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The Implications of Daubert for Economic Evidence in Antitrust Cases

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The Implications of *Daubert* for Economic Evidence in Antitrust Cases

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I. Introduction

The Supreme Court's decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*¹ has caused an upheaval in the presentation of expert testimony on economic matters in antitrust cases.² As with most major decisions, our

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1. 509 U.S. 579 (1993).

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

understanding of *Daubert* will evolve as we gain experience through future litigation. In the meantime, *Daubert* challenges to the admissibility of the economic expert's testimony already are becoming routine in antitrust cases.³ The impetus for such challenges is clear: The returns of a successful *Daubert* challenge are quite substantial. In antitrust cases, the potential return of a *Daubert* challenge is especially pronounced because Section 4 of the Clayton Act provides for treble damages.⁴

Consider the consequences if a court strikes a plaintiff's economic expert: The plaintiff would have no one to define relevant markets, to analyze antitrust injury, or to provide damage estimates. Without expert testimony on these issues, the plaintiff's case may evaporate. Likewise, if the court strikes a defendant's expert witness, then the defendant would have no one to testify on those very same issues. Given the potential benefits of having expert testimony stricken, it is not surprising to see so many *Daubert* challenges. The resulting mini-trials, in which both direct and cross examination of expert testimony are put on for the judge, obviously add to the cost of litigation. But these efforts are necessary if our understanding of the boundaries of expert testimony under *Daubert* is to evolve.

Our focus in this paper is twofold. First, we will explore the confusion that *Daubert*, and more recently *Kumho Tire Co. v. Carmichael*,⁵ have created regarding the standards for the admissibility of expert testimony and those for summary judgment.⁶ Subsequently, we will examine an area of antitrust that may be particularly affected by *Daubert* and *Kumho*: inferences of collusion based on economic evidence.

II. *Daubert's Standards*

A. *Factual Background in Daubert*

In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, the plaintiffs – children born with birth defects and their parents – alleged that Merrell Dow's

3. One result of these challenges is the demand for more specific support for every statement in expert reports. For example, an expert report of some 100 pages or so may contain over 500 footnotes in support of virtually every idea expressed.

4. See 15 U.S.C. § 15 (1998) (allowing "threefold" recovery of damages sustained).

5. 526 U.S. 137 (1999). In *Kumho*, the Supreme Court refined its views on the admissibility of expert testimony. See *Kumho Tire, Co. v. Carmichael*, 526 U.S. 137, 141 (concluding that *Daubert* applies to "testimony based on 'technical' and 'other specialized' knowledge" (citing FED. R. EVID. 702)).

6. See PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 322.1 (Supp. 2000) (discussing judicial control of expert testimony); see also Andrew I. Gavil, *After Daubert: Discerning the Increasingly Fine Line Between the Admissibility and Sufficiency of Expert Testimony in Antitrust Litigation*, 65 ANTITRUST L.J. 663, 669-98 (1997) (examining impact of recent Supreme Court cases on economic testimony in antitrust cases).

antinausea drug for expectant mothers, Bendectin, caused birth defects.⁷ The defendant moved for summary judgment on the grounds that there was no evidence that Bendectin caused human birth defects.⁸ This contention was supported by the defendant's expert, a physician and epidemiologist, who reviewed the existing published studies on Bendectin and found no indication that the drug caused human birth defects.⁹ The plaintiffs rebutted this argument with expert testimony of their own. A team of eight experts conducted a "reanalysis" of previously published human studies. In effect, they performed their own analyses of the data employed in previous studies.¹⁰ Relying on these "reanalyses" and on published test tube and animal studies that found a connection between Bendectin and malformations, the plaintiffs' experts concluded that Bendectin can cause birth defects.¹¹

Despite the evidence offered by the plaintiffs' experts, the district court granted summary judgment to the defendant.¹² More specifically, the court found that the evidence offered by the plaintiffs did not meet the "general acceptance" standard for expert testimony.¹³ First, the court ruled that conclusions based on non-epidemiological evidence did not meet this standard given the large amount of epidemiological information available.¹⁴ Second, the court ruled that the "reanalyses" did not meet the standard because they had not been subjected to peer review.¹⁵ On appeal, the Ninth Circuit Court of Appeals affirmed the lower court's decision.¹⁶ In doing so, it cited *Frye v. United States*,¹⁷ which set forth the "general acceptance" standard for the admissibility of expert testimony.¹⁸ But when the *Daubert* plaintiffs brought

7. See *Daubert*, 509 U.S. at 582 (describing factual allegations).

8. *Id.*

9. *Id.*

10. *Id.* at 583.

11. *Id.*

12. *Id.*

13. *Id.* (citations omitted).

14. *Id.* at 583-84 (citation omitted).

15. *Id.* at 84 (citation omitted).

16. *Id.* at 584 (citation omitted).

17. 293 F. 1013 (1923).

18. See *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 584 (1993) (discussing Ninth Circuit Court of Appeals's opinion in *Daubert v. Merrell Dow Pharms., Inc.*, 951 F.2d 1128, 1129-30 (1991) (quoting *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923))). The *Frye* test refers to a 1923 decision regarding the admissibility of a blood pressure deception test, which was an early lie detector test. In that case, the court of appeals refused to admit this test on the basis that, "while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, *the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.*" See *id.* at 586 (citing *Frye*, 293 F. at 1014) (emphasis added). Thus, the

their case before the Supreme Court, the Court found that the Federal Rules of Evidence superseded *Frye* and thus remanded the case for further consideration.¹⁹

B. The Daubert Criteria

The Federal Rules of Evidence – and Rule 702²⁰ in particular – guided the Supreme Court's ruling in *Daubert*.²¹ In its interpretation of the Federal Rules of Evidence, the Court repeatedly emphasized two points concerning the Rules' standards for admissibility of evidence. First, the Court noted the flexibility of the Rules' standards.²² Second, the Court explained that the Rules' standards are significantly more relaxed than the "general acceptance" standard set forth in *Frye*.²³ The Court noted that "[t]he drafting history [of the Rules of Evidence] makes no mention of *Frye*."²⁴ Furthermore, "a rigid 'general acceptance' requirement would be at odds with the 'liberal thrust' of the Federal Rules and their 'general approach of relaxing the traditional barriers to 'opinion' testimony."²⁵ But the Court also noted that this more relaxed standard does not mean that there are no limits on the admissibility of expert evidence, nor does it prevent the trial judge from screening that evidence.²⁶ Indeed, the Court observed that Rule 702 "clearly contemplates some degree of regulation of the subjects and theories about which an expert may testify."²⁷ The Court further indicated that it is the trial judge's *responsibility* to "ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable."²⁸ Thus, the Court identified two key criteria for evaluating expert testimony: relevancy and reliability.

Frye test came to be known as the "general acceptance" test for determining the admissibility of scientific evidence.

19. *Id.* at 587, 597-98.

20. Rule 702 states, in relevant part: "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise." FED. R. EVID. 702.

21. *See Daubert*, 509 U.S. at 588-92 (interpreting rule).

22. *Id.* at 587-89.

23. *Id.*

24. *Id.* at 588.

25. *Id.* (quoting *Beech Aircraft Corp. v. Rainey*, 488 U.S. 153, 169 (1988) (citing FED. R. EVID. 701-705)).

26. *Id.* at 589.

27. *Id.*

28. *Id.*

1. Relevancy

The Court observed that Rule 401 of the Federal Rules of Evidence defines relevant evidence "as that which has 'any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence.'¹¹²⁹ Thus, the Court noted that Rule 702's requirement that expert evidence or testimony must "assist the trier of fact to understand the evidence or to determine a fact in issue' . . . goes primarily to relevance."¹¹³⁰ Not surprisingly, no matter how proficient the expert and no matter how meticulous the analysis, the evidence offered must shed insight into the issue at hand.¹¹³¹

2. Reliability

The Court's discussion regarding the reliability of the proffered evidence focused on the meaning of the phrase "scientific knowledge."¹¹³² The Court explained that "[t]he adjective 'scientific' implies a grounding in the methods and procedures of science. Similarly, the word 'knowledge' connotes more than subjective belief or unsupported speculation."¹¹³³ The Court further explained that "[i]n order to qualify as 'scientific knowledge,' an inference or assertion must be derived by the scientific method. Proposed testimony must be supported by appropriate validation In short, the requirement that an expert's testimony pertain to 'scientific knowledge' *establishes a standard of evidentiary reliability*."¹¹³⁴ In the broader context, one could reasonably infer that for those areas that are not categorized as "scientific" in nature, an expert's testimony must be grounded in the methods and procedures of his or her discipline and must not be speculative in nature. The Court further explained that the rationale behind granting expert witnesses a greater degree of freedom (relative to other witnesses) to offer testimony on matters about which they do not have firsthand knowledge "is premised on an assumption that the expert's opinion will have a *reliable* basis in the knowledge and experience of his discipline."¹¹³⁵

29. *Id.* at 587 (quoting FED. R. EVID. 401).

30. *Id.* at 591 (quoting FED. R. EVID. 702).

31. *See id.* at 591-92 (noting that knowledge must assist trier of fact).

32. The nature of the issues in *Daubert* focused the Court's attention on "scientific," rather than "technical" or "other specialized" knowledge. But the Court did note that Rule 702 also applied to "technical, or other specialized knowledge." *Id.* at 590 n.8 (quoting FED. R. EVID. 702).

33. *Id.* at 590.

34. *Id.* (emphasis added).

35. *Id.* at 592 (emphasis added).

Thus, the Court clearly mandated that expert testimony must meet a reliability standard if it is to be admitted. But this reliability standard may be a challenging one to meet and to assess because it involves evaluating the appropriateness with which experts employ discipline-specific methodology.

3. *The Court's "General Observations"*

To determine whether evidence is sufficiently relevant and reliable, the Court offered the following five general factors that a trial judge may consider in determining the admissibility of expert evidence:

1. "whether a theory or technique . . . can be (and has been) tested,"³⁶
2. "whether the theory or technique has been subjected to peer review and publication,"³⁷
3. "the known or potential rate of error" of a particular technique,³⁸
4. "the existence and maintenance of standards controlling the technique's operation,"³⁹ and
5. the extent to which the theory or technique has gained acceptance within the relevant scientific community.⁴⁰

With respect to the last factor, which is a "general acceptance" benchmark, the Court noted that "[w]idespread acceptance can be an important factor in ruling particular evidence admissible, and 'a known technique which has been able to attract only minimal support within the community,' may properly be viewed with skepticism."⁴¹

In light of the Court's repeated emphasis that the Federal Rules of Evidence permit flexibility in determining the admissibility of expert testimony, a trial court's inquiry should not be bound by these five considerations.⁴² But the *Daubert* guidelines still provide a useful benchmark against which courts can measure proposed expert testimony. Unfortunately, however, some attorneys will employ the *Daubert* criteria as though they must be met in their entirety. More importantly, some trial judges may view *Daubert* as providing a five-prong blueprint for determining admissibility rather than as providing *possible* methods of evaluating admissibility. In effect, the

36. *Id.* at 593.

37. *Id.*

38. *Id.* at 594 (citing *United States v. Smith*, 869 F.2d 348, 353-54 (7th Cir. 1989)).

39. *Id.* (citing *United States v. Williams*, 583 F.2d 1194, 1198 (2d Cir. 1978)).

40. *Id.* (citations omitted).

41. *Id.* (quoting *United States v. Downing*, 753 F.2d 1224, 1238 (3d Cir. 1985)).

42. *See id.* at 593 (noting that "[m]any factors will bear on the inquiry" and that Court does not "presume to set out a definitive checklist or test").

Supreme Court's suggested criteria become the sole criteria. Hopefully, however, the lower courts will sensibly consider the Supreme Court's guidelines and focus on those factors that are appropriate given the discipline and the particular issue at hand. One would expect that continuing experience with *Daubert* challenges and appeals will lead to a clearer picture of the boundaries for admissible evidence in a variety of disciplines and contexts.

C. *The Kumho Clarification*

The focus in *Daubert* was on *scientific* evidence. The Court thus left open the question of whether the ruling equally applied to non-scientific expert evidence. The Supreme Court's decision in *Kumho Tire Co. v. Carmichael* addressed this question.⁴³

In *Kumho*, the plaintiffs filed a products liability suit against a tire manufacturer and a tire distributor.⁴⁴ They alleged that a defect in the production of one of the plaintiffs' tires caused a blowout that consequently resulted in the death of one passenger and injuries to the other passengers.⁴⁵ The plaintiffs' allegation relied heavily upon the expert testimony of an expert in tire failure analysis.⁴⁶ *Kumho Tire* made a motion to exclude the expert's testimony on the grounds that the methodology employed did not meet the reliability requirement of Federal Rule of Evidence 702.⁴⁷ The district court, relying upon *Daubert*, agreed that it should serve as a "gatekeeper" in determining the reliability of the proposed expert evidence.⁴⁸ The district court measured the evidence offered by the plaintiffs' expert against the *Daubert* criteria and found that the expert's methods came up short.⁴⁹ The Eleventh Circuit Court of Appeals reversed the lower court's decision because "the Supreme Court in *Daubert* explicitly limited its holding to cover only the "scientific context."⁵⁰

43. See *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 141 (1999) (concluding that *Daubert* gatekeeping obligation applies to non-scientific testimony).

44. *Id.* at 142.

45. *Id.*

46. *Id.*

47. *Id.* at 145.

48. *Id.* (citing *Carmichael v. Samyang Tires, Inc.*, 923 F. Supp. 1514, 1521-22 (S.D. Ala. 1996)).

49. See *id.* at 146 (noting that all factors weighed against reliability of methods). The plaintiffs subsequently requested reconsideration by the district court on the grounds that it had interpreted *Daubert* too rigidly. *Id.* The court granted the motion and agreed that the *Daubert* application is a flexible one. But after further consideration, the court still found that the plaintiffs' expert methodology was not sufficiently reliable. *Id.*

50. See *id.* (quoting *Carmichael v. Samyang Tire, Inc.*, 131 F.3d 1433, 1435-36 (11th Cir. 1997)).

The issue that *Kumho* subsequently brought before the Supreme Court was whether *Daubert* applied to testimony that is not considered "scientific" in nature.⁵¹ In other words, does *Daubert* equally apply to the "technical" or "other specialized" branches of knowledge referred to in the Federal Rules of Evidence?⁵² In answering that question, the Supreme Court indicated that *Daubert* does apply to forms of knowledge other than those characterized as "scientific." More specifically, the Court found that "it is the Rule's word 'knowledge,' not the words (like 'scientific') that modify that word, that 'establishes a standard of evidentiary reliability.'"⁵³

Unfortunately, the *Kumho* decision also may inadvertently have created confusion over this reliability standard. The *Daubert* Court made it clear that the admissibility of evidence is to be determined by focusing only on the reliability of the expert's methodology and not on the expert's conclusions: "The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate."⁵⁴ Some legal scholars have interpreted the Court's statement to suggest that courts should only evaluate the expert's methodology and should not evaluate the application of that methodology to the particular facts of a case.⁵⁵ But in *Kumho*, the Supreme Court suggested that reliability is appropriately determined not only by examining the underlying methodology, but also by examining how that methodology is employed with respect to the particular facts of a case: "In sum, Rule 702 grants the district judge the discretionary authority . . . to determine reliability *in light of the particular facts and circumstances of the particular case*."⁵⁶ Thus, it is by no means clear at what point the line is to be drawn between evaluating the admissibility of expert testimony under *Daubert* and evaluating the sufficiency of that testimony through summary judgment procedures.⁵⁷

51. *Id.* at 146-47.

52. *See* FED. R. EVID. 702 (addressing expert testimony and referring to "scientific, technical, or other specialized knowledge").

53. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 147 (1999) (quoting *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 589-90 (1993)).

54. *Daubert*, 509 U.S. at 595.

55. *See, e.g.*, Gavil, *supra* note 6, at 676-77. Gavil stated:

[T]he Court's admonition in *Daubert* that Rule 702 is concerned solely with the objective reliability of the "technique" or "methodology" employed by the expert, not his application of the technique to the particular facts of a given case *Daubert* could not have more unambiguously emphasized that the focus of Rule 702 is on technique and methodology, not application.

Id. (citing *Daubert*, 509 U.S. at 595).

56. *Kumho*, 526 U.S. at 158 (emphasis added).

57. *See infra* Part III for a more detailed discussion of these issues. For additional perspectives, see generally AREEDA & HOVENKAMP, *supra* note 6, and Gavil, *supra* note 6.

In *Kumho*, the Court also reaffirmed the role of the trial judge as a "gatekeeper" in determining the admissibility of expert evidence regardless of whether the evidence is scientific in nature or otherwise.⁵⁸ In addition, the Court addressed the role of the five *Daubert* considerations in cases dealing with expert testimony that is not "scientific."⁵⁹ The Court affirmed that these factors *may* be considered, but that such application will depend on "the nature of the issue, the expert's particular expertise, and the subject of his testimony."⁶⁰ The Court noted that the considerations outlined in *Daubert* were intended "to be helpful, not definitive" and further observed that "those factors do not all necessarily apply even in every instance in which the reliability of scientific testimony is challenged."⁶¹ Nonetheless, the Court maintained that the primary role of the gatekeeper is to ensure that an expert "employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field."⁶²

D. Implications of the "Gatekeeper" Role

The Supreme Court decisions in *Daubert* and *Kumho* assigned a gatekeeping role to federal judges in determining the admissibility of expert evidence. As Areeda and Hovenkamp noted, this assignment has been criticized by judges who do not relish evaluating expertise in areas in which they are not experts.⁶³ For example, Judge Kozinski, the Ninth Circuit judge who revisited *Daubert* on remand, stated:

As we read the Supreme Court's teaching in *Daubert*, therefore, though we are largely untrained in science and certainly no match for any of the witnesses whose testimony we are reviewing, it is our responsibility to determine whether those experts' proposed testimony amounts to "scientific knowledge," constitutes "good science," and was "derived by the scientific method." . . . Our responsibility, then, . . . is to resolve disputes among respected, well-credentialed scientists about matters squarely within their expertise⁶⁴

58. See *Kumho*, 526 U.S. at 141 (ruling that *Daubert* analysis applies to all expert testimony).

59. See *id.* (concluding that trial judge may consider more specific factors).

60. *Id.* at 150 (quoting Solicitor General, Brief for the United States as Amicus Curiae at 19).

61. *Id.* at 151.

62. *Id.* at 152. In Part IV, *infra*, we return to this standard and provide an example of what this means for economists.

63. See AREEDA & HOVENKAMP, *supra* note 6, at ¶ 322.1c. nn.82-87 and accompanying text (discussing problems with requiring judge to engage in economists' vocabulary).

64. *Daubert v. Merrell Dow Pharms., Inc.*, 43 F.3d 1311, 1315 (9th Cir. 1995).

It is debatable whether *Daubert* obligates federal judges to resolve *all* disagreements among expert witnesses offering testimony on opposite sides of a legal dispute. Indeed, the *Daubert* Court emphasized the flexibility of the Federal Rules of Evidence in admitting expert testimony.⁶⁵ Clearly, however, the Court expected federal judges to determine whether expert witnesses bring to the courtroom analytical integrity that reflects "the same level of intellectual rigor that characterizes the practice of an expert in the relevant field."⁶⁶ Having said this, however, Judge Kozinski's point is well-taken.⁶⁷ Depending on the nature of the case and the issues being challenged on *Daubert* grounds, a judge who lacks experience in the relevant field may find it difficult to adequately assess the quality and the appropriateness of the methodology employed or whether the approach is one in which experts might reasonably disagree.

For example, when one considers the passionate and heated academic disputes that exist among well-respected economists regarding the appropriate analysis of some subjects, the expectation that non-economists – even federal judges – could determine whether the methodology in question is acceptable may be quite imposing. In fact, Chief Justice Rehnquist, in a partial dissent in *Daubert*, questioned the wisdom of the Court's offering suggestions for assessing the "reliability" of expert testimony.⁶⁸ Chief Justice Rehnquist's dissent specifically noted that many of the issues the Court addressed in *Daubert* dealt with "definitions of scientific knowledge, scientific method, scientific validity, and peer review – in short, matters far afield from the expertise of judges."⁶⁹ He further commented, "I do not doubt that Rule 702 confides to the judge some gatekeeping responsibility in deciding questions of the admissibility of proffered expert testimony. But I do not think it imposes on them either the obligation or the authority to become amateur scientists in order to perform that role."⁷⁰ Unfortunately, he offered no helpful suggestions as to how judges could meet their responsibilities in this regard.

65. See *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 593 (1993) (acknowledging that many factors will bear on inquiry).

66. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999).

67. See *Daubert*, 43 F.3d at 1315 (questioning judge's ability to evaluate expert testimony); *supra* note 64 and accompanying text (quoting Judge Kozinski).

68. *Daubert*, 509 U.S. at 598-601 (Rehnquist, C.J., concurring in part and dissenting in part).

69. *Id.* at 599 (Rehnquist, C.J., concurring in part and dissenting in part). These issues would appear to be far removed from the collective experience and training of most juries as well.

70. *Id.* at 600-01 (Rehnquist, C.J., concurring in part and dissenting in part). But our judicial system requires lay juries to perform this very task.

Thus, two questions arise: How will judges deal with their gatekeeping role, and what are the implications for challenges to expert testimony on *Daubert* grounds? One approach that judges might adopt is to reject all *Daubert* challenges if the testimony of the experts is relevant to the issue at hand and if there are no obvious abuses of methodology – even if there is significant disagreement between opposing experts. This approach puts the issue in the jury's hands. One example of this approach is found in *Allapattah Services, Inc. v. Exxon Corp.*⁷¹

The issue in *Allapattah* focused on an alleged breach of contract by Exxon against its dealers.⁷² The claim centered around the "Discount for Cash" Program implemented by Exxon in 1982.⁷³ As part of this program, Exxon imposed a "credit card recovery fee" (CCR fee) that it collected from its dealers.⁷⁴ The program also entailed a reduction in wholesale prices for motor fuel.⁷⁵ The primary dispute was over the net effect of the reduction in wholesale prices in combination with the credit card recovery fee.⁷⁶ The plaintiffs argued that "Exxon 'took back' any reduction initially given, such that the entire CCR fee subsequently charged are its damages."⁷⁷ The defendant disputed this claim, arguing that the wholesale price reductions more than offset the CCR fees and, hence, there was no basis for the damages claimed.⁷⁸

Both the plaintiffs and the defendant employed economists to assess damages (or lack thereof) and to offer expert testimony.⁷⁹ In due course, the plaintiffs and the defendant challenged the reliability of the expert testimony offered by the opposing expert on *Daubert* grounds.⁸⁰ The evidence offered for the *Daubert* hearing itself was substantial.⁸¹ The evidence included the original expert reports and various reply affidavits that addressed the claims made by the expert on the opposite side of the case and that responded to challenges made by the opposing expert regarding methodology and conclusions.⁸²

71. 61 F. Supp. 2d 1335 (S.D. Fla. 1999).

72. See *Allapattah Servs., Inc. v. Exxon Corp.*, 61 F. Supp. 2d 1335, 1336 (S.D. Fla. 1999) (describing claim).

73. *Id.*

74. *Id.* at 1342.

75. *Id.*

76. *Id.* at 1342-43.

77. *Id.* at 1342.

78. *Id.*

79. See *id.* at 1343-44 (explaining need for expert testimony).

80. See *id.* at 1337 (detailing exchange of motions filed).

81. See *id.* at 1341 n.10 (describing experts' filings and accompanying exhibits).

82. *Id.*

The *Daubert* hearing lasted six days.⁸³ The district court found that both experts were qualified and that their testimony "would assist the trier of fact to determine whether the Plaintiffs are entitled to damages."⁸⁴ Thus, the primary focus of this hearing was on the reliability of the methodologies employed by the experts.⁸⁵

A key issue that the experts focused on was whether "Exxon's wholesale prices were below [or above] the average of its cash-basis competitors."⁸⁶ Despite relying on similar data and employing similar methodologies, the experts reached "directly opposite conclusions."⁸⁷ Both experts relied on Exxon price data, but they disagreed on the reliability of those data and how to employ the data.⁸⁸ For example, the plaintiffs' expert argued that the data were biased, whereas the defendant's expert claimed that they were not.⁸⁹ Both experts employed "econometric and regression analyses," which "[g]enerally . . . are considered reliable disciplines."⁹⁰ But each side's expert disagreed with how the other side's expert employed the methodology. Under attack were the "selection of data, choice of controls, and the like."⁹¹

After listening to the proposed testimony during the *Daubert* hearings, the judge determined that each expert's testimony was sufficiently reliable to meet admissibility criteria and that the concerns raised by each side went more to the weight that should be given to the data and methodology employed, rather than to reliability.⁹² Even though the two experts came to opposite

83. *Id.* at 1342 n.13. In reviewing the expansive set of materials, Judge Gold commented:

In their final arguments, and during the course of the six day *Daubert* hearing, each party raised innumerable challenges to validity of each expert's use of data, assumption and methodology. To listen to the parties, both experts, who have spent years preparing their testimony, did nothing reliable, credible or worthy of further review by the fact finder.

Id.

84. *Id.* at 1338.

85. *See id.* ("The sole remaining issue for determination is . . . whether the [experts'] methodologies . . . are sufficiently reliable for consideration by the jury.")

86. *Id.* at 1347.

87. *Id.*

88. *See id.* at 1346-53 (applying *Daubert* factors to each expert's opinions).

89. *See id.* at 1347-48 (describing documented errors).

90. *Id.* at 1347 (citations omitted).

91. *Id.* at 1350.

92. In evaluating the various challenges to each expert's testimony, Judge Gold opined that the questions raised by the opposing side were more appropriately directed to the weight that the testimony should be afforded, rather than to the reliability. *See, e.g., id.* at 1344 n.19 ("The court concludes that the use of the data by each expert, as part of their [sic] methodology, is sufficiently reliable. The weight to be given to the data, and its use by each expert, shall be

conclusions, the judge decided that "[n]one of the methodologies employed, or choice of data utilized, was based solely on guesswork, speculation or conjecture."⁹³ The court also opined:

[I]t is not a district judge's function at a *Daubert* hearing to determine that the expert's testimony was irrefutable or certainly correct. It is sufficient that each expert's reasoning and methodology had a reliable foundation in the knowledge and experience of his discipline, regardless of claimed errors of interpretation. . . . In sum, the opinions of both experts are well within the range where experts may honestly differ, and where the jury must decide among their competing points of view.⁹⁴

The district court in *Allapattah* questioned how courts should deal with instances in which there are two well-qualified experts, each employing standard methodologies, but arriving at opposite conclusions and challenging one another's methodologies.⁹⁵ Judge Gold clearly expressed his concern that a judge would deem an expert's opinion unreliable "[m]erely because two qualified experts reach directly opposite conclusions using similar, if not identical, data bases, or disagree over which data to use or the manner in which the data should be evaluated."⁹⁶ Moreover, Judge Gold opined, "*Daubert* does not empower the district judge to simply 'pick' one expert over the other . . . under the guise of exercising the gatekeeping function. To do so would improperly usurp the jury's function."⁹⁷ Judge Gold's concern is well-taken, especially in cases "where striking the expert's testimony would effectively end the case for the affected party."⁹⁸

Thus, the judicial approach adopted in *Allapattah* ultimately leaves it up to the jury to weigh conflicting and often complicated expert testimony and to decide which expert's analysis seems more credible. This raises some interesting issues. A judge may not feel adequately equipped to exclude expert testimony because it relies on sophisticated techniques that fall outside the judge's area of expertise. But is it fair to ask the jury to decide the validity of those techniques if the judge feels unable to do so? The district court in *Allapattah* opined that "[m]erely because it may be hard for the jury to understand the competing methodologies does not mean that the right to jury trial

left for the jury."); *id.* at 1348 n.24 ("The court finds this argument goes more to weight than reliability."); *id.* at 1350 n.31 ("[M]uch of Exxon's attack goes more to weight rather than to reliability."); *id.* at 1353 ("It goes way beyond reliability and into weight.").

93. See *id.* at 1353 (concluding that each expert's testimony was reliable).

94. *Id.* at 1354.

95. See *id.* at 1345, 1352, 1353 (discussing experts' conclusions).

96. *Id.* at 1341.

97. *Id.*

98. *Id.* at 1342.

should be denied and the matter decided de facto by the court.⁹⁹ Moreover, one could argue that skilled cross-examination will reveal weaknesses in methodology and in the resulting conclusions that are drawn.¹⁰⁰ But one must also keep in mind that "[e]xpert evidence can be both powerful and quite misleading because of the difficulty in evaluating it."¹⁰¹ Accordingly, federal judges should be ever vigilant to ensure the quality of the evidence they admit.

III. *Daubert Challenges and Summary Judgment*

In the presence of uncertainty regarding which expert's technique is "correct," a judge legitimately may be unwilling to tip the balance in one side's favor during a *Daubert* hearing. A judge may be especially concerned if there is any potential merit in the expert testimony on either side of a dispute. Thus, the appropriate judicial response may be to allow both sides to be heard and to subject expert testimony to further evaluation. This approach may be acceptable because summary judgment provides another opportunity to examine expert testimony.

Much of the screening of expert testimony in antitrust cases may occur during summary judgment proceedings. Although the demarcation between expert testimony that judges should exclude on *Daubert* grounds and expert testimony that judges should exclude through summary judgment is not precise, it is useful to identify the distinguishing features of these two approaches for scrutinizing expert testimony.¹⁰² First, as Areeda and Hovenkamp observed, there is a procedural difference.¹⁰³ Expert testimony that a court excludes under *Daubert* is "not entitled to be considered at all, and thus is not part of the case's record," whereas "when a court considers a motion for summary judgment it examines the entire record, and expert testimony that has not been excluded is in the record."¹⁰⁴ Thus, expert testimony that a court does not exclude is subsequently available to support either side's assertion, whereas testimony that a court does exclude may not be considered at all.¹⁰⁵ Of course, if the expert testimony rests upon suspect theoretical foundations

99. *Id.* (citation omitted).

100. The *Daubert* Court noted that "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 596 (1993) (citing *Rock v. Arkansas*, 483 U.S. 44, 61 (1987)).

101. *Id.* at 595 (quoting Weinstein, *Rule 702 of the Federal Rules of Evidence Is Sound; It Should Not Be Amended*, 138 F.R.D. 631, 632 (1991)).

102. See generally AREEDA & HOVENKAMP, *supra* note 6; Gavil, *supra* note 6.

103. AREEDA & HOVENKAMP, *supra* note 6, at ¶ 322.1a.

104. *Id.*

105. *Id.*

or suspect empirical methodologies, then one would not want such evidence to factor into any subsequent considerations regardless of whose side the testimony supports.

The second distinction is more substantive. *Daubert* indicates that although the reliability and relevancy of an expert's methodology are subject to scrutiny, the conclusions drawn from that methodology are not.¹⁰⁶ Thus, a *Daubert* challenge would focus on the expert's methodology and not on the associated conclusions. This suggests that courts may admit expert testimony if the methodology is relevant and reliable, but subsequently accord no weight to that same testimony in the summary judgment process. For example, regression analysis is a statistical tool that underlies econometrics, which is a staple of all graduate programs in economics. This would seem to say, then, that courts would admit expert testimony that is based on a standard regression model because the methodology is generally accepted.¹⁰⁷ If the expert employed this methodology in an unreliable way, the challenge would come at the summary judgment stage. Areeda and Hovenkamp observed:

[A] motion for summary judgement where the relevant economic testimony has not been excluded presumes that the economist's methodology is acceptable but that the conclusions do not follow, are not appropriate to the facts of the case, demonstrate that there is no "issue of material fact," or draw a factual conclusion that is impermissible as a matter of law.¹⁰⁸

While there are certainly instances in which it is reasonable for a fact finder to separately evaluate an expert's methodology and the associated conclusions, *Daubert*'s language that "[t]he focus . . . must be *solely* on principles and methodology, not on the conclusions that they generate" is somewhat troubling, for it suggests that this distinction must always be made.¹⁰⁹ In many cases, it will be difficult, if not impossible, to disentangle the method-

106. The Supreme Court, emphasizing the flexibility of Federal Rule of Evidence 702, opined that the primary focus of Rule 702 "is the scientific validity – and thus the evidentiary relevance and reliability – of the principles that underlie a proposed submission. The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate." *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 594-95 (1993); see also AREEDA & HOVENKAMP, *supra* note 6, at ¶ 322.1a (discussing judicial control of expert testimony).

107. The district court in *Allapattah* indicated that "[g]enerally, econometric and regression analyses are considered reliable disciplines." *Allapattah Servs., Inc. v. Exxon Corp.*, 61 F. Supp. 2d 1335, 1347 (S.D. Fla. 1999) (citing *City of Tuscaloosa v. Harcros Chem., Inc.*, 158 F.3d 548, 566 (11th Cir. 1998); *Askew v. City of Rome*, 127 F.3d 1355, 1365 n.2 (11th Cir. 1997); *Petruzzi's IGA Supermarkets v. Darling-Delaware Co.*, 998 F.2d 1224, 1238 (3d Cir. 1993); Daniel L. Rubinfeld, *Economics in the Courtroom*, 85 COL. L. REV. 1084 (1985)).

108. AREEDA & HOVENKAMP, *supra* note 6, at ¶ 322.1a.

109. *Daubert*, 509 U.S. at 595 (emphasis added).

ology from the conclusions because the conclusions are often dependent on the methodology employed. Moreover, an examination of the conclusions that follow from a particular methodology may reveal weaknesses in the methodology itself. If a purportedly reliable methodology leads to unreliable conclusions, this may suggest that the methodology really is not reliable – at least for that particular application.

An illustrative example comes from health care economics. Specifically, one theory that has enjoyed significant appeal, but has also generated significant controversy in the health care economics literature, is "supplier-induced demand." This theory posits that in response to an increase in supply, providers induce demand to offset the downward pressure on price that normally accompanies increased supply. Well-respected economists can be found on either side of the debate. Several sophisticated statistical techniques seem to confirm the existence of supplier-induced demand.¹¹⁰ But when Dranove and Wehner employed these same statistical techniques to test the ridiculous proposition that obstetricians induce the demand for childbirth, they found the requisite "statistically significant" evidence!¹¹¹ Their results obviously cast doubt on the reliability of the statistical techniques themselves – at least in this particular application. That is, it is the absurdity of the conclusions that follow from the methodology employed that casts doubt on the methodology itself. Now, under a requirement that focuses "solely on methodology," one would have to admit the evidence – because the statistical analysis employed was "generally accepted" – despite the absurd conclusion that follows.

The point is that it is not always wise to focus only on the methodology and to ignore the conclusions drawn. The two are interdependent pieces of an expert's analysis; they are not mutually exclusive. To say that a trier of fact should admit the expert testimony when the methodology appears to be appropriate, but then grant it no weight under a summary judgment analysis that correctly recognizes the absurdity of the conclusions that follow, renders *Daubert* challenges trivial and unnecessarily raises the costs of litigation.

Again, there may very well be cases in which a trier of fact would appropriately admit evidence based on the soundness of the methodology, but subsequently grant summary judgment on the grounds that the same testimony failed to establish an "issue of material fact." For example, the expert's testimony may rely on solid theoretical and empirical grounds, but simply provide

110. See SHERMAN FOLLAND ET AL., *THE ECONOMICS OF HEALTH AND HEALTH CARE* 167-81 (2d ed. 1997) (discussing imperfect agency and supplier-induced demand); CHARLES PHELPS, *HEALTH ECONOMICS* 245-50 (2d ed. 1997) (describing supplier-induced demand).

111. See David Dranove & Paul Wehner, *Physician-Induced Demand for Childbirths*, 13 J. HEALTH ECON. 61, 62 (1994) (urging abandonment of statistical technique because it leads to absurd result).

insufficient support for the conclusions drawn in the case at hand. In a similar vein, Areeda and Hovenkamp observed that "[a] well-credentialed but honest economic expert hired by the plaintiff may concede major points in the defendant's favor."¹¹² But failing to recognize those instances in which the methodology and the conclusions generated are inextricably intertwined will lead to meaningless distinctions that waste both time and money.

IV. Inferences of Collusion and Daubert Challenges

We now turn to an area of antitrust in which expert testimony may be particularly affected by *Daubert* challenges: inferences of collusion based on economic evidence. A distinguishing feature of this area of antitrust is the reliance on circumstantial evidence due to a lack of direct evidence. Economic experts are often called upon to testify about that circumstantial evidence.

For example, in many price fixing cases there is no direct evidence of collusion. Plaintiffs, therefore, must rely on circumstantial evidence to establish illicit collaboration among their suppliers. In so doing, one must distinguish between tacit collusion,¹¹³ which is not illegal, from an overt but clandestine conspiracy, which is illegal. In many instances, whatever circumstantial evidence exists is interpreted by economists and becomes the focus of expert testimony. *Daubert* and *Kumho* teach us that the economic expert should apply the same level of intellectual rigor to litigation support as he or she does to professional writing and teaching.¹¹⁴ This would seem to expand the grounds for challenge beyond the reliability of the methodology itself to

112. AREEDA & HOVENKAMP, *supra* note 6, at ¶ 322.1a.

113. In *Clamp-All Corp. v. Cast Iron Soil Pipe Inst.*, 851 F.2d 478 (1st Cir. 1988), then Judge Breyer addressed tacit collusion:

Courts have noted that the Sherman Act prohibits *agreements*, and they have almost uniformly held, at least in the pricing area, that such individual pricing decisions (even when each firm rests its own decision upon its belief that competitors will do the same) do *not* constitute an unlawful agreement under § 1 of the Sherman Act. That is not because such pricing is desirable (it is not), but because it is close to impossible to devise a judicially enforceable remedy for "interdependent" pricing. How does one order a firm to set its prices *without regard* to the likely reactions of its competitors?

Id. at 484 (citations omitted).

114. For example, the *Daubert* Court noted that implicit in the Federal Rules of Evidence is the "assumption that the expert's opinion will have a *reliable* basis in the knowledge and experience of his discipline." *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 592 (1993) (emphasis added). In *Kumho*, the Court maintained that the primary role of the gatekeeper is to ensure that an expert "employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999).

include the application of that methodology. It is not entirely clear when unreliable expert testimony should be deemed inadmissible under *Daubert* and when it should be deemed admissible under *Daubert*, but insufficient to survive a summary judgment motion. Although we do not hope to clarify this issue here, we will illustrate our own views by examining the proposed expert testimony in *City of Tuscaloosa v. Harcros Chemical, Inc.*,¹¹⁵ which involved allegations of an illegal conspiracy to fix prices.¹¹⁶

A. Tacit Collusion

The idea of tacit collusion can be traced to the insights of Edward Chamberlin.¹¹⁷ He began by showing that the classic duopoly models¹¹⁸ of Cournot¹¹⁹ and Bertrand¹²⁰ produced very different results depending upon the assumptions.¹²¹ Cournot assumed that the firms would compete on quantity. In doing so, each seller would believe that the quantity supplied by the other was constant. The result was a price-quantity outcome that was in between the competitive and the monopoly outcomes. Bertrand objected by claiming that the firms would compete on price – not on quantity. In doing so, each seller would assume that the price of the other would remain constant. This altered assumption led the duopolists to produce the competitive result. Thus, with only two firms, we would enjoy the benefits of competitive pricing, which results in competitive output as well.

Chamberlin pointed out that the behavioral assumptions of the Cournot and Bertrand models are extreme.¹²² Specifically, the assumption that each firm acts as though its competitors will not adjust quantity (price) in response to its own quantity (price) adjustments is unrealistic.¹²³ Thus, Chamberlin

115. 877 F. Supp. 1504 (N.D. Ala. 1995).

116. See *City of Tuscaloosa v. Harcros Chem., Inc.*, 877 F. Supp. 1504, 1509 (N.D. Ala. 1995) (alleging price fixing conspiracy), *rev'd*, 158 F.3d 548 (11th Cir. 1998).

117. EDWARD H. CHAMBERLIN, *THE THEORY OF MONOPOLISTIC COMPETITION; A RE-ORIENTATION OF THE THEORY OF VALUE* 46-55 (8th ed. 1962).

118. A duopoly is a market with only two sellers. See *id.* at 31 (discussing duopoly and oligopoly).

119. AUGUSTIN A. COURNOT, *RECHERCHES SUR LES PRINCIPES MATHÉMATIQUES DE LA THÉORIE DES RICHESSES*, Ch. VII (1838).

120. J. Bertrand presented the Bertrand model in a book review of Cournot's work published in 67 *JOURNAL DES SAVANTS* 499 (1883).

121. Modern treatments are available in standard textbooks. See, e.g., DENNIS W. CARLTON & JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 153-93 (3d ed. 1999) (discussing noncooperative oligopoly).

122. CHAMBERLIN, *supra* note 117, at 46-55.

123. See *id.* at 46-47 (explaining how seller takes account of his total influence on price).

imbued his duopolists with some intelligence. In particular, he allowed them to fully recognize their mutual interdependence.¹²⁴ Although the firms behave independently, they do not compete as though their profit functions were independent.¹²⁵ Instead, each firm *acts* independently while taking into account both direct and indirect consequences of any price or output decision.¹²⁶ From this foundation, Chamberlin argued that a former monopolist would accommodate the entry of a second firm.¹²⁷ Instead of fighting it out in the market, the incumbent would reduce its output to one-half of the monopoly level, thereby making room for the entrant to produce the other half.¹²⁸ In this way, each firm would earn one-half of the monopoly profit, which is more than one-half of any other profit.¹²⁹ The entrant also recognizes the advantages of this outcome and does not get greedy, i.e. it does not produce more than its "fair share." Chamberlin characterized this outcome as having occurred in "the absence of agreement or of 'tacit' agreement."¹³⁰

The theoretical problem with the Chamberlin solution is that it invokes dynamic considerations in a static framework. In a static model, there is no reason for the incumbent (or the entrant) to restrain its greed. The rationale for restraint is not based on profit maximization until one invokes dynamic considerations. Chamberlin, of course, understood this, but our modeling skills were underdeveloped at the time. A more modern approach employs the theory of repeated games to confirm that the Chamberlin solution is a possible outcome when the number of periods is infinite or when it is finite, but of unknown magnitude.¹³¹ In such cases, the gains from deviating from the shared monopoly solution are outweighed (under all plausible circumstances) by the losses that the resulting competition would impose. Interestingly, such repeated games have a multiplicity of outcomes. Although our intuition may be that the shared monopoly solution is more likely than any other, game theory suggests that other noncompetitive – albeit noncollusive – outcomes are possible.¹³²

124. *Id.*

125. *Id.* at 47.

126. *See id.* (explaining how sellers consider indirect consequences of their moves).

127. *See id.* (providing example to illustrate advantages to seller).

128. *Id.*

129. *See id.* (noting that price is perfectly stable).

130. *Id.*

131. CARLTON & PERLOFF, *supra* note 121, at 175-83.

132. When a game is repeated an infinite number of times and there is no discounting of the future, an infinite number of outcomes are possible. In the oligopoly context, this means that all price-output combinations are possible between the competitive and the monopolistic. *See* CARLTON & PERLOFF, *supra* note 121, at 183 (discussing oligopoly context).

This recognition of mutual interdependence and the stable, noncompetitive outcome associated with it have come to be known as *tacit collusion*, an obvious contradiction in terms. When economists speak of tacit collusion, they are referring to instances in which noncompetitive, if not monopolistic, prices are charged absent *explicit* collusion. In other words, there are no "smoke-filled rooms," e-mail exchanges, or cell phone conferences. In antitrust circles, the jargon is "conscious parallelism."¹³³

B. The Antitrust Enforcement Dilemma

Section 1 of the Sherman Act forbids contracts, combinations, or conspiracies in restraint of trade.¹³⁴ The case law is fairly clear that proof of *agreement* is necessary for a violation to occur.¹³⁵ In a case of tacit collusion, however, there is no agreement by definition. Recall that in Chamberlin's duopoly model, the incumbent monopolist recognized that accommodating an entrant would be more profitable than fighting.¹³⁶ The entrant did not abuse the incumbent's hospitality, and both enjoyed the benefits of joint profit maximization. There was no agreement, and as a result, there can be no successful antitrust prosecution.¹³⁷ No doubt, this is a source of frustration for antitrust enforcers as well as for consumers. But the fact remains that absent proof of some illegal agreement, there is no antitrust violation.¹³⁸

133. See Donald F. Turner, *The Definition of Agreement Under the Sherman Act: Conscious Parallelism and Refusals to Deal*, 75 HARV. L. REV. 655, 663-81 (1962) (discussing whether term "agreement" includes consciously parallel action and refusals to deal).

134. 15 U.S.C. § 1 (1998).

135. Even the dissent in *Blomkest Fertilizer, Inc. v. Potash Corp. of Saskatchewan, Inc.* acknowledged that "interdependent pricing that occurs with no actual agreement does not violate the Sherman Act, for the very good reason that we cannot order sellers to make their decisions without taking into account the reactions of their competitors." *Blomkest Fertilizer, Inc. v. Potash Corp. of Saskatchewan, Inc.*, 203 F.3d 1028, 1042 (8th Cir. 2000) (Gibson, J., dissenting).

136. See *supra* notes 127-30 and accompanying text (describing situation in which incumbent would not fight).

137. Much of what we know about tacit collusion has been summarized in the following articles written for a symposium on tacit collusion. See generally Jonathan B. Baker, *Two Sherman Act Section 1 Dilemmas: Parallel Pricing, the Oligopoly Problem, and Contemporary Economic Theory*, 38 ANTITRUST BULL. 143 (1993); William E. Kovacic, *The Identification and Proof of Horizontal Agreements Under the Antitrust Laws*, 38 ANTITRUST BULL. 5 (1993); Dennis A. Yao & Susan S. DeSanti, *Game Theory and the Legal Analysis of Tacit Collusion*, 38 ANTITRUST BULL. 113 (1993).

138. The Supreme Court characterized conscious parallelism as a process "not in itself unlawful, by which firms in a concentrated market might in effect share monopoly power, setting their prices at a profit-maximizing, supracompetitive level by recognizing their shared economic interests." See *Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 227 (1993) (addressing allegation of tacit collusion).

C. Introducing "Plus Factors"

Although tacit collusion, or conscious parallelism, is beyond the reach of Section 1 of the Sherman Act, that does not mean that antitrust enforcers need *direct* evidence of an agreement. If the defendants have been careful, there will usually be no direct evidence of conspiracy. In fact, in Section 1 cases, "[o]nly rarely will there be direct evidence of an express agreement."¹³⁹ As a result, a plaintiff is entitled to introduce circumstantial evidence of collusion. In *United States v. Washington*,¹⁴⁰ the Seventh Circuit Court of Appeals explained the need for circumstantial evidence: "By its nature conspiracy is conceived and carried out clandestinely, and direct evidence of the crime is rarely available. Thus, circumstantial evidence from which the jury could reasonably infer the existence of an agreement is permissible."¹⁴¹ Of course, defendants may rebut circumstantial evidence by presenting proof that there was an independent business justification for the suspect behavior. It is not uncommon to point to parallel business behavior – stable, noncompetitive pricing – and add to that other evidence that implies the existence of an explicit, albeit clandestine, agreement.¹⁴² A classic example is provided by the Supreme Court's decision in *Interstate Circuit, Inc. v. United States*.¹⁴³ In that case, a large exhibitor of movies asked eight major distributors to change the terms of their contracts with the exhibitor's rivals.¹⁴⁴ The requested changes were clearly anticompetitive because they prevented the rival exhibitors from competing on price or quality. The letter sent out to the distributors by the exhibitor included all of the distributors as addressees; thus, each distributor knew that the defendant asked the other distributors to behave in the same manner.¹⁴⁵ Based on the offer and the parallel acceptance of the terms, the Court found that there was sufficient evidence to permit an inference of an actual agreement.¹⁴⁶ This was not a case in which the Court used the antitrust laws to challenge tacit collusion. Rather, this was an instance in which the Court relied on circumstantial evidence to infer the existence of an express agreement.¹⁴⁷ As a result, plaintiffs have searched for so-called plus factors – other facts and circumstances – that supplement evidence of parallel behavior

139. Local 189, *Amalgamated Meat Cutters v. Jewel Tea Co.*, 381 U.S. 676, 720 (1965).

140. 586 F.2d 1147 (7th Cir. 1978).

141. *United States v. Washington*, 586 F.2d 1147, 1153 (7th Cir. 1978).

142. See ROGER D. BLAIR & DAVID L. KASERMAN, *ANTITRUST ECONOMICS* 206 (1985) (listing types of evidence recognized by Richard Posner).

143. 306 U.S. 208 (1939).

144. *Interstate Circuit, Inc. v. United States*, 306 U.S. 208, 215-17 (1939).

145. *Id.* at 222.

146. See *id.* at 221-27 (examining alleged conspirators' course of conduct).

147. See *id.* at 225 (recognizing that circumstances justify inference of concerted action).

to form the foundation for an inference of conspiracy.¹⁴⁸ The most compelling plus factors are "those that tend to show that the conduct would be in the parties' self-interest if all acted in the same way but would be contrary to their self-interest if they acted alone."¹⁴⁹ Nonetheless, one must still be able to infer that the decision to act in a certain way was not arrived at unilaterally.

The Supreme Court has provided some guidance in this search for plus factors. First, in *Monsanto Co. v. Spray-Rite Service Corp.*,¹⁵⁰ the Court explained:

The correct standard is that there must be evidence that tends to exclude the possibility of independent action by the [defendants]. That is, there must be direct or circumstantial evidence that reasonably tends to prove that [the defendants] had a conscious commitment to a common scheme designed to achieve an unlawful objective.¹⁵¹

Second, in *Matsushita Electric Industries Co. v. Zenith Radio Corp.*,¹⁵² the Supreme Court cautioned that there are limits to the inferences that one is permitted to draw from circumstantial evidence:

[A]ntitrust law limits the range of permissible inferences from ambiguous evidence in a § 1 case. Thus, . . . conduct as consistent with permissible competition as with illegal conspiracy does not, standing alone, support an inference of antitrust conspiracy To survive a motion for summary judgment or for a directed verdict, a plaintiff . . . must present evidence "that tends to exclude the possibility" that the alleged conspirators acted independently [I]n other words, [the plaintiff] must show that the inference of conspiracy is reasonable in light of the competing inference of independent action¹⁵³

Overall, an economic expert must be cautious in areas of antitrust law, such as collusion, that rely more heavily on circumstantial evidence than direct

148. See, e.g., *Petruzzi's IGA Supermarkets v. Darling-Delaware Co.*, 998 F.2d 1224, 1232 (3d Cir. 1993) (explaining that "in a conscious parallelism case, a plaintiff also must demonstrate the existence of certain 'plus' factors, for only when these additional factors are present does the evidence tend to exclude the possibility that the defendants acted independently" (citing *In re Japanese Elec. Prods. Antitrust Litig.*, 723 F.2d 238, 304 (3d Cir. 1983))).

149. See ABA ANTITRUST SECTION, ANTITRUST LAW DEVELOPMENTS 10 (4th ed. 1997) (discussing inferences of agreement among competitors) (citations omitted). This prescription is not economically sound. As we noted above, in an oligopolistic repeated game contest, the noncooperative (noncollusive) equilibria depend on a belief by each firm that the other firms will behave accordingly. Thus, this observation does not support an inference of collusion.

150. 465 U.S. 752 (1984).

151. *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 768 (1984).

152. 475 U.S. 574 (1986).

153. See *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 578 (1986) (concluding that appellate court failed to apply proper standards) (citations omitted).

evidence. Because such evidence is particularly susceptible to *Daubert* challenges, he or she is well-advised to take care in drawing inferences from ambiguous evidence.¹⁵⁴

In searching for circumstantial evidence, one should not confuse quantity with quality. Amassing great quantities of ambiguous evidence does not resolve the ambiguity simply because there is a lot of it. Consider the following six pieces of evidence regarding a student at the University of Florida named Chris:

1. Chris is a law student.
2. Chris is white.
3. Chris has brown hair.
4. Chris jogs three times a week.
5. Chris majored in political science as an undergraduate.
6. Chris loves pizza.

Is Chris male or female? The evidence – individually and collectively – is ambiguous with respect to this question. Adding more ambiguous evidence does not resolve the matter. If every fact that we add is equally consistent with Chris's being male and being female, there is no foundation for inferring either gender. The same is true of economic evidence. If each piece is equally consistent with competition and collusion, the collection of evidence is ambiguous and will not support an inference of collusion under *Matsushita*.

D. City of Tuscaloosa: An Example

The expert testimony in *City of Tuscaloosa v. Harcros Chemical, Inc.*¹⁵⁵ provides a good example.¹⁵⁶ In *City of Tuscaloosa*, the plaintiffs alleged that the suppliers of chlorine for water treatment had engaged in an illegal bid-rigging scheme.¹⁵⁷ There was no evidence of an explicit agreement; therefore, the plaintiffs relied upon the testimony of an economist and a statistician to interpret circumstantial evidence. The trial court found their testimony wanting.¹⁵⁸

154. See *Blomkest Fertilizer, Inc. v. Potash Corp. of Saskatchewan, Inc.*, 203 F.3d 1028, 1033 (8th Cir. 2000) (rejecting ambiguous circumstantial evidence).

155. 877 F. Supp. 1504 (N.D. Ala. 1995).

156. See *City of Tuscaloosa v. Harcros Chem., Inc.*, 877 F. Supp. 1504, 1513 (N.D. Ala. 1995) (identifying experts), *rev'd*, 158 F.3d 548 (11th Cir. 1998). To the extent that it is relevant, Roger D. Blair served as an expert for one of the defendants. For additional commentaries on the use of *Daubert* in *City of Tuscaloosa*, see AREEDA & HOVENKAMP, *supra* note 6 at ¶ 322.1b and Gavil, *supra* note 6, at 673-78.

157. Bid rigging is a form of horizontal price fixing and, therefore, is illegal per se. *United States v. Trenton Potteries Co.*, 273 U.S. 392, 398 (1927).

158. The testimony of the statistician was stricken on *Daubert* grounds. See *City of Tusca-*

The economic analysis began with the market structure, a sound methodological beginning. It is widely recognized that certain structural conditions are conducive to collusion.¹⁵⁹ These conditions are (1) few sellers, (2) homogeneous products, (3) sealed-bid contracts, and (4) inelastic demand at competitive prices.¹⁶⁰ In the Alabama chlorine market, all of these conditions were present. This, of course, does not mean that collusion is inevitable. In fact, we do not have any empirical evidence on the frequency of collusion when these structural conditions are present.

Standing alone, the structural conditions and the existence of parallel business behavior will not support an inference of collusion. Those very same structural conditions make it more likely that tacit collusion (or conscious parallelism) may occur. That is, these structural conditions reduce the need for explicit agreements. It is disingenuous for an economist to comment that the observed firm behavior is "noncompetitive." Of course, it is noncompetitive. What would one expect? If there are a handful of firms in a market, one cannot expect them to behave as though there were fifty firms.

Following *Monsanto*, to distinguish noncollusive oligopolistic pricing from collusive behavior, we look for "plus factors" that presumably will tend to exclude the possibility of independent action.¹⁶¹ In *City of Tuscaloosa*, the plaintiffs' expert examined certain business practices that he interpreted as supporting an inference of explicit collusion.¹⁶² This is where the analysis began to founder. An economic interpretation of circumstantial evidence should proceed on the basis of economic principles. The expert should identify those actions that are clearly inconsistent with unilateral behavior and count those as legitimate "plus factors." Evidence that is ambiguous should be set aside. Trying to determine whether analytical breakdowns are due to faulty methodology or to the unreliable application of sound methodology can

loosa, 877 F. Supp. at 1532 (striking testimony because it was unreliable). The economist's testimony was not explicitly stricken, but it was severely criticized. *See id.* 1530-32 (discussing problems with economist's testimony). The grant of summary judgment was based largely on the court's rejection of this testimony as being admissible. The Eleventh Circuit Court of Appeals reversed and admonished the district court that it had confused admissibility under *Daubert* with sufficiency of the evidence to survive summary judgment. *See City of Tuscaloosa v. Harcos Chem., Inc.*, 158 F.3d 548, 564 (11th Cir. 1998) (reversing lower court).

159. *See* George A. Hay & Daniel Kelley, *An Empirical Survey of Price Fixing Conspiracies*, 17 J.L. & ECON. 13, 18 (1994) (analyzing all price fixing cases filed and won between January 1963 and December 1972).

160. *See* BLAIR & KASERMAN, *supra* note 142, at 151-52 (discussing empirical evidence of conditions conducive to collusion).

161. *See Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 768 (1984) (requiring evidence tending to exclude possibility of independent action).

162. *City of Tuscaloosa v. Harcos Chem., Inc.*, 877 F. Supp. 1504, 1513-16 (N.D. Ala. 1995), *rev'd*, 158 F.3d 548 (11th Cir. 1998).

be problematic. If an economist professes to be employing the theory of oligopoly, which certainly is sound methodology, but concludes that ambiguous evidence indicates collusion, two alternatives are presented. On the one hand, a faulty conception of oligopoly theory may have been used. This would be unsound methodology and ripe for a *Daubert* challenge. On the other hand, the oligopoly theory being employed may be sound, but it may be applied in an unreliable way. It is difficult to distinguish between the two. Fortunately, *Daubert* can catch one, and summary judgment can catch the other.

First, the plaintiffs' expert in *City of Tuscaloosa* observed that the marketing manager of one of the defendants communicated market intelligence to his own employees.¹⁶³ In the same memorandum, the manager encouraged his salespeople to pursue profitable business and to try to improve their margins.¹⁶⁴ Sales commissions are often based on total revenue rather than profits. As a result, the sales representatives have an incentive to make sales that might not be profitable to the firm. Reminding them that profitable sales are important to the company is certainly no sign of collusion. Finally, the memorandum encouraged the salespeople to gather market intelligence.¹⁶⁵ Now, this piece of evidence is not even ambiguous. If the defendants were, in fact, colluding, it would make no sense to encourage the sales representatives to waste their time collecting market intelligence when they could be working on selling the product. It would be a real stretch to count this as a "plus factor."¹⁶⁶

Second, plaintiffs' expert pointed to an "Exchange of Price Lists,"¹⁶⁷ but there was no evidence of an actual exchange. Rather, one defendant had acquired, in some unspecified way, a price list of a competitor. Evidence that suppliers distribute price lists in advance of their effective dates and that such price lists are collected as market intelligence by rivals is ambiguous at best. Early price announcements may serve as signaling devices, but they also provide valuable information to customers for planning and budgeting purposes. Again, the fact that market intelligence is being gathered is at least as consistent with competition as it is with collusion. Therefore, testimony to the contrary may be deemed unreliable.

163. See *id.* at 1513-16 (citing Robert F. Lanzillotti, Report on the Alabama Chlorine Litigation, May 20, 1994, at 15).

164. Robert F. Lanzillotti, Report on the Alabama Chlorine Litigation, May 20, 1994, at 15 [hereinafter Lanzillotti Report].

165. *Id.*

166. In the Lanzillotti Report, this episode is characterized as "A 'Meeting of the Minds,'" but the marketing manager describes no "meeting of the minds." *Id.*

167. *Id.* at 16.

Third, the plaintiffs' expert reviewed the deposition testimony of one defendant who described how prices adjust in an oligopolistic market.¹⁶⁸ The defendant explained that price reductions are instantly communicated in the market. This, of course, comes as no surprise in competitive, sealed-bid situations with public bid openings. All parties may attend the formal bid openings and, therefore, will know immediately what everyone else bid. Although this process may make price cuts less likely, the buyers are the ones who insist on the process; it is not at the sellers' instigation.

The defendant also explained that price increases are tentative until there is some assurance that market conditions have changed. This, too, is understandable because a premature price increase could lead to significant losses in sales and profits. Thus, the defendant's explanation was fully consistent with *noncollusive* oligopoly pricing. In essence, the chlorine suppliers would try to raise prices through the sealed bids. Rivals would observe those tentative efforts to realize a higher price and, if conditions are right, the price will move to a different level. No single firm is apt to just raise its price on all business in the hope that it has correctly gauged the market without some sense of how its rivals are apt to respond. The fact that a business executive recognizes the mutual interdependence among a small group of rivals proves no more than the fact that the defendant is not an idiot.

Fourth, the plaintiffs' expert examined another defendant's deposition testimony and found that this defendant tried out some price increases with the understanding that it would probably not win.¹⁶⁹ According to the plaintiffs' expert, submitting a bid that was above the prevailing market price "was meant to be an invitation to his other competitors to agree on a new market price."¹⁷⁰ But, again, probing the market with tentative bids is a sensible pricing strategy given the uncertainty surrounding the reactions of one's rivals. This may have been a form of price leadership. In fact, there was some evidence that others did follow or planned on following.¹⁷¹ But absent an actual agreement to follow the price leads of a designated driver in the market, this is not unlawful oligopolistic behavior.¹⁷² The fact that some firms follow the lead of others could be the result of an agreement to do so, but it could also be a unilateral

168. *Id.* at 16-18.

169. *Id.* at 18-19.

170. *Id.* at 18.

171. *Id.* at 18-19.

172. In *United States v. International Harvester Co.*, the Supreme Court found no suppression of competition in unilateral decisions to follow the price lead of another. *United States v. Int'l Harvester Co.*, 274 U.S. 693, 708-09 (1927) (explaining how competitors' independent choices to follow prices does not show "sinister domination") (citations omitted); *see also* BLAIR & KASERMAN, *supra* note 142, at 216-21 (examining four types of price leadership).

decision on the part of each of the followers. Thus, this piece of evidence is equally consistent with collusion and noncollusion and is ambiguous at best.

Fifth, the plaintiffs' expert observed one of the defendants "running a price up the flagpole," presumably in an effort to encourage a general price increase.¹⁷³ Again, however, this effort to move the market price is a unilateral one. There was no suggestion that this was collusive behavior; yet without collusion, there is no violation. Clearly, this piece of evidence does not provide a "plus factor" that establishes a foundation for an inference of conspiracy.

The plaintiffs' expert expressed some concern for the fact that the chlorine suppliers preferred to compete on service rather than on price.¹⁷⁴ But if a conspiracy is to be successful, it must prevent nonprice competition.¹⁷⁵ He also found something sinister in the fact that two of the defendants apparently assigned sole responsibility for chlorine pricing to a single executive of each company.¹⁷⁶ Other than the fact that this centralized the chlorine pricing decisions within these companies, plaintiffs' expert offered no reason why this should be of any concern. Moreover, what would the remedy be? How could a court insist that more than one executive at each firm be given pricing authority?

Plaintiffs' expert also observed that the entry of a newcomer disrupted the prevailing pricing pattern.¹⁷⁷ This, however, is what one usually would expect following entry.¹⁷⁸ As the supply capability increases, it is customary that prices will fall. All that one observes is the movement from one oligopoly equilibrium to another. None of these observations provide unambiguous evidence of collusion; all of this is at best ambiguous. As with our example of Chris, the law student, no matter how much ambiguous evidence one amasses, the collection remains ambiguous.

E. Evaluating Expert Testimony

To evaluate expert testimony under *Daubert*, we must return to the two overarching criteria articulated by the Supreme Court: reliability and rele-

173. Lanzillotti Report, *supra* note 164, at 19.

174. *Id.* at 18-20.

175. See George J. Stigler, *Price and Nonprice Competition*, 76 J. POL. ECON. 149, 152 (1968) (explaining that nonprice competition will dissipate cartel profits).

176. Lanzillotti Report, *supra* note 164, at 9-10 n.6.

177. *Id.* at 21-24.

178. The fact that entry caused a disruption in the pricing pattern suggests that the firms did not have the discipline that Chamberlin's oligopolists displayed. Chamberlinian oligopolists would have accommodated the new entrant and everyone would have shared in the full monopoly profit. See *supra* notes 122-30 and accompanying text (concerning Chamberlin's analyses).

vancy. The two inquiries are: (1) does the expert's testimony "have a reliable basis in the knowledge and experience of his discipline,"¹⁷⁹ and (2) will the testimony "assist the trier of fact to understand the evidence or to determine a fact in issue"?¹⁸⁰ For cases requiring inferences of collusion, an economist can assist the trier of fact in two basic ways. First, he or she can provide testimony on the structural conditions of the industry. Second, he or she can analyze circumstantial evidence for its consistency or inconsistency with collusion.

Whether the economist's testimony actually will prove useful depends upon its quality. We may examine two different situations in this regard. First, an economist who aptly identifies legitimate "plus factors" will provide information that assists the judge and jury in reaching the ultimate conclusion on collusion. In this instance, it is unlikely that the expert's testimony will be stricken on *Daubert* grounds.

The second case concerns ambiguous evidence. Expert testimony that relies primarily on ambiguous evidence is more likely to be challenged under *Daubert*. Because ambiguous evidence by its very nature is consistent with both collusive and independent behavior, it is more difficult to know how a court should deal with this type of testimony – especially if *Daubert* mandates that courts separate the expert's conclusions from his or her methodology. One may reasonably argue that courts should exclude such testimony on *Daubert* grounds because ambiguous evidence is unlikely to assist the trier of fact in determining the presence or absence of collusion. Moreover, admitting ambiguous evidence may needlessly confuse and mislead the jury. On the other hand, a judge may opt to admit such testimony on the grounds that it may be bolstered later by the subsequent identification of direct evidence.¹⁸¹ Thus, a judge may find that it is more prudent to admit testimony based on ambiguous evidence at the *Daubert* stage and then evaluate its reliability at the summary judgment stage. Without more, courts will likely find testimony that relies upon ambiguous evidence to be insufficient as support for an inference of collusion. Consequently, a judge must weigh the potential, yet unspecified, gains from admitting expert testimony that relies on ambiguous evidence against the potential for that testimony to confuse the issue and mislead the jury.

179. *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 592 (1993).

180. *Id.* at 591 (quoting FED. R. EVID. 702).

181. See AREEDA & HOVENKAMP, *supra* note 6, at ¶ 322.1.b (arguing that "a potential problem of excluding the evidence in a case . . . is that direct evidence of conspiracy might later emerge from a different source, and . . . the expert testimony offered . . . could have been used to bolster other, more explicit evidence of conspiracy obtained by witnesses to the events themselves") (citation omitted).

Returning to *City of Tuscaloosa*, one begins with arguably parallel business behavior. To move from that to an inference of collusion requires "plus factors" that tend to exclude the possibility of independent behavior. It is not enough to identify behavior that is consistent with noncollusive oligopolistic behavior and inconsistent with the competitive behavior observed in a market with fifty firms. After all, every standard textbook describes the differences that one would expect to find absent collusion. In an oligopoly, one expects the market participants to recognize the effects that their actions will have on one another and to take the anticipated reaction(s) of their rivals into account in deciding what to do. For example, if *A* is selling to *B* at a noncompetitive price, it may pay *C* to undercut *A* in the very short run. But *C* may recognize that *A* could retaliate with low prices elsewhere. If *C* believes that, when the dust settles, it will be worse off for having undercut *A* to acquire *B*'s business, *C* unilaterally may refrain from undercutting *A*.

From the perspective of consumer welfare, this result is unfortunate: The price to *B* will be higher than it would be otherwise. But a higher price alone does not make this behavior collusive. If one adds to this piece of ambiguous evidence other evidence of conduct that rational oligopolists unilaterally adopt, it does not create a "mosaic" that is larger than the sum of its parts. There is no synergy: Ambiguous evidence is ambiguous no matter how much of it there is. If an expert infers collusion from clearly ambiguous evidence, he or she is asking for trouble. That trouble may come in the form of a *Daubert* challenge or it may come in the form of summary judgment. Although there may be procedural differences between the two options, the end result should be the same.

V. Concluding Remarks

Daubert made it clear that the more flexible Federal Rules of Evidence replaced the rigid *Frye* test for the admissibility of expert testimony. Presumably, admissibility was more difficult under *Frye*. But, before *Daubert*, there were precious few challenges to the admissibility of expert testimony in anti-trust cases. In an ironic twist, the heightened awareness raised by *Daubert* actually has resulted in a plethora of challenges. Some challenges will succeed, and some will fail. In this way, we will discover the boundaries of both *Daubert* and *Kumho*.

Daubert and *Kumho* also made it clear that the trial judge has a duty to act as a gatekeeper and thus to shield the jury from expert testimony that will not aid in its decision. There are costs and benefits of the resulting *Daubert* challenges. There is no doubt that preparing for and participating in a *Daubert* hearing is expensive for the parties. But there are also benefits to this process. It provides the clearest possible picture of the testimony that will be given at

trial; there can be no surprises. In addition, each side gets to see how the direct and cross-examination will go for its own expert. This should make for better trials.

Expert economic testimony should be based on a sound theoretical and/or empirical methodology. Moreover, the methodology should be reliably implemented by the expert. If it is not, then it should be excluded or accorded no weight. If courts exclude such testimony on *Daubert* grounds, there may be no need for a summary judgment ruling. But courts that will admit unreliable testimony if it purportedly is based on a reliable methodology can reject such testimony at the summary judgment stage. In either event, unreliable expert testimony will not determine the outcome of the case. This is as it should be.