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DOI
10.1093/joclec/nhad011

Publication date
2023

Document Version
Final published version

Published in
Journal of Competition Law and Economics

Journal of Competition Law & Economics, 2023, **19**, 444–465
https://doi.org/10.1093/joclec/nhad011
Advance access publication date 3 October 2023
Article

OXFORD

RELEVANT GENERALITY OF ANTITRUST ECONOMICS: COMPETITIVE EFFECTS AS ADJUDICATIVE AND LEGISLATIVE FACTS

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ABSTRACT

Antitrust enforcement proceedings routinely rely on information provided by positive economics. Recognizing that this information may help the court to decide what happened in the case at bar as well as what substantive rule to apply to the case, this article examines how general the information needs to be to bear relevance to each of these decision-making tasks. The examination is conducted in the context of US law, relies on the conventional distinction between adjudicative and legislative facts, and focuses on competitive effects as the paramount type of antitrust facts. Economic inquiries into the competitive effects of the conduct under scrutiny are then shown to be relevant if they take sufficient account of the specifics of the case. This requirement will rarely be satisfied by inquiries based on generic models. In contrast, when deciding on the content of the applicable antirust rule, the court needs comprehensive information about the competitive effects of the entire conduct class. Economic analyses into the effects of specific conduct will hence be hardly relevant.

JEL: A12, K21, K42, L40

I. INTRODUCTION

Positive economics plays a dual role in antitrust decision-making. Courts use it both to ascertain facts of cases that they hear and to decide on the content of antitrust rules[1] to be applied to these facts.[2] Such dual usage concerns also economic inquiries into competitive effects of

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1 Throughout this article, the notion of a "rule" refers to any test of lawfulness. That is to say that it should not be understood here as a counterpart to a "standard". *See, for example*, Daniel A. Crane, *Rules Versus Standards in Antitrust Adjudication*, 64 Wash. & Lee L. Rev. 49 (2007).

2 *See* James V. DeLong, *The Role, if Any, of Economic Analysis in Antitrust Litigation*, 12 Sw. U. L. Rev. 298, 332 (1981) ("There is a difference between a lower court using economic evidence to resolve specific issues arising under settled rules and a court,

Received: October 28, 2022. **Revised:** May 16, 2023. **Accepted:** September 11, 2023

business conduct.[3] As these effects are arguably the most salient type of antitrust facts, their ascertainment can be seen as constituting the most important use of positive economics in antitrust.

This article maintains that, due to their different natures, each of the two decision-making tasks requires different information about competitive effects and, thus, a different sort of economic analysis. Namely, to be *relevant*, the analysis needs to have a level of *generality* that corresponds with the given task. As elaborated below, when establishing what happened in the case at hand, the court needs information about the specific competitive effects of the particular conduct at stake. Economic analyses not tailored to the circumstances of the case are hence to be deemed irrelevant by the court for their insufficient specificity. Conversely, when deciding about the applicable antitrust rule, the court requires information about competitive effects that is sufficiently comprehensive in the sense that it will allow the court to select a rule for an entire category of business conduct. This requirement will not be satisfied by economic inquiries into the effects of individual instances of conduct.

This article explores the law's demands on the generality of economic inquiries into competitive effects through the notorious US jurisprudential distinction between adjudicative facts and legislative facts. This distinction refers to facts used to resolve questions of fact and law,[4] which, as expanded on below, are to be understood as, respectively, the minor and major premise of the legal syllogism.[5] Although the distinction has become "the established vocabulary for describing the kinds of facts that are relevant to legal discourse,"[6] it has received virtually no consideration in the context of antitrust law and economics.[7] Yet, as demonstrated below, the distinction offers a framework particularly useful to achieve a better understanding of the appropriate generality of antitrust economics for the two decision-making tasks concerned.

The presented discussion on the appropriate generality of economics used in antitrust decision-making bears considerable importance. Courts resolving antitrust disputes do regularly consider economics-based findings as input into their assessment. Yet, the interface between antitrust and economics remains considerably undertheorized. As put by Van den Bergh, antitrust "practitioners often are so heavily busy investigating the intricacies of the economics of competition that they lose out of sight the more fundamental questions about the use of economic theories in antitrust enforcement."[8] Insufficient appreciation of the role of economics in the given court proceeding may then make parties submit economic analyses with an inappropriate level of generality. Worse still, such a flawed analysis may be taken into account by the court and influence its decision. While this article focuses on US antitrust law, its findings are transferable also to other competition law systems.

especially the Supreme Court, using economic concepts in the course of considering what rules to adopt."). Economics gets to be used also in other types of antitrust decision-making exercises, including for instance detection of misconduct, *see, for example*, Lars-Hendrik Röller, *Economic Analysis and Competition Policy Enforcement in Europe*, *in* Modelling European Mergers Theory, Competition Policy and Case Studies 11, 19 (Peter A. G. van Bergeijk, et al. eds., 2005), or case selection, *see, for example*, Corwin D. Edwards, *Use and Abuse of Economics in Antitrust Litigation*, 20 A.B.A. Antitrust Section 38, 40 (1962). *See also infra* note 16 and accompanying text. These other uses are not entertained by the current article.

3 Business conduct is throughout this article to be understood as including also mergers.

4 II Kenneth Culp Davis & Richard J. Pierce, Jr., Administrative Law Treatise §10.4, at 141 (3d ed. 1994) ("Legislative facts . . . help the tribunal decide questions of law and policy and discretion."); 1 Christopher B. Mueller & Laird C. Kirkpatrick, Federal Evidence §48, at 260 (2d ed. 1994) ("[A]djudicative facts are those that are required to prove, or are used to prove, a question of fact as distinguished from a question of law.").

5 *Infra* Part III.

6 David L. Faigman, Constitutional Fictions: A Unified Theory of Constitutional Facts 46 (2008).

7 A notable exception is Michael Boudin, *Evidence and the Formulation of U.S. Antitrust Law*, *in* European Competition Law Annual 2009: The Evaluation of Evidence and Its Judicial Review in Competition Cases 665 (Claus-Dieter Ehlermann & Mel Marquis eds., 2011) (considering lay testimony, scholarship and experts as three sources of economic facts and attempting to categorize them as adjudicative or legislative).

8 Roger Van den Bergh, *The More Economic Approach in European Competition Law: Is More Too Much or Not Enough?*, *in* Economic Evidence in EU Competition Law 13, 13 (Mitja Kovač & Ann-Sophie Vandenberghe eds., 2016).

This article proceeds in six parts. Following the current introductory Part, Part II presents economics-based determination of competitive effects as the interaction between (antitrust) law and economics under scrutiny. Part III establishes the fundamentals of the distinction between adjudicative and legislative facts, developing thus a conceptual framework to be applied by the following parts. Part IV discusses the antitrust use of competitive effects as adjudicative facts. As these are effects of the particular instance of conduct at bar, economic analyses need to be tailored to every case. Part V analyzes competitive effects as legislative facts. Since these effects correspond with effects of an entire class of business conduct (to be) regulated by the given antitrust rule, courts will only have use for analyses that describe their distribution comprehensively enough. Part VI concludes by summarizing the analysis and emphasizing the use of economics-based findings as legislative facts.

II. ECONOMICS, ANTITRUST AND COMPETITIVE EFFECTS

This article scrutinizes two ways in which economics-based information about competitive effects may be used in antitrust decision-making. Before diving deeper into these uses in the later parts, the current one briefly introduces two issues underlying the analysis: It first discusses which particular type of interaction between economics and (antitrust) law is under study here. And, subsequently, the Part entertains the notion of competitive effects as the object of economic analysis concerned by this article.

A. Economics and Antitrust

The present article focuses only on a specific modality of economics. Namely, economic inquiries may be categorized according to whether they are based on normative economics, positive economics or prescriptive economics.[9] Normative economics concerns the objective to be pursued. In the context of antitrust, it has taken the shape of advancing welfare as the goal of the law.[10] Positive economics provides information about facts.[11] Antitrust decision-making often relies on facts determined with the help of positive economics. Prescriptive economics concerns the question how to best achieve a pre-defined objective.[12] In antitrust, usually taking welfare as the objective to be achieved, it proposes rules that are optimal to that purpose given the market and institutional reality. This article deals only with the antitrust use of *positive* economics.

The use of positive economics is analyzed with regard to two types of decision-making tasks: ascertaining facts of the given case and determining the content of antitrust rules[13] to be applied

[9] For a discussion on the distinction between normative, positive and prescriptive economics, see Cass R. Sunstein, *Introduction*, *in* Behavioral Law and Economics 1, 2–3 (Cass R. Sunstein ed., 2000); Kalle Määttä, *Law and Economics from Lawyers' Point of View*, *in* Law and Economics: Essays in Honour of Erling Eide 131, 132 (Erik Røsæg, et al. eds., 2010).

[10] *See, for example*, Roger D. Blair & D. Daniel Sokol, *The Rule of Reason and the Goals of Antitrust: An Economic Approach*, 78 Antitrust L.J. 471, 473 (2012) ("The goal of antitrust, as understood by economic analysis, involves a choice of either total welfare or consumer welfare.").

[11] *Infra* notes 42–43 and accompanying text.

[12] Prescriptive economics gets sometimes also called "the art of economics." *See* David Colander, *Retrospectives: The Lost Art of Economics*, 6 J. Econ. Persp. 191, 191 (1992) (attributing the term to John Neville Keynes). To explain the prescriptive use of economics, Vanberg employs the concept of a hypothetical imperative. Such an imperative provides prudential advice for what the suitable means are to achieve a predefined purpose. As a result, hypothetical imperatives proposed by prescriptive economics can be rationally examined, while so-called categorical imperatives proposed by normative economics cannot. Viktor J. Vanberg, *Consumer Welfare, Total Welfare and Economic Freedom—On the Normative Foundations of Economic Policy*, *in* Competition Policy and the Economic Approach: Foundations and Limitations 44, 45–47 (Josef Drexl, et al. eds., 2011).

[13] *See, for example*, John M. Blair, *Lawyers and Economists in Antitrust: A Marriage of Necessity, if Not Convenience*, 20 A.B.A. Antitrust Section 29, 29 (1962) ("[I]t is the function of economists in the antitrust field to assist . . . in shedding light on issues which have troubled policy-makers in this field for generations and in developing a factual foundation on which new and more effective policies can be based.").

to these facts. The latter task requires special attention here because not only positive but also—and perhaps much more obviously—normative and prescriptive economics may be useful to it. And it is actually these other, non-positive, modalities of economics that the commentary tends to focus on when analyzing its role in the shaping of antitrust rules and when contrasting this role with economics-based ascertainment of case facts.[14] It is one of the original contributions of this article that it breaks from this usual approach, instead isolating and focusing on how decisions about the content of antitrust rules are facilitated by positive economics.

Further, this article does not consider *any* use of positive economics in antitrust decision-making. Its scope is limited in three ways. First, it focuses on competitive effects as only one category of facts established with the help of economics for the purposes of antitrust decision-making.[15] Second, the article studies only decision-making concerning substantive antitrust rules, that is, rules specifying which market conduct is lawful and which is not under antitrust law. While other types of legal rules such as remedial, jurisdictional, and procedural rules do also interact with economics,[16] an analysis of these interactions would go beyond the scope of this study.[17] Third, the article limits its attention to decision-making in enforcement proceedings,[18] and in particular *court* proceedings.[19] This is a setting in which it needs to be determined both what happened in the case at hand and what the content of the applicable rule is. As a result, competitive effects may be used as both adjudicative and legislative facts,[20] and economics may perform both its roles discussed by this article.

Finally, it should now be clear that the *object* of analysis in this article is only positive economics. Let us nevertheless still briefly entertain prescriptive antitrust economics because it will provide a *framework* underlying the discussion in Part V on the use positive economics in making and interpreting antitrust rules. Prescriptive antitrust economics recognizes that we do not live in a first-best world in which it would be optimal for antitrust law to carry out a detailed assessment of the market conduct under scrutiny in every single enforcement case. In our second-best world, such a case-by-case approach would be too costly.[21] Therefore, decisions as to whether market conduct infringes antitrust law should frequently be made for whole categories of conduct by adopting imperfect yet simple-to-apply rules rather than for its

[14] *See, for example*, David J. Gerber, *The Future of Article 82: Dissecting the Conflict*, *in* European Competition Law Annual 2007: A Reformed Approach to Article 82 37, 48–49 (Claus-Dieter Ehlermann & Mel Marquis eds., 2008) (distinguishing between antitrust economics being used by courts and enforcement agencies to ascertain case fact and "provid[ing] the [antitrust] norms of conduct"); Michael A. Salinger, *The Legacy of Matsushita: The Role of Economics in Antitrust Litigation*, 38 Loy. U. Chi. L.J. 475, 476 (2007) (contrasting "the 'microanalytic' role . . . to present each [antitrust] case in terms of a formal economic model [with] a 'decision theoretic' role [that] entail[s] creating simple [antitrust] rules based on the recognition that economic analysis is inherently imprecise and that errors are inevitable").

[15] *See infra* note 43 and accompanying text.

[16] As regards remedial rules, see, for instance, Lewis Markus, *The Role of Economics in Department of Justice Enforcement of the Antitrust Laws*, 20 A.B.A. Antitrust Section 13, 18–19 (1962) (discussing "the role of economics in fashioning of appropriate relief"). As regards jurisdictional rules, see, for instance, Patricia M. Wald, *Judicial Review of Economics Analyses*, 43 Yale J. on Reg. 43, 44 (1983) (observing that a regulatory "agency may use economic analysis simply to find jurisdictional facts"). As regards procedural rules, see, for instance, Andrew I. Gavil, *The Challenges of Economic Proof in a Decentralized and Privatized European Competition Policy System: Lessons from the American Experience*, 4 J. Comp. L. & Econ. 177, 182 (2008) ("The role of 'economic analysis' is not limited to establishing the substantive standards of conduct. For example, it might also be used to evaluate the arguments for creating indirect purchaser rights or permitting a pass-on defense, the case for criminal sanctions and double or treble damages, the value of leniency programs in promoting cartel detection, and so on. Economic reasoning can link all of the various components of the system.").

[17] The distinction between adjudicative and legislative facts would nevertheless likely prove useful also for such analyses. *Cf.* McCormick on Evidence §328, at 596 (Kenneth S. Broun ed., 7th ed. 2013).

[18] As opposed to stand-alone law-making proceedings. A use of an economics-based fact in such proceedings nevertheless also amounts to its use as a legislative fact. *See, for example*, Fed R. Evid. 201(a) advisory committee's note ("Legislative facts . . . are those which have relevance to legal reasoning and the lawmaking process, whether in the formulation of a legal principle or ruling by a judge or court or *in the enactment of a legislative body*." (emphasis added)); Robert E. Keeton, *Legislative Facts and Similar Things: Deciding Disputed Premise Facts*, 73 Minn. L. Rev. 1, 9 (1988).

[19] As discussed below, adjudication may be carried out also by administrative agencies. *Infra* note 51.

[20] *See infra* note 70 and accompanying text.

[21] *See infra* notes 151–157 and accompanying text.

particular instances by analyzing every case in full. As we will see in Part V, this has implications for the relevant generality of legislative facts.

B. Economics and Competitive Effects

Let us now have a closer look at the use of economics concerned by this article, that is, at the economic ascertainment of competitive effects. To start with, it needs to be specified what is meant by such effects, which can be done by identifying their three constitutive elements. First, competitive effects are effects *exerted by* unilateral or joint conduct of businesses in markets. Second, they are effects *mediated by*—that is the underlying causal mechanism has to do with—the impact of the conduct on the competitive process.[22] Specifically, the process may be restricted either through a voluntary limitation of competition between businesses, for example in the form of a price cartel or a horizontal merger, or through one or more businesses using their power to foreclose a competitor.[23] Third, competitive effects are effects *on* welfare of certain market participants[24] captured by variables such as price, output, quality, choice, and innovation.[25]

Competitive effects are arguably the paramount category of antitrust-relevant facts. As Salop puts it, they are "the true core of antitrust."[26] This is because they constitute the connection between market conduct as the object of antitrust regulation on the one hand and welfare as the societal value fostered by antitrust on the other. Put differently, prevention of adverse competitive effects is the main goal of antitrust.

The discipline employed by antitrust to establish competitive effects is economics.[27] Economics is best suited for this establishment[28] because the causal mechanism underlying the effects relies on a rational reaction of market actors to the business conduct in question, whereas such a rational reaction is exactly what economics is all about.[29] To be sure, economics is used to ascertain also many other types of facts relevant to antitrust law.[30] Nevertheless, due

[22] *See, for example*, N. Pac. Ry. Co. v. United States, 356 U.S. 1, 5 (1958) ("[T]here are certain agreements or practices which because of their pernicious *effect on competition* and lack of any redeeming virtue are conclusively presumed to be unreasonable and therefore illegal without elaborate inquiry as to the precise harm they have caused or the business excuse for their use." (emphasis added)); Herbert Hovenkamp, *The Looming Crisis in Antitrust Economics*, 101 B.U. L. Rev. 489, 533 (2021) (observing that in antitrust "the fact finder must determine not merely whether a practice reduces welfare but whether it does so by limiting competition").

[23] *Cf.* Andrew I. Gavil, *Defining Reliable Forensic Economics in the Post-Daubert/Kumho Tire Era: Case Studies from Antitrust*, 57 Wash. & Lee L. Rev. 831, 841 (2000) (distinguishing between "collusive" and "exclusionary" effects). Please note that this definition of competitive effects excludes unilateral exploitation of market power, which is beyond the scope of the present article.

[24] See Rebecca Haw Allensworth, *The Commensurability Myth in Antitrust*, 69 Vand. L. Rev. 1, 16 (2016) ("There is almost unanimous consensus among modern interpreters of the Sherman Act that its purpose is to further economic welfare by protecting competition."). An antitrust system may protect the welfare of consumers or the joint welfare of consumers and producers. Federal US antitrust is mostly believed to protect consumer welfare. *See* Reiter v. Sonotone Corp., 442 U.S. 330, 343 (1979) (observing that the legislator intended the Sherman Act to be a "consumer welfare prescription" (quoting Robert H. Bork, The Antitrust Paradox: A Policy at War with Itself 66 (1978))); Haw Allensworth, *supra* in this note, 16 ("[C]onsumer welfare is the more dominant paradigm, especially in the courts, but even among scholars.").

[25] *See* National Collegiate Athletic Association v. Alston, 594 U.S. ___ (2021) (slip op., at 16) (portraying application of the Sherman Act as "assessing the challenged restraint's actual effect on competition—especially its capacity to reduce output and increase price" (internal quotation marks omitted)).

[26] Steven C. Salop, *The First Principles Approach to Antitrust, Kodak, and Antitrust at the Millennium*, 68 Antitrust L.J. 187, 188 (2000).

[27] The specific sub-field of economics studying competitive effects is Industrial Organization. *See, for example*, Oliver Budzinski, *Modern Industrial Economics: Open Problems and Possible Limits*, *in* Competition Policy and the Economic Approach: Foundations and Limitations 111, 129 (Josef Drexl, et al. eds., 2011).

[28] *See* Luke M. Froeb, et al., *The Economics of Organizing Economists*, 76 Antitrust L.J. 569, 573 (2009) ("Economic methodology is particularly well suited for predicting the causal effects of business practices . . . ."); Gerber, *supra* note14, at 48 ("Competition law norms refer to the effects of particular conduct, and economic science can be used to assess such effects more precisely, more effectively and with greater methodological stability than is otherwise possible.").

[29] Jan Broulík, *Two Contexts for Economics in Competition Law: Deterrence Effects and Competitive Effects*, *in* New Developments in Competition Law and Economics, 39 (Klaus Mathis & Avishalom Tor eds., 2019).

[30] *Infra* note 43 and accompanying text and note 129.

to the mentioned centrality of competitive effects to the whole antitrust enterprise, the use of economics in their ascertainment is arguably its most important antitrust use.[31]

Economics establishes competitive effects with the help of economic models. These models are sets of certain assumptions—in the form of mathematical equations—about how input (independent) variables relate to output (dependent) variables, whereas the mechanism underlying the relationship is seen in rational behavior of economic actors. Whether a model is a fitting representation of reality can be assessed according to the accuracy of its assumptions[32] as well as predictions.[33] Competitive effects of a business conduct then amount to changes in the output variables—for instance a price increase—of the model as compared with a situation without the conduct. This article, in Parts IV and V, discusses how specific or general analyses of competitive effects based on these models need to be to bear decision-making relevance.

III. ADJUDICATIVE AND LEGISLATIVE FACTS

This Part outlines the distinction between adjudicative and legislative facts as a distinction between facts used to resolve questions of fact and questions of law, respectively. The aim is to set the stage for the following two parts applying these categories to the use of economics in antitrust decision-making. The Part proceeds in two sections. The first one entertains the underlying notions of (a question of) fact and law while the second one presents the distinction between adjudicative and legislative facts as such.[34]

A. Fact and Law

As suggested by their definition already mentioned the essence of adjudicative and legislative facts and the distinction between them hinges entirely upon the fact/law dichotomy: they are *facts* used to resolve questions of *fact*, respectively of *law*. The present section entertains the two elements of this definition of adjudicative and legislative facts. The first one regards fact and law as such, focusing on their intrinsic character. The second one concerns the difference between *questions* of fact and law, paying heed to the function of the respective item in adjudication.

1. An Intrinsic Difference between Fact and Law

The difference between fact and law corresponds to the difference between is and ought or description and prescription.[35] That is to say that assertions of law concern prescriptions about

[31] *Cf.* Arndt Christiansen & Christian Ewald, *Best Practices for Expert Economic Opinions—Key Element of Forensic Economics in Competition Law*, *in* Public and Private Enforcement of Competition Law in Europe 141, 144 (Kai Hüschelrath & Heike Schweitzer eds., 2014) (arguing that "the task of forensic economics in public competition law enforcement is to assess the competitive effects of firm behaviour").

[32] *See, for example*, Simon Bishop, *Snake-Oil with Mathematics is Still Snake-Oil: Why Recent Trends in the Application of So-Called Sophisticated Economics Is Hindering Good Competition Policy Enforcement*, 9 Eur. Competition J. 67, 69 (2013) ("The economic model being used to inform the competitive assessment should reflect the key features of competition in the industry under investigation.").

[33] *See, for example*, Gregory J. Werden, *Making Economics More Useful in Competition Cases: Procedural Rules Governing Expert Opinions*, *in* International Antitrust Law & Policy: Fordham Corporate Law Institute Conference 2005 601, 609 (Barry E. Hawk ed., 2006) ("The critical test is whether a model explains reasonably well those aspects of past industry performance the model is being used to predict. For example, if a model is being used to predict prices for the years following a proposed merger, it should be able to explain pricing for the years before the merger.").

[34] The goal to shed light on acceptable generality of economic inquiries dictates that the article embraces an analytical understanding of all relevant concepts. The reader should nevertheless be aware that actual classifications by courts as to whether something counts as (a question of) fact or law or an adjudicative or legislative fact is in practice often driven by pragmatic considerations. *See, for example,* Miller v. Fenton, 474 U.S. 104, 114 (1985) ("[T]he fact/law distinction at times has turned on a determination that, as a matter of the sound administration of justice, one judicial actor is better positioned than another to decide the issue in question.").

[35] *See* Frederick Schauer, Thinking Like a Lawyer: A New Introduction to Legal Reasoning 205 (2009).

what ought (not[36]) to be[37] or—viewed from another angle—specifications of what are lawful and what is not.[38] Assertions of fact, in contrast, describe what is[39] (was, will be[40]), with regard to states of affairs, processes, or events in the extra-legal reality around us.[41]

The notion of a fact is central to our inquiry into the roles of positive economics within antitrust proceedings because this branch of economics is all about facts. As written by Milton Friedman in his extraordinarily influential essay on economic methodology, positive economics "deals with 'what is,' not with 'what ought to be.'"[42] There is a myriad of types of facts studied by economics bearing relevance to antitrust decision-making. They include for instance the market share, market power, elasticity of demand, barriers to entry, and marginal costs.[43] As mentioned, the present article focuses on competitive effects as they are the type of fact that can be said to matter most in antitrust.[44]

Facts determined with the help of economics tend not to be apparent facts.[45] Even though the process of their determination is usually based on some more or less directly observable facts, the abovementioned process of modelling supplements these with a plethora of assumptions to derive other—inferred—facts. As a result, as Decker puts it, "economic facts do have a distinct nature; they are in many cases the result of intellectual construction rather than empirical observation."[46] Still, however, as long as an economics-based inference concerns "what is," rather than "what ought to be," it is factual in character.

To conclude this section, adjudicative facts and legislative facts are both facts in the sense discussed here. That is to say that they both concern "what is," not "what ought to be."[47] What distinguishes them from other facts is their use in legal decision-making: a fact becomes adjudicative or legislative once it is used to resolve a question of fact, respectively of law,[48] concepts to which we shall turn now.

[36] *See* Jaap Hage, *Facts, Values and Norms*, *in* Facts and Norms in Law: Interdisciplinary Reflections on Legal Method, 36 (Sanne Taekema, et al. eds., 2016) (explaining that a prohibition not to do something is equivalent to a command to refrain from doing something).

[37] *See, for example*, John Monahan & Laurens Walker, *Social Authority: Obtaining, Evaluating, and Establishing Social Science in Law*, 134 U. Pa. L. Rev. 477, 489 (1986) ("Law . . . is *normative*. It does not describe how people *do* behave, but rather prescribes how they *should* behave.").

[38] *See, for example*, Kai Hüschelrath & Sebastian Peyer, *Public and Private Enforcement of Competition Law: A Differentiated Approach*, 36 World Competition 585, 597 (2013) ("On a very abstract level, a certain antitrust rule divides cases into two categories: those that are 'legal under the respective rule' and those that are 'illegal under the respective rule'.").

[39] *See, for example*, Monahan & Walker, *supra* note 37, at 489 (observing that facts are positive because they "concern the way the world *is*, with no necessary implications for the way the world *ought* to be").

[40] *See, for example*, Ronald J. Allen & Michael S. Pardo, *The Myth of the Law-Fact Distinction*, 97 Nw. U. L. Rev. 1769, 1791 (2003) (arguing that predictions about the future, such as "if a hurricane hits Miami much damage will be done," have factual nature).

[41] *See* H. L. Ho, A Philosophy of Evidence Law: Justice in the Search for Truth (2008) (working with the mentioned categories of facts (citing Georg Henrik von Wright, Norm and Action: A Logical Inquiry 25–26 (1963))).

[42] Milton Friedman, The Methodology of Positive Economics, *in* Essays in Positive Economics 3, 4 (1953) (quoting John Neville Keynes, The Scope and Method of Political Economy 34–35 (1891)); *see also* Theodore A. Groenke, *Use of Expert Economic Assistance in Defense of Antitrust Cases*, 20 A.B.A. Antitrust Section 92, 98 (1962) ("Economics, after all, is not a philosophy concerning the most appropriate form of economic order, but a study of 'what is.' Like the physicist, who attempts to determine how and why things are as they are in the physical universe, the economist seeks to determine how and why things are in the economic universe.").

[43] *See* Federal Judicial Center, Manual for Complex Litigation, Fourth §30.2, at 523 (2004) (identifying these as antitrust issues on which expert testimony can be proffered).

[44] *See supra* note 26 and accompanying text.

[45] *Cf.* E. Barrett Prettyman, *Proof of Economic and Scientific Facts*, 20 A.B.A. Antitrust Section 64, 67 (1962) (arguing that economic facts "are not facts at all but are theories").

[46] Christopher Decker, Economics and the Enforcement of European Competition Law 189 (2009).

[47] *See* Michael J. Saks, *Judicial Attention to the Way the World Works*, 75 Iowa L. Rev. 1011, 1019 (1990) ("Kenneth Culp Davis terms both 'facts' because both have something to do with positive rather than normative knowledge.").

[48] *See* Keeton, *supra* note 18, at 10 (arguing this point with respect to legislative facts).

2. A Functional Difference between Questions of Fact and Law

Let us now occupy ourselves with the difference between *questions* of fact and law.[49] As explained by Hart and Sacks, these questions arise "in the context of the process of applying general directive arrangements to particular situations."[50] In US antitrust, this process—also known as adjudication—is performed by courts.[51] We shall focus here only on the "minimal form of adjudication," which according to Hart consists in "mak[ing] authoritative determinations of the question whether, on a particular occasion, a [substantive] rule has been broken,"[52] setting thus aside the determination of consequences of an eventual violation.[53] In antitrust law, hence, adjudication entails determination by a court of whether the particular business conduct at bar is unlawful under the applicable antitrust rule or not.[54]

Adjudication proceeds in three steps,[55] entailing syllogistic reasoning.[56] First, the relevant characteristics of the *particular* matter at hand need to be determined[57] as the minor premise of the syllogism.[58] This is a resolution of a (pure) question of fact.[59] Second, the *general* rule governing the case needs to be determined[60] to serve as the major premise of the syllogism.[61] This determination amounts to a resolution of a (pure) question of law.[62] Third, the particular is linked up with the general to reach the conclusion of the syllogism as to whether there is an infringement of law or not. We will focus on the first two steps as those associate with the issue of relevant generality of economics.

Adjudication thus entails resolution of questions of fact as well as questions of law. As regards the latter, a mechanistic view of adjudication assumes that there are unambiguous pre-existing legal rules which the adjudicator ascertains easily. In reality, however, the applicable rule often

[49] It is worth emphasizing that the contrast between the intrinsic and functional understanding of the fact/law dichotomy presented in this section is not conventionally recognized. As a consequence, the terminology used by other sources varies—fact and law are not necessarily understood as intrinsic concepts and questions of fact and law as functional concepts, the two pairs of terms thus being used indiscriminately. This article, nevertheless, uses them consistently as defined here.

[50] Henry M. Hart & Albert M. Sacks, The Legal Process: Basic Problems in the Making and Application of Law 350 (William N. Eskridge, Jr. & Philip P. Frickey eds., 1994); *see also* Adrian A. S. Zuckermann, *Law, Fact or Justice?*, 66 B.U. L. Rev. 487, 487 (1986) ("The distinction between law and fact is said to lie at the basis of adjudication . . . .").

[51] In other legal fields, it may be performed also by administrative agencies. *Cf.* Davis & Pierce, *supra* note 4, at 117 ("Courts adjudicate only a small fraction of disputes, however. Agencies adjudicate the vast majority of the disputes that arise in the U.S. legal system."). Outside of the United States, even antitrust adjudication is often performed by administrative agencies.

[52] H. L. A. Hart, The Concept of Law 96–97 (Penelope A. Bulloch & Joseph Raz eds., 2d ed. 1994).

[53] Note that the distinction between adjudicative and legislative facts nevertheless bears relevance also to this area of legal decision-making. *See supra* note 17.

[54] Although antitrust practice and scholarship often call assessment of lawfulness "enforcement," strictly speaking, this term designates a broader phenomenon that, on top of the minimal form of adjudication, includes also other tasks such as detection of suspicious conduct or determining the legal consequences of an eventual infringement. *See* William E. Kovacic & David A. Hyman, *Competition Agency Design: What's on the Menu?*, 8 Eur. Competition J. 527, 535 (2012) ("The enforcement of a competition law entails several discrete tasks: the investigation of possible wrongdoing, the decision to prosecute, the determination of culpability and the imposition of sanctions. In the design of a competition system, a jurisdiction can unbundle these functions, or combine them within a single entity.").

[55] Hart & Sacks, *supra* note 50, at 350–51. Hart and Sacks nevertheless warn that the decisional process should not be seen as consisting of successive steps: "[T]he law determines what facts are relevant while at the same time the facts determine what law is relevant." *Id.* at 351.

[56] *Cf.* Nathan Isaacs, *The Law and the Facts*, 22 Colum. L. Rev. 1, 2 (1922) ("I refer to the legal reasoning in which propositions of law are contrasted with propositions of fact very much as major premises are contrasted with minor premises, and in which conclusions are drawn by the very same process.").

[57] Hart and Sacks call this step fact identification, Hart & Sacks, *supra* note 50, at 350, and Friedman fact-finding, Richard D. Friedman, *Standards of Persuasion and the Distinction Between Fact and Law*, 86 Nw. U. L. Rev. 916, 918 (1992).

[58] *See* Christopher Enright, *Distinguishing Law and Fact*, *in* Sunrise or Sunset? Administrative Law in the New Millennium 301, 307 (Chris Finn ed., 2000) (observing that the minor premise concerns the facts to which the applicable legal rule applies).

[59] *Cf.* Forrest G. Alogna, *Double Jeopardy, Acquittal Appeals, and the Law-Fact Distinction*, 86 Cornell L. Rev. 1131, 1154 (2001).

[60] Hart and Sacks call this step law declaration, Hart & Sacks, *supra* note 50, at 350, and Friedman law-determination, Friedman, *supra* note 57, at 918.

[61] *See* Enright, *supra* note 58, at 307 (observing that the major premise concerns the applicable legal rule).

[62] *Cf.* Alogna, *supra* note 59, at 1154.

bears several possible meanings and the court needs to select one of them or it may even be authorized to create a new rule.

Information about "what is"—that is facts as they were discussed above, including economics-based facts—may hence find use in resolution of not only questions of fact but also of questions of law. A fact used to resolve a question of fact is then adjudicative and a fact used to resolve a question of law is legislative. Especially the latter may appear confusing at first blush, for *facts* in this situation "take on *legal* dimensions."[63] Yet, consideration of factual information is in actuality indeed often necessary in resolution of questions of law, that is, in interpretation or creation of applicable legal rules.

B. Adjudicative and Legislative Facts

After reviewing the differences between fact and law and between questions of fact and questions of law, let us now concentrate on the two types of facts at stake in this article: adjudicative facts and legislative facts. It should be already clear that the difference between them is not intrinsic but rather depends on for what purpose the given fact is used.[64] Further, one should not think that only adjudicative facts carry relevance for adjudication while legislative facts do not; even the latter may.[65] Put the other way around, not every fact used in adjudication is necessarily adjudicative.[66] What matters for the classification of a given fact is whether the fact is—within adjudication[67]—used to resolve a question of fact or a question of law.[68] It is also worth noting that a single court proceeding may, and often does, work with adjudicative as well as legislative facts.[69]

There is an important difference between facts that serve as adjudicative and legislative. To be sure, the same *kind* of factual issue may perform both roles. This holds also for facts ascertained with the help of economics. Consider for instance United Air Lines v. Civil Aeronautics Bd., where the court held that findings of market power—albeit usually serving as adjudicative facts—may also be used to formulate legal rules, that is, as legislative facts.[70] At the same time, however, the different *generality* of the questions that are being resolved has implications for how general the factual information needs to be relevant. As discussed, questions of fact are inherently particular, which needs to be reflected by adjudicative facts. And questions of law are inherently general, which shapes which facts will be relevant as legislative.

The following two parts consider, in turn, the necessary generality of information about competitive effects when this information is to serve as, respectively, an adjudicative or legislative fact.

63 Bryan L. Adamson, *Federal Rule of Civil Procedure 52(a) as an Ideological Weapon*, 34 Fla. St. U. L. Rev. 1025, 1031 (2007) (emphasis added).

64 Keeton, *supra* note 18, at 70 ("The inherent nature of the fact in dispute does not determine whether it is an adjudicative or a premise fact; rather, the distinction is based on the purpose for which the court uses the fact determination."); Elizabeth G. Thornburg, *The Curious Appellate Judge: Ethical Limits on Independent Research*, 28 Rev. Litig. 131, 154 (2008) ("[I]t is not the information itself but the way in which it is used that distinguishes the two.").

65 *See* Todd S. Aagaard, *Factual Premises of Statutory Interpretation in Agency Review Cases*, 77 Geo. Wash. L. Rev. 366, 382–83 (2009); Brianne J. Gorod, *The Adversarial Myth: Appellate Court Extra-Record Factfinding*, 61 Duke L.J. 1, 43 (2011) (maintaining that "adjudicative and legislative facts are both important in the resolution of legal disputes").

66 It is nevertheless probably the case that adjudicative facts will be more frequent than legislative because while resolution of a question of fact always needs to involve determination of a fact, many questions of law can be resolved without considering any facts.

67 *See supra* text accompanying note 20.

68 *See, for example*, Mueller & Kirkpatrick, supra note 4, at §60, at 303 (Whether a fact should be classified as adjudicative or legislative "depends upon the use made of the . . . fact by the court. If the fact is used to interpret or create a legal standard, it is legislative. If used to supplement the evidence bearing on a factual question in the case, it is adjudicative.").

69 *See* Angelo N. Ancheta, Scientific Evidence and Equal Protection of the Law 5 (2006) ("In practice, adjudicative fact finding and legislative fact finding are not mutually exclusive processes; in a given case, a court may engage in both types of fact finding.").

70 United Air Lines v. Civil Aeronautics Bd., 766 F.2d 1107, 1118–19 (7th Cir. 1985).

IV. COMPETITIVE EFFECTS AS ADJUDICATIVE FACTS

As discussed in the preceding Part, an adjudicative fact is a fact used to resolve a question of fact, which in turn corresponds to the minor premise of a legal syllogism.[71] This part concerns the use of competitive effects as adjudicative facts (adjudicative competitive effects) and the role played in this context by economics. It shows that adjudicative competitive effects are competitive effects produced by a *particular* instance of business conduct, the lawfulness of which is under scrutiny.[72] To be relevant to the proceeding, an economic inquiry intending to inform the minor premise therefore needs to provide information about these particular competitive effects, which means that the inquiry needs to pay sufficient heed to the specific features of the given case.[73]

A. Effects of the Specific Conduct

Serving to establish the minor premise of a legal syllogism, adjudicative facts concern the particular case. Just to be clear, adjudicative facts do not necessarily include all facts (to be) determined and relied on by the court in the proceeding in a given case—as discussed above, courts may have use not only for adjudicative facts but also for legislative facts.[74] A perhaps less ambiguous formulation is thus that adjudicative facts are "facts about the particular event which gave rise to the lawsuit."[75]

While adjudicative facts are sometimes said to be specific rather than general, this statement needs to be treated with caution. Consider for instance information about business practices of a multinational company in dozens of countries.[76] Given its scope, such information can be seen as general in a certain basic sense. Yet, the information is also specific to the company, the territory in which it engages in the practices, and the time period in which it does so. Theoretically, there could be a court case in which information about these practices is relevant to the minor premise of the legal syllogism. It is this latter perspective that associates with the notion of adjudicative facts.

Let us examine how this framework applies to adjudicative competitive effects. They always concern a particular event[77] in the sense that they are brought about by it. They are effects of a specific agreement, unilateral conduct or merger (for brevity all jointly referred to as business conduct in this article). It does not matter that the business conduct may be global in scope and that the effects may impact a great number of consumers or businesses. Both their direction—that is whether they are harmful or beneficial—and their magnitude will still be specific for the

[71] For a compilation of other definitions of adjudicative facts, see, for example, 21B Charles Alan Wright & Kenneth W. Graham, Jr., Federal Practice and Procedure: Federal Rules of Evidence: Rules 201 to 400 at §5103.3, at 140–141 (2d ed. 2005).

[72] As a matter of fact, the effects will constitute an adjudicative fact only insofar as they are material under the applicable rule. This condition will not be satisfied for instance in cases controlled by *per se* rules. As this issue goes beyond the scope of this article, it is assumed throughout the current Part that applicable rules do render competitive affects material.

[73] *See* Corrente v. Charles Schwab Corp., No. 4:22-CV-00470, 2023 U.S. Dist. LEXIS 31415, at *14 (T.E.D.C. Feb. 24, 2023) ("The inquiry into whether a transaction will lead to anticompetitive results is industry specific and fact intensive." (internal quotation marks omitted) (citing United States v. Bertelsmann SE & Co. KGaA, F. Supp. 3d, No. 1:21-CV-02886, 2022 U.S. Dist. LEXIS 202847, at *88 n.33 (D.D.C. Nov. 15, 2022)).

[74] *Supra* note 65 and accompanying text.

[75] McCormick on Evidence, *supra* note 17, at §328, at 594. *See also* Richard B. Cappalli, *Bringing Internet Information to Court: Of "Legislative Facts"*, 75 Temp. L. Rev. 99, 100 (2002) (defining adjudicative facts as "facts about the antecedents leading to the case brought to court"); Martin A. Schwartz, Section 1983 Litigation: Federal Evidence §5.02 (5th ed. Supp 2018) (defining adjudicative facts as "the facts of the particular controversy that gave rise to the judicial proceeding").

[76] 3 Kenneth Culp Davis, Administrative Law Treatise §15.3, at 144 (2d ed. 1980).

[77] *Cf.* Herbert Hovenkamp, *Economic Experts in Antitrust Cases*, *in* 5 Modern Scientific Evidence: The Law and Science of Expert Testimony 965, 1003 (David L. Faigman, et al. eds., 2017) (observing that "in the typical antitrust case the challenged violation is a damaging but *single* act" (emphasis added)).

given case. When establishing what happened in the case at hand, the court is hence always determining these specific effects of the business conduct under scrutiny.

B. Effects Inferred

Evidence doctrine distinguishes between two types of adjudicative facts: ultimate facts and subsidiary facts. Adjudicative competitive effects will regularly serve as the former,[78] that is as facts to which the law gets directly applied.[79] For instance, if the applicable law states that the speed limit on a highway is 70 mph, it is an ultimate fact that a particular driver under investigation was driving 80, respectively, 60 mph on the highway because it immediately follows from this fact that the driver did, respectively did not break the law. Competitive effects will usually play such a decisive role in a case: after determining what effects have been produced by the conduct under scrutiny, it will be clear whether there is a violation of the law or not.[80]

Competitive effects of the conduct under scrutiny will typically need to be determined by inferring them from other—subsidiary—facts.[81] This is to say that competitive effects may rarely be proven directly.[82] Even when one can observe that price increased right after the conduct was implemented, the possibility remains that the increase had another cause than the conduct.[83] It will hence be necessary to draw conclusions about competitive effects on the basis of more readily observable case facts,[84] which may concern the conduct under scrutiny as well as the environment in which it took place,[85] such as the structure of the industry, the firms, and the structure of demand and the technology.[86] The conclusion about competitive effects is then based on combining these specific facts of the case with general economic truths through economic modelling.

[78] *See* Arthur D. Austin, *A Priori Mechanical Jurisprudence in Antitrust*, 53 Minn. L. Rev. 739, 739 n.4 (1968) ("Seen in an evidentiary context, competitive effects are ultimate facts." (internal quotation marks omitted)).

[79] *See, for example*, East v. Romine, Inc., 518 F.2d 332, 339 (5th Cir. 1975) (arguing that "a question of fact [that] is, at the same time, the ultimate issue for resolution in th[e] case" constitutes an ultimate fact); Cappalli, *supra* note 75, at 106 (arguing that a fact is ultimate "if it represents a specific instance of one of the general propositions in the rule of law sought to be applied" (citing Jerome Michael, *The Basic Rules of Pleading*, 5 Record of the Association of the Bar of the City of New York 175, 184 (1950))); Ellen E. Sward, *Appellate Review of Judicial Fact-Finding*, 40 U. Kan. L. Rev. 1, 29 (1991) ("The ultimate fact is the factual conclusion . . . to which a legal consequence applies.").

[80] To be more precise, with many laws allowing defendants to raise defenses, an ultimate fact should be understood as the minor premise of an offense or defense syllogism. *See, for example*, David P. Leonard, et al., Evidence: A Structured Approach 70 (3d ed. 2012) (defining ultimate facts as "facts necessary to the success of a charge, claim, or defense"). Even further, since an offense or defense may comprise a number of elements, *see, for example*, Andrew I. Gavil, *Competition Policy, Economics and Economists: Are We Expecting Too Much?*, *in* International Antitrust Law & Policy: Fordham Corporate Law Institute Conference 2005 575, 577 (Barry E. Hawk ed., 2006) ("Offenses are often broken down into elements, and elements into sub-elements."), there is potentially an ultimate fact concerning each such element, *see, for example*, Mueller & Kirkpatrick, *supra* note 4, at §48, at 260 n.16 ("Adjudicative facts may . . . be ultimate facts, such as the elements of a charge, claim, or defense . . . .").

[81] *See* Adamson, *supra* note 63, at 1056–57 ("Subsidiary facts might best be described as those which serve as premises for the ultimate fact." (internal quotation marks omitted)); Leonard, et al., *supra* note 80, at 70 ("Adjudicative facts need not be ultimate facts . . . ; they include any facts along the chain of reasoning leading to those ultimate facts.").

[82] *See* Mark S. Massel, *Legal and Economic Aspects of Competition*, 1960 Duke L.J. 157, 184 (1960) (maintaining that if a "case requires proof that competition has been lessened [we] cannot find any direct evidence of this phenomena, since the lessening of competition is an analytical conclusion").

[83] *Cf.* Nicola Giocoli, *Rejected! Antitrust Economists as Expert Witnesses in the Post-Daubert World*, 42 J. Hist. Econ. Thought 203, 221 (2020).

[84] Evidence proving subsidiary facts is known as indirect or circumstantial. *See, for example*, Robert J. Gregory, *Whose Reasonable Doubt? Reconsidering the Appropriate Role of the Reviewing Court in the Criminal Decision Making Process*, 24 Am. Crim. L. Rev. 911, 940–42. And, as observed by Massel, "[t]he trial of economic issues in an antitrust case almost always turns on indirect or circumstantial evidence." Massel, *supra* note 82, at 184.

[85] *Cf.* Eric Gippini-Fournier, *The Elusive Standard of Proof in EU Competition Cases*, 33 World Competition 187, 196–97 (2010) (distinguishing "between personal acts and the consequences of those acts in the presence of exogenous circumstances which may not be entirely in the hands of the undertakings" (emphases omitted)).

[86] *See, for example*, Malcolm B. Coate & Jeffrey H. Fischer, *Can Post-Chicago Economics Survive Daubert?*, 34 Akron L. Rev. 795, 828 (2001) ("In an antitrust case, expert economic testimony generally attempts to infer actual or prospective market effects from potentially problematic behavior, as well as from evidence on the structure and performance of the market.").

It ought to be added that the evidentiary doctrine frequently couches the adjudicative use of economics in terms that might be confusing for our purposes. Namely, a distinction is often drawn between "facts," on the one hand, and "opinion" or "assessment" based on these facts, on the other. Yet, this distinction is meant only to subdivide—and distinctly regulate the discrete steps of—the fact-finding process rather than to suggest that inferences do not concern factual issues.[87] After all, economics-based inferences concerning the relevant market or market power have been viewed as facts by the courts.[88]

C. Relevance of Economics: Bespoke Analyses

The preceding sections of this Part have demonstrated that adjudicative competitive effects are competitive effects of a specific instance of business conduct under legal scrutiny, and that the determination of these effects usually takes the form of inference from other facts of the case and from economic theory. This has significant practical implications for the usefulness of economics in determination of adjudicative competitive effects within a given antitrust proceeding. Namely, to be useful, the economic inquiry needs to be relevant with regard to the case,[89] which is to say that it must take into account its *specifics*. As shown in this section, this requirement will hardly be satisfied by inquiries based on generic, off-the-shelf economic models. Such inquiries are hence to have little influence over court decisions about what happened in the case at hand and, thus, about whether antitrust law has been violated.

1. Heterogeneity of Cases

Theoretically, one could conceive of a situation in which competitive effects of business conduct could be determined with the help of a few standardized economic models. This would be the case if the range of factors shaping the effects were quite limited for every category of business conduct and if modelling choices did not have major impact on the outcome. The same model could then be used repeatedly to ascertain competitive effects in every court case concerning conduct within the given category.

This is, however, not the picture painted by contemporary economics. To be sure, earlier economic scholarship did frequently make broad claims as to the pro- or anti-competitiveness of business conduct. Take for instance the single monopoly-profit theorem of the Chicago School, according to which businesses do not have an incentive to leverage their market power to another market.[90] Yet, more recent studies have shown that such broad claims rarely hold water. Whether business conduct is harmful or benign is now understood to be much more dependent on the specific circumstances of the case,[91] including for instance elasticity of demand or the magnitude of fixed costs.[92] As observed by Baker and Bresnahan, "much variation in outcomes arises from

[87] *See, for example*, Adamson, *supra* note 63, at 1047 (asserting that inferences and deductions drawn from other facts are themselves "couched as facts"); 2 Kenneth Culp Davis, Administrative Law Treatise §30.02, at 194 (1958) ("drawing inferences from established facts is a part of the fact-finding process").

[88] *See, for example*, Kaiser Aluminum & Chem. Corp. v. FTC, 652 F.2d 1324, 1329 (7th Cir. 1981) ("The definition of relevant markets within which to measure the effects on competition of the proposed acquisition is a question of fact. As such, the Commission's findings as to relevant markets are to be accorded great deference and are to be upheld if supported by substantial evidence."); Gordon v. Lewistown Hosp., 272 F. Supp. 2d 393, 420 (M.D. Pa. 2003) ("The existence of market power is a question of fact." (citing Fineman v. Armstrong World Indus., Inc., 980 F.2d 171, 199 (3d Cir.1992); Weiss v. York Hosp., 745 F.2d 786, 825 (3d Cir.1984))).

[89] *Cf.* Giocoli, *supra* note 83, at 203.

[90] David S. Evans & A. Jorge Padilla, *Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach*, 72 U. Chi. L. Rev. 73, 77 (2005).

[91] Malcolm B. Coate & Jeffrey H. Fischer, *Daubert, Science, and Modern Game Theory: Implications for Merger Analysis*, 20 Sup. Ct. Econ. Rev. 125, 163–64 (2012).

[92] Evans & Padilla, *supra* note 90, at 79–80.

factors specific to each individual industry."[93] Consequently, modelling choices are essential to an accurate determination of competitive effects.[94]

2. Flaws of Generic Models

Given how sensitive model outcomes are to modelling choices, determination of adjudicative competitive effects should not be based on generic models.[95] Of course, the used model does not need to reflect every detail of the industry in question; some abstraction is what actually makes economic models helpful.[96] Still, however, the model must not be oblivious to or even at odds with important aspects of the real world. And using highly generic off-the-shelf economic models will often lead to such disconnect.[97] Unless refined,[98] these models then have limited relevance to the case.[99] Yet, as hinted at by Giocoli, it is not all that rare that parties—through their expert witnesses—do put forward testimonies that are "generic, non-industry-based".[100]

There are two ways in which off-the-shelf models fail to capture the specifics of the given case.[101] First, they often exclude independent variables that in reality may have important influence on the dependent variable representing competitive effects. Consider for example In re Live Concert Antitrust Litigation, where the court criticized plaintiffs' economic analysis for not taking into account changes in artist quality and the emergence of digital downloading of music as factors that could have affected the price of tickets for live concerts.[102] Second, assumptions or conclusions of such generic models often conflict substantially with essential facts of the case. For instance, in Concord Boat,[103] plaintiffs' expert witness worked with a standard model of symmetric Cournot duopoly. According to this model, if it had not been for the defendant's allegedly unlawful conduct, its market share would have been 50% (instead of the actual 78%). The court, nevertheless, found this analysis flawed because the defendant in reality held already

93 Jonathan B. Baker & Timothy F. Bresnahan, *Economic Evidence in Antitrust: Defining Markets and Measuring Market Power*, *in* Handbook of Antitrust Economics 1, 27 (Paolo Buccirossi ed., 2008).

94 *See* Bishop, *supra* note 32, at 69 ("Those familiar with economic theory will know that a large number of results can often be reversed by making an alternative assumption.").

95 Organisation for Economic Co-Operation and Development, *Economic Evidence in Merger Analysis* 34 (2011), *avaliable at* https://www.oecd.org/daf/competition/EconomicEvidenceInMergerAnalysis2011.pdf ("Generic, off-the-shelf simulations models are of very limited value.") To be sure, an economic analysis may be irrelevant to the facts of the case at hand also for other reasons than the use of generic models. Given that this article focuses on the relevant generality of economic analyses, such other reasons are however beyond its scope.

96 *See, for example*, Gregory J. Werden, *The Admissibility of Expert Testimony*, *in* I Issues in Competition Law and Policy, 812 (ABA Section of Antitrust Law ed., 2008); Jeff Todd, *Realistic Assumptions in Economic Models*, 47 Hofstra L. Rev. 231, 253 (2018).

97 *See* Michael R. Baye, Dir., Bureau of Econ., Fed. Trade Comm'n, Prepared Remarks before the Economics and Federal Civil Enforcement Committees of the ABA's Antitrust Section Brownbag: The Role of the Economists in Antitrust: Getting the Most from Your Economic Expert, 3 (Oct. 17, 2007) (transcript available at https://www.ftc.gov/news-events/news/speeches/role-economists-antitrust-getting-most-your-economic-expert).

98 *Id.* ("Economic theories often have to be refined to account for the complexities of real-world facts.").

99 *See* Mike Walker, *The Potential for Significant Inaccuracies in Merger Simulation Models*, 1 J. Comp. L. & Econ. 473, 494–95 (2005) (arguing that only "bespoke simulation models, designed to fit the particular industry in question, are likely to be useful" while "standard off-the-shelf simulation models" are not (internal quotation marks omitted)).

100 Giocoli, *supra* note 83, at 217.

101 *See* Jeff Todd & R. Todd Jewell, *Dubious Assumptions, Economic Models, and Expert Testimony*, 42 Del. J. Corp. L. 279, 298 (2018) (identifying "unfounded simplifications or omissions" as two flaws of assumptions in econometric models criticized by courts).

102 863 F. Supp. 2d 966, 978–79 (C.D. Cal. 2012). Other antitrust decisions criticizing a testimony of an economic expert for omitting an important factor include, for instance, Craftsmen Limousine, Inc. v. Ford Motor Co., 363 F.3d 761, 776–77 (8th Cir. 2004) (finding that a damages testimony failed to "determine whether other factors, including emergence of two direct competitors, may have affected" the plaintiff's growth rate); Blue Dane Simmental Corp. v. Am. Simmental Ass'n, 178 F.3d 1035, 1039–41 (8th Cir. 1999) (finding that a damage estimate failed to consider "all independent variables that could affect the conclusion"); Merit Motors, Inc. v. Chrysler Corp., 569 F.2d 666, 673 (D.C.Cir.1977) (finding that an expert testimony ignored the impact of other dominant forces in the relevant market); *In re* Aluminium Phosphide Antitrust Litig., 893 F. Supp. 1497, 1504–05 (D. Kan 1995) (finding that a damage estimate failed to account for several important factors).

103 Concord Boat Corp. v. Brunswick Corp., 207 F.3d 1039, 1056 (8th Cir. 2000). Other antitrust decisions criticizing a testimony of an economic expert for its inconsistence with reality include, for instance, American Booksellers Ass'n v. Barnes & Noble, Inc., 135 F. Supp. 2d 1031, 1041 (N.D. Cal. 2001) (finding that a model contained "too many assumptions and simplifications that are not supported by real-world evidence").

before the conduct a much higher market share (namely 75%).[104] Given how sensitive the determination of competitive effects is to adopted modelling choices, both ways of failing to account for the specificities of a case are likely to distort the accuracy of the analysis.

3. Consequences of Insufficient Specificity

The requirement that the economic analysis be relevant to the case is embodied in two federal rules of evidence. First, Federal Rule of Evidence 702(d) specifies as a condition of admitting expert testimony "that the expert has reliably applied the principles and methods *to the facts of the case*" (emphasis added).[105] An economic analysis of competitive effects that ignores the specifics of the given case will hence fail to satisfy this rule or at least satisfy it to a lower degree. Second, Federal Rule of Evidence 401(a) defines as a probative value of evidence "any tendency to make a fact more or less probable than it would be without the evidence,"[106] that is, to prove or disprove a case fact. Given that an economic analysis of competitive effects needs to take specifics of the case into account to determine the effects accurately, its probative value will depend on its relevance to the facts of the case.[107]

An economic analysis with no or little relevance to the facts of the case likely will—and indeed should—have no or little impact on the outcome of the case. This may happen through two distinct procedural paths. First, the analysis may be found outright inadmissible by the court[108] and, hence, not even be considered in the adjudicatory calculus.[109] Second, the economic analysis will not be completely disregarded, but it will be assigned little probative weight and, thus, the court will not rely on it in determining the competitive effects of the business conduct at stake and, hence, its (un)lawfulness.[110]

To be sure, the exact standards for evaluating admissibility of economic analyses with regard to their relevance to the facts of the case are not entirely clear.[111] In theory, inadmissibility should be reserved only for analyses that bear *too little* relevance. As argued by the Supreme Court, an incompleteness of an analysis does not render it automatically inadmissible—it must achieve a certain threshold.[112] And it seems only logical to adopt such a threshold-based approach

[104] *See* Coate & Fischer, *supra* note 86, at 806 (agreeing with the court's criticism of the economic analysis). *But see* John L. Solow & Daniel Fletcher, *Doing Good Economics in the Courtroom: Thoughts on Daubert and Expert Testimony in Antitrust*, 31 J. Corp. L. 489, 500–01 (2006) (disagreeing with the court's criticism of the economic analysis).

[105] Federal Rule of Evidence 702 is a codification of the Supreme Court's approach towards admitting expert testimony. *See* Kumho Tire Co., Ltd. v. Carmichael, 526 U.S. 137 (1999); Gen. Elec. Co. v. Joiner, 522 U.S. 136 (1997); Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579 (1993).

[106] According to FRE 401, probative value of evidence is an element of its "relevance". Please note that this article does not address this—broad—notion of evidentiary relevance.

[107] *See* Bazemore v. Friday, 478 U.S. 385, 400 (1986) (Brennan, J., concurring) (per curiam) (noting that "the omission of variables from a regression analysis may render the analysis less probative than it otherwise might be"). From a certain perspective, Federal Rule of Evidence 702(d) may be understood as singling out relevance to the case as a condition of probative value for expert testimonies. *Cf.* Calvin William Sharpe, *Reliability Under Rule 702: A Specialized Application of 403*, 34 Seton Hall L. Rev. 289, 300 (2003).

[108] The ground for its inadmissibility may, in addition to Federal Rule of Evidence 702, be Federal Rule of Evidence 401(a) in conjunction with Federal Rule of Evidence 402. These rules provide that evidence with no probative value is inadmissible.

[109] *Cf.* David L. Faigman, et al., *Using the Structure of Scientific Research to Distinguish between Admissibility and Weight in Expert Testimony*, 110 Nw. U. L. Rev. 859, 861 n.1 (2016) ("Even though the judicial and verdict roles merge in a bench trial, judges should not consider inadmissible scientific evidence any more than juries should.").

[110] This may not necessarily concern a jury verdict. The case may instead be resolved through a summary judgment or a judgment as a matter of law. *See* 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, 700–01 (1997); *see also* Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 596 (1993) (observing that such judgments may be granted even if the court admits the expert testimony).

[111] Christopher P. Guzelian & Jeff Todd, *The Legal Relevance of Economics*, 93 Temple L. Rev. 1, 4 (2020); Christine P. Bartholomew, *Death by Daubert: The Continued Attack on Private Antitrust*, 35 Cardozo L. Rev. 2147, 2158 (2014).

[112] Bazemore v. Friday, 478 U.S. 385, 400 (1986) (Brennan, J., concurring) (per curiam) ("Normally, failure to include variables will affect the analysis' probativeness, not its admissibility."). *Id.* at 400 n.10 ("There may, of course, be some regressions so incomplete as to be inadmissible as irrelevant; but such was clearly not the case here."). For an example of an antitrust court excluding an expert testimony because it omitted a major variable, see Kentucky v. Marathon Petro. Co. LP, 464 F. Supp. 3d 880, 894.

also with regard to modelling assumptions and conclusions that are at odds with the observed reality.[113] What is more, courts in practice do often approach admissibility in this forgiving way, allowing some imperfection of testimonies.[114] Yet, it is also true that this does not hold in all cases as "[s]ometimes . . . courts exclude an expert whose model is merely questionable though not fatally flawed."[115]

Either way, an economic analysis that is not relevant to the facts of the case at hand—because the analysis is too generic to reflect these facts at all or to reflect them appropriately—does not provide an accurate picture of the competitive effects produced by the specific business conduct under scrutiny. As shown by the case law, parties—and especially plaintiffs—do nevertheless regularly submit such analyses.[116] And, what is more, courts do sometimes base decisions on the analyses.[117] However, as explained, models used in antitrust enforcement really "should be bespoke models that take account of the specific facts of the industry at hand."[118] And, conversely, models failing to do so should have little impact on the outcome of the case, regardless of how this is ensured procedurally.

V. COMPETITIVE EFFECTS AS LEGISLATIVE FACTS

This Part concerns the use of competitive effects as legislative facts (legislative competitive effects) and the role of economics in their determination. Although legislative facts arguably tend to receive less attention in the commentary than adjudicative ones, their use is pervasive and their role in court decision-making essential.[119] As shown in Part III, a legislative fact is a fact used to resolve a question of law, that is, to determine the content of the rule to be used as the major premise of a legal syllogism. Given that a legal rule does not govern just one case but also other ones, legislative competitive effects do not concern only a specific instance of business conduct but its entire class. An economic analysis intending to inform the major premise therefore needs to provide sufficiently comprehensive information about the respective class to be relevant.

A. Preliminary Points

A terminological remark is in order here. While this article adheres to the conventional notion of "legislative fact," it needs to be appreciated that the reference to "legislation" may be misleading in two ways. First, the facts in question are used not only by legislatures but also by courts,[120] which use this article actually focuses on.[121] Second, as elaborated in the following paragraph, these facts are used not only to make new law but also to interpret existing rules. Consequently, alternative designations have been suggested to prevent possible misunderstandings—Keeton,

[113] *See* Arista Records LLC v. Lime Grp. LLC, No. 06 CV 5936 (KMW), 2011 WL 1674796, at ∗13 (S.D.N.Y. May 2, 2011) (arguing that challenges to econometric relevance should typically "go to the weight of [the] testimony not its admissibility"); Bartholomew, *supra* note 111, at 2174–75 ("The admissibility determination is more generous than evaluating whether the expert testimony proves the case."); Todd & Jewell, *supra* note 101, at 295 (observing that "circuit courts recognize that challenges to assumptions typically go to weight and not admissibility").

[114] Guzelian & Todd, *supra* note 111, at 40 ("[M]any, if not most, courts take a liberal approach to admissibility.").

[115] *Id.* at 19; *see also* Bartholomew, *supra* note 111, at 2175–76; Rebecca Haw Allensworth, *Law and the Art of Modeling: Are Models Facts?*, 103 Geo. L.J. 825, 864.

[116] *See supra* notes 101–102.

[117] *See supra* notes 101–102.

[118] Organisation for Economic Co-Operation and Development, *supra* note 95, at 34.

[119] *See* Gorod, *supra* note 65, at 39 (arguing that the legislative kind of fact "is no less important—and, in fact, is arguably more important—to the courts' resolution of many legal disputes" than the adjudicative kind).

[120] *See* Stephen Gageler, *Fact and Law*, 11 Newcastle L. Rev. 1, 22 (2008–2009) (observing that in the context of the judiciary the term legislative fact refers to "a court acting as a legislator").

[121] *See supra* notes 19–20 and accompanying text.

for instance, proposed to use the term "premise facts" or "issue-of-law facts."[122] For the sake of consistency, this article nevertheless adheres to the traditional terminology.[123]

As mentioned, legislative facts are facts used to resolve questions of law.[124] Resolving a question of law means determining the content of the rule to be applied.[125] There are two types of such determinations. The first one consists in ascertaining the content of an already existing piece of—statutory, common or other—law, which is known as legal interpretation.[126] The second possibility is that the adjudicating body makes a new rule. This new rule may govern a type of cases that have so far been unregulated—that is "fill in a gap"—or it may replace an older rule. It needs to be added, nevertheless, that the line between interpreting and making the law is often hard or outright impossible to discern, and that some writers challenge its existence altogether. This elusiveness of the distinction does, nevertheless, not undermine the concept of a legislative fact as such. A fact used to resolve a question of law is legislative regardless of whether the resolution entails ascertainment of an existing rule or fashioning of a new one.[127]

Facts are relevant to law-interpretation and law-making when the law aims to achieve a certain goal in the real world. The factual information is then used to determine a legal rule that is conducive to this goal.[128] As regards interpretation, legislative facts will hence find use primarily in purposive interpretation: If a piece of law allows several possible interpretations and its purpose is for instance to deter as much competitive harm as possible (while bringing about as little cost as possible), the interpretation ought to be selected that furthers this purpose the most. The interpreter needs to possess factual information—including information about the competitive effects of the conduct governed by the law[129]—to be able to select such an interpretation.[130] Similarly, when a new antitrust rule is to be designed that pursues the respective purpose; the same facts come into play. In other words, the use of facts in interpretation and making of law are two sides of the same coin.

B. Effects of a Conduct Class

It was discussed above that adjudicative competitive effects are effects brought about by a particular instance of business conduct.[131] Legislative competitive effects, in contrast, concern

[122] Keeton, *supra* note 18, at 8 n.20.

[123] *See* Faigman, *supra* note 6, at 46 ("Davis's dichotomy . . . has become the established vocabulary for describing the kinds of facts that are relevant to legal discourse.").

[124] *See supra* note 4 and accompanying text; note 68 and accompanying text; *see also* Keeton, *supra* note 18, at 11 (defining legislative facts as "facts that serve as premises for deciding an issue of law").

[125] *See supra* Part III.A.2.

[126] *See, for example*, Mark Greenberg, *What Makes a Method of Legal Interpretation Correct? Legal Standards vs. Fundamental Determinants*, 130 Harv. L. Rev. F. 105, 110 (2017).

[127] Menora v. Ill. High Sch. Ass'n, 683 F.2d 1030, 1036 (7th Cir. 1982) ("Legislative facts are those general considerations that move a lawmaking or rulemaking body to adopt a rule."); Heck v. Reed, 529 N.W.2d 155, 163 (N.D. 1995) ("A court may take judicial notice of legislative facts when interpreting a statute, particularly when the statute is grounded in public policy."); McCormick on Evidence, *supra* note 17, at §328, at 595 ("Judicial notice of [legislative] facts occurs when a judge is faced with the task of creating law, by deciding upon . . . the interpretation of a statute, or the extension or restriction of a common law rule, upon grounds of policy, and the policy is thought to hinge upon social, economic, political or scientific facts." (footnotes omitted)).

[128] *See* Cappalli, *supra* note 75, at 106 ("[J]udges want their rules to operate to society's benefit, and they are more likely to create beneficial law if they are fully informed about the relevant social setting."); Gorod, *supra* note 65, at 41–42 (arguing that "[t]he establishment of any legal rule requires some understanding of the world in which that legal rule will operate").

[129] The decision-maker will actually also want to know how the law influences the behavior of its addressees. This is perhaps the most paradigmatic legislative fact. *See* Ann Woolhandler, *Rethinking the Judicial Reception of Legislative Facts*, 41 Vand. L. Rev. 111, 114 (1988). While such influence of antitrust rules may also be determined with the help of economics, *see* Broulík, *supra* note 29, at 30–34, it is not considered by this article.

[130] *See supra* note 63 and accompanying text.

[131] *Supra* Part IV.A.

an entire conduct *class*.[132] That is to say that they are general rather than specific.[133] This follows from the generality of law—each antitrust rule provides for a category of business conduct. Legislative competitive effects are then effects produced by such a category.

Competitive effects of a class of business conduct are described by their distribution.[134] Ideally, one would know a detailed distribution of the effects' actual magnitudes across the entire spectrum from the most harmful to the most beneficial ones. There can nevertheless also be less complete information about the effects of the class. At the very least, one may know whether there are any harmful or benign instances at all. It can for example be a fact that some type of market conduct always has adverse competitive effects or, on the contrary, that it never is harmful. It will nevertheless usually be the case that the class contains harmful as well as benign instances.[135] In that case, we may endeavor to find out—or rather estimate—the mean (average) of the distribution. The focus is then usually on the question whether the effects of the class are on average adverse or not.

A distribution of competitive effects can also be described in relative terms. One possibility is to know the relative frequencies of harmful and benign instances of competitive effects produced by the given conduct class.[136] It could for instance be the case that one third of resale price maintenance agreements harm welfare, while the other two thirds do not.[137] In addition, the distribution may be further described as regards the relative magnitudes of the effects.[138] For instance, benign instances may be known to occur three times less likely than the harmful ones, but with the pro-competitive effects of benign conduct being on average five times larger than the anti-competitive effects of harmful conduct.

C. Effects Informing Optimal Rules

Information about the distribution of competitive effects constitutes an important input into the fashioning of optimal antitrust rules. An optimal rule is the one from all available rules that achieves the goal of the law to the greatest extent.[139] The goal of antitrust is to prevent as much competitive harm with as little cost as possible, whereas a major type of cost is the negative side-effect consisting in prevention of business conduct with benign competitive effects. The extent of prevented pro-competitive effects (overdeterrence) and non-prevented

[132] *Cf.* Michael Evan Gold, *Levels of Abstraction in Legal Thinking*, 42 S. Ill. U. L.J. 117, 127 (2018) ("A legislative fact is a fact that is generally true of many persons and transactions. . . . In contrast, an adjudicative fact is a fact that need be true only of specific persons and transactions; whether it is true of any other persons or transactions is irrelevant.").

[133] *See* Keeton, *supra* note 18, at 19 n.50 ("The distinction between facts about the particular case and facts about the state of the world is an underlying theme of the contrast between adjudicative and premise facts. Adjudicative facts are material specifically to the case at hand (case facts or discrete facts) and, in contrast, premise facts bear on the determination of what legal rule courts should apply to a specific case and other like cases generally (general facts).").

[134] *Cf.* Arndt Christiansen & Wolfgang Kerber, *Competition Policy with Optimally Differentiated Rules Instead of "Per se Rules vs Rule of Reason"*, 2 J. Comp. L. & Econ. 215, 229–31 (2006) (discussing the "frequency distribution of the welfare effects of the controlled business behavior").

[135] *See, for example*, William H. Page, *The Chicago School and the Evolution of Antitrust: Characterization, Antitrust Injury, and Evidentiary Sufficiency*, 75 Va. L. Rev. 1221, 1240 (1989) ("[A]t the level of rulemaking, in which practices must be described in categorical terms, the models only rarely result in such clear-cut answers.").

[136] *Cf.* Keith N. Hylton & Michael Salinger, *Tying Law and Policy: A Decision-Theoretic Approach*, 69 Antitrust L.J. 469, 470 (2001) (stressing the importance of the relative frequencies of pro- and anticompetitive conduct in such an analysis).

[137] *Cf.* Yannis Katsoulacos & David Ulph, *On Optimal Legal Standards for Competition Policy: A General Welfare-Based Analysis*, 57 J. Indus. Econ. 410, 413 (2009) (calling the share of harmful instances the "base-rate probability of anticompetitive harm").

[138] *Cf.* John Vickers, *Competition Law and Economics: A Mid-Atlantic Viewpoint*, 3 Eur. Competition J. 1, 10 (2007) ("Decision theory implies that it is not just the relative frequency of pro- and anti-competitive consequences that matters to the assessment of a *per se* rule, but the severity of resulting harm in either case.").

[139] The literature tends to frame this fashioning as an exercise in minimization of costs associated with the rules. *But see* Jonathan B. Baker, *Taking the Error Out of Error Cost Analysis: What's Wrong with Antitrust's Right*, 80 Antitrust L.J. 1, 7 n.24 (2015) ("Although the 'error cost' analysis is conducted in terms of costs, minimizing total social costs is equivalent to maximizing total social benefits, which is more likely how the analysis would be described in the language of decision theory.").

anti-competitive effects (underdeterrence) depends on—among other things—how often conduct with pro-competitive effects gets found unlawful (type-I error) or conduct with anti-competitive effects lawful (type-II error) and on the magnitude of these effects.[140] Knowledge of how competitive effects are distributed across the conduct class in question is hence indispensable for the determination of an optimal rule.[141]

With an optimal rule being optimal for the *given class* of conduct, the notion of a class and its delimitation requires particular attention. Interpretation of law usually works with a class predefined by the rule at stake.[142] Making of law nevertheless does not need to work with any predefined categories. To the contrary, a substantial contribution of economic analysis consists in development of new categorizations that may be used to specify which conduct is lawful and which is not.[143] Christiansen and Kerber in this context speak about the "separation effectiveness" of additional assessment criteria as a reduction in type-I and type-II errors following from their introduction.[144] The new categorizations will then obviously pay attention also to distributions of competitive effects[145]—ideally the new categorization will lead to the isolation of a category with a very little or very large share of harmful or benign effects. For example, instances of a practice that exhibits a certain feature that makes harm unlikely—for example being adopted by a business with market share below a certain threshold—could be *per se* allowed while the rest could fall under the rule of reason.[146] A crucial requirement is then that the feature in question be easily discernible by adjudicators as well as by antitrust's addressees.

This discussion reveals that determination of an optimal rule needs to be based on information about competitive effects of not only the conduct class ultimately governed by the rule but also of adjacent classes. Imagine, for instance, that one wants to create a safe harbor—that is a permissive *per se* rule—for vertical agreements that are unlikely to harm welfare. One possibility is to adopt a rule that makes lawful all vertical agreements concluded by businesses whose market share does not exceed a specified threshold except for those agreements that include a black-listed provision.[147] To put together the black list, it is clearly necessary to be informed about competitive effects of agreements that do not end up enjoying the benefit of the safe harbor. In other words, legislative competitive effects are not necessarily the competitive effects of the conduct class governed by the antitrust rule to be applied in the case at hand; they may concern also effects exerted by a related class.

D. Relevance of Economics: Comprehensive Analyses

We have so far seen in Part V that legislative competitive effects are competitive effects of a business-conduct class that a court considers while interpreting or making an antitrust rule. Like

[140] For a discussion of the relationship between enforcement errors and antitrust deterrence and for an overview of the literature, see Jan Broulík, *Preventing Anticompetitive Conduct Directly and Indirectly: Accuracy Versus Predictability*, 64 Antitrust Bull. 115, 121–22 (2019).

[141] *See, for example*, Page, *supra* note 135, at 1240 (arguing that determination of an optimal antitrust rule needs to take into account "the magnitude of the welfare effects of the practice").

[142] Unless what needs to be interpreted is the actual scope of the rule. In that case the following discussion on law making applies *mutatis mutandis*.

[143] *Cf.* John E. Lopatka & William H. Page, *Economic Authority and the Limits of Expertise in Antitrust Cases*, 90 Cornell L. Rev. 617, 639 ("The implications of a theory allow courts to predict that a practice will have monopolistic effects in specified circumstances. Using these predictions, the courts can identify the sorts of factual inquiries necessary to determine whether liability is appropriate. Courts must then formulate rules that define the factual issues on which the outcome of the case depends.").

[144] Christiansen & Kerber, *supra* note 134, at 230.

[145] *See, for example*, Thomas G. Krattenmaker & Steven C. Salop, *Raising Rivals' Costs to Achieve Power over Price*, 96 Yale L.J. 209, 253 (1986) (arguing that designing of optimal antitrust rules on exclusionary practices "requires identifying the key factors of market structure and firm behavior that are conducive to successful exclusionary strategies").

[146] *Cf.* David S. Evans, *How Economists Can Help Courts Design Competition Rules: An EU and US Perspective*, 28 World Competition 93, 97 (2005) ("For example, the predatory pricing test in the United States can be thought of as a set of sufficient conditions for delineating the circumstances in which aggressive price-cutting is anti-competitive.").

[147] This is the approach of the EU Block Exemption Regulation for vertical agreements.

in the case of competitive effects serving as adjudicative facts, economic inquiries into legislative competitive effects must have a certain level of generality to be relevant. This time around, the economic inquiry needs to provide sufficiently *comprehensive* information about the distribution of the effects. As shown in this section, this requirement will hardly be satisfied by inquiries into the effects of a specific instance of business conduct. Such inquiries are hence to have little influence over decisions about the content of the rule to be applied to the case at hand and, thus, about whether antitrust law has been violated.

1. Flaws of Insufficiently Comprehensive Inquiries

It will make sense to assign any weight to an economics-based inquiry into legislative competitive effects only insofar as this inquiry can actually contribute to choosing the optimal rule. This will be the case if the inquiry provides sufficiently comprehensive information about how competitive effects of the given conduct class are distributed. In contrast, the court will have little use for findings about the competitive effects of individual instances of business conduct.

Still, it is not rare that academic commentators, and especially those coming from the discipline of economics, reject this logic and advocate for a certain antitrust rule on the basis of very limited information about competitive effects of the respective conduct class. Take for instance Haucap's observation that "many contributions in the industrial organization literature . . . conclude that a rule of reason is almost always warranted, as soon as a model succeeds in demonstrating that some business practice can have either positive or negative welfare effects."[148] Consider the following example of such a contribution: "[T]here is evidence that [some] RPM agreements may be procompetitive while others may facilitate collusion. As a matter of economics, therefore, RPM agreements should be treated on a case-by-case basis using an effects-based approach."[149]

The logic underlying this approach is as follows: A category of business conduct can only be subjected to a *per se* prohibition if it includes *no* benign conduct at all, that is if the rule produces no type-I errors. And a *per se* permission is optimal only as long as the respective category includes *no* harmful instance, that is as long as the rule produces no type-II errors. To put it the other way around, as soon as a conduct category includes some harmful as well as some benign instances, the optimal rule for this category is automatically one mandating a full-fledged case-by-case assessment.

The presented logic is nevertheless false[150] because the distribution of competitive effects is not the only factor to be taken into account in determination of an optimal rule. There are at least two other sets of relevant considerations. First, since antitrust law prevents competitive harm much more often indirectly through discouraging potential violations rather than directly

[148] Justus Haucap, *Bounded Rationality and Competition Policy*, *in* Competition Policy and the Economic Approach: Foundations and Limitations 217, 220 (Josef Drexl, et al. eds., 2011); *see also* Matthew Bennett, et al., *Resale Price Maintenance: Explaining the Controversy, and Small Steps Towards a More Nuanced Policy*, *in* International Antitrust Law & Policy: Fordham Corporate Law Institute Conference 2009 497, 504 (Barry E. Hawk ed., 2010) (observing that some economists cannot stomach the fact that practices without an anticompetitive effect are presumed unlawful); Michael Dennis Whinston, Lectures on Antitrust Economics 19 (2006) ("In the economics literature, it is common for a journal article that shows that a particular practice could either raise or lower welfare to conclude that this implies that the practice should be accorded a rule of reason standard. As the foregoing discussion suggests, such a conclusion makes little sense.").

[149] Jorge Padilla, *The Role of Economics in EU Competition Law: From Monti's Reform to the State Aid Modernization Package* at 7 (Sept. 28, 2015) (unpublished working paper), *available at* https://ssrn.com/abstract=2666591 (footnotes omitted).

[150] *See* Frank H. Easterbrook, *Ignorance and Antitrust*, *in* Antitrust, Innovation, and Competitiveness 119, 129 (Thomas M. Jorde & David J. Teece eds., 1992) ("[W]e must jettison the 'never' fallacy. Judges and scholars often say that unless a practice is 'never' inefficient, 'never' costly to consumers, juries must determine whether it was deleterious in the case at hand.").

by stopping actual instances of harmful conduct,[151] it does matter how well businesses can predict whether their conduct would be sanctioned or not.[152] Second, the operation of antitrust entails spending of resources on the part of enforcers as well as businesses—by the former on detection, the latter on compliance, and both on actual cases;[153] these administration costs also need to be considered. As it happens, predictability tends to be higher[154] and administration costs lower[155] for *per se* rules anticipating a limited factual inquiry than for the rule of reason requiring a thorough assessment. That is why the optimal rule for the given conduct category may well produce type-I or type-II errors, that is be over- or under-inclusive[156] as regards the competitive effects of the category.[157]

As a result, when determining the optimal rule for a category of antitrust conduct, it makes little sense to rely on an economic analysis finding only that there are—or even just theoretically may be—*some* instances of pro- or anti-competitive conduct within that category. This is why it will not make much sense to argue that the case at hand cannot be governed by a *per se* prohibitive or permissive rule only because the instance of conduct under scrutiny has benign, respectively harmful effects. Similarly, rule design will have little use for the predictions of the Post-Chicago game theoretical models as those tend to be "case specific and highly dependent on the chosen parameters."[158] But what interpreters and makers of antitrust rules truly need is more complete information about the distribution of the competitive effects of the given conduct class.[159]

2. Consequences of Lacking Comprehensiveness

Due to the irrelevance of information about specific instances of business conduct to choosing the optimal rule, courts should pay little attention to such information when deciding on the content of antitrust laws. To be sure, in contrast to adjudicative facts,[160] there are virtually no rules regulating how courts are supposed to ascertain legislative facts.[161] For instance, there is no rule governing admissibility of evidence concerning legislative facts. As a result, insufficiently comprehensive evidence will not be excluded from the record.

[151] *See, for example*, Stephen Davies, et al., *Quantifying the Deterrent Effect of Anticartel Enforcement*, 56 Econ. Inquiry 1933 (2018); Deloitte, *The Deterrent Effect of Competition Enforcement by the OFT* (2007), *avaliable at* http://webarchive.nationalarchives.gov.uk/20140402141250/http:/www.oft.gov.uk/shared_oft/reports/Evaluating-OFTs-work/oft962.pdf.

[152] Broulík, *supra* note 40, at 125–27.

[153] For an overview of the literature, see *id.* at 117 n.7&8.

[154] *For example* Frank H. Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 Antitrust L.J. 135, 155 (1984) ("When everything is relevant, nothing is dispositive. Any one factor might or might not outweigh another, or all of the others, in the factfinder's contemplation. The formulation offers *no help to businesses planning their conduct*." (emphasis added))

[155] *For example* Katsoulacos & Ulph, *supra* note 137, at 419 ("There are costs involved in collecting and analysing the information needed to form the judgments necessary to implement a discriminating rule—costs that would not be incurred under a *per se* rule.").

[156] *See, for example*, Daniel A. Crane, *The Economics of Antitrust Enforcement*, *in* Antitrust Law and Economics 1, 10 (Keith N. Hylton ed., 2d ed. 2010) ("Adjudicatory errors may occur in both directions—false positive and false negative— . . . at the liability rule-framing level (through underinclusion and overinclusion) . . . .").

[157] *See, for example*, Stephen Breyer, *Economic Reasoning and Judicial Review*, 119 Econ. J. F123, F130 (2009) ("[C]ourts sometimes should apply rules of *per se* unlawfulness to business practices even when those practices sometimes produce economic benefits.").

[158] Patrice Bougette, et al., *When Economics Met Antitrust: The Second Chicago School and the Economization of Antitrust Law*, 16 Enterprise Soc'y 313, 315 (2015).

[159] *See* Page, *supra* note 135, at 1242 ("[T]his approach necessarily relies not only on the models but on empirical estimates of . . . the magnitude of the welfare effects of antitrust practices . . . .").

[160] *See, for example*, Allison Orr Larsen, *Confronting Supreme Court Fact Finding*, 98 Va. L. Rev. 1255, 1267 (2012) ("Procedural rules developed for adjudicative facts are largely inapplicable when it comes to legislative facts.")

[161] *See, for example*, Fed R. Evid. 201(a) advisory committee's note ("This . . . view which should govern judicial access to legislative facts . . . renders inappropriate any limitation in the form of indisputability, any formal requirements of notice other than those already inherent in affording opportunity to hear and be heard and exchanging briefs, and any requirement of formal findings at any level."); Cappalli, *supra* note 75, at 100 ("Little law, whether in the form of judicial precedent or court rules, exists to regulate the presentation of [legislative facts] to courts.").

At the same time, however, because treatment that of legislative facts by courts more closely resembles treatment of law than treatment of adjudicative facts,[162] courts have substantial discretion in evaluating legislative-fact evidence.[163] Logic dictates that they use this discretion to pay no attention to evidence that does not help them deciding on the content of the applicable rule because it is irrelevant to the exercise. This applies also to economic analyses into competitive effects that are not sufficiently comprehensive to help the court decide on the content of the applicable antitrust rule. It is hence only rational for the court to ignore such analyses when deciding on the rule and, ultimately, on whether there has been an infringement.

An illustration of this approach can be seen in the dissenting opinion by Justice Breyer in Leegin.[164] As is well known, the Supreme Court in this case overruled its long-established precedent according to which RPM agreements setting minimum price had been prohibited *per se*, subjecting the agreements to a case-by-case assessment under the rule of reason. Justice Breyer disagreed with this choice of the rule to be applied to the case at hand as well as to future RPM cases, arguing that the court lacked sufficient information about—among other things—the distribution of competitive effects of RPM agreements. As he put it, the presented economic analyses showed that "sometimes resale price maintenance can prove harmful; sometimes it can bring benefits" but not "how often . . . harms or benefits [are] likely to occur".[165] As a result, the Court should in his view not have based its decision on these analyses and, hence, not have overruled the precedent. Insofar as one accepts Breyer's interpretation of the submitted economic evidence, his call not to rely on insufficiently comprehensive information about competitive effects of the conduct class at stake appears perfectly logical.

VI. CONCLUSION

It is generally recognized that economics can help the antitrust court determine the minor as well as the major premise of the legal syllogism. It is, however, rarely discussed that both these tasks can use inquiries based on positive economics and how the two tasks differ as to their requirements for the inquiries. As shown by this article, inquiries informing the minor and major premise, by definition, differ as to their required level of generality. Economics-based ascertainment of what transpired in the given case—such as of what competitive effects were produced by the particular conduct under scrutiny—needs to pay sufficient attention to the specifics of the case to bear decision-making relevance. In contrast, positive economic analyses intending to inform the rule to be applied to the case need to provide a sufficiently comprehensive insight into the respective factual factor, such as the distribution of competitive effects of the conduct class in question.

In reality, these limits to the relevance of positive economics are not always respected. Economic inquiries are sometimes submitted to antitrust courts that are not helpful in resolving the given question because of their unsuitable level of generality: an analysis of what happened in the given case is not specific enough or an inquiry supposed to inform rule-determination is not comprehensive enough. These may be only strategic moves by the parties to win an antitrust case; it is then up to the court to recognize the unhelpfulness of the proffered inquiries and make sure that they do not bring to bear on the decision in the case. The parties may, however, be submitting such analyses also due to their insufficient appreciation of the relevant generality of antitrust economics. It is thus desirable that both the courts and the parties have an adequate

[162] Saks, *supra* note 47, at 1019.
[163] *See, for example*, Ben K. Grunwald, *Suboptimal Science and Judical Precedent*, 161 U. Pa. L. Rev. 1409, 1417 (2013) ("Courts enjoy wide discretion in obtaining and evaluating legislative facts.").
[164] Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877 (2007)
[165] Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 914 (2007) (Breyer, J., dissenting).

understanding of the roles of economics in antitrust proceedings and the level of generality that the roles associate with.

Finally, it is worth noting that more attention should perhaps be paid by the antitrust community to economic analyses informing the major premise. As discussed, adjudicating on the basis of case-specific analyses—often produced by economic consultants paid by the parties—may not be optimal because that comes at the cost of lower predictability and more administration costs. What is more, it is questionable how much accuracy we are actually able to achieve by using economics on such a case-by-case basis.[166] From the societal perspective, it may thus be better to invest into broader economic analyses providing a comprehensive picture of how competitive effects are distributed for different kinds of conduct. Such analyses would enable judges to interpret and make effective antitrust rules.

[166] *See, for example*, Evans & Padilla, *supra* note 90, at 80; Coate & Fischer, *supra* note 86, at 797, 832.