



1-1-2016

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Recommended Citation

J. G. Sidak, *Economists as Arbitrators*, 30 Emory Int'l L. Rev. Recent Dev. 2105 (2016).
Available at: <https://scholarlycommons.law.emory.edu/eilr-recent-developments/19>

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ECONOMISTS AS ARBITRATORS

*J. Gregory Sidak**

ABSTRACT

Whenever a claimant in arbitration prevails, the tribunal must calculate quantum. Indeed, sometimes the central question in arbitration is to value a disputed asset. However, an arbitrator's expertise typically is law, not economics. How can the tribunal apply economic analysis to the question of quantum with the same intellectual rigor that it has applied legal analysis to the anterior questions of jurisdiction, liability, defenses, and the like? One way is to appoint an economist as one of the arbitrators. A second way is for the tribunal to appoint its own neutral economic expert. Either approach would expedite the arbitration by causing parties to submit more realistic estimates of quantum and to explain in a more systematic and helpful manner the robustness of those estimates and the assumptions underlying them.

INTRODUCTION

An arbitral tribunal must calculate quantum anytime a claimant prevails. Indeed, sometimes the central question in arbitration is how to value a disputed asset. However, an arbitrator's expertise typically is law, not economics. How can the tribunal apply economic analysis to the question of quantum with the same intellectual rigor that the tribunal has applied legal analysis to the anterior questions of jurisdiction, liability, defenses, and the like?¹ One way is to appoint an economist as one of the arbitrators. A second way is for the tribunal to appoint its own neutral economic expert. Either approach would expedite the arbitration by causing parties to submit more realistic estimates of quantum and to explain in a more systematic and helpful manner the robustness of those estimates and the assumptions underlying them.

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¹ The answer to this question is broader in scope than the subject of this Essay. For an insightful attempt to provide the broader answer with respect to investor-state disputes, see Joshua B. Simmons, *Valuation in Investor-State Arbitration: Toward A More Exact Science*, 30 BERKELEY J. INT'L L. 196 (2012).

In this Essay, I examine the use of economists as arbitrators or tribunal-appointed neutral experts in international arbitration. I analyze how either approach can raise the standard of intellectual rigor in party-expert testimony and expedite the determination of quantum. I draw insights from my experience as a court-appointed neutral economic expert on damages for Judge Richard Posner under Rule 706 of the United States (U.S.) Federal Rules of Evidence in two patent litigations between 2012 and 2014—*Brandeis University v. East Side Ovens, Inc.*,² and *Northgate Technologies, Inc. v. Stryker Corp.*³ I have elsewhere written about my experience both serving as Judge Posner's neutral economic expert and my recommendations on how to make the best use of a neutral economic expert in American litigation.⁴ Both cases show how a neutral economic expert's involvement in a dispute can create an incentive for parties to present more plausible damages estimates and thus narrow the bid-ask spread between their respective estimates of quantum.

In Part I, I explain that calculating damages inherently requires *economic* analysis, which, in my experience, is often absent from much accounting-based expert testimony. The rules of prominent arbitration institutions require an expert to be independent and impartial to safeguard a tribunal's access to the expertise it needs to render an award. In this way, these institutions further differentiate their proceedings from traditional litigation, making those proceedings more valuable in cases requiring complex analysis of business disputes.

In Part II, I explain why economic expertise in the arbitral tribunal is desirable. Justice Stephen Breyer and Judge Posner have identified a similar need for neutral expertise in litigation in the United States. In Part III, I explain that both the selection of an arbitrator with economic expertise and the tribunal's appointment of a neutral economic expert would create greater benefits than costs for the parties to the arbitration.

² Order ¶ 5, *Brandeis Univ. v. East Side Ovens, Inc.*, Nos. 1:12-cv-01508–1:12-cv-01513 (W.D. Ill. Mar. 16, 2012) (order appointing Gregory Sidak as expert on damages).

³ See generally Complaint, *Northgate Techs., Inc. v. Stryker Corp.*, 10 F. Supp. 3d 958 (N.D. Ill. 2014); Curriculum Vitae of J. Gregory Sidak, Criterion Economics, LLC, <https://www.criterioneconomics.com/docs/gregory-sidak-curriculum-vitae.pdf> (last visited Feb. 27, 2016).

⁴ J. Gregory Sidak, *Court-Appointed Neutral Economic Experts*, 9 J. COMPETITION L. & ECON. 359, 359 (2013) [hereinafter Sidak, *Court-Appointed Neutral Economic Experts*].

I. USING IMPARTIAL ECONOMIC EXPERTISE TO PRODUCE MORE INTELLECTUALLY RIGOROUS ESTIMATES OF QUANTUM

Investor-state arbitration or international commercial arbitration typically requires each party to estimate damages. Given that the calculation of damages is inherently an economic endeavor, tribunals need economic expertise to reach an intellectually rigorous finding of the magnitude of quantum.

A. *The Unique Contribution of Economic Expertise*

In international arbitration, the claimant bears the burden of proving that it has suffered harm, what the quantum of damages is, and the causal connection between the respondent's conduct and the damages claimed.⁵ The tribunal may not accept the claimant's damages estimate if the tribunal considers it to be based on insufficient evidence. It may be difficult for the claimant to prove its damage claim without economic expert testimony.⁶

Computation of damages in both arbitration and litigation typically relies on but-for analysis. The methodology asks what the claimant's revenue (or costs) would have been but for the harm-causing act or omission. The arbitral award should compensate for all consequences of the harmful act or omission as if it had not occurred.⁷ In other words, the award must equal the economic difference between the claimant's financial situation in the real world and in the but-for world.⁸ An important aspect of this task is to disaggregate and remove the impact of industry and macroeconomic changes—what economists call “exogenous” factors. To project the value of a business, one must thus

⁵ See INT'L INST. FOR THE UNIFICATION OF PRIVATE LAW, UNIDROIT PRINCIPLES OF INTERNATIONAL COMMERCIAL CONTRACTS art. 7.4.3 (2010) (“Harm must be a direct consequence of non-performance as well as certain.”) [hereinafter UNIDROIT PICC]. See generally HERFRIED WÖSS, ADRIANA SAN ROMÁN RIVERA, PABLO T. SPILLER & SANTIAGO DELLEPIANE, DAMAGES IN INTERNATIONAL ARBITRATION UNDER COMPLEX LONG-TERM CONTRACTS 78–184 (Loukas Mistelis ed., 2014).

⁶ Cf. R. Wisner, J. W. William Rowley & A. N. Campbell, *Effective Use of Economic Expertise in International Arbitration: Counsel's Role and Perspective*, in 1 EU AND US ANTITRUST ARBITRATION: A HANDBOOK FOR PRACTITIONERS 240, ¶ 8-007 (Gordon Blanke & Phillip Landolt eds., 2011) (“Expert evidence relating to the quantification of damages arising from breaches of contract may involve the application of economic principles . . .”).

⁷ *Id.*; see, e.g., UNIDROIT PICC, *supra* note 5, art. 7.4.2 (“The aggrieved party is entitled to full compensation for harm sustained as a result of non-performance. Such harm includes both any loss which it suffered and any gain of which it was deprived . . .”); see also 1 HANDBOOK OF LAW AND ECONOMICS 100–01 (A. Mitchell Polinsky & Steven Shavell eds., 2007) (explaining that the standard remedy for breach of contract is expectation damages, which put the injured party in “as good a position as he would have been in if the contract had been performed”).

⁸ WÖSS ET AL., *supra* note 5, at 256, ¶ 6.26.

apply economic principles and methods to the facts and data of the dispute to determine the conditions of the but-for world.

It is essential to understand the fundamental methodological difference between expert testimony that rests on accounting conventions and expert testimony that rests on economic reasoning. Accounting and economics are not substitutes for one another. They are different fields that are complementary to one another. As Nobel laureate Ronald Coase explained decades ago, “accounting records merely disclose figures relating to past operations.”⁹ Accounting analysis is, in essence, backward-looking. The focus of accounting is to track stocks and flows of assets and liabilities. When examining the actions of a firm in a commercial dispute, accounting conventions can be useful for categorizing the facts as they are. Accounting enables a firm or outside auditor to track a firm’s financial health or its position within an industry, relative to similar firms. However, accounting does not reveal anything about causal relationships among the variables it tracks.

Economic analysis, in contrast, can provide intellectually rigorous estimations of a rational party’s behavior in the but-for world. Economics enables one to investigate the relevant incentives and opportunities that a firm faces when determining its strategic decisions. Economics also enables one to formulate testable hypotheses and subject them to empirical methods that will allow one to accept or reject those hypotheses.¹⁰ In formulating those hypotheses, economics relies on an established body of scientific knowledge—most notably, price theory. Although accounting methods provide only the facts about which products consumers have purchased, economics can predict changes in consumer behavior in response to a change in consumer preferences, incomes, prices of complements or substitutes, or other factors relevant to consumer demand.

Furthermore, economic profits—not accounting profits—drive a firm’s decision making. The scholarly literature on antitrust, for example, has long rejected the use of accounting data as a tool to evaluate a company’s market power. There are considerable differences between accounting profit and economic profit. “Accounting profit is the difference between a firm’s

⁹ R. H. Coase, *Business Organization and the Accountant* (1938), reprinted in L.S.E. ESSAYS ON COST 100 (J.M. Buchanan & G.F. Thirlby eds., 1981).

¹⁰ See generally KARL R. POPPER, OBJECTIVE KNOWLEDGE: AN EVOLUTIONARY APPROACH 13–17 (James M. Buchanan et al. eds., 1979).

revenues and its operating expenses (or explicit costs),”¹¹ whereas “[e]conomic profit is the difference between a firm’s revenues, operating expenses, and the *opportunity cost* of the inputs used to make the firm’s sales.”¹² Business decisions depend on estimates of the future.¹³ Given that valuation analysis inherently requires forward-looking projections from the time of the harmful act or omission, one necessarily needs to use economic tools to project the value of a business.¹⁴

The benefit from economic expertise in arbitration is evident in valuing property damages. To value tangible property, an economic expert can apply the principle of demand substitution.¹⁵ Considering that a firm would typically try to minimize its costs, how easily can a firm find a substitute for a piece of tangible property if the price of that property were to increase? How much would the firm pay to replace or reproduce the property? Valuing intangible property is more challenging. An intangible asset—for example, a promising technology—is usually not sold separately from the overall business.¹⁶ On an accounting-based balance sheet, the intellectual property rights are often recorded at their acquisition cost. Even if the asset “continue[s] to have significant market value,” it is depreciated over its finite useful life.¹⁷ At the end of its useful life, the value of an asset will be recorded as zero on a balance sheet.¹⁸ The valuation of property, and intangible property in particular, may require an economist to combine different valuation techniques.

¹¹ Robert H. Bork & J. Gregory Sidak, *The Misuse of Profit Margins to Infer Market Power*, 9 J. COMPETITION L. & ECON. 511, 514 (2013) (internal citations omitted).

¹² *Id.* (emphasis in original); cf. William W. Park, Keynote Address at the Institute for Transnational Arbitration: Framing the Case on Quantum, in 2 WORLD ARB. & MEDIATION REV. 59, 62 (2008) (“If an arbitral tribunal awards me only the cost of the pots and the pans, the chairs and the tables, that is clearly not the true value of the restaurant.”).

¹³ See Coase, *supra* note 9, at 99.

¹⁴ Wisner, Rowley & Campbell, *supra* note 6, at 240, § 2.B.2.8-008 (“[I]n some cases, issues arise relating to the need to calculate market prices, sales, or costs under future or hypothetical market conditions with a view to ascertaining the victim’s future economic loss. Here, economists can be good substitutes for or complements to the accountants and business valuers that counsel usually rely upon to quantify damages.”).

¹⁵ See, e.g., JOSEPH E. STIGLITZ, *ECONOMICS* 324–25 (1st ed. 1993).

¹⁶ See, e.g., FRANKLIN ALLEN ET AL., *PRINCIPLES OF CORPORATE FINANCE* 898 (9th ed. 2008) (“A Corporation may be paying for an *intangible asset* that is not listed on B Corporation’s balance sheet. . . . [T]he intangible asset may be a promising product or technology.”) (emphasis in original).

¹⁷ MARK KANTOR, *VALUATION FOR ARBITRATION: COMPENSATION STANDARDS, VALUATION METHODS AND EXPERT EVIDENCE* 239 (2008).

¹⁸ *Id.*

Furthermore, through technological innovation the firm in question may have created an entirely new market.¹⁹ Internet and mobile technology companies are examples in that they lack rich historical data because they are new. Moreover, historical data may shed no light on the value of products or business opportunities in an industry subject to rapid technological change. Such a new market may not be covered extensively in the existing laws, institutional rules, or literature on international arbitration. An economist can help the tribunal value the innovative service or product.

B. Independence, Impartiality, and Intellectual Rigor

The use of experts in international arbitration is growing.²⁰ In February 2015, the International Chamber of Commerce (ICC) replaced its 2003 ICC Rules for Expertise with a three-part set of rules on experts and neutrals.²¹ The new rules implicitly acknowledge the growing demand for independent and impartial experts in dispute resolution.

Today, party-appointed experts in international arbitration are explicitly obligated by the rules of the leading arbitration organizations to be independent, and sometimes also impartial in assisting the tribunal, to preserve the tribunal's access to a reliable source of expertise.²² For example, the ICC's 2003 Expert Rules required only the party expert's independence,²³ but the 2015 ICC Expert Rules also require impartiality for party experts.²⁴ Various

¹⁹ See generally J. Gregory Sidak & David J. Teece, *Dynamic Competition in Antitrust Law*, 5 J. COMPETITION L. & ECON. 581 (2009).

²⁰ See, e.g., Giovanni De Berti, *Experts and Expert Witnesses in International Arbitration: Adviser, Advocate or Adjudicator?*, AUSTRIAN Y.B. ON INT'L ARB. 53, 53–54 (2011).

²¹ INT'L CHAMBER OF COMMERCE, EXPERT RULES 1 (2015) [hereinafter ICC EXPERT RULES]; see also *New ICC Expert Rules Come into Force*, INT'L CHAMBER COM. (Feb. 2, 2015), <http://www.iccwbo.org/News/Articles/2015/New-ICC-Expert-Rules-come-into-force/>.

²² See, e.g., LONDON COURT OF INT'L ARBITRATION, LCIA ARBITRATION RULES art. 21.2 (2014) [hereinafter LCIA RULES]; INT'L BAR ASS'N, IBA RULES ON THE TAKING OF EVIDENCE IN INTERNATIONAL ARBITRATION art. 5 (2010) [hereinafter IBA RULES]; CHARTERED INST. OF ARBITRATORS, PROTOCOL FOR THE USE OF PARTY-APPOINTED EXPERTS IN ARBITRATION art. 4(1) (2007); see also GARY B. BORN, 2 INTERNATIONAL COMMERCIAL ARBITRATION § 15.08[AA], at 2280 (2d ed. 2014); Dushyant Dave, *Should Experts Be Neutrals or Advocates?*, in ARBITRATION ADVOCACY IN CHANGING TIMES 149, 151 (Albert Jan van den Berg ed., 2011); Mark Kantor, *A Code of Conduct for Party-Appointed Experts in International Arbitration—Can One Be Found?*, 26 ARB. INT'L 323, 323–24 (2010).

²³ INT'L CHAMBER OF COMMERCE, EXPERTISE RULES arts. 7(3), 11(1) (2003).

²⁴ INT'L CHAMBER OF COMMERCE, EXPERT RULES: PROPOSAL OF EXPERTS AND NEUTRALS art. 2(3) (2015) [hereinafter ICC PROPOSAL RULES]; INT'L CHAMBER OF COMMERCE, EXPERT RULES: APPOINTMENT OF EXPERTS AND NEUTRALS art. 3(3) (2015) [hereinafter ICC APPOINTMENT RULES]; INT'L CHAMBER OF COMMERCE, EXPERT RULES: ADMINISTRATION OF EXPERT PROCEEDINGS art. 4(1) (2015) [hereinafter ICC ADMINISTRATION RULES].

rules on the use of expert testimony require the testifying expert to declare independence and impartiality and disclose any facts and circumstances that may compromise the expert's independence.²⁵ It is notable that international arbitration thus imposes a higher duty on party experts than does U.S. litigation, which does not expressly require (through the Federal Rules of Evidence, for example) an expert to represent that his report and oral testimony are independent and impartial. This higher duty of party experts in arbitration is one way that arbitration organizations can seek to differentiate arbitration as superior to U.S. litigation as a method of dispute resolution. Of course, another differentiating characteristic of arbitration is that the parties can select arbitrators having greater economic competence.

II. ECONOMIC EXPERTISE IN THE ARBITRAL TRIBUNAL

An arbitrator with economic expertise would alter the incentive of parties to produce a more realistic quantum estimate. Justice Breyer and Judge Posner both call for a neutral source of expertise to aid judges in U.S. litigation, reflecting the practical importance of relevant and reliable expertise in evaluating scientific evidence.

A. *The Benefits of an Arbitrator with Economic Expertise*

Each party has an incentive to present a favorable damages estimate. That estimate could be extremely low for a respondent and extremely high for a claimant. The presence of an economist on a tribunal would hold the party economic experts to a higher standard of economic rigor—in effect, giving substantive content to the arbitral requirement that each party expert be independent and impartial. The economist-arbitrator would thereby create an incentive for the opposing parties to generate more plausible, and less polarized, damages estimates. By narrowing the gap between parties' quantum estimates, an economic expert on a tribunal would simplify the tribunal's deliberation on quantum and expedite its ultimate findings of fact on the question.

If, in contrast, the tribunal lacks economic expertise, then error and bias in the economic testimony of the party experts will be harder to detect and

²⁵ See, e.g., ICC PROPOSAL RULES, *supra* note 24, art. 2(3); ICC APPOINTMENT RULES, *supra* note 24, art. 3(3); ICC ADMINISTRATION RULES, *supra* note 24, art. 4(2); IBA RULES, *supra* note 22, art. 5(2)(c); see also Doug Jones, *Party Appointed Expert Witnesses in International Arbitration: A Protocol at Last*, 24 ARB. INT'L 137, 138–39 (2008).

evaluate. In his impressive critique of valuation in investor-state arbitration, Joshua Simmons observed:

In most modern investor-state arbitration proceedings, the complexity of valuation is beyond the traditional legal training of arbitrators. Nearly all arbitrators in investor-state proceedings hail from legal backgrounds, whether in private practice, government, or academia. A survey of the publicly available biographies of leading arbitrators reveals that none of those arbitrators [has] post-graduate degrees in the fields of finance, economics, or mathematics. Because of their backgrounds, arbitrators may be reluctant to immerse themselves in the detailed formulas and spreadsheets submitted by the parties. Legal training and analysis do not align well with the task of assessing fair market value. Even if arbitrators were fully able to acquire the necessary financial competency, they could not overcome the fact that they are neither economists nor financial analysts.²⁶

Even if the tribunal recognizes an implausible damages estimate, outright exclusion of the testimony of the expert witness in question is rare in practice because arbitrators are careful to safeguard the parties' right to be heard.²⁷ Appointing an economist as an arbitrator not only would improve the quality of damages testimony, but also would enable the tribunal to evaluate the opposing economic testimony of the party experts more quickly and reliably.²⁸

The typical criteria for an arbitrator include commercial, technical, and legal competence, along with linguistic abilities, experience in international arbitration, and (sometimes) a particular nationality.²⁹ Obtaining such a breadth of qualifications *and* expertise in economic analysis in a sole or presiding arbitrator may be desirable but difficult to achieve. The added qualification in economics might deter the parties from agreeing on an arbitrator appointee. If

²⁶ Simmons, *supra* note 1, at 209 (citations omitted).

²⁷ See, e.g., BORN, *supra* note 22, § 15.08[AA], at 2279, 2281.

²⁸ See Mike Walker, *The Use of Economic Evidence in Competition Law Arbitrations*, in EU AND US ANTITRUST ARBITRATION: A HANDBOOK FOR PRACTITIONERS 213–14 (Gordon Blanke & Phillip Landolt eds., 2011) (“[M]ost arbitrators are not economists and do not have experience in working with economists. This naturally means that the use of complex economics in a competition law arbitration runs the risk that the decision maker is unable to appraise the evidence properly.”); see also William W. Park, *Arbitrators and Accuracy*, 1 J. INT’L DISP. SETTLEMENT 25, 25 (2010) (“An arbitrator’s primary duty remains the delivery of an accurate award, resting on a reasonably ascertainable picture of reality.”) [hereinafter Park, *Arbitrators and Accuracy*].

²⁹ See, e.g., AM. ARBITRATION ASS’N, QUALIFICATION CRITERIA FOR ADMITTANCE TO THE AAA NATIONAL ROSTER OF ARBITRATORS 1 (2011) (stating that qualification includes a minimum of ten years of senior-level business or professional experience or legal practice, as well as a relevant educational degree or professional licenses); BORN, *supra* note 22, § 12.03, at 1679.

the parties decide to appoint an arbitral panel,³⁰ they may wish to consider including an economist.³¹

Who would appoint the economist arbitrator (assuming that the parties still desire lawyers to be on the panel)? In many sets of arbitration rules, where there are to be three arbitrators, each party appoints one arbitrator and both appoint a chairman (or the institution does if the two arbitrators cannot agree). In such circumstances, is it more or less likely that an economist would be appointed as one of the three? Although the answer might differ if the rules provided for the parties or the institution to ensure a balanced composition of the panel, tailored to the issues that the tribunal must determine, one can imagine several possible outcomes.

For example, the first possibility is that one party selects an economist and the opposing party does not, and the two arbitrators then select a lawyer to be president of the tribunal. If the economist lacks understanding of the intricacies of the legal process, the other two members of the tribunal might derive little benefit from the economist's participation in the early stages of the arbitration. If and when the matter proceeds to the merits, the economist will have a greater likelihood of complementing the experience and perspectives of the other arbitrators and, therefore, potentially influencing the arbitration's outcome. Recognizing that possibility, counsel for the party that did not select the economist as an arbitrator could be expected to adjust its strategy accordingly—for example, by emphasizing jurisdictional objections of a highly technical nature, which would be outside the economist's area of comparative advantage, such that opposing counsel would tend to neutralize the economist's role on the tribunal.

A second possibility is that both parties appoint economists, who then appoint a lawyer to serve as president of the tribunal. However, this outcome seems unlikely, as it would tilt the tribunal decidedly away from having its principal expertise in law.

³⁰ The ICC, LCIA, and American Arbitration Association (AAA) commercial rules presume a sole arbitrator and allow the appointment of three arbitrators in appropriate cases. The UNCITRAL rules uniquely require a three-personal panel. See BORN, *supra* note 22, § 12.03[D], at 1708–12.

³¹ In one International Centre for Settlement of Investment Disputes (ICSID) arbitration, the Republic of Bolivia in fact appointed an economist as its pick on a three-member tribunal. See *Aguas del Tunari, S.A. v. Republic of Bolivia*, ICSID Case No. ARB/02/3, Decision on Respondent's Objections to Jurisdiction (2005), <https://icsid.worldbank.org/apps/ICSIDWEB/cases/Pages/casedetail.aspx?CaseNo=ARB/02/3>.

A third possibility is that both parties appoint lawyers as arbitrators, who then appoint the economist as the president. This approach might work, although the economist might become the deciding vote on legal questions for which he lacks the requisite training in law. If the economist arbitrator also has training as a lawyer, the tribunal might not need to sacrifice expertise on questions of law or face the uncertainty that a non-lawyer might have the tie-breaking vote on the tribunal's decisions of law.

B. The Recommendations of Justice Breyer and Judge Posner That Judges Use Neutral Experts in U.S. Litigation

In the United States, Justice Breyer and Judge Posner recommend the use of neutral experts to provide judges with relevant and reliable expertise in areas where the judges' expertise is lacking. For an expert's evidence to meet the *Daubert* standard for admissibility in the United States, a judge is required to determine that the expert's testimony "is not only relevant, but reliable."³² In a 1997 decision, Justice Breyer explained that a trial judge may not have the relevant training to rule on the admissibility of certain testimony or evidence, and he suggested appointing a neutral expert under Rule 706 of the Federal Rules of Evidence.³³ Judge Posner has also written about the trial court's need for its own expert with relevant expertise in a complex litigation. In one case, the Seventh Circuit affirmed the dismissal of the class action lawsuit based on the finding that the plaintiffs' expert presented flawed survey evidence.³⁴ Judge Posner recommended that district judges "consider exercising the clearly authorized but rarely exercised option of appointing their own expert to conduct a survey" in an effort "to improve judicial understanding of survey methodology."³⁵

Appointing an expert who works at the intersection of law and economics as an arbitrator could be another means to address the need that Justice Breyer and Judge Posner identify. A separate question, however, is whether an arbitrator with economic expertise would have as much availability as a dedicated economic expert to analyze in depth the economic questions in a complex dispute. When he sits by designation as the trial judge in patent litigation, Judge Posner appoints a neutral scientific expert on liability

³² *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 589 (1993).

³³ *General Elec. Co. v. Joiner*, 522 U.S. 136, 149 (1997).

³⁴ *DeKoven v. Plaza Associates*, 599 F.3d 578, 580–82 (7th Cir. 2010).

³⁵ *Id.* at 583. For an international perspective, see generally Daniel Pleat, *The Use of Court-Appointed Experts by the International Court of Justice*, 84 BRIT. Y.B. INT'L L. 271 (2014).

questions *and* a neutral economic expert on damages. It is instructive that even Judge Posner—who has voluminously published on the application of economics to legal questions, including remedies³⁶—still finds it advantageous to appoint a neutral economic expert.

Of course, unlike the U.S. adversarial system, which relies on party experts to promote fact-finding and the jury to decide questions of fact, international arbitration relies heavily on the tribunal to conduct fact-finding and deliver a decision.³⁷ Because an arbitrator tends to act as judge and jury, often for many cases at once, the arbitrator would benefit from the specialization of function that a neutral economic expert could offer.

III. ECONOMIC EXPERTISE IN A TRIBUNAL-APPOINTED EXPERT

A neutral economic expert can narrow the bid-ask spread between the claimant and respondent on the matter of quantum and thereby simplify the tribunal's analysis of each party's estimate. In contrast to the tribunal, the neutral economic expert can devote his full attention to scrutinizing the damages estimates and (unlike an economist serving as an arbitrator) presumably will be subject to cross-examination by both parties. The mere presence of a dedicated neutral economic expert would create an incentive for the party experts to conduct a more rigorous economic analysis. A party expert would have an even greater incentive to present only the most accurate and plausible estimates of quantum.³⁸ In this way, the neutral economic expert can help the tribunal to avoid or mitigate an uninformative "battle of the experts."

A. *The Tribunal's Ability to Appoint a Neutral (Economic) Expert*

The use of neutral economic experts in arbitration has been limited, even though several of the most prominent arbitration institutions expressly permit the appointment of a neutral expert.³⁹ Arbitration rules under the United

³⁶ See, e.g., RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* (8th ed. 2010).

³⁷ WÖSS ET AL., *supra* note 5, at 230, ¶ 5.157; Klaus Sachs & Nils Schmidt-Ahrendts, *Protocol on Expert Teaming: A New Approach to Expert Evidence*, in *ARBITRATION ADVOCACY IN CHANGING TIMES* 135, 136 (Albert Jan van den Berg ed., 2011); Dave, *supra* note 22, at 150; Wisner, Rowley & Campbell, *supra* note 6, at 245, § 2.B.2.8-036.

³⁸ Sidak, *Court-Appointed Neutral Economic Experts*, *supra* note 4, at 390–91.

³⁹ See, e.g., ICC PROPOSAL RULES, *supra* note 24, art. 1; INT'L CTR. FOR DISPUTE RESOLUTION, ICDR INTERNATIONAL ARBITRATION RULES art. 22 (2009); LCIA RULES, *supra* note 22, art. 21; UNITED NATIONS COMM'N ON INT'L TRADE LAW, UNCITRAL ARBITRATION RULE (AS REVISED IN 2010) art. 29 (2010) [hereinafter UNCITRAL RULES]; Simmons, *supra* note 1, at 233 ("Arbitrators could enhance the legitimacy of valuation in investor-state arbitration through . . . more frequent appointments of independent valuation

Nations Commission on International Trade Law (UNCITRAL), the International Centre for Dispute Resolution (ICDR), the ICC, the London Court of International Arbitration (LCIA), and the International Bar Association (IBA) Rules on Taking of Evidence in International Arbitration, for example, explicitly permit the tribunal to appoint experts unless parties mutually agree otherwise. National arbitration law may also enable the tribunal to appoint an expert. For example, domestic law in ninety-seven jurisdictions, including the United States and the United Kingdom, has adopted the UNCITRAL Model Law on International Commercial Arbitration, which enables a tribunal to appoint an expert.⁴⁰ Arbitral rules do not limit the circumstances in which a tribunal can appoint a neutral expert, but parties often have the right to object either to the appointment of a neutral expert in general or to the appointment of a specific candidate.⁴¹ Arbitration rules are, however, largely silent on what expertise or background a tribunal-appointed expert must possess. Certainly, expertise in economics relevant to calculating quantum would be unobjectionable.

B. A Neutral Economist's Ability to Expedite the Arbitration and Control Its Costs

In addition to narrowing the spread of the parties' estimates of quantum, the neutral economic expert can aid the tribunal in deciding whether the evidence on quantum rests on reliable economic methods and principles properly applied to the facts and data of the case. Wöss et al. note, "[s]pecialized knowledge of the economic expert is necessary for the application of the law by the arbitral tribunal where 'the law adopts an explicitly economic criterion of legality' such as in the case of the valuation of

experts. . . . Most investment treaties and arbitral rule systems give tribunals broad discretion to . . . enlist tribunal-appointed experts. Parties . . . are not likely to oppose a tribunal's appointment of an expert. Indeed, particularly in high-stakes cases, parties may welcome the involvement of such experts, who would likely contribute to financially sound, well explained, and thus legitimate valuations.").

⁴⁰ See *UNCITRAL Model Law on International Commercial Arbitration (1985), With Amendments as Adopted in 2006*, UNITED NATIONS COMMISSION ON INT'L TRADE L., http://www.uncitral.org/uncitral/en/uncitral_texts/arbitration/1985Model_arbitration_status.html (last visited Feb. 27, 2016) ("Legislation based on the Model Law has been adopted in 72 States in a total of 102 jurisdictions.").

⁴¹ ICC APPOINTMENT RULES, *supra* note 24, art. 3(5); UNCITRAL RULES, *supra* note 39, art. 29. Some arbitral rules, such as the LCIA 2014 Arbitration Rules, instruct the tribunal to "consult[] . . . the parties" to appoint an expert. LCIA RULES, *supra* note 22, art. 21. Others, such as the ICC Expert Rules and the UNCITRAL Arbitration Rules (revised in 2010), state a formal process in which the parties can submit a written objection to the tribunal, which a tribunal can accept or reject. ICC APPOINTMENT RULES, *supra* note 24, art. 3(5); UNCITRAL RULES, *supra* note 39, art. 29(2).

damages.⁴² The neutral economic expert's ability to close the spread between the damage estimates of the opposing party experts enables the tribunal to isolate the disputed factual issues that are legally relevant to the outcome of the arbitration. The marginal cost of using a neutral economic expert to perform this function is surely low relative to either (1) the total cost of the arbitration or (2) other (arguably less efficacious) procedures for eliciting this information—such as cross-examination of the party experts or “hot tubbing” sessions in which the opposing party experts answer the tribunal's questions concurrently.⁴³

The tribunal can appoint a neutral economic expert very early in the arbitration, and it is essential that the tribunal take advantage of that option. A tribunal's early appointment of a neutral economic expert signals to the parties the type of expert they should employ and the level of intellectual rigor on economic questions that the tribunal expects from the party experts. The tribunal can thereby indirectly influence the parties' selection of their own experts. If, instead, the tribunal appoints a neutral economic expert late in the arbitration, each party might fight to nominate a neutral economic expert who more resembles its own (already-selected) party expert. A tribunal's early appointment also permits the neutral economic expert to confer with the parties and their experts about the guidelines for the economic evidence to be presented in the case.⁴⁴ Those guidelines would set the minimum standard that the testimony must meet on matters such as the expert's assumptions used; his efforts to ensure independent verification of the reliability of facts received from counsel, the party retaining the expert, or third parties; the reasons for not undertaking particular kinds of empirical analysis relating to essential questions pertaining to liability or damages; and the methods used to test the robustness of the expert's findings, including the results of such testing. Such guidelines would greatly reduce the subsequent cost to the parties and the tribunal of making, opposing, and assessing the economic testimony of the party experts. The party experts would prepare their reports in a manner that would make it easier for the tribunal and the neutral economic expert to compare and evaluate the competing findings.

⁴² WÖSS ET AL., *supra* note 5, at 230, ¶ 5.156 (quoting Richard A. Posner, *The Law and Economics of the Economic Expert Witness*, 13 J. ECON. PERSP., Spring 1999, at 91).

⁴³ See Frances P. Kao et al., *Into the Hot Tub . . . A Practical Guide to Alternative Expert Witness Procedures in International Arbitration*, 44 INT'L LAW. 1035, 1037 (2010).

⁴⁴ Cf. ICC COMMISSION ON ARBITRATION AND ADR, CONTROLLING TIME AND COST IN ARBITRATION 13, § 67 (2d ed. 2012) [hereinafter ICC REPORT].

Early appointment of a neutral economic expert might not always be advisable. If the dispute concerns not only quantum but also liability, the tribunal might opt not to appoint an expert until it decides questions of liability. If the tribunal has bifurcated damages and liability, then it should appoint a neutral economic expert if and when it finds the respondent liable. However, if the tribunal does not bifurcate the proceedings early in the arbitration, the parties will have submitted their own economic experts' opinions before the tribunal has decided questions of liability and appointed the neutral expert. Thus, in the absence of bifurcation, the tribunal should appoint a neutral expert as early in the process as possible.

The tribunal can instruct the neutral economic expert to evaluate, for each economic report from a party expert, the justification given for the expert's choice of valuation method, the size of valuation model inputs (such as the choice of the particular discount rate, weighted-average cost of capital, exchange rate, depreciation rate, and the like), and the relative weights that the party expert has assigned to different causal factors. This exercise will facilitate the tribunal's apples-to-apples comparison and ultimate assessment of the opposing expert reports. Typically, any projection of lost profits will require making assumptions about future demand for and supply of the claimant's product in the but-for world. That exercise cannot rest on mere assumptions about growth in demand or the extent of entry or expansion of supply by competitors (which, in my experience, one far too often observes in accounting-based estimates of damages). Rather, to be intellectually rigorous, expert testimony on damages must base such projections on analysis of the price elasticities of demand and supply, using actual empirical estimates when they are available or readily ascertainable. That is to say, for testimony on quantum in arbitration to rise to the level of reliable expert testimony, it should be predicated on a scientific methodology that uses established principles (typically from price theory, industrial organization, and finance). That methodology should employ, when data are available, established methods of econometric estimation to test empirically the expert's hypotheses about causal relationships influencing compensable harm and to measure the magnitude of predicted differences between the observed world and the but-for world. This level of rigor is typical in any high-stakes antitrust, securities, or patent litigation in federal district court in New York, Chicago, or San Francisco. An international arbitration organization does not favorably differentiate itself as an alternative forum for resolving complex business disputes if it tolerates a lesser degree of economic rigor from expert witnesses, or if the tribunal fails to properly resolve the differences between the two sides on such issues.

The tribunal might discover that the most efficacious use of a neutral economic expert is at the hearing. In its discretion, the tribunal might instruct the neutral economic expert to give direct testimony at the hearing, to submit to cross-examination, or even to cross-examine the party experts. By way of illustration, Judge Posner’s detailed order instructed me, as the court-appointed neutral expert on damages in *Northgate*, to “sit for a deposition on May 6, 2014, to last no more than 4 hours, split equally, with two hours allotted to the plaintiffs and defendants.”⁴⁵ The instructions permitted (but did not compel) me to “attend the depositions of the parties’ expert witnesses on damages” and to “question each party expert for up to 30 minutes.”⁴⁶ The order specified that “[a]ny time you spend questioning a witness will be subtracted equally from the plaintiff and defendants, up to a maximum of 15 minutes per side.”⁴⁷ Alternatively, Judge Posner permitted me to “email a reasonable number of questions to the party experts on damages.”⁴⁸ Judge Posner’s procedures suggest how, at the earliest feasible moment, an arbitral tribunal could define the neutral economic expert’s tasks and scope of participation in the various stages of the proceedings.⁴⁹ This kind of early delineation of the neutral economic expert’s mandate would give substance and effect to the existing arbitral rules that require the tribunal clearly to define the scope of the questions upon which its neutral expert shall opine.⁵⁰

Once appointed and instructed by the tribunal, the neutral economic expert can devote himself to the analysis required to value damages. Many of the economic questions that arise in international commercial arbitration or investor-state arbitration have close analogues in other areas of public and private law. In those analogous matters, economists routinely present expert testimony that is far more intellectually rigorous than the mechanical discounted cash flow (DCF) calculations typically found in accounting-based testimony. In such matters, the neutral economic expert can particularly assist the tribunal in answering questions about pricing—such as access pricing for infrastructure or the pricing of long-term supply contracts with contingent

⁴⁵ Instructions to Court-Appointed Damages Expert (Fed. R. Evid. 706) at 2, *Northgate Techs., Inc. v. Stryker Corp.*, No. 1:12-cv-07032 (N.D. Ill. Apr. 25, 2014).

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ See, e.g., IBA RULES, *supra* note 22, art. 6(1); ICC PROPOSAL RULES, *supra* note 24, art. 6; ICC REPORT, *supra* note 44, at 11; LCIA RULES, *supra* note 22, art. 21(1); UNCITRAL RULES, *supra* note 39, art. 29(1).

⁵⁰ ICC REPORT, *supra* note 44, at 13, § 68 (emphasizing that a tribunal-appointed expert, as well as an expert appointed jointly by the parties, should have a clear mandate).

escalation or de-escalation provisions.⁵¹ In investor-state arbitration, the neutral expert can evaluate damages for creeping expropriation or premature termination of an exclusive concession, both of which are analogous in economic terms to either regulatory takings or physical takings of private property⁵² or the forced divestiture (or forced sharing) of private assets.⁵³ Licensors and licensees of intellectual property are increasingly using international commercial arbitration to resolve disputes over the global licensing and valuation of intellectual property rights, including the challenging question of how one defines fair, reasonable, and nondiscriminatory (FRAND) terms for the licensing of standard-essential patents.⁵⁴ The FRAND disputes involving smartphones and other technologically dynamic products pose questions of first impression. A neutral economic expert's analysis of the testimony of opposing party experts would materially assist the tribunal in answering those (and future) novel questions with the level of economic rigor they require.

The cost of appointing a neutral economic expert would be small relative to the current total cost of an arbitration.⁵⁵ Although a neutral economic expert

⁵¹ See, e.g., WILLIAM J. BAUMOL & J. GREGORY SIDAK, TOWARD COMPETITION IN LOCAL TELEPHONY 93–116 (1994) (explaining access pricing for telephone networks); J. GREGORY SIDAK & DANIEL F. SPULBER, DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT: THE COMPETITION TRANSFORMATION OF NETWORK INDUSTRIES IN THE UNITED STATES (1997) (analyzing the legal and economic ramifications of setting regulated prices for mandated access to telecommunications and energy networks). See generally William J. Baumol & J. Gregory Sidak, *The Pricing of Inputs Sold to Competitors*, 11 YALE J. ON REG. 171 (1994) (explaining the economic theory of access pricing and the efficient-component pricing rule); Jerry A. Hausman & J. Gregory Sidak, *A Consumer Welfare Approach to the Mandatory Unbundling of Telecommunications Networks*, 109 YALE L.J. 417 (1999) (explaining access pricing for telephone networks); Abbott B. Lipsky, Jr. & J. Gregory Sidak, *Essential Facilities*, 51 STAN. L. REV. 1185 (1999) (discussing prices, terms, and conditions for access to essential facilities under antitrust law).

⁵² See SIDAK & SPULBER, *supra* note 51, at 213–81 (explaining the economic determination of just compensation under the Takings Clause of the Fifth Amendment to the U.S. Constitution for physical invasions of property, confiscatory public utility rates, and regulatory takings of the private property of a regulated firm). For a discussion of compensation for the inability of a regulated utility to recover its sunk costs of infrastructure investment because subsequent changes in regulatory policy have truncated the utility's future revenue stream, see WILLIAM J. BAUMOL & J. GREGORY SIDAK, TRANSMISSION PRICING AND STRANDED COSTS IN THE ELECTRIC POWER INDUSTRY (AEI Press 1995); William J. Baumol & J. Gregory Sidak, *Stranded Costs*, 18 HARV. J.L. & PUB. POL'Y 835 (1995).

⁵³ See, e.g., J. Gregory Sidak & Andrew P. Vassallo, *Did Separating Openreach from British Telecom Benefit Consumers?*, 38 WORLD COMPETITION 31, 31 (2015). See generally Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1 (2001).

⁵⁴ See, e.g., J. Gregory Sidak, *The Meaning of FRAND, Part I: Royalties*, 9 J. COMPETITION L. & ECON. 931, 932 (2013). See generally J. Gregory Sidak, *Mandating Final-Offer Arbitration of FRAND Royalties for Standard-Essential Patents*, 18 STAN. TECH. L. REV. 1 (2014).

⁵⁵ See, e.g., Albert Jan van den Berg, *Note—Time and Costs: Issues and Initiatives from an Arbitrator's Perspective*, 28 ICSID REV. 218, 218 (2013) (recognizing the concern raised by arbitration practitioners and

might need to conduct some original research, a tribunal presumably would instruct him primarily to analyze the parties' opposing claims and damages estimates. The required time and cost of producing a neutral economic expert report should be lower than that of a party expert report, which must establish a framework and cover all foundational material for the tribunal.⁵⁶ In addition, if the tribunal were to instruct the neutral economic expert to advise on a circumscribed set of specific issues,⁵⁷ the defined mandate of the neutral economic expert report would further limit the costs to the parties.

I draw my insights on the cost effectiveness of neutral economic experts from my experience as Judge Posner's neutral expert in the *Brandeis* and *Northgate* patent cases. In both cases, I was appointed early enough that I was able to submit my report before Judge Posner considered the parties' *Daubert* motions. After litigating for two-and-a-half years, the plaintiff and one of the two remaining defendants in *Brandeis* settled two weeks after the *Daubert* hearing and one month after I had filed my report. The second remaining defendant filed for dismissal several weeks thereafter. The parties settled so quickly in *Brandeis* that they postponed my deposition indefinitely. In *Northgate*, the case concluded with even greater speed. I filed my report two weeks after my appointment⁵⁸ and was deposed the next week. The parties notified Judge Posner the following week to report that they had settled, on the eve of the *Daubert* hearing.

One possible concern about using a neutral economic expert in arbitration is that the expert might so influence the tribunal's determination as to become the de facto "fourth arbitrator." However, that possibility seems unlikely. Arbitration rules bar the tribunal from delegating the determination of an award to any third party, including an expert.⁵⁹ The rules also prohibit the neutral expert from opining on matters outside the expert's mandate and scope

clients that arbitral proceedings are too lengthy and too costly, and suggesting initiatives for time and cost savings); Park, *Arbitrators and Accuracy*, *supra* note 28, at 29.

⁵⁶ Sidak, *Court-Appointed Neutral Economic Experts*, *supra* note 4, at 388.

⁵⁷ See, e.g., ICC PROPOSAL RULES, *supra* note 24, art. 1(2)(c) (stating that the Request for Proposal of an expert must include "a detailed description of the work to be carried out by the expert, including whether an expert report or site visits will be required"); LCIA RULES, *supra* note 22, art. 21(1).

⁵⁸ Report on Patent Damages of Court-Appointed Damages Expert (Fed. R. Evid. 706(b)), J. Gregory Sidak, *Northgate Techs., Inc. v. Stryker Corp.*, No. 1:12-cv-07032 (N.D. Ill. Apr. 30, 2014) (subject to protective order) (on file with author).

⁵⁹ See, e.g., Sachs & Schmidt-Ahrendts, *supra* note 37, at 139; Dave, *supra* note 22, at 157.

of professional qualifications.⁶⁰ A violation of those rules would, in the immediate term, prompt the parties to request a replacement of the neutral expert in an arbitral proceeding and, over the longer term, tarnish the reputation of an arbitrator or neutral expert.

One experienced arbitrator has told me that he has considered appointing a neutral expert but has not done so because of the concern that he might later feel compelled to depart or dissent from the neutral expert's conclusions. The arbitrator's concern was that the pressure to accept the expert's opinion would cause him (as arbitrator) to relinquish control over an important part of the decision. Then, the arbitrator worried, he would face the parties' complaints that they had been made to pay for an expert whom they did not select and whose conclusions the tribunal ultimately rejected.

At least two factors will limit the severity of this problem in practice. First, if the independent expert is an experienced expert witness in arbitration and litigation, the expert will care about the reputational harm of delivering an opinion so unhelpful or incorrect that the tribunal feels compelled to regard it. Second, the likelihood that the tribunal will feel compelled to disregard the opinion of its neutral expert is a function of the scope of the instructions that the tribunal gives the neutral expert. For example, the instruction that the neutral economic expert shall render an independent opinion on the "correct" measure of quantum is more subject to controversy than is the instruction that the neutral expert shall opine on which party expert's report on quantum is the more credible. Even less subject to controversy is an instruction of the sort that Judge Posner gives: that the neutral economic expert shall render "advice on whether the opinions formed by the parties' damages experts are the result of responsible research and analysis."⁶¹

V. CONCLUSION

A tribunal's determination of quantum is an inherently economic task. In a complex commercial dispute, an arbitrator with expertise in economics or a neutral economic expert can increase the intellectual rigor of the analyses conducted by the party experts and thereby expedite the proceeding. The

⁶⁰ See, e.g., IBA RULES, *supra* note 22, art. 6(1); ICC ADMINISTRATION RULES, *supra* note 24, art. 6; ICC REPORT, *supra* note 44, at 13, § 68; LCIA RULES, *supra* note 22, art. 21(1); UNCITRAL RULES, *supra* note 39, art. 29(1).

⁶¹ Instructions to Court-Appointed Damages Expert at 1, *Brandeis Univ. v. East Side Ovens Inc.*, No. 1:12-cv-01508 (N.D. Ill. Apr. 13, 2012).

magnitude of quantum will more closely reflect the proper amount of compensable harm, which will strengthen the perception that the tribunal had issued an award that is fair, reasoned, and legitimate.