Dr. Snyder's opinions related to the FTC's alleged anticompetitive effects. The FTC's motion is based on the authorities and evidence set forth here, the accompanying declaration and exhibits, oral argument to be presented to the Court, and such other matters as the Court may consider.

The FTC seeks to exclude portions of Dr. Snyder's testimony that are based on an untested theory and unreliable methodology, and are unhelpful to the court under Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993). A proposed form of order is being lodged concurrently herewith.

STATEMENT OF ISSUE TO BE DECIDED

Whether certain opinions offered by Dr. Edward A. Snyder should be excluded under Federal Rules of Evidence 702 and *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993).

Respectfully submitted,

Dated: August 30, 2018

/s/ Jennifer Milici
JENNIFER MILICI
JOSEPH R. BAKER
WESLEY G. CARSON
GEOFFREY M. GREEN
MIKA IKEDA
DANIEL MATHESON

Attorneys for Plaintiff Federal Trade Commission

Table of Contents

I. STATEMENT OF RELEVANT FACTS 2

II. LEGAL STANDARD 4

III. ARGUMENT 5

A. This Court Should Exclude Dr. Snyder's Opinion That his "Analyses of Modem Chip Suppliers" Contradicts the FTC's Claims 6

1. Dr. Snyder's Theory Is Untested, and His Methodology for Testing That Theory Is Unreliable 6

2. Dr. Snyder Lacks the Relevant Expertise to Analyze Modem Chip Suppliers' Performance and Simply Provides a Narrative 10

B. Dr. Snyder Failed to Assess Whether Qualcomm's Conduct Affected Its Rivals' Performance 12

C. Dr. Snyder's Assertion That the Modem Chip Industry Shows "Strong Performance" Is Not Probative of "Plaintiff's Hypothesis" 15

IV. CONCLUSION 17

Table of Authorities

Cases

Apple, Inc. v. Samsung Elecs. Co., Ltd., No. 11-CV-01846-LHK, 2012 WL 2571332 (N.D. Cal. June 30, 2012) 4, 7

Daubert v. Merrell Dow Pharms., Inc., 43 F.3d 1311 (9th Cir. 1995) ("*Daubert II*") 4

Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579 (1993) 4

Domingo ex rel. Domingo v. T.K., 289 F.3d 600 (9th Cir. 2002) ..... passim

Fujifilm Corp. v. Motorola Mobility LLC, No. 12-CV-03587-WHO, 2015 WL 757575 (N.D. Cal. Feb. 20, 2015) 1, 11

Gen. Elec. Co. v. Joiner, 522 U.S. 136 (1997) 8

Highland Capital Mgmt. L.P. v. Scheider, 379 F. Supp. 2d 461 (S.D.N.Y. 2005) 11

In re Ford Tailgate Litig., No. 11-CV-02953-RS, 2015 WL 7571772 (N.D. Cal. Nov. 25, 2015) 7, 8

In re Rezulin Prod. Liab. Litig., 309 F. Supp. 2d 531 (S.D.N.Y. 2004) 1, 12

Lucido v. Nestle Purina Petcare Co., 217 F. Supp. 3d 1098 (N.D. Cal. 2016) 10

Mullins v. Premier Nutrition Corp., 178 F. Supp. 3d 867 (N.D. Cal. 2016) 10

Schilder Dairy, LLC v. DeLaval, Inc., 2011 WL 2634251 (D. Id. July 5, 2011) 5

Sierra Club v. Talen Montana LLC, No. CV 13-32-BLG-DLC-JCL, 2016 WL 11200732 (D. Mont. Mar. 25, 2016) 5

Wagner v. Cnty. of Maricopa, 673 F.3d 977 (9th Cir. 2012) (withdrawn and superseded on other grounds, 747 F.3d 1048 (9th Cir. 2013)) 6

Other Authorities

Daniel L. Rubinfeld, *Reference Guide on Multiple Regression, in Reference Manual on Scientific Evidence* (Federal Judicial Center ed., 3d ed. 2011) 14

George J. Stigler, *What Does an Economist Know?*, 33 J. Legal Educ. 311 (1983) 11

Rules

Fedederal Rule of Evidence 702 ..... 4, 9, 17

MEMORANDUM OF POINTS AND AUTHORITIES

The FTC's Complaint alleges that Qualcomm has engaged in a course of anticompetitive conduct that taxes rivals' sales and diminishes "competitors' abilities and incentives to invest and innovate." Compl. ¶ 91. Qualcomm has produced nine expert reports, including four reports from economists. One of those economists, Dr. Edward A. Snyder, submitted a report claiming that the FTC's allegations are contradicted by evidence regarding Qualcomm's rivals' performance and overall industry performance. This Court should exclude both of these purported opinions offered by Dr. Snyder, in order to prevent Dr. Snyder from offering an improper evidentiary summary masquerading as expert testimony.

The bulk of Dr. Snyder's report recounts the experiences of Qualcomm and thirteen of its rival modem chip suppliers, nearly all of which have exited the market. Dr. Snyder offers his opinion that the failures of Qualcomm's rivals can each be explained by an idiosyncratic lack of "foresight, "investment efficiency," and "execution." This opinion is not helpful to the Court, because Dr. Snyder fails to examine whether Qualcomm's anticompetitive conduct affected the ability of its rivals to succeed on the metrics that he deems important. This opinion is also not proper expert testimony because his report discloses no methodology through which to assess any modem chip supplier, or any of the factors he claims are responsible for their failures.

While Dr. Snyder may be an expert economist, he does not apply that expertise in an effort to assess whether Qualcomm's conduct impacted rivals' or customers' incentives and marketplace outcomes. Instead, his report summarizes selected evidence and other witnesses' conclusions and then asserts that the factors that he chose, but cannot define, explain the failures of Qualcomm's rivals. This type of narrative "is properly presented through percipient witnesses and documentary evidence," not through an evidentiary summation masquerading as expert testimony. *Fujifilm Corp. v. Motorola Mobility LLC*, No. 12-CV-03587-WHO, 2015 WL 757575, at *27 (N.D. Cal. Feb. 20, 2015) (quoting *In re Rezulin Prod. Liab. Litig.*, 309 F. Supp. 2d 531, 551 (S.D.N.Y. 2004)).

Dr. Snyder also offers the opinion that the FTC's allegations should be rejected because the overall performance of the modem chip industry is "strong." This assertion is not based on any reliable methodology, or upon the application of any economic theories or principles to the facts of the case. Moreover, this opinion is not helpful to the Court because it is not probative of the FTC's allegations that Qualcomm's conduct affected Qualcomm's rivals and competitive conditions in the industry.

This Court should exclude Dr. Snyder's opinions that the FTC's claims are disproven by (i) the experiences of modem chip suppliers, and (ii) industry performance. Dr. Snyder's views on these matters are not proper expert testimony, unreliable, and not helpful to the Court.

I. STATEMENT OF RELEVANT FACTS

Dr. Edward A. Snyder is one of nine experts, and one of four economic experts, retained by Qualcomm to offer an opinion in this case. Dr. Snyder is the Dean of the Yale School of Management and a professor of economics and management. Dr. Snyder considers his primary expertise to be industrial organization. Ex. 1 ¶ 4 (attached as Ex. 1). Dr. Snyder is not an expert in the modem chip industry, cellular technology, or patents. Ex. 2 at 6:19-7:16 (attached as Ex. 2).

Dr. Snyder provided a 368-page report (not including exhibits and attachments). His report does not address market definition or market power, and he does not address or dispute the economic theory underlying the opinions provided by the FTC's experts. His report instead provides an extended narrative recounting Qualcomm's marketplace outcomes, and the outcomes of thirteen other firms that at one time competed with Qualcomm. Ex. 1 ¶¶ 217-282 (recounting "Qualcomm's experience"); *id.* ¶¶ 283-461 (relating "Outcomes for other modem chip suppliers"). Dr. Snyder claims that these discussions of firms' experience are relevant to his principal assignment, which was to analyze the FTC's claims, referred to as "Plaintiff's Hypothesis." Ex. 2 at 7:21-24, 8:6-14; Ex. 1 ¶ 7.

As summarized by Dr. Snyder, "Plaintiff's Hypothesis" is that "Qualcomm's exclusionary conduct . . . reduced competition in the modem chip industry, altered industry

dynamics, and allowed Qualcomm to become more successful than it otherwise would have been." Ex. 1 ¶ 21. Dr. Snyder purports to offer two opinions regarding "Plaintiff's Hypothesis": (i) his "analyses of modem chip suppliers do not support Plaintiff's Hypothesis," and (ii) his "analysis of industry performance directly contradicts Plaintiff's Hypothesis." *See* Ex. 1 ¶¶ 32, 33.[1] Yet Dr. Snyder conceded that he did not actually test Plaintiff's Hypothesis: he "didn't get to that step" because he concluded that an alternative hypothesis "explained all of [the] outcomes that were cited as anticompetitive harm." Ex. 2 at 67:7-9. Dr. Snyder's alternative hypothesis, the "Industry Factors Hypothesis," states that relevant industry factors "exert a strong influence" on the structure of the industry, and that the "success and failure of firms" he observed depends on three "firm-level factors"—foresight, investment efficiency, and execution. Ex. 1 ¶ 20.

Dr. Snyder admitted that the Industry Factors Hypothesis and Plaintiff's Hypothesis are not mutually exclusive. Ex. 2 at 35:15-19. Although he did not evaluate Plaintiff's Hypothesis (*i.e.*, whether Qualcomm's conduct reduced competition and allowed Qualcomm to be more successful than it otherwise would have been), and although he acknowledged that Plaintiff's Hypothesis and the Industry Factors' Hypothesis are not mutually exclusive, Dr. Snyder concluded that Qualcomm's conduct had "zero" impact on industry outcomes. Ex. 2 at 73:1-7.

Dr. Snyder also offers the opinion that the modem chip industry has not been impaired by Qualcomm's conduct. Ex. 1 ¶ 33. He bases this opinion on his analysis of "key measures of performance" which include "the pace of innovation, quality-adjusted prices, and overall benefits to consumers." *Id.* ¶ 476; *see generally* Section VI ("Analysis of Industry Performance"). While Dr. Snyder concludes that the "industry has exhibited impressive performance on each dimension," *id.* ¶ 33(b), he does not consider whether the industry might have performed better in the absence of Qualcomm's anticompetitive conduct and admits that the industry analysis he

[1] In addition, Dr. Snyder purports to offer the opinion that "industry factors and industrial organization principles exert a strong influence" on industry structure, competition among modem chip suppliers, modem chip suppliers' successes and failures, and their relationships with OEM customers. Ex. 1 ¶ 31.

purportedly conducted "still leaves . . . a possibility that [industry performance in a but-for world] could have been yet more superior." Ex. 2 at 19:21-23.

II. LEGAL STANDARD

An expert's "scientific, technical, or other specialized knowledge" may be admissible if it "will help the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702. Expert testimony is admissible pursuant to Rule 702 if it is both relevant and reliable. *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 597 (1993); *Apple, Inc. v. Samsung Elecs. Co., Ltd.*, No. 11-CV-01846-LHK, 2012 WL 2571332, at *1 (N.D. Cal. June 30, 2012). Expert testimony must be (1) based upon sufficient facts or data, (2) the product of reliable principles and methods, and (3) the result of reliably applying those principles and methods to the facts of the case. Fed. R. Evid. 702. "In *Daubert*, the Supreme Court gave a non-exhaustive list of factors for determining whether scientific testimony is sufficiently reliable to be admitted into evidence, including: (1) whether the scientific theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) whether there is a known or potential error rate; and (4) whether the theory or technique is generally accepted in the relevant scientific community." *Domingo ex rel. Domingo v. T.K.*, 289 F.3d 600, 605 (9th Cir. 2002) (citing *Daubert*, 509 U.S. at 593-94).

In determining whether expert testimony is sufficiently reliable, a court should consider whether the expert is "proposing to testify about matters growing naturally and directly out of research they have conducted independent of the litigation, or whether they have developed their opinions expressly for purposes of testifying." *Daubert v. Merrell Dow Pharms., Inc.*, 43 F.3d 1311, 1317 (9th Cir. 1995) ("*Daubert II*"). "[If] an expert did not conduct his or her own research, independent of the litigation, on the subject of the testimony, the district court must determine whether there exists any 'objective, verifiable evidence that the testimony is based on scientifically valid principles.'" *Domingo ex rel. Domingo*, 289 F.3d 600, 605 (quoting *Daubert II*, 43 F.3d 1311, 1319). Even if an expert's opinion is reliable, it will be inadmissible if it is unhelpful to the trier of fact. *Daubert*, 509 U.S. at 591-92.

A district court's gate-keeping function applies to both bench trials and jury trials, despite the fact that "several courts in the Ninth Circuit have recognized [that *Daubert*'s] gatekeeping function is less pressing in the context of a bench trial." *Sierra Club v. Talen Montana LLC*, No. CV 13-32-BLG-DLC-JCL, 2016 WL 11200732, at *3 (D. Mont. Mar. 25, 2016). "Nonetheless, while relaxed, the *Daubert* standards governing admissibility of expert testimony must still be met, even during a bench trial." *Id.* (quoting *Schilder Dairy, LLC v. DeLaval, Inc.*, 2011 WL 2634251 *2 (D. Id. July 5, 2011)).

III. ARGUMENT

This Court should not consider either of Dr. Snyder's two opinions that purport to reject "Plaintiff's Hypothesis," as neither opinion employs a reliable methodology. Dr. Snyder's supposed "analyses of modem chip suppliers" does not attempt to assess whether Qualcomm's conduct impacted rivals' incentives or capabilities; instead it unjustifiably assumed that Qualcomm's conduct was incapable of impacting any of the metrics that Dr. Snyder asserts are relevant. This unwarranted assumption is contradicted by peer reviewed publications and reasoned argument, and thus cannot form the basis for a reliable methodology. Moreover, Dr. Snyder offers no analysis of relevant modem chip suppliers' "performance" that goes beyond compiling cherry-picked anecdotes, documents, and deposition testimony, and has no expertise that would allow him to do so.

Dr. Snyder's "analysis of industry performance" likewise discloses no methodology. Instead, Dr. Snyder merely asserts that the industry has performed "impressively" on certain metrics that he deems relevant. Dr. Snyder does not apply methods or principles within his expertise in reaching his conclusions about "industry performance" and his opinions are unhelpful to the Court because his observation that the industry is strong is not probative of the FTC's allegation that the industry would have been *stronger* but for Qualcomm's anticompetitive conduct.

A. This Court Should Exclude Dr. Snyder's Opinion That his "Analyses of Modem Chip Suppliers" Contradicts the FTC's Claims

Section V of Dr. Snyder's report purports to analyze three factors that he claims explain modem chip suppliers' experience in the market: (i) foresight; (ii) investment efficiency; and (iii) execution. *See generally* Ex. 1 Section V ("Analysis of Modem Chip Supplier Performance"). The opinion Dr. Snyder bases on his discussion of these factors should be excluded, because it is not grounded in a generally accepted or reliable theory or methodology, and is instead nothing more than a factual narrative.

1. Dr. Snyder's Theory Is Untested, and His Methodology for Testing That Theory Is Unreliable

Dr. Snyder's theory that "the success and failure of firms depend on their foresight, the efficiency of their investments, and ability to execute," Ex. 1 ¶ 20, fails to satisfy any of the indicia of reliability relevant to this Court's *Daubert* analysis. *See Domingo ex rel. Domingo*, 289 F.3d 600, 605; *see also Wagner v. Cnty. of Maricopa*, 673 F.3d 977, 989 (9th Cir. 2012) (withdrawn and superseded on other grounds, 747 F.3d 1048 (9th Cir. 2013), as explained on remand at 2014 WL 12701215 (D. Ariz., May 13, 2014)). Dr. Snyder's theory has not been subjected to peer review and publication, as Dr. Snyder has conceded he could not identify any academic literature supporting his view that the three "firm-level factors"[2] determine a firm's success or failure in the modem chip industry. Ex. 2 at 90:1-10. Nor has Dr. Snyder identified any analogous industries in which these three factors have been employed to explain marketplace performance. And his theory has not been generally accepted in the relevant scientific community, as Dr. Snyder cannot identify a single other economist who has applied these three factors to a relevant analysis. Ex. 2 at 90:11-22. The lack of any peer reviewed or objective source to support Dr. Snyder's theory indicates that Dr. Snyder failed to follow a valid, scientific

[2] Ex. 1 ¶ 23 (referring to "firm-level factors" as "the ability of individual suppliers to forecast accurately, invest efficiently according to their forecasts, and execute the required engineering projects").

method. *See Domingo ex rel. Domingo*, 289 F.3d 600, 606 (excluding expert where "there was no evidence of widespread acceptance of [the expert's] theory"); *Apple, Inc. v. Samsung Elecs. Co., Ltd.*, No. 11-CV-01846-LHK, 2012 WL 2571332, at *6 (N.D. Cal. June 30, 2012) (excluding expert's apportionment of damages analysis in part because expert failed to supply evidence that his "calculations are based on a generally accepted, peer-reviewed method.").

Dr. Snyder discloses no reliable methodology for testing his theory that the "success and failure of firms" in the modem chip industry is determined by firms' "foresight," "investment efficiency," and "execution," rather than by some alternative factor. Indeed, Dr. Snyder conceded that these three factors "don't explain the industry overall" and that other factors, such as scale and increased concentration among OEMs, also influence industry structure. Ex. 2 at 27:3-8. Dr. Snyder performed no tests or analysis to control for other factors that might also explain a firm's success or failure in the modem chip industry. *See, e.g.*, Ex. 2 at 27:18-33:9 (Snyder did not apply a formula or weighting system to analyze the impact of his three firm-level factors compared to other industry factors). *See In re Ford Tailgate Litig.*, No. 11-CV-02953-RS, 2015 WL 7571772, at *9 (N.D. Cal. Nov. 25, 2015) (opinion of engineering expert excluded where expert failed to "back up his opinions with reference to any meaningful testing, literature, or comparisons.").

Dr. Snyder provides no metrics that would allow him to reliably compare firms using his three factors. *See* Ex. 2 at 130:18-24 ("There wasn't a single formula" used to calculate investment efficiency across firms); Ex. 2 at 131:9-12 (one cannot assign a value in terms of ranking each firm's investment efficiency); Ex. 2 at 164:3-6 (the "metrics" that Snyder used to assess execution were "observable successes and failures," but not "quantifiable in terms of . . . a dial, no."). Indeed, he makes no attempt at all to quantify any of the attributes he purportedly studied. Instead, he summarized his findings in a qualitative "summary" of each firm's foresight, investment efficiency, and execution. *See, e.g.*, Ex. 1, Section V.C.

Dr. Snyder could not even offer a generally accepted definition of the three factors, instead resorting to circular and overlapping definitions. *See, e.g.*, Ex. 2 at 166:20-167:5

(assessment of execution success or failure consisted of "go[ing] to the record and see[ing] if a firm has executed"); Ex. 2 at 93:14-23 ("Q. Is there a widely accepted definition of foresight in your field? A. As I said, I'm – I'm identifying that as a way to emphasize the importance of strategic decisions. . . . [N]obody who's really studied this industry would fail to understand the importance of foresight and you take examples that are clear. Intel saying I'm going to disrupt the industry with WiMAX. That's their judgment based on some foresight."); Ex. 2 at 149:4-150:2 (investment efficiency is influenced by "the speed with which a modem chip supplier can make its innovations available to OEMs," which is an overlapping consideration in assessing "execution"); Ex. 1 ¶ 167. His definition of "foresight" appears indistinguishable from the untestable theory of "good luck." *See* Ex. 2 at 97:4-15 ("It's not always a perfect look back to say that was based on their judgment or whether they were either lucky or unlucky. . . . [O]f course, in a dynamic environment, one doesn't know and one cannot always claim that a bad outcome is due to bad luck or a good outcome is due to good luck.").

Indeed, Dr. Snyder admitted that he employed no testable methodology in his analysis, asserting that "it doesn't take a methodology" to assess execution: "I'm not sure what the term methodology adds. You can observe whether a firm is able to execute based on whatever particular set of expectations have been made and the set of expectations that they have taken on. It's identifiable. I will be able to supply these chips with this quality and in this volume. So it's identifiable. It doesn't take a methodology to figure out if somebody met that." Ex. 2 at 164:16-165:1. Dr. Snyder's concession that he has no methodology for assessing "execution" renders his testimony unreliable. *In re Ford Tailgate Litig.*, 2015 WL 7571772, at *9 (opinion of damages expert excluded because "nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence which is connected to existing data only by the *ipse dixit* of the expert.") (quoting *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997)). Moreover, Dr. Snyder's concession that execution is so obvious that "it doesn't take a methodology to figure out," shows that he is not offering an opinion based on "scientific,

technical, or other specialized knowledge" that will be helpful to the trier of fact. Fed. R. Evid. 702.

Dr. Snyder also admitted that his technique of assessing execution has no known error rate because it is both untested and untestable. *See, e.g.*, Ex. 2 at 165:22-166:19 ("The precise way that it's measured or assessed, that, I would agree, could vary across economists who take on that task. I think I may – I'm the only one who's done it in this case, so it's a little, you know, I don't have a reference to point to because I've done it and as far as I can tell, no one else has.").

Dr. Snyder similarly failed to offer a reliable methodology for assessing foresight and investment efficiency. He stated that an assessment of "foresight" entails "assess[ing] the outcomes of strategic decisions in a dynamic environment."[3] Dr. Snyder did not analyze every strategic decision that each firm made[4]; instead, he considered only "the ones that had the most influence on whether [modem chip suppliers] were able to sell particular products to particular customers." Ex. 2 at 102:25-103:6. Yet Dr. Snyder could not articulate an objective or reliable method to ensure that he captured the strategic decisions "with the most influence" for his foresight analysis. Ex. 2 at 112:5-12 ("Well, my -- my assignment is to evaluate Professor Shapiro's claims, so I don't feel like I've missed anything. I've go[ne] beyond his analysis. Are there some things -- I think this is a legitimate question -- are there some things where it is not possible to get enough insight into a particular set of decisions? Or maybe not enough or not as much as I would like? Yes."). For his investment efficiency analysis, Dr. Snyder focused on "the big differences" among firms' investment efficiency, but conceded that "there are more precise ways to measure efficiency." Ex. 2 at 125:6-23.

This Court should exclude all opinions Dr. Snyder offers based on the "analysis of modem chip supplier performance" described in Section V of his report, as Dr. Snyder failed to use or describe a generally accepted or peer-reviewed methodology to analyze modem chip

[3] Ex. 2 at 95:12-14.

[4] Ex. 2 at 99:11-17.

supplier performance, and failed to offer a theory to explain modem chip suppliers' performance that can be tested using a reliable methodology.

2. Dr. Snyder Lacks the Relevant Expertise to Analyze Modem Chip Suppliers' Performance and Simply Provides a Narrative

Section V of Dr. Snyder's report should also be excluded because Dr. Snyder lacks the relevant qualifications to assess modem chip supplier performance and instead summarizes factual evidence without providing any additional expert insight.

Section V of Dr. Snyder's report recounts his "analysis of modem chip supplier performance," namely that of Qualcomm and 13 of its rivals. Dr. Snyder does not attempt to use the evidentiary record to assess an issue in which economists have expertise, such as whether a recognized model of firm behavior is consistent with observed marketplace outcomes. Instead, Dr. Snyder purports to assess directly whether a particular modem chip supplier "performed" better than another, based on nothing more than deposition testimony and documents that the trier of fact can assess just as well as Dr. Snyder. Dr. Snyder is not an expert in cellular technology or the modem chip industry. Ex. 2 at 6:23-7:16. Dr. Snyder has never testified in a case involving the modem chip industry, and it does not appear that he has ever published an academic paper on the modem chip industry. *See* Ex. 1 ¶ 5, App'x A (curriculum vitae) & B-1 (recent testimony). Dr. Snyder's lack of relevant expertise in the modem chip industry and cellular technology renders his opinions about modem chip supplier "performance" unreliable. *See Lucido v. Nestle Purina Petcare Co.*, 217 F. Supp. 3d 1098, 1103 (N.D. Cal. 2016) (testimony excluded where expert's opinion did not call on her specialized knowledge, and she was asked to simply report information gained from others); *Mullins v. Premier Nutrition Corp.*, 178 F. Supp. 3d 867, 900 (N.D. Cal. 2016) ("Even the most qualified expert may not offer any opinion on any subject; the expert's opinion must be grounded in his or her personal 'knowledge, skill, experience, training, or education.'").

Instead of applying any relevant expertise or a reliable methodology to assess chip suppliers' performance, Dr. Snyder's simply provides a narrative summary of documents and

deposition testimony. But "[a]n economist has no special skill in reading documents and relating them to actual behavior." George J. Stigler, *What Does an Economist Know?*, 33 J. Legal Educ. 311, 311 (1983) (attached as Exhibit 3). Dr. Snyder employs no relevant expertise when he summarizes Qualcomm's press releases and public statements[5] to tout Qualcomm's triumphs and assert the "superiority of Qualcomm's products over those of competing chip suppliers." Ex. 1 ¶ 239. *See generally* Ex. 1, Section V at 121-171, ¶¶ 217-282 (offering a 50-page litany of Qualcomm's "success"). Likewise, Dr. Snyder brings to bear no relevant expertise in cellular technology or the modem chip industry when offering a 140-page narrative summarizing documents and testimony that purports to provide an "analysis" of each of Qualcomm's rivals' "foresight," "investment efficiency," and "execution." *See generally* Ex. 1, Section V at 171-317, ¶¶ 284-461. Such testimony is inadmissible. *See Fujifilm Corp.*, 2015 WL 757575, at *27 ("Where expert testimony simply rehash[es] otherwise admissible evidence about which [the expert] has no personal knowledge, such evidence—taken on its own—is inadmissible.") (internal quotation marks and citations omitted); *accord Highland Capital Mgmt. L.P. v. Scheider*, 379 F. Supp. 2d 461, 468-69 (S.D.N.Y. 2005).

An expert is entitled to explain the facts upon which his opinion is based, but here, Dr. Snyder offers no opinion beyond the facts he summarizes. He does not bring to bear any technical expertise to add to his summary of the documents. He did not conduct any statistical tests. Ex. 2 at 68:18-21. He did not advance a theoretical model and explain how the observed marketplace outcomes fit the model. Instead, he explained his report was simply "presenting the information and . . . checking it against a very basic hypothesis." Ex. 2 at 68:21-69:1. But no expertise is necessary to perform what Dr. Snyder refers to as "checking," because Dr. Snyder simply parrots statements that the trier of fact can assess just as well as Dr. Snyder. For

[5] *See e.g.*, Ex. 1 ¶ 229 ("According to Qualcomm's 1996 10-K, CDMA technology ultimately delivered increased capacity (10 to 20 times compared to analog systems, in contrast to the threefold improvement offered by GSM), higher quality of voice and data transmission, fewer dropped calls, enhanced privacy, lower power consumption and extended talk time, lower infrastructure costs due to fewer cells, and easier transition from analog to digital than TDMA.").

example, Dr. Snyder's "analysis" of [redacted] Dr. Snyder made no attempt to recreate the [redacted] analysis or to apply it to the 14 modem chip suppliers that he purported to analyze. Ex. 2 at 127:18-128:7; 143:19-22; 144:21-25. He merely quoted the document to "confirm" his view "that efficiency of investment differed and was important." Ex. 2 at 127:21-22. This is not a conclusion that requires expertise, or one that would be helpful to the Court. *In re Rezulin Products Liab. Litig.*, 309 F. Supp. 2d 531, 551 (excluding expert's narrative of events where expert's "glosses" on the narrative were "simple inferences drawn from uncomplicated facts").

Because Dr. Snyder "does no more than counsel for [Qualcomm] will do in argument, *i.e.*, propound a particular interpretation of [Qualcomm's and its rivals'] conduct," his testimony related to Section V of his report should be excluded. *In re Rezulin*, 309 F. Supp. 2d 531, 551.[6]

B. Dr. Snyder Failed to Assess Whether Qualcomm's Conduct Affected Its Rivals' Performance

Dr. Snyder's self-described task in this case was to analyze whether Qualcomm's conduct caused anticompetitive harm. Ex. 1 ¶ 7; Ex. 2 at 7:21-24, 8:6-14. By Dr. Snyder's own admission, he did not test that question. As Dr. Snyder explained, he assessed Qualcomm's rivals' performance based on three attributes, but never considered (or tested) the possibility that Qualcomm's conduct affected its rivals' performance on any or all of these attributes.[7] Dr.

---

[6] The arguments in this section also apply to Sections VII.A-VII.C of Dr. Snyder's Report, which merely rehashes his modem chip supplier narratives from Section V for specific suppliers mentioned in Prof. Carl Shapiro's Expert Report. *See generally* Ex. 1 ¶¶ 499-521.

[7] Ex. 2 at 70:23-71:12 (Q. "[I]f it were the case that . . . Qualcomm's conduct did affect modem chip suppliers, foresight, their investment decisions and their execution, how, if at all, would that change your analysis? A. I don't have an opinion about that given I haven't seen any evidence that would indicate the nature of that relationship. . . . And I haven't seen any claim by the Federal Trade Commission or Professor Shapiro about that relationship or potential relationship. So I haven't thought about it given I haven't seen it raised by plaintiff or Professor Shapiro….").

Snyder's failure to consider whether Qualcomm's conduct affected the rivals' attributes he supposedly analyzed renders his opinions irrelevant and unreliable.

Dr. Snyder's analysis rests on a fundamental misunderstanding of the claims at issue in this case. The FTC alleges that Qualcomm has engaged in a pattern of exclusionary conduct that harmed consumers and impaired its rivals' ability to invest, innovate, and become more effective competitors. *See* Order Denying Motion to Dismiss at 34-35, June 26, 2017, ECF No.134 (FTC adequately alleged harm to competition by pleading, among other things, that Qualcomm's supra-competitive royalty rates reduce "the ability and incentive of competitors to invest and innovate.").[8] The FTC retained Prof. Carl Shapiro to "provide an economic analysis of the likely competitive effects of Qualcomm's commercial practices that are the subject of the FTC's complaint." Shapiro Report (attached as Ex. 4) ¶ 7.[9] Prof. Shapiro concluded that Qualcomm's conduct could harm competition by reducing its rivals' incentives and ability to invest and execute. For example, Prof. Shapiro concluded that Qualcomm's "no license-no chips" policy reduced rivals' output and "discouraged investment by Qualcomm's modem-chip rivals." Ex. 4 ¶ 9; *see also id.* ¶¶ 300-301. Likewise, Prof. Shapiro concluded that Qualcomm's refusal to offer licenses to its modem chip rivals on FRAND terms harmed competition "to the extent that rivals' inability to obtain a license from Qualcomm on reasonable terms discourages investment." Ex. 4 ¶ 327. Prof. Shapiro further concluded that Qualcomm's exclusivity payments to Apple weakened Qualcomm's modem-chip rivals ability to execute on plans to supply Apple, and "delayed Intel's entry into the market for Premium LTE modem chips and thus prolonged Qualcomm's monopoly power in that market." Ex. 4 ¶ 9.

---

[8] *See also* Complaint ¶ 138 ("By raising OEMs' all-in costs of using competitors' baseband processors, Qualcomm's conduct has . . . diminished OEMs' demand for those processors, reduced competitors' sales and margins, and diminished competitors' ability and incentive to invest and innovate."); *id.* ¶ 130 ("Qualcomm's exclusive agreements with Apple . . . significantly impeded the development of other baseband processor suppliers into effective competitors to Qualcomm.").

[9] Prof. Shapiro is also offering opinions on market definition and monopoly power.

Ignoring these allegations that Qualcomm's conduct impaired rivals' ability to invest and execute, Dr. Snyder simply did not consider the possibility that Qualcomm's conduct affected rivals' performance. Ex. 2 at 70:23-71:12. Dr. Snyder claims not to have seen any claim raised by the FTC or Prof. Shapiro indicating that Qualcomm's conduct might have impaired rivals' ability to invest and execute, and thus he assumed that the "firm-level factors" that he used to assess modem chip suppliers' performance – foresight, investment efficiency, and execution – were unaffected by Qualcomm's conduct. Ex. 2 at 43:5-23 ("I identified the industry factors that I believed would be not influenced by the conduct[.]"). Yet Dr. Snyder could not cite any academic literature supporting the counterintuitive proposition that firms' foresight, investment efficiency, and execution cannot be affected by a rival's conduct. Ex. 2 at 44:22-47:6. Indeed, Dr. Snyder conceded that the relevant academic literature suggests the opposite—a rival firm's conduct *can* affect investment decisions—including "papers that deal with the potential anticompetitive effects of contracts on rivals not making investments, not enter, not reaching scale." Ex. 2 at 46:13-47:6. Dr. Snyder even stated that he would not rule out such a relationship. Ex. 2 at 71:14-16 ("I don't want to completely rule it out because I haven't encountered an argument along those lines."). The lack of support for Dr. Snyder's assumption that Qualcomm's conduct does not affect rivals' performance is itself a basis for exclusion. *Domingo ex rel. Domingo*, 289 F.3d at 606 (excluding expert testimony where "there was no evidence of widespread acceptance of [the expert's] theory").

Moreover, Dr. Snyder's unwarranted assumption renders his opinion unhelpful to the Court. The fact that Dr. Snyder identified "firm-level factors" that he claims explain marketplace outcomes is not helpful to the Court if those firm-level factors are themselves influenced by Qualcomm's conduct.[10] For example, Dr. Snyder's conclusion that Firm A's

[10] *Cf.* Daniel L. Rubinfeld, *Reference Guide on Multiple Regression, in Reference Manual on Scientific Evidence* 303, 325 (Federal Judicial Center ed., 3d ed. 2011) ("An important assumption in multiple regression analysis is that the error term and each of the explanatory variables are independent of each other.") (attached as Exhibit 5).

failure to invest efficiently led to its exit supports "Plaintiff's Hypothesis" if Qualcomm's conduct diminished Firm A's ability to invest efficiently. The relevant issue, as alleged by the FTC, is whether Qualcomm's conduct affected its rivals (including rivals' ability and incentive to invest and innovate). Dr. Snyder did not even purport to investigate this question, and thus has no reliable basis for offering a view that "Plaintiff's Hypothesis" is wrong. *See Domingo ex rel. Domingo*, 289 F.3d at 607 ("The reasoning between steps in a theory must be based on objective, verifiable evidence and scientific methodology of the kind traditionally used by experts in the field.").

C. Dr. Snyder's Assertion That the Modem Chip Industry Shows "Strong Performance" Is Not Probative of "Plaintiff's Hypothesis"

This Court should exclude Dr. Snyder's opinion that "industry performance directly contradicts Plaintiff's Hypothesis," Ex. 1 ¶ 33, because Dr. Snyder fails to provide any logical or verifiable "reasoning between steps in [his] theory. *Domingo ex rel. Domingo*, 289 F.3d at 607. Dr. Snyder provides neither a theoretical foundation nor a cognizable methodology that allow him to assess whether "industry performance" disproves the FTC's allegations that Qualcomm has market power, that Qualcomm's challenged conduct contributed to its market power, or that competitive harm has occurred.[11] Thus, assuming *arguendo* that the modem chip industry performance has experienced "strong performance," this circumstance is not probative of "Plaintiff's Hypothesis" that "Qualcomm's exclusionary conduct . . . reduced competition in the modem chip industry, altered industry dynamics, and allowed Qualcomm to become more successful than it otherwise would have been." *See* Ex. 1 ¶ 21.

[11] As Dr. Shapiro explained, "Industries that are growing and where technology is advancing are certainly not immune from antitrust problems. To suggest otherwise is antithetical to a long history of antitrust enforcement in technology-driven industries in the United States, from the *Standard Oil* case in 1911 to the *Microsoft* case 20 years ago. A central danger in such industries is that a powerful incumbent will stifle competition and retard innovation in an effort to protect its position. These effects can arise in the context of ongoing innovation." Shapiro Rebuttal Report (attached as Ex. 6) ¶ 258.

Dr. Snyder determined that the modem chip industry has experienced "strong performance" by: (1) looking at various metrics (*e.g.*, modem chip price, data speed, and consumer welfare studies), and (2) concluding that those metrics are "strong." *See generally* Ex. 1 Section VI at 318-328, ¶¶ 475-498. While Dr. Snyder has no relevant expertise in assessing technical issues such as data speed, no one disputes that the modem chip industry has experienced "innovation," or that "average selling prices for modem chips" have declined over time. Ex. 1 ¶¶ 477, 485. But Dr. Snyder discloses no peer-reviewed literature, nor methodology, nor theoretical foundation that suggests that the observed level of "performance" in the modem chip industry indicates an absence of anticompetitive effects. Nor does he provide a methodology or reasoned argument for suggesting that the observed performance contradicts the hypothesis that Qualcomm's challenged conduct reduced competition and contributed to Qualcomm's market power.

Indeed, Dr. Snyder does not offer any view on what the industry would look like without Qualcomm's challenged conduct, although he concedes that such an analysis would be necessary to assess Plaintiff's Hypothesis. Ex. 2 at 14:13-15:6 ("[M]y understanding as an economist [is] that the [Plaintiff's] hypothesis should be evaluated in terms of, one, the at-issue conduct is in place versus the at-issue conduct is not in place but other relevant industry factors remain."). Dr. Snyder did not attempt to conduct this analysis, or even explain how one would begin to undertake it. As a result, he admits that his review of evidence related to "industry performance" "still leaves . . . a possibility that [industry performance without Qualcomm's conduct] could have been yet more superior." Ex. 2 at 19:21-23; *see also* Ex. 2 at 23:3-5 ("I think there's a lot of value in doing this but it's still, as I said, leaves some room to say it could have been yet better."). In order to test what Dr. Snyder refers to as "Plaintiff's Hypothesis," he would need to offer a view on whether the industry could have experienced *greater* innovation or *larger* price decreases in the absence of Qualcomm's exclusionary conduct. Dr. Snyder's failure to consider this question renders his methodology for evaluating industry performance unreliable, and his

conclusions from this analysis irrelevant under Rule 702. Fed. R. Evid. 702 (expert testimony may be admissible if it "will help the trier of fact . . . determine a fact in issue").

IV. CONCLUSION

For the foregoing reasons, the Court should order that Qualcomm cannot offer opinions or testimony related to:

- Dr. Snyder's testimony or opinion relating to the subject matter and issues addressed in Section V of Dr. Snyder's expert report (paragraphs 213-474), in connection with any assertion that Qualcomm's conduct reduced (or did not reduce) competition in the modem chip industry, or altered (or did not alter) industry dynamics, or allowed (or did not allow) Qualcomm to become more successful than it otherwise would have been
- Dr. Snyder's testimony or opinion relating to the subject matter and issues addressed in Section VI of Dr. Snyder's expert report (paragraphs 475-497), in connection with any assertion that Qualcomm's conduct reduced (or did not reduce) competition in the modem chip industry, or altered (or did not alter) industry dynamics, or allowed (or did not allow) Qualcomm to become more successful than it otherwise would have been.
- Dr. Snyder's opinion that modem chip suppliers' successes and failures are "determined" by their foresight, investment efficiency, and execution, as defined by Dr. Snyder. *See, e.g.*, Ex. 1 ¶¶ 31, 143-178, 186; 213-474 (Section V).

Respectfully submitted,

Dated: August 30, 2018

/s/ Jennifer Milici
JENNIFER MILICI
JOSEPH R. BAKER
WESLEY G. CARSON
MIKA IKEDA
DANIEL MATHESON
GEOFFREY M. GREEN

Attorneys for Plaintiff Federal Trade Commission