



2017

An Enquiry Meet for the Case: Decision Theory, Presumptions, and Evidentiary Burdens in Formulating Antitrust Legal Standards

Steven C. Salop

Georgetown University Law Center, salop@law.georgetown.edu

This paper can be downloaded free of charge from:
<https://scholarship.law.georgetown.edu/facpub/2007>
<https://ssrn.com/abstract=3068157>

Comments Welcomed

Draft: 11/6/17

**An Enquiry Meet for the Case:
Decision Theory, Presumptions, and Evidentiary Burdens in
Formulating Antitrust Legal Standards**

Steven C. Salop

TABLE OF CONTENTS

- I. Introduction and Analytic Overview**
- II. The Role of Decision Theory in Determining Presumptions and Evidentiary Burdens**
- III. The Properties of Antitrust Presumptions and Evidentiary Burdens**
 - A. Distinguishing Three Sources of Antitrust Presumptions**
 - B. The Strength of Presumptions and the Associated Evidentiary Burdens for Rebuttal**
 - C. Irrebuttable Presumptions**
 - D. Rebuttable Anticompetitive Presumptions**
 - 1. Rebuttable Presumptions in Evidence Law**
 - 2. Application to Antitrust Presumptions**
 - E. Rebuttal by Undermining Versus Offsetting Conditions**
 - 1. Undermining the Conditions of the Presumption**
 - 2. Sufficiently Offsetting Market Conditions**
- IV. The Sequential Burden-Shifting “Structured” Rule of Reason Standard**
- V. Reviewing, Revisiting and Refining Competitive Presumptions**
- VI. Conclusions**

**An Enquiry Meet for the Case:
Decision Theory, Presumptions, and Evidentiary Burdens in
Formulating Antitrust Legal Standards**

Steven C. Salop*

[T]here is generally no categorical line to be drawn between restraints that give rise to an intuitively obvious inference of anticompetitive effect and those that call for more detailed treatment. What is required, rather, is an enquiry meet for the case, looking to the circumstances, details, and logic of a restraint.

*California Dental Ass'n v. F.T.C.*¹

I. Introduction and Analytic Overview

Because legal decisions are made with imperfect information, presumptions play an important role in law.² A presumption is an inference that a showing of *Fact A* implies *Fact B*, or a sufficient likelihood of *Fact B* to satisfy the burden of production.³ Presumptions can be rebuttable or conclusive (i.e., irrebuttable). Both types of presumptions can be “undermined” by showing that *Fact A* is not true. Rebuttable presumptions also can be “offset” by showing with other evidence that *Fact B* is not true, despite a showing that *Fact A* is true. Evidence that *Fact B* is not true in spite of a showing of *Fact A* would not be admissible if the presumption is treated

*Professor of Economics and Law, Georgetown University Law Center. I have greatly benefited from numerous conversations on these issues with Andrew Gavil and Paul Rothstein. I also would like to thank Jonathan Baker, Richard Brunell, Stephen Calkins, W. Dale Collins, Joseph Coniglio, Herbert Hovenkamp, Vadim Egoul, Jonathan Jacobson, Bruce Kobayashi Mark Popofsky, Yianis Sarafidis, Carl Shapiro, and Sean Sullivan for helpful comments, and Shaina Vinayek for research assistance. All errors remain my own.

¹ 526 U.S. 756, 780(1999) [hereinafter *Cal Dental*].

² For an interesting recent survey, see Paul F. Rothstein, *Demystifying Burdens of Proof and Evidentiary Presumptions in Civil and Criminal Trials* (SSRN, October 2017) and the references cited therein; https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3050687. For further detail, see *infra* Section III.D.

³ In this sense, *Fact A* is circumstantial evidence of *Fact B*, not direct evidence. George G. Olshausen, *Evidence: Presumptions as Evidence--A Reply*, 31 CAL. L. REV. 316, 319 (1943).

as conclusive. Presumptions that disfavor defendants typically shift the burden of production, but in principle may also shift the burden of persuasion.

Presumptions play a similar role in antitrust jurisprudence. While the plaintiff in civil litigation bears the burden of proof to show that anticompetitive conduct is more likely than not, presumptions are added to decision process. Many antitrust presumptions are based on and represent the court's view of the likely competitive impact of a category of restraint inferred from market facts. When there is a strong anticompetitive presumption, the evidentiary burden of production to rebut the presumption is placed on the defendant. The burden of persuasion also may be placed on the defendant.⁴ When there is a procompetitive presumption, the burden of proof allocated to the plaintiff is heightened. Either way, presumptions place a "thumb on the scale."

The height of the evidentiary burden depends on the strength of the presumption and the reliability of the further case-specific evidence. The less reliable the evidence in signaling whether the conduct is anticompetitive versus procompetitive, the more difficult it will be for the disfavored party to rebut the presumption. If the foundation of the presumption is not undermined or if the presumption is not offset with sufficient evidence, the party favored by the presumption is awarded a judgment in its favor.⁵

If an anticompetitive presumption is undermined by sufficient evidence, it will carry no weight post-rebuttal phase of the decision process. The presumption "bubble will be burst." But, if an anticompetitive presumption is sufficiently offset with other evidence to avoid an initial judgment, the presumption generally continues to carry some weakened weight in the post-rebuttal phase of the decision process. That is, a "thumb remains on the scale." The analysis of procompetitive presumptions is analogous.

⁴ This article thus will use the term "evidentiary burdens" to refer to the burden of production to rebut a presumption, as well as the associated post-rebuttal evidentiary burdens of production and persuasion.

⁵ Depending on the stage of the process and which party is favored by the presumption, the judgment might be termed as summary judgment, summary disposition, judgment as a matter of law, and so on. It might even be a successful motion to dismiss by the defendant in cases of presumptions favoring the defendant. See Andrew I. Gavil, *Burden of Proof in U.S. Antitrust Law*, in 1 ISSUES IN COMPETITION LAW AND POLICY 125,128 (ABA Section of Antitrust Law 2008). This article will refer to all of these variations by the term "judgment."

Antitrust law contains a number of important presumptions. However, presumptions deserve an even more central role. A project of classifying narrow categories of conduct according to the presumptive likelihood of harm, and adjusting the evidentiary burdens to rebut the presumptions, can be used to specify the “enquiry meet for the case” envisioned by the Supreme Court in *Cal Dental*, as quoted above.⁶ These presumptions also could take into account deterrence policy and other antitrust policy goals and premises. The project would involve reviewing, revising, and refining existing presumptions and supplementing them with additional presumptions. Implicit presumptions also usefully could be made explicit. In this way, antitrust jurisprudence could be made more coherent and transparent.

The design of such a rational classification scheme can be usefully informed by the application of decision theory to antitrust law. *Cal Dental* makes the point that “the quality of proof required should vary with the circumstances.”⁷ But, it does not explain further. A decision theoretic analysis can provide the explanation. Simply put, the quality of proof required to rebut a presumption would depend on the direction and strength of the presumption applied to that category of conduct, and the reliability of potential rebuttal evidence that might practically be produced.

Antitrust presumptions today run the gamut along a continuum from irrebuttable (i.e., conclusive) anticompetitive presumptions to rebuttably anticompetitive to competitively neutral to conclusively procompetitive and finally to irrebuttable procompetitive presumptions. These presumptions are based on the effects inferred from the market conditions.⁸ Most capture the central tendency of the category of conduct to increase or decrease competition and consumer welfare. Some presumptions are supplemented or replaced by presumptions based on policy

⁶ *Cal Dental*, 526 U.S. at 780.

⁷ *Id.* (quoting Philip Areeda, ANTITRUST LAW).

⁸ Professor Rothstein denotes these presumptions based on inferred effects as expressing express “rational probabilistic factual connections.” Rothstein, *supra* note 2, at 19. Professor Sullivan distinguishes between presumptions that are “substantive factual inferences” and “formal burden-shifting devices,” and he rejects the validity of latter view. Sean P. Sullivan, *What Structural Presumption? Reuniting Evidence and Economics on the Role of Market Concentration in Horizontal Merger Analysis*, 42 J. CORP. LAW 101 (2016). In this article, the concept of a presumption being based on “inferred effects” is similar if not identical to his “substantive factual inference.” However, in this article, the idea that presumptions might formally shift the burden is not treated as a mutually exclusive concept. Thus, these two articles can be viewed as complementary to one another.

concerns. Those policy concerns may involve deterrence effects or overarching antitrust policy goals and premises, including the integrity of the competitive process.⁹

To illustrate, anticompetitive presumptions include the conclusive presumption that naked price fixing is anticompetitive, the rebuttable presumption that horizontal price restraints are anticompetitive, and the rebuttable presumption that mergers among significant competitors in highly concentrated markets are anticompetitive. *Dr. Miles* represented an example of an anticompetitive presumption applied to vertical agreements. The comparison of *Dr. Miles* and *Leegin* also shows how presumptions may change over time as economic analysis and judicial experience evolve.¹⁰ Anticompetitive presumptions also have been applied to single firm conduct analyzed under Section 2. The legal standard adopted in *Alcoa*¹¹ essentially involved a rebuttable anticompetitive presumption that maintenance of a monopoly was anticompetitive, a presumption that was relaxed in *Grinnell*.¹² *Kodak* and *Aspen Ski* suggested a rebuttable anticompetitive presumption when a monopolist makes a significant change to its distribution system in response to entry. Those cases suggested that if a monopolist engages in a substantial change in conduct that excludes rivals, the burden shifts to the monopolist to provide a procompetitive justification for its conduct,¹³ such as evidence that the change in conduct led to an improved product.¹⁴

Certain other categories of conduct are treated as presumptively procompetitive. For these, the burden of production and persuasion is placed on the plaintiff to rebut the presumption, that is, to establish liability. It is also the case that the evidentiary burden of production might be

⁹ Professor Rothstein denotes certain presumptions as based on “extrinsic social policy considerations.” These include both those based on deterrence policy and those based on other policy concerns. *Id.*

¹⁰ *Dr. Miles Med. Co. v. John D. Park and Sons*, 220 U.S. 373 (1911). The per se rule was reversed in *Leegin Creative Leather Prod., Inc. v. PSKS, Inc.*, 551 U.S. 877 (2007).

¹¹ *United States v. Aluminum Co. of America*, 148 F.2d 416, 431 (1945) [hereinafter *Alcoa*].

¹² *United States v. Grinnell Corp.*, 384 U.S. 563, 571 (1966).

¹³ For further discussion, see Jonathan B. Baker, *Promoting Innovation Competition Through the Aspen/Kodak Rule*, 7 GEO. MASON L. REV 495 (1999).

¹⁴ For example, compare *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340 (Fed. Cir. 1998) to *Allied Orthopedic Appliances, Inc. v. Tyco Health Care Group LP*, 592 F.3d 991 (9th Cir. 2010).

placed on a party for other reasons, in particular, if the party has better access to the relevant evidence.¹⁵

Some categories of conduct are conclusively presumed to be procompetitive and so are immune from attack.¹⁶ These presumptions generally are policy-based. *Brooke Group* created an irrebuttable presumption that allegedly predatory price cuts that remain above the defendant's cost are treated as procompetitive.¹⁷ This presumption specifically took into account policy concerns involving deterrence effects. As the Court stated, "mistaken inferences . . . are especially costly, because they chill the very conduct the antitrust laws are designed to protect."¹⁸ *Trinko* can be interpreted as stating a presumption that supra-competitive pricing by a monopolist is procompetitive, though this presumption may be rebutted by showing certain conduct along with the supra-competitive pricing.¹⁹ The *Trinko* presumption incorporates policy concerns regarding over-deterrence. It cautioned preventing monopoly pricing can deter innovation.²⁰ It also cautioned that that the evidence required to distinguish whether or not such conduct is anticompetitive is not reliable, so that excessive pricing allegations may be "beyond the practical ability of a judicial tribunal to control."²¹

There are other categories of conduct where supplementary presumptions have not been applied. The normal rule of reason standard that the plaintiff must show that anticompetitive effect is "more likely than not." This is the evidentiary standard that would be applied to a category of conduct is presumed to be marginally procompetitive (or, competitively neutral but

¹⁵ *Infra* Section II.

¹⁶ Antitrust "safe harbors" involve procompetitive presumptions. For example, see Mark S. Popofsky, *Section 2, Safe Harbors, and the Rule of Reason*, 15 GEO. MASON L. REV. 1265 (2008). Safe harbors are based on certain factual premises that can be undermined. In this sense, they are properly viewed as rebuttable presumptions.

¹⁷ *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 223 (1993) [hereinafter *Brooke Group*].

¹⁸ *Id.* at 226 (According to the Court, the costs also likely because "predatory pricing schemes are rarely tried, and even more rarely successful.").

¹⁹ *Verizon Commc'ns, Inc. v. Law Offices of Curtis V. Trinko*, 540 U.S. 398, 407 (2004) ("the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive conduct.").

²⁰ *Id.*

²¹ *Id.* at 414 (citing *Brooke Group*, 509 U.S. at 223).

with ties going to the defendant). It follows that, a marginally procompetitive (or competitively neutral) presumption can be viewed as the implicit default presumption in antitrust.

Vertical distribution agreements involving intrabrand restraints are a good example of a category of conduct that appears to fall into this middle category. *Leegin*²² rejected suggestions to place a disproportionate evidentiary burden on either side.²³ Instead, it adopted the conventional rule of reason, which requires the plaintiff merely to show likely anticompetitive effects with a preponderance of the evidence.²⁴ *Leegin* also illustrates the point that courts do not always explicitly express the presumption applied to a category of conduct. Instead, the presumption can be deduced from the evidentiary burden.

Antitrust analysis has also incorporated other subsidiary presumptions. For example, high market shares traditionally created a nearly irrebuttable presumption of monopoly power.²⁵ However, it now has been recognized that durable monopoly power also requires barriers to entry. It also has been recognized that a presumption of market power based on market share should be rebuttable because market definition is an inherently imperfect tool.²⁶ At one time, a patented product was presumed to have market power, though that presumption has now been overturned.²⁷ Judge Easterbrook proposed a series of procompetitive presumptions (which he labelled as “filters”). These included presumptions that conduct that raises a firm’s market share is procompetitive, and that anticompetitive allegations by competitors likely are themselves anticompetitive, though these presumptions tended to overlook valid claims of exclusionary conduct.²⁸

²² *Leegin*, 551 U.S. at 900.

²³ *Id.* at 894-99.

²⁴ *Id.* at 879.

²⁵ For example, see *Alcoa*, 148 F.2d at 424.

²⁶ See Michael L. Katz & Howard A. Shelanski, *Merger Analysis and the Treatment of Uncertainty: Should We Expect Better?* 74 ANTITRUST L.J. 537 (2007). See also HORIZONTAL MERGER GUIDELINES (2010) AT §4 (“defining a market . . . is inevitably a simplification.”)

²⁷ *Illinois Tool Works Inc. v. Independent Ink, Inc.*, 547 U.S. 28 (2006).

²⁸ Frank Easterbrook, *The Limits of Antitrust*, 63 TEXAS L.R. 1, 20-21(1984). Easterbrook refers to these presumptions as filters. It is ironic that Judge Easterbrook stresses that the plaintiff/competitor may bring an antitrust lawsuit to raise the costs of its defendant/rival, yet fails to note that the competitor plaintiff actually may be complaining that the defendant is raising the plaintiff’s costs, an allegation that is consistent with consumer harm. This distinction issue is now well understood by the courts. Atl.

This brief overview raises the question of how to determine the appropriate presumption for various categories of conduct. As the Court explained in *Cal Dental*, “there must be some indication that the court making the decision has properly identified the theoretical basis for the anticompetitive effects and considered whether the effects actually are anticompetitive.”²⁹ This article explains how rational presumptions and their associated post-rebuttal evidentiary burdens of production and persuasion can be better formulated and explained through the lens of economic decision theory, while also taking into account deterrence effects and overarching policy premises.³⁰ In this way, the proper “enquiry meet for the case”³¹ can be determined as a type of “meta” rule of reason that would make antitrust more coherent.³²

Decision theoretic analysis recognizes that judicial decisions (like most individual decisions) must be made in the face of imperfect information about an uncertain world. It generally is either too expensive, takes too long, or is impossible to obtain perfect information

Richfield Co. v. USA Petroleum Co., 495 U.S. 328, 334 (1990). For a recent application of this approach, see *Sprint Nextel Corp. v. AT&T Inc.*, 821 F.Supp.2d 308 (D.D.C. 2011). For other critiques of a number of Judge Easterbrook’s presumptions, see Jonathan B. Baker, *Taking the Errors Out of “Error Cost” Analysis: What is Wrong With Antitrust’s Right*, 80 ANTITRUST L.J. 1 (2015).

²⁹ *Cal Dental*, 526 U.S. at 775 n. 12 (1999). The Court applied this general reasoning to professional advertising restrictions, stating that “the plausibility of competing claims about the effects of the professional advertising restrictions rules out the indulgently abbreviated review to which the Commission’s order was treated. The obvious anticompetitive effect that triggers abbreviated analysis has not been shown.” *Id.* at 778.

³⁰ There is a large literature on the application of decision theory to antitrust standards. The seminal article is Isaac Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEGAL STUD. 257 (1974). The analysis in this article builds heavily on the literature, particularly Mark S. Popofsky, *Defining Exclusionary Conduct: Section 2, the Rule of Reason, and the Unifying Principle Underlying Antitrust Rules*, 73 ANTITRUST L.J. 235 (2006) and Andrew I. Gavil, *Burden of Proof in U.S. Antitrust Law*, in 1 ISSUES IN COMPETITION LAW AND POLICY 125 (ABA Section of Antitrust Law 2008). It also builds on my earlier articles on legal standards and decision theory, C. Frederick Beckner III & Steven C. Salop, *Decision Theory and Antitrust Rules*, 67 ANTITRUST L.J. 41 (1999); Steven C. Salop, *The Evolution and Vitality of Merger Presumptions: A Decision-Theoretic Approach*, 80 ANTITRUST L.J. 269 (2015) [hereinafter *PNB Evolution*]; Steve C. Salop, *Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard*, 73 ANTITRUST L.J. 311 (2006).

³¹ *Cal Dental*, 526 U.S. at 780.

³² Popofsky makes the analogous point that the panoply of Section 2 rules all can be viewed as various implementations of the rule of reason. Popofsky, *supra* note 30, at 466-467. He has referred to this type of approach as a “meta” rule of reason. *Id.* at 456. The decision theoretic analysis in this article thus responds to the important criticism in Gavil, *supra* note 5, at 144 that the Court did not provide sufficient guidance regarding “how much and what kind of evidence will be required to shift a burden of production or satisfy a burden of proof.”

(i.e., zero false positives and false negatives). Thus, decisions cannot be perfect, when evaluated after the fact.³³ Instead, the decision maker must strive to create a decision process and make decisions that are rational in light of the costs and benefits of information-gathering and the inevitable uncertainty. In the case of antitrust judicial standards, the uncertainty is complicated by the fact that the decision will lead to market responses by the parties to the litigation and others. If the judicial decision has precedential effects, it also will lead to market responses by non-parties in the future. Decision theory counsels that presumptions regarding likely effects rationally would be based on theoretical empirical economic analysis and judicial experience, undistorted by selection bias, overconfidence bias, or confirmation bias.

A decision theoretic analysis can aid in the formulation of antitrust presumptions and determination of the strength of those presumptions. A presumption may be applied to a category of restraint or conduct, or a particular market structure. Once certain the facts of a particular case are shown to fit into a particular category, the presumptions then create an inference of competitive effects, even before producing other (direct or circumstantial) evidence of likely competitive effects. In addition, once the presumption is established, a presumed fact does not have to be proved in a specific case. For example, the presumption that a merger between firms with high market shares tends to be anticompetitive eliminates the need for the government to prove (or reprove) that general tendency in every merger case.

Presumptions are combined with further case-specific evidence to reach more reliable predictions and legal decisions regarding specific conduct at issue in a case. The strength of the presumption reflects its ability to accurately predict the likely outcome of the conduct in the category, that is, how reliably it predicts the competitive outcome for conduct in the category, both absolutely and relative to the case-specific information that might be analyzed by the court. The reliability of the case-specific evidence similarly involves the accuracy in signaling the likely competitive effect. Evaluation of reliability also takes into account the rationality, skill, and objectivity of the decision maker in interpreting the case-specific evidence.

Thus, the evidentiary burden required to rebut the presumption goes hand in hand with the strength of the presumption. A stronger presumption leads to a more formidable burden of production placed on the party that must rebut the presumption. The respective weights placed

³³ For example, sometimes you wear your raincoat and carry your bulky umbrella, but it does not rain.

on the inference of effects contained in the presumption versus case-specific evidence are determined by their relative reliability in correctly predicting the relevant effects.³⁴ In the limit, if the case-specific evidence (or the decision-maker's skill) is highly unreliable, then the presumption should be treated as irrebuttable.

There are two general types of rebuttal evidence. A presumption may be rebutted with evidence that "undermines" the factual foundation on which the presumption is based. A presumption also may be rebutted with evidence of a market condition that likely "offsets" the presumed effect of the conduct. When the foundation of the presumption is undermined, the presumption "bursts like a bubble." But when there are simply offsetting market conditions, the presumption remains probative, albeit weakened.

This overview of the basic role of presumptions and associated evidentiary burdens explains the three goals of this article. The first goal is to review the analytic framework based on decision theory for understanding the sources and strength of presumptions and the role of rebuttal evidence. This includes the way in which deterrence policy concerns can be seen either as supplementing or affecting the presumptions based on the probable effects of the conduct on consumer welfare. This framework is useful to understanding antitrust presumptions and their associated evidentiary standards.

The second goal is to apply this analytical framework to the various presumptions adopted across the range of antitrust jurisprudence and their basis in terms of inferred effects, deterrence policy, and other antitrust policy goals and premises. It explains how the strength of the presumption affects the burden of production or persuasion placed on the disfavored party to rebut the presumption. The framework also analyzes different types of rebuttal evidence. It also includes application of this decision theoretic analysis to the multi-step burden-shifting rule of reason. The article analyzes the proper determination of the burden of production on the plaintiff to show sufficient evidence of competitive harm and why the burden of production on the plaintiff to show evidence of competitive harm should not be overly demanding. It also suggests that the steps of the burden-shifting rule of reason commonly used today should not be rigidly

³⁴ While these ideas can be expressed mathematically in terms of Bayes Law, where the presumption is the "prior" and the revised estimate is the "posterior." The Bayes Law formulation is discussed in several notes. But the goal of this article is to sharpen intuition, not to generate a set of mathematical formulae that it expects courts to apply. Judges are not statisticians and statisticians likely would not be good judges.

sequenced. That rigidity leads to potential inefficiencies because certain evidence showing lack of efficiencies may be more reliable or easier to evaluate or certain evidence may apply to the determination of both harms and benefits.

The third goal of this article is to frame and contribute to a project to review, revise, and refine current antitrust presumptions. Antitrust standards would be more transparent and rigorous if the set of presumptions were more complete and were stated explicitly. Antitrust law would be clearer and more rigorous if evidentiary rebuttal standards were made consistent with the applicable presumptions applied to various narrow categories of conduct. This suggests a project by which the appellate courts determine and make explicit the set of legal presumptions and associated evidentiary rebuttal standards for the lower courts to follow across a wide array of narrowly defined categories of conduct. This project of determining presumptions and evidentiary burdens would constitute “the enquiry meet for the case.” The article also suggests a number of areas where presumptions might be updated, and it invites contributions to updated proposals by others. These presumptions then could be applied by lower courts and relied upon by litigants and business planners. This project also would increase the transparency of antitrust standards.

The remainder of the article is organized around these three goals as follows. Section II briefly reviews the role of decision theory in setting presumptions and associated evidentiary burdens to rebut the presumption. While the approach is Bayesian in spirit, this analysis not does attempt to provide a formal Bayesian analysis.³⁵ Instead, it presents the basic intuition of that approach in a non-formal way.³⁶ Section III then applies this decision theoretic analysis to presumptions and the associated evidentiary burdens. It analyzes the formation of the

³⁵ For an overview of Bayesian decision analysis, see MORRIS DEGROOT, *OPTIMAL STATISTICAL DECISIONS* (1970); HOWARD RAIFFA, *DECISION ANALYSIS: INTRODUCTORY LECTURES ON CHOICES UNDER UNCERTAINTY*, 27-33 (1968). Numerous legal commentators have applied Bayesian analysis to the formulation of evidentiary standards and burden of proof. These include John Kaplan, *Decision Theory and the Factfinding Process*, 20 *STANFORD L.R.* 1065 (1968); D.H. Kaye, *What is Bayesianism? A Guide for the Perplexed*, 28 *JURIMETRICS. J.* 161 (1988); Richard D. Friedman, *A Presumption of Innocence, Not of Even Odds*, 52 *STANFORD L. R.* 873 (2000); and, the references cited therein.

³⁶ For a similar point specifically with respect to costs, but with more general applicability, see Richard A. Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 *J. LEG. STUDIES* 399, 402 (1973) (“cost inquiries required by the economic approach are not simple and will rarely yield better than crude approximations, but at the very least they serve to place questions of legal policy in a framework of rational inquiry”).

presumptions and the associated evidentiary rebuttal burdens, including the appropriate scope for non-rebuttable presumptions. This section also discusses different types of rebuttal evidence and the connection between the residual weight of the presumptions in a post-rebuttal decision process. Section IV applies this analysis to the multi-step burden-shifting rule of reason decision process. Section V outlines the project for reviewing and revising current presumptions and sets out a number of suggestions for doing so. Section VI concludes.

II. The Role of Decision Theory in Determining Presumptions and Evidentiary Burdens

Decision theory provides a formal methodology for rational decision-making when information is imperfect. This methodology can be described as a rational process in which a decision-maker begins with some initial, rationally-based beliefs about the possible effects of a decision. As a formal matter, those initial beliefs can be seen as a set of probabilities of potential alternative outcomes. The decision-maker bases the initial beliefs on prior knowledge and then gathers additional information to refine and improve upon those initial beliefs in order to “update” the presumption to create revised beliefs.³⁷

In a judicial context, these initial beliefs represent the decision-maker’s *presumption* while the additional information is *case-specific evidence*. One can loosely characterize the presumption as circumstantial evidence that does not have to be proved in the specific case. The case-specific evidence then leads to the revised beliefs, which then can form a rational basis for making a better decision. A decision is better if it is less likely to be erroneous, in light of the actual (but unknown) outcome of the decision that would be known if there were perfect information. The quality of the decision takes into account the magnitude of consumer harm from making the erroneous decision in addition to the probability of doing so. Decision theory similarly can be used to rationally decide how much information to gather. It does so by

³⁷ In the language of Bayesian probability theory, the decision-maker begins with a “prior” probability, gathers information, and then forms a “posterior” probability by rationally combining the prior probability and the information. See DEGROOT, *supra* note 35, at 138-40. To illustrate, suppose that one has an initial presumption that a die is fair, that is, that each number (1, 2, ..., 6) is equally likely when the die is thrown. Now suppose that the die is thrown four times and comes up “six” all four times. One could say that this evidence would weaken or even rebut the initial presumption. It also might be said to create a new presumption that the die is highly weighted to come up “six.” This also illustrates how presumptions can be revised or “updated” as additional evidence arrives.

balancing the costs and benefits of additional imperfect information in terms of making better decisions.

Decision theory recognizes that evidence (like all information) generally is incomplete and subject to error -- that is, not perfectly reliable. *Fact A* is perfectly reliable evidence of *Fact B* if *Fact A* is always associated with *Fact B* and never associated with *Fact not-B*. But this is not always the case. For example, even if the evidence presented to the district court at trial tips on the side of implying that conduct in a particular case is beneficial, the truth may be that the specific conduct at issue in the case actually is harmful, or vice versa. Thus, legal standards must balance the magnitude as well as the likelihood of harm from the trial court reaching an erroneous decision in either direction. This analysis recognizes that legal standards also can have some adverse deterrence effects, even if courts perfectly implement a given legal standard.

Judicial decisions thus can be made more accurate and more efficient by incorporating presumptions into the analysis along with case-specific evidence. The presumptions would apply to categories of conduct with common elements that are predictors of the likely outcome. Some conduct would be treated as presumptively harmful while other conduct would be seen as presumptively beneficial or neutral. The party disfavored by the presumption then would have the burden to produce sufficient evidence rebut the presumption.

The presumptions would be based on logic, economic analysis, both theoretical and empirical, and judicial experience. Some presumptions will be based on the likely impact of the conduct on consumer welfare. These may be supplemented or even superseded by policy concerns involving deterrence effects. Other presumptions may be supplemented or superseded by overarching antitrust policy goals or premises.

Decision theory recognizes that it will not be economical to achieve perfect information and it instead may be economical to restrict the amount of information that is required or even permitted to be introduced into the decision process. Additional information may have only marginal benefits at best. Judges also have a significant interest in judicial efficiency, which may limit the amount of information permitted to be introduced.

A court sensitive to decision theory also would recognize that some types of evidence are not useful -- and hence are not probative -- because they do not point sufficiently in one direction over another. Other evidence may be considered unreliable in that it too often points to an

erroneous conclusion.³⁸ It also can result when certain evidence is subject to confusion, misinterpretation, or bias by the trial court or jury. These issues are recognized by the federal rules of evidence. Rule 403 states that “[t]he court may exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence.”³⁹

Decision theory suggests that the evidentiary burden for rebuttal should depend on the strength of the presumption and the reliability of the evidence. The stronger is the presumption, the higher should be the evidentiary burden to rebut the presumption, and vice versa.⁴⁰ The less

³⁸ In Bayesian terms, the “likelihood ratio” gauges the reliability of the evidence. The “likelihood ratio” can be expressed formally as follows. Suppose that certain conduct is either anticompetitive (“*Anti*”) or procompetitive (“*Pro*”). Suppose that the parties have produced evidence (*E*). In Bayesian terms, the strength of the presumption is the relative probability (i.e., $Prob (Anti|E)/Prob (Pro|E)$) that the conduct is anticompetitive rather than procompetitive, given the evidence, can be written formally as follows:

$$Prob (Anti|E)/Prob (Pro|E) = [Prob (E|Anti)/Prob (E|Pro)] \times [Prob (A)/Prob(Pro)],$$

where $Prob (A)$ is the “prior” probability that the conduct is anticompetitive, absent this evidence, while $Prob(Pro)$ is the “prior” probability that the conduct is anticompetitive, absent this evidence. (These two prior probabilities add up to unity.) The ratio of these two “prior” probabilities, $Prob (A)/Prob(Pro)$, thus represents the relative “presumption” that the conduct is anticompetitive. A ratio equal to unity is a “neutral” presumption, that is, the conduct is presumed to be equally likely to be procompetitive or anticompetitive. The ratio of the two “conditional” probabilities of finding the evidence *E* (given that the conduct is anticompetitive versus procompetitive) is the “likelihood ratio.” Formally, the likelihood ratio is $Prob (E|Anti)/Prob (E|Pro)$. The ratio expresses the relative probability that the evidence arises from anticompetitive rather than procompetitive conduct, which is a measure of the reliability of the evidence. There is a large literature on this use of the likelihood ratio and its role in setting burden of proof. See Anne W. Martin & David A. Schum, *Quantifying Burdens of Proof: A Likelihood Ratio Approach*, 27 JURIMETRICS J. 383 (1987); Louis Kaplow, *Likelihood Ratio Tests and Legal Decision Rules*, 16 AM. L. & ECON. REV. 1 (2014); Louis Kaplow, *Burden of Proof*, 121 YALE L. J. 738 (2012); Edward K. Cheng, *Reconceptualizing the Burden of Proof*, 122 YALE L. J. 1254 (2013);

³⁹ Fed. R. Evid. 403.

⁴⁰ The relationship of the presumption, evidentiary burden and reliability of the evidence can be expressed formally from the earlier equation, *supra* note 38. For simplicity at this point in the analysis, assume that the relative harms from erroneously condemning procompetitive conduct (false conviction; false positives) and failing to condemn anticompetitive conduct (false acquittal; false negatives) are the same and that ties go to the defendant. This implies the following evidentiary standards. If the conduct has a competitively neutral presumption (i.e., $Prob (A)/Prob(Pro) = 1$), then the conduct should be condemned only if the evidence indicates that it is “more likely than not” to have arisen from anticompetitive conduct (i.e., $Prob (E|Anti)/Prob (E|Pro) > 1$, or $Prob (E|Anti) > Prob (E|Pro)$). If the conduct has an anticompetitive presumption (i.e., $Prob (Anti)/Prob(Pro) > 1$), then the conduct should be permitted if the relative evidence that the merger is procompetitive is sufficient to rebut the presumption

reliable is the evidence in signaling whether the conduct is anticompetitive versus procompetitive, the more difficult it should be for the disfavored party to satisfy the evidentiary rebuttal burden. This may involve the need to produce more evidence to offset the reduced reliability of each piece of evidence.⁴¹ In simplest terms, the evidentiary rebuttal burden is set at a level where the prediction of the outcome based on the case-specific evidence alone is relatively more reliable (i.e., more accurate) than the prediction based on the presumption alone.

To illustrate this point with a concrete numerical example, suppose that the magnitude of the harm from the conduct (if it is harmful in fact) is the same as the magnitude of benefits (if it is beneficial in fact). Suppose further that there is an anticompetitive presumption that the category of conduct is twice as likely to be harmful as it is to be beneficial. In probability terms, the presumed likelihood of harm from the conduct in this category is 67% on average, absent further case-specific information. Suppose now that the case-specific evidence taken by itself (i.e., ignoring any weight from the presumption) predicts that the conduct is more than twice as likely to be beneficial, that is, that the probability of being beneficial exceeds 67%. This means that the case-specific evidence by itself is more certain than is the presumption by itself (i.e., ignoring any weight of the case-specific evidence). Combining and balancing the weight of the presumption and the case-specific evidence in this example, the resulting probability that the

that it is anticompetitive. If ties go to the defendant, the mathematical formula for the required amount of exculpatory evidence is:

$$\text{Prob}(E|Pro) / \text{Prob}(E|Anti) \geq \text{Prob}(Anti) / \text{Prob}(Pro) > 1$$

The stronger is the anticompetitive presumption (in terms of the prior probability ratio), the higher would be the evidentiary burden (i.e., $\text{Prob}(E|Pro) / \text{Prob}(E|Anti)$) placed on the defendant. The analysis of procompetitive presumptions is analogous.

⁴¹ For example, suppose that certain conduct is either harmful or beneficial. If it is harmful, suppose that each piece of evidence points in that direction with probability equal to 90%. Similarly, if it is beneficial, suppose that each piece of evidence points in that direction with probability equal to 90%. In this scenario, predicting that the conduct is harmful or beneficial with a particular degree of confidence would take many fewer pieces of such evidence than in the scenario in which each piece of evidence points in the correct direction with probability equal to 55%. Or, as a separate analogy, suppose that the plaintiff must provide evidence that a coin is not “fair” but is biased to favor “heads.” Suppose that the evidence consists of the results of a number of coin flips. It likely will take substantially more coin flips to convince the fact finder that the coin is biased if the actual probability of “heads” is 55% rather than 90%.

conduct is harmful then still will be less than 50%, after taking the weight of the presumption into account.⁴²

Generalizing from this example, the party disfavored by an anticompetitive presumption must produce sufficient evidence to make the decision-maker confident that the case-specific rebuttal evidence (by itself) is stronger than is the anticompetitive presumption (by itself). If the presumption were to shift the burden of persuasion as well as the burden of production, for example, this would imply that the disfavored party would need to carry a burden that is higher than “preponderance of the (case-specific) evidence.” If this evidentiary burden is met, then the decision-maker could conclude that the actual conduct is “less likely than not” to be competitively harmful. In burden of production terminology, there would be a sliding scale in which the disfavored party would need to produce sufficient case-specific evidence to offset the weight of the presumption and where a stronger presumption would increase the amount of required rebuttal evidence. The analysis is analogous for a strictly procompetitive presumption.

Antitrust jurisprudence commonly refers to the error of prohibiting beneficial conduct as a “false positive” error and the error of permitting harmful conduct as a “false negative” error. These involve two types of errors. One type of error involves “false acquittals” and “false convictions,” as when the evidence points the decision-maker court to wrong decision in the particular case. The other type of error involves a legal standard that leads to imperfect deterrence, that is, deterrence of some future procompetitive conduct and failure to deter some anticompetitive conduct.

In the simplest, symmetric case where the harms from false positives and false negatives are identical, then the presumption would depend only on the relative likelihoods of the conduct leading to a beneficial versus harmful outcome.⁴³ The analysis is more complicated if the

⁴² Referring back to the equation in *supra* note 38, this example sets the presumption $Prob(Pro)/Prob(Anti) = 2$. In order for the probability of the procompetitive outcome to be 50% or less (the left-hand side of the equation), the evidence must be twice as likely to predict the procompetitive result, that is,

$$Prob(E|Pro)/Prob(E|Anti) > 2, \text{ or } Prob(E|Anti)/Prob(E|Pro) < .50.$$

For other examples explained by using frequency tables, see Salop, *PNB Evolution*, *supra* note 30.

⁴³ In the literature, the harms often are referred to as error “costs.” Under the consumer welfare standard, these costs are the harms borne by consumers.

respective potential harms from these two types of error are not asymmetric, so the relative harms must be weighted in order to determine the evidentiary rebuttal standard.⁴⁴ If false negatives are more harmful to consumers than are false positives, then conduct in a specific case may be condemned even if the unweighted “expected value” of its likely effect is beneficial.⁴⁵ For example, anticompetitive presumptions are reinforced if false negatives are more harmful than false positives, and diminished if false positives are costlier.⁴⁶ There are analogous effects for procompetitive presumptions.

Looking only at a single case, false positives would tend to be more harmful in situations where there are no barriers to entry so that the market would rapidly neutralize the effects of anticompetitive conduct. False negatives also would tend to be more harmful in situations where the defendant can achieve similar benefits from implementing alternatives to the prohibited

⁴⁴ The mathematical formulae in the previous footnotes are based on the assumption that the relative harms from false positive and false negative errors is equal. However, if these harms (i.e., error costs) are not symmetric, they can be incorporated into the mathematical formula. Denoting by R the harms of false acquittals relative to false convictions (i.e., $R = C(FN)/C(FP)$), and assuming that there is an anticompetitive presumption, the mathematical formula for the required amount of exculpatory evidence is:

$$\text{Prob}(E|Pro) / \text{Prob}(E|Anti) \geq R \times \text{Prob}(Anti) / \text{Prob}(Pro)$$

Stated in words, if false negatives (i.e., false acquittals) are relatively more costly (i.e., more harmful to consumers), then the required amount of exculpatory evidence will increase in order to avoid those harms. By contrast, if false positives (i.e., false convictions) are relatively more harmful, then the required amount of exculpatory evidence will decrease. For one recent simple derivation and discussion of the formal Bayesian analysis applied to these scenarios, see Michelle M. Burtis, Jonah B. Gelbach & Bruce H. Kobayashi, *Error Costs, Legal Standards of Proof and Statistical Significance*, SSRN (April 30, 2017), <https://ssrn.com/abstract=2956471>, as well as a references cited *supra* note 38.

⁴⁵ For example, suppose that beneficial conduct would increase consumer wealth by \$10 million and harmful conduct would reduce consumer wealth by \$20 million. In this case, even if the harm is only 40% likely, permitting the conduct would reduce the *expected value* of consumer wealth by \$2 million (i.e., $0.6(10) - 0.4(20) = -2$).

⁴⁶ Referring to the mathematical expression and noting that $R = C(FN)/C(FP)$, the equation for the evidentiary standard can be expressed as

$$\text{Prob}(E|Pro) / \text{Prob}(E|Anti) \geq C(FN) \text{Prob}(Anti) / C(FP) \text{Prob}(Pro)$$

In this formulation, the evidentiary standard depends on the relative “expected error costs” (i.e., expected consumer harms) of false negatives versus false positives, where the expected cost is the cost *times* the presumed (prior) probability. For greater clarity, the discussion in this article will treat the error cost ratio and the ratio of the presumed (prior) probabilities as distinct factors.

conduct that does not cause harm, or when the conduct creates a reputation for predation that raises entry barriers. Risk aversion can make false negatives more harmful than false positives.⁴⁷

However, analysis of these relative harms is complicated because it does not involve solely decisions in a single case that would be incorrect, if the court had perfect information. Because the legal standard applies to an entire category of conduct or restraints, the balancing of “false positive” and “false negative” errors also would involve the impact of the legal rule on deterrence, that is, the impact on future participants’ choice of conduct in light of the legal standard.⁴⁸ Unfortunately, it can be difficult to gauge the impact on deterrence in practice.⁴⁹ For example, suppose that the courts were considering a change in the evidentiary standard to make it easier for defendants to escape liability. The evaluation would have to estimate the relative increase in procompetitive versus anticompetitive conduct that this change would cause. This would depend on the opportunity cost of forgoing the conduct, including the type and profitability alternatives for the conduct. It also would have to estimate the magnitude of benefits versus harms from the induced conduct. This evaluation would be more difficult when contemplating a change in a longstanding legal standard for the first time because there is no market experience to use as a comparison. For this reason, it might make the most sense to make

⁴⁷ The analysis of risk aversion can be somewhat more complicated. The impact of risk aversion can be seen with a simple numerical example. Economic analysis normally assumes that consumers are risk averse in wealth. For example, consider a category of conduct that might either increase “consumer wealth” by \$120 million or reduce consumer welfare by \$110 million, each with equal probability of 50%. That category of conduct on balance would increase the “expected value” of consumer wealth by \$5 million. However, if consumers are risk-averse, so that they weight wealth losses greater than wealth gains, then the category of conduct nonetheless might be considered presumptively harmful to “expected welfare.” This will depend on the degree of risk aversion versus the magnitude of the expected wealth gain. However, the results may be different if the outcome of the case affects price instead of consumer wealth. Consumer surplus is “convex” in price, which suggests risk loving preferences.

⁴⁸ Imperfect deterrence effects are distinct from judicial errors for a given legal standard. For example, a rule of per se legality would be easy to administer and would not lead a district court to issue erroneous decisions, given the standard. But, such a legal standard might not be optimal because it would not deter any harmful conduct in that category. That is, over- and under-deterrence effects are errors in the sense that they would involve creating disincentives for some procompetitive conduct and failing to disincentive some anticompetitive conduct.

⁴⁹ For a detailed discussion of the role of deterrence in this type of analysis, see Louis Kaplow, *Burden of Proof*, 121 YALE L.J. 738 (2012) and the commentary on Kaplow’s approach in Ronald J. Allen, *Evidence, Probability, and the Burden of Proof*, 54 ARIZONA L. R. 557 (2013).

the default presumption that the error costs for false positives and false negatives are relatively equal. However, deterrence policy concerns could alter the presumption in specific areas.

Before focusing more directly on the evidentiary rebuttal standards for antitrust presumptions, it is worth reviewing two other implications of decision theory for legal standards. First, the allocation of the evidentiary burden is not always determined solely by the strength of the presumption. The efficient allocation of the burden of production also may depend on the parties' relative access to evidence on particular issues.⁵⁰ For example, it normally is assumed in antitrust that the defendant has better access to information regarding the type of efficiency claims that it will make and evidence regarding the likelihood and magnitude of the claimed efficiency benefits.

Second, when there are multiple issues that might resolve a matter (in either direction), decision theory also suggests that it is economical first to analyze the issue that can resolve the case in the fastest or least-costly way.⁵¹ For example, suppose that certain conduct is considered procompetitive if competitive benefits exceed competitive harms. As an illustrative concrete example, suppose that competitive benefits are known to be in the range of \$90-110. Suppose that competitive harms are known to be in the range of \$50-150. In this case, if evidence on each issue were gathered sequentially, and if perfect evidence on each issue could be uncovered at equal cost, it would make economic sense to gather evidence on harm first. That is because the harms evidence could resolve the case, whereas benefits evidence could not. Similarly, suppose that benefits and harms both were known to fall in the same range of \$50-150. If evidence of harms were easier to evaluate or more reliable, it would make economic sense to evaluate the harms evidence first. If that evidence indicated either very high or very low harms, the court could rely solely on that evidence and avoid the cost and delay of obtaining evidence on benefits. In antitrust analysis of predatory pricing, for example, Joskow and Klevorick recommended that courts focus first on recoupment rather than the price/cost comparison because recoupment evidence generally would be sufficient by itself to dispose of most cases.⁵²

⁵⁰ See Beckner & Salop, *supra* note 30.

⁵¹ *Id.*

⁵² Paul L. Joskow & Alvin K. Klevorick, *A Framework for Analyzing Predatory Pricing Policy*, 89 YALE L.J. 213 (1979).

III. The Properties of Antitrust Presumptions and Evidentiary Burdens

This decision theoretic approach can be applied to antitrust presumptions and their associated evidentiary rebuttal burdens. Antitrust decisions in principle could be based on a full reckoning of very potentially relevant fact that might be unearthed in a case. For example, the full “unstructured” rule of reason analysis of the type outlined in *Chicago Board of Trade* would analyze every such fact to gauge and balance the relative likelihoods and magnitudes of competitive harms and competitive benefits from the conduct at issue.⁵³ This unstructured formulation of the rule of reason also depends solely on the case-specific evidence and does not incorporate or take into account any presumption regarding the likely competitive impact of the conduct at issue.⁵⁴

However, judicial decisions can be made more efficiently and accurately by incorporating appropriate presumptions into the analysis, along with case-specific evidence. These antitrust presumptions would serve as initial predictions of the likely impact of a category of conduct on consumer welfare (or price, and output as a proxy) in the absence of further case-specific information.⁵⁵ The presumptions would be based on the likely impact of the conduct being permitted, relative to the impact of the conduct being prohibited, and taking into account likely market adjustments in response based on the conduct on the one hand and its prohibition on the

⁵³ *Board of Trade of City of Chicago v. United States*, 246 U.S. 231, 238 (1918) [hereinafter *Chicago Board*].

⁵⁴ By contrast, the government’s allegations amounted to a policy-based anticompetitive presumption following from the language of the statute. As explained by the Court, “The case was rested upon the bald proposition that a rule or agreement by which men occupying positions of strength in any branch of trade fixed prices at which they would buy or sell during an important part of the business day is an illegal restraint of trade under the Anti-Trust Law.” *Chicago Board*, 246 U.S. 231 at 238.

⁵⁵ As explained in *BMI*, “In characterizing this conduct under the per se rule, our inquiry must focus on whether the effect and ... the purpose of the practice are to threaten the proper operation of our predominantly free-market economy -- that is, whether the practice facially appears to be one that would always or almost always tend to restrict competition and decrease output, and in what portion of the market, or instead one designed to “increase economic efficiency and render markets more, rather than less, competitive.” *Broad. Music, Inc. v. Columbia Broad. Sys., Inc.*, 441 U.S. 1, 19 (1979) [hereinafter *BMI*]. Market prices and output are commonly used as observable proxies for consumer welfare. If quality does not change, a lower output is associated with a higher price. For further details, see Steven C. Salop, *Question: What is the Real and Proper Antitrust Welfare Standard? Answer: The True Consumer Welfare Standard*, 22 *LOYOLA CONSUMER L.R.*36 (2010) and the references cited therein.

other.⁵⁶ Decision theory recognizes that evidence (like all information) generally is incomplete and subject to error -- that is, not perfectly or perhaps not even reasonably reliable.⁵⁷ Thus, this analysis would take into account the likelihood and magnitude of consumer welfare harm from the trial court reaching an erroneous decision in either direction. Further analysis would recognize that legal standards also can have deterrence effects on future actors, even if courts perfectly implement the legal standard.

Appellate courts can formulate and adopt economically rational presumptions and associated evidentiary burdens for the lower courts to follow based on decision theory.⁵⁸ These could involve broad categories (e.g., joint pricing, merger, horizontal price restraint, tying, resale price agreements, and so on) according to their likely effects on consumer welfare.⁵⁹ But the process would be better served if the presumptions focus instead on narrower, more precise categories (e.g., mergers in highly concentrated markets, tying by firms with vs. without market power, exclusive dealing by monopolists, and so on).⁶⁰ The latter approach permits stronger presumptions, reduces the likelihood of error and improves deterrence. This point is illustrated by the *NCAA* Court's discussion of tying arrangements, where it opined that "[p]er se rules may

⁵⁶ Depending on the context, analysis may be more focused on short-run or longer run effects. Relevant longer run factors would include the likelihood and speed with which entry and expansion by rivals will self-correct anticompetitive effects, as would the likelihood that the defendant would erect barriers to entry.

⁵⁷ For example, a commentator may argue that market concentration provides zero relevant information about the likelihood that a merger is anticompetitive. This presumption, of course, logically would eliminate safe harbors as well as anticompetitive presumptions.

⁵⁸ District courts also could create presumptions that would be reviewed by appellate courts. The Supreme Court in *Leegin* and *Actavis* encouraged lower courts to consider refining the rule of reason with further presumptions, as discussed, *infra* Section V. More generally, a district court could fashion a presumption regarding the effect of a restraint on the market at issue in the case on the basis of evidence about the effect of similar or identical restraints in other markets. For example, in his dissent in *McWane*, FTC Commissioner Wright proposed that exclusive dealing by a monopolist be entitled to a very strong procompetitive presumption. His proposed presumption would have required the plaintiff to show competitive harm with "clear evidence." *In re McWane, Inc.*, Docket No. 9351 (F.T.C. Jan. 30, 2014) (Dissenting Statement of Commissioner Joshua D. Wright) at 2-3. On appeal, the Eleventh Circuit rejected this view and affirmed the FTC decision. *McWane Inc. v Fed. Trade Comm'n*, 783 F.3d 814 (11th Cir. 2015). For further discussion of this proposed presumption, see text at n.165-167.

⁵⁹ This article will treat the overarching antitrust goal as maximizing consumer welfare. While this article focuses on consumer welfare, the decision theory framework and analysis would apply to other antitrust goals as well.

⁶⁰ In this article, the term "categories" will refer to such sub-categories.

require considerable inquiry into market conditions before the evidence justifies a presumption of anticompetitive conduct.”⁶¹ *NCAA* also indicates how a presumption might be boosted (or, in principle, weakened) by case-specific facts. In *NCAA*, for example, the Court also used the fact that the agreement restricted the number of televised games as easily-available, albeit imperfect evidence that “output” was reduced, which then supported and reinforced the anticompetitive presumption regarding joint marketing of the games.⁶²

The presumption would place the rebuttal burden on the disfavored party. For a procompetitive or a neutral presumption (where ties go to the defendant), this places the burden on the plaintiff to show anticompetitive effects. For presumptively anticompetitive conduct, the evidentiary burden of production to rebut the presumption is placed on the defendant. In principle, it also may also place the burden of persuasion on the defendant. The strength of the competitive presumption would depend on the magnitude and likelihood of competitive effects from that category of restraint or conduct. The Court also could characterize the types and reliability of relevant case-specific evidence for determining competitive effects. The evidentiary hurdle to rebut the presumption then would depend on the strength of the presumption relative to the likelihood and reliability of reasonably available rebuttal evidence.

Decision theory suggests that the evidentiary burden for rebuttal should depend on the strength of the presumption and the reliability of the evidence. The stronger is the presumption, the higher the evidentiary burden to rebut the presumption should be, and vice versa. The less reliable is the evidence in signaling whether the conduct is anticompetitive versus procompetitive, the more difficult it should be for the disfavored party to satisfy the evidentiary

⁶¹ *NCAA v. Board of Regents of the Univ. of Okla.*, 468 U.S. 85, 104 n. 26 (1984). *Jefferson Parish* retains a presumption that tying arrangements are anticompetitive, but only for the narrower category of tying by a firm with market power. *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 45 (1985). In *Microsoft*, the DC Circuit decided that the anticompetitive presumption for tying was rebutted for “bundling in platform software markets” where the tying product is “software whose major purpose is to serve as a platform for third-party applications and the tied product is complementary software functionality.” *United States v. Microsoft Corp.*, 253 F.3d 34, 94-95 (D.C. Cir. 2001).

⁶² Note that this decrease in nominal output does not prove that the agreement is surely anticompetitive because a real increase in the claimed “competitive balance” among the teams might lead to higher quality games, which might more than offset the reduction in the number of games. But it does create an initial presumption of harm, and strengthens the presumption from the fact that the agreement eliminated direct competition among the colleges.

rebuttal burden. In simplest terms, assuming that error costs (i.e., the harms from errors, including deterrence effects) and future deterrence effects are symmetric, the evidentiary rebuttal burden should be set at a level where the prediction of the outcome based on the case-specific evidence alone on balance is more reliable (i.e., more accurate) than the prediction based on the presumption alone.⁶³

A. Distinguishing Three Sources of Presumptions

Antitrust jurisprudence contains three general sources of presumptions. We characterize these three sources as (i) inferred effects, (ii) deterrence policy, and (iii) overarching policy goals and premises. Presumptions based on “inferred effects” are most basic. They involve the inferences of likely competitive effects that generally can be drawn from facts.⁶⁴ For example, suppose that when *Fact A* occurs, that *Fact A* normally also is associated with or causes *Fact B* to be true. When the court adopts a legal presumption that *Fact A* implies *Fact B*, the party favored by the presumption does not need to provide other evidence that *Fact B* is true. It simply needs to establish *Fact A*. This presumption importantly also eliminates the need for a party in a subsequent matter to re-prove that *Fact A* generally implies *Fact B*.

“Inferred effects” presumptions can be supplemented or even reversed on the basis of policy considerations. These can involve “deterrence policy” effects, that is, the relative consumer harms from likely over-deterrence versus under-deterrence for a category of conduct. When courts refer to “false positives” and “false negatives,” they generally have in mind deterrence effects, not simply failure of a court to accurately implement a legal standard. Deterrence effects can reinforce or diminish presumptions based on inferred effects. In principle, deterrence effects can reverse the direction of presumptions based on inferred effects.⁶⁵ “Overarching policy” presumptions are based on the role of other social policy goals of the law

⁶³ *Supra* Section II.

⁶⁴ In mathematical terms, these presumptions are associated with the ratio of prior probabilities of anticompetitive effects, $Prob(Anti)/Prob(Pro)$.

⁶⁵ Consider a category of conduct that likely would be anticompetitive. But suppose that prohibiting some conduct in that category would disproportionately deter procompetitive conduct and suppose that the benefits of procompetitive instances of that category of conduct far outweigh the harms from the anticompetitive instances of that category of conduct.

and the premises on which the law is based.⁶⁶ For example, the presumption of innocence is a fundamental right that flows from the very foundations of criminal law.⁶⁷

Presumptions can be based mainly on deterrence policy concerns. This can involve avoiding underdeterrence by applying a presumption that disfavors the party with better access to the relevant evidence. For example, in a tort case, suppose that the defendant has better access to information that would be relevant to establishing whether the defendant was negligent. In order to prevent false negatives, the court might apply a rebuttable presumption of negligence in order to “smoke out” the defendant’s evidence. The “res ipsa loquitur” doctrine is normally associated with both inferred effects and access to the relevant information.⁶⁸ However, Professor Rothstein notes that the access to relevant information has been used, even where the inferred effects are weak. He provides the example of a case in which the doctrine was applied where any one of five doctors could have been negligent, that is, where the probability any particular doctor was negligent was only 20%.⁶⁹

Presumptions based jointly on inferred effects and overarching policy concerns also may occur. For example, consider the traditional presumption that a child borne to a married couple is the offspring of the husband. One source of this presumption is “inferred effects.” Most children born to married couples are the offspring of the husband. However, this presumption also had an “overarching policy” basis of ensuring financial support for the child.⁷⁰

All three sources of presumptions arise in antitrust jurisprudence. “Inferred effects” presumptions focus on the likely impact on consumer welfare and output from the category of conduct.⁷¹ For example, the *Philadelphia National Bank* anticompetitive presumption was based

⁶⁶ These goals are outside the mathematical expression discussed in the previous footnotes.

⁶⁷ *Coffin v. United States*, 156 U. S. 432, 453 (1895)

⁶⁸ Rothstein, *supra* note 2, text at n.75-76 (referring to *Byrne v. Boadle*, 2 H & C 722, 159 Eng. Rep 299 (Court of Exchequer 1863)).

⁶⁹ *Id.* at n.76-78 and accompanying text (referring to *Ybarra v. Spangard*, 154 P.2d 687 (Cal. 1944)).

⁷⁰ For a discussion of this evolving presumption, see June Carbone & Naomi Cahn, *The Past, Present and Future of the Marital Presumption*, in *THE INTERNATIONAL SURVEY OF FAMILY LAW* 387 (Bill Atkin and Fareda Banda ed., 2013).

⁷¹ For a similar approach, see Sullivan, *supra* note 9.

on supportive theoretical and empirical economic analysis.⁷² The anticompetitive presumption applied to joint pricing by competitors similarly flows from economic analysis and judicial experience that this conduct generally harms consumers.⁷³

Some antitrust presumptions also reflect deterrence policy concerns. In justifying the irrebuttable anticompetitive presumption for price fixing, the *Trenton Potteries* Court opined that “we should hesitate to adopt a construction making the difference between legal and illegal conduct in the field of business relations depend upon so uncertain a test as whether prices are reasonable.”⁷⁴ These same policy considerations regarding error costs and deterrence also can support procompetitive presumptions. In *Brooke Group*, the Court stated that, “mistaken inferences . . . are especially costly, because they chill the very conduct the antitrust laws are designed to protect.”⁷⁵ A presumption involving skepticisms of the validity of efficiency benefits can be based on deterrence policy in that the defendant has better access to the relevant information.

The premises of the antitrust laws also lead to certain “overarching policy” presumptions. *Engineers* explains that “[t]he Sherman Act reflects a legislative judgment that, ultimately, competition will produce not only lower prices but also better goods and services. . . . Even assuming occasional exceptions . . . the statutory policy precludes inquiry into the question whether competition is good or bad.”⁷⁶ The anticompetitive presumption applied to joint pricing also is partly based on the view that an overarching antitrust policy is to support a free market economy and the competitive process by which firms set prices unilaterally.⁷⁷ As explained in *Socony Vacuum*,⁷⁸ one cannot tamper with prices because they are the “central nervous system”

⁷² *United States v. Phila. Nat’l Bank*, 374 U.S. 321, 363 (1963).

⁷³ *Fed. Trade Comm’n, v. Superior Ct. Trial Lawyers Association*, 493 U.S. 411, 434-35 (1990).

⁷⁴ *United States v. Trenton Potteries Co.*, 273 U.S. 392, 397 (1927).

⁷⁵ *Brooke Group*, 509 U.S. at 226. According to the Court, the costs also likely because “predatory pricing schemes are rarely tried, and even more rarely successful.” *Id.*

⁷⁶ *Nat’l Soc. of Prof’l Engineers v. United States*, 435 U.S. 679, 695 (1978) [hereinafter *Engineers*].

⁷⁷ *See also Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752, 775 (1984).

⁷⁸ *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, n. 59 (1940). *BMI* makes a similar point, where it refers to whether the purpose of a practice is “to threaten the proper operation of our predominantly free-market economy.” *BMI*, 441 U.S. at 19.

of a market economy. The anticompetitive presumption applied in merger law also may be partly based in part on the political economy goal of avoiding concentration of economic power.⁷⁹

Presumptions generally “boost” the importance of particular facts (i.e., market conditions) with respect to the burden of production and/or the burden of persuasion. In the case of an “inferred effects” presumption that favors the plaintiff (i.e., an anticompetitive presumption in antitrust), the presumption satisfies the plaintiff’s burden of production for its prima facie case. If the defendant fails to rebut the presumption by producing sufficient evidence, then the plaintiff is entitled to a judgment and so prevails as a matter of law.

“Inferred effects” presumptions may be easier to rebut than presumptions based on “overarching policy” in that they can be undermined or offset with other evidence. Overarching policies may be treated as more settled and less vulnerable to offsetting. However, this clearly is not absolute. In *Brown University*, for example, the court was willing to permit a defense under the rule of reason that an agreement to fix financial aid packages for particular students might students, despite the obvious interference with the competitive process.⁸⁰

Presumptions that are based on “deterrence policy” are more likely to be rebuttable than “overarching policy” presumptions. The disfavored party might offset the presumption by showing conditions in which the deterrence concerns might not apply. For example, *Brooke Group* permits interference with a firm’s pricing if the prices are below cost and recoupment is likely.⁸¹

B. The Strength of Presumptions and the Associated Evidentiary Burdens for Rebuttal

The strength of presumptions falls along a continuum. In decision theory terms, the strength of inferred effects presumptions would vary with the court’s degree of uncertainty and

⁷⁹ *Brown Shoe Co., Inc. v. United States*, 370 U.S. 294, 316 (1962) (“Congress’ fear not only of accelerated concentration of economic power on economic grounds, but also of the threat to other values a trend toward concentration was thought to pose”); *Phila. Nat’l. Bank*, 374 U.S. at 363 (“intense congressional concern with the trend toward concentration”).

⁸⁰ *United States v. Brown University*, 5 F.3d 658 (3d Cir. 1993).

⁸¹ *Brooke Group*, 509 U.S. at 209-10, 222-27. No plaintiff since successfully has carried this heavy burden carried at trial.

underlying variation in the potential outcomes of the conduct. If a presumption is sufficiently weak, then one cannot conclude with confidence that the conduct is harmful in the absence of a certain amount of supportive case-specific evidence.⁸² A similar point can be made about rebutting a presumption. If a presumption is sufficiently weak, it would take less contrary case-specific evidence to rebut the anticompetitive presumption.

The determination of the direction and strength of the presumption may be difficult or contentious. For example, the *Cal Dental* Court disagreed with the presumption determined by the FTC and the Ninth Circuit. The majority did not think that the ban on professional advertising was deserving of an anticompetitive presumption. It thought that it was equally plausible that such prohibitions were procompetitive.⁸³ In *Trial Lawyers*, the Court was unwilling to undermine the irrebuttable presumption against such collusive group boycotts, despite the fact that there was a political purpose of the one-day boycott to attract public attention to the insufficient legal representation of indigent defendants.⁸⁴

Courts ideally base their presumptions about a category of conduct on theoretical and empirical economic analysis, relevant anecdotal evidence, and judicial experience. In *Leegin*,⁸⁵ for example, the Court carefully reviewed the anticompetitive and procompetitive economic theories and effects. It also reviewed the empirical studies and the fact that they did not lead to a clear prediction.⁸⁶ This led the Court to adopt the conventional rule of reason for a marginally procompetitive (or competitively neutral) presumption.

⁸² *Cal Dental*, 526 U.S. at 780.

⁸³ *Id.* at 775 n. 12. The Court applied this general reasoning to professional advertising restrictions, stating that “the plausibility of competing claims about the effects of the professional advertising restrictions rules out the indulgently abbreviated review to which the Commission’s order was treated. The obvious anticompetitive effect that triggers abbreviated analysis has not been shown.” *Id.* at 778.

⁸⁴ *Federal Trade Commission v. Superior Court Trial Lawyers Association*, 93 U.S. 411, 428-33(1990); *Federal Trade Commission v. Superior Court Trial Lawyers Association* 856 F.2d 226, 248 (D.C. Cir. 1988).

⁸⁵ *Leegin*, 551 U.S. at 900.

⁸⁶ *Id.* at 902-04.

Presumptions place a burden on the disfavored party to produce contrary evidence to rebut the presumption.⁸⁷ The burden of production (and perhaps also the burden of persuasion) placed on the disfavored party depends on the strength of the presumption and reliability of the available evidence. If the presumption is sufficiently strong and the evidence is sufficiently unreliable, the presumptions might be treated as irrebuttable. As summarized by the *Cal Dental* Court, “the quality of proof required should vary with the circumstances.”⁸⁸

The analysis is more complicated when there are deterrence effects on the conduct of firms in the future.⁸⁹ The impact of deterrence effects is well illustrated by the analysis of the agreement requirement for price fixing allegations. As explained in *Copperweld*, the agreement requirement is needed because “[s]ubjecting a single firm's every action to judicial scrutiny for reasonableness would threaten to discourage the competitive enthusiasm that the antitrust laws seek to promote.”⁹⁰ If agreements were presumed, then fear of being found liable under that legal standard might deter procompetitive conduct by affected firms. For example, firms might be deterred from lowering prices in response to a rival lowering price out of fear that this would be seen as punishment of a detected violation of their price fixing agreement. Firms might not follow rivals’ price increases, even if there is a significant industry-wide increase in demand and costs, which could lead to shortages and rationing.⁹¹

Decision theory suggests that the evidentiary burden for rebuttal should depend on a number of factors. Where case-specific evidence is less definitive, decision theory would counsel that more evidence should be required for rebuttal to achieve a particular level of reliability. Where a type of evidence is sufficiently unreliable for a category of conduct, it

⁸⁷ To be clear, the rebuttal burden on the plaintiff to rebut a procompetitive presumption is to establish anticompetitive effects (or competitive harm in the case of a multi-step burden-shifting process).

⁸⁸ *Cal Dental*, 526 U.S. at 780 (quoting Philip Areeda, ANTITRUST LAW).

⁸⁹ Over-deterrence effects are essentially false positives and under-deterrence similarly amounts to false negatives. Deterrence effects are separate from the issue of judicial errors for a given legal standard. For example, a rule of per se legality would be easy to administer and would not lead a district court to issue erroneous “false convictions.” But, such a deter legal standard might not be optimal because it would not deter any anticompetitive conduct in that category. A rule of per se illegality analogously might lead to some false convictions but would be beneficial because it would anticompetitive conduct.

⁹⁰ *Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752, 775 (1984).

⁹¹ *In re High Fructose Corn Syrup Antitrust Litigation*, 295 F.3d 651, 659 (2002).

should be ignored, that is, treated as irrelevant to the decision because it would contribute to error. Certain evidence may be reliable for one category of restraint but not for others. The combination of likely unreliable evidence and strong presumptions leads courts to create irrebuttable presumptions, that is, per se rules.

In antitrust, certain rebuttal evidence is treated as inherently unreliable and unlikely to rebut the presumption whereas other types of evidence are considered more probative and reliable. *Socony Vacuum*⁹² made evidence of ruinous competition and lack of market power as non-cognizable in horizontal price agreement cases. But *BMI* then permitted the defendant to introduce rebuttal evidence that the pricing agreement was necessary to create a new product or cause a substantial lowering of costs.⁹³ These cases also illustrate that certain evidence may be cognizable in some situations but not others. Absent sufficient case-specific evidence of efficiency benefits from a horizontal price agreement, evidence that the parties to the agreement lacked market power is excluded. As the Court opined in *NCAA*, “[a]s a matter of law, the absence of proof of market power does not justify a naked restriction on price or output.”⁹⁴ However, if sufficient efficiency benefits are shown, then evidence of lack of market power would be treated relevant to the determination of the likelihood of anticompetitive effects.

Antitrust law contains both rebuttable and irrebuttable presumptions. The choice reflects the differential strength of the presumption and the differential reliability of potential rebuttal evidence. These presumptions can be better understood through the lens of decision theoretic analysis.

C. Irrebuttable Presumptions

The presumption of anticompetitive effects is treated as irrebuttable for some categories of restraints and is commonly called the per se rule. As classically stated in *Northern Pacific*,

[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.⁹⁵

⁹² *Socony Vacuum*, 310 U.S. at 221-22.

⁹³ *BMI*, 441 U.S. at 22-24.

⁹⁴ *NCAA*, 468 U.S. at 86. For further discussion of the rationale for ignoring market power, see *Federal Trade Commission v. Superior Court Trial Lawyers Association*, 93 U.S. 411, 434-36 (1990).

⁹⁵ *N. Pac. Ry. Co. v. United States*, 356 U.S. 1, 5 (1958) (emphasis added).

This standard allows the plaintiff to rely on the presumption instead of producing case-specific evidence of anticompetitive effects. It also prevents the defendant from escaping liability with evidence showing lack of anticompetitive effects. Consistent with decision theory, this formulation stresses the point that for these categories of conduct, evaluation of case-specific evidence is unlikely to rebut the presumption. In fact, bringing in certain additional evidence sometimes may lead to more error, not less. As a result, it would not make economic sense to bear the cost and delays of such an investigation and evaluation. In fact, the *Northern Pacific* opinion goes on to explain that this per se rule increases certainty and avoids a long and complicated economic analysis. It stresses that such an investigation is “so often wholly fruitless when undertaken.”⁹⁶

Making the anticompetitive presumption irrebuttable is rational when the presumption is sufficiently strong relative to the reliability of the evidence. If reliable rebuttal evidence is both available and economical to produce, then it would not make economic sense to exclude that evidence. But where a type of evidence is sufficiently unreliable, it makes sense that it should be ignored, that is, treated as non-cognizable. Thus, the applicability of the per se rule depends on both a strong presumption and unreliable exculpatory evidence.⁹⁷

This analysis also is well illustrated by the Court’s reasoning in *Trenton Potteries*. The Court dismissed as a matter of law the defense that the parties set reasonable prices.⁹⁸ In decision theory terms, the Court reasoned that evidence that the fixed price was set at a reasonable level was prone to error.⁹⁹ Irrebuttable anticompetitive presumptions also can be based on overarching policy goals and premises, as illustrated by *Socony Vacuum*’s point that one cannot tamper with prices because they are the “central nervous system” of a market economy.¹⁰⁰

⁹⁶ *Id.*

⁹⁷ See *supra* note 38 for the formal analysis.

⁹⁸ For a detailed analysis of this “defenses” formulation, see Thomas G. Krattenmaker, *Per Se Violations in Antitrust Law: Confusing Offenses with Defenses*, 77 GEO. L.J. 165 (1988).

⁹⁹ *Trenton Potteries*, 273 U.S. at 397 (“we should hesitate to adopt a construction making the difference between legal and illegal conduct in the field of business relations depend upon so uncertain a test as whether prices are reasonable.”)

¹⁰⁰ *Socony Vacuum*, 310 U.S. at n.59.

Some irrebuttable procompetitive presumptions flow from deterrence policy and overarching policy considerations. Allegations that a monopolist has set an unreasonably high price in violation of Section 2 are rejected as a matter of law. *Trinko* raised two policy presumptions -- that the prospect of temporary monopoly prices may attract business acumen and that it is impossible to remedy the harm.¹⁰¹ This conclusion is premised on the view that evidence suggesting that the price is unreasonably high is prone to error, and an additional policy concern that the cost of future over-deterrence (false positives) exceeds the cost of underdeterrence (false negatives). This analysis is just the flip side of the view in *Trenton Potteries* that it is beyond the ability of judges to reliably determine whether a particular price is unreasonable.¹⁰² But in *Trenton Potteries*, the greater policy concern was under-deterrence

In *Brooke Group*, the Court similarly explained that that “the costs of an erroneous finding of liability are high.”¹⁰³ The Court did not mention the costs of false negatives, that is, erroneous findings of non-liability. But the Court assumed that the probability of successful predatory price cuts was low, and that consumers are not harmed from failed predatory pricing, which implies that the “expected value” of these false negative costs would be low.¹⁰⁴ As a result, the Court adopted an irrebuttable procompetitive presumption (i.e., a rule of per se legality) for above-cost price cuts alleged to be predatory.

This analysis of predatory pricing illustrates how a category of conduct that likely would be anticompetitive nonetheless might be given what amounts to a procompetitive presumption as a result of asymmetric error costs and overdeterrence. For example, suppose that it is known that successful above-cost predatory price cuts would be relatively common if the conduct were per se legal. However, if the allegations were analyzed under the rule of reason, suppose that the

¹⁰¹ *Trinko*, 540 U.S. at 407-408.

¹⁰² *Id.* These twin rationales in principle might be rebutted by showing with very strong evidence that the monopoly pricing was unaccompanied by continued innovation over a sufficiently long period such that future incentives to invest by the defendant and other firms in the category would not be harmed by a significantly lower price.

¹⁰³ *Brooke Group*, 509 U.S. at 226.

¹⁰⁴ The Court adopted a procompetitive presumption that alleged predatory price cuts on average are highly unlikely to have anticompetitive effects even if there were no liability attached. Cutting prices in response to entry is normally competition on the merits, that is, procompetitive. It also explained that “predatory pricing is rarely tried, and even more rarely successful.” *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986).

findings of trial courts unavoidably often would be highly inaccurate and, as a result, non-predatory price cuts often would be interdicted or deterred. On these assumptions, the consumer harm from deterring non-predatory price cuts could outweigh the benefits from deterring harmful predatory price cuts.¹⁰⁵ Again, this is consistent with decision theory.

This analysis also illustrates that the interaction of presumptions based on “inferred effects” and those based on “deterrence policy” can be confusing. A category of conduct may have a high probability of being anticompetitive. But if the harms from over-deterrence (false positives) far exceed the harms from underdeterrence (false negatives), it might not be assigned an anticompetitive presumption in setting the evidentiary standard. However, the two considerations should be kept analytically distinct. The “inferred effects” presumptions are based on the likelihood of procompetitive and anticompetitive effects of conduct in the category. The “deterrence effects” presumptions reflect the relative harms from under-deterrence versus over-deterrence. Whereas the inferred effects are factual in nature, the deterrence effects involve a greater policy basis because deterrence effects may be very difficult to gauge reliably.

D. Rebuttable Presumptions

Most antitrust presumptions are rebuttable. In *NCAA*, the Court treated the NCAA’s television agreement as presumptively anticompetitive, but it suggested that the presumption might be rebutted, albeit subject to a heavy evidentiary burden of production.¹⁰⁶ *Philadelphia National Bank* created a rebuttable anticompetitive presumption under Section 7 of the Clayton Act for certain mergers that were viewed as “inherently suspect” because of their size and the structure of the market in which the merger occurred.¹⁰⁷ To rebut the presumption, the merging

¹⁰⁵ *Brooke Group* did not, however, analyze some important facets of conduct. It did not recognize or analyze the fact that constraints on post-entry price cuts could induce beneficial price reductions by monopoly firms that face the prospect of entry. See Aaron S. Edlin, *Stopping Above-Cost Predatory Pricing*, 111 YALE L.J. 941 (2002). It also did not recognize or analyze the fact that failed predatory pricing may create reputational effects that raise barriers to entry, perhaps in other markets where the predator operates. For further discussion, see Patrick Bolton, Joseph F. Brodley & Michael H. Riordan, *Predatory Pricing: Strategic Theory and Legal Policy*, 88 GEO. MASON L.R. 2239 (2000).

¹⁰⁶ As the Court explained, “the NCAA television plan on its face constitutes a restraint upon the operation of a free market, and the findings of the District Court establish that it has operated to raise prices and reduce output. Under the Rule of Reason, these hallmarks of anticompetitive behavior place upon petitioner a heavy burden of establishing an affirmative defense which competitively justifies this apparent deviation from the operations of a free market.” *NCAA*, 468 U.S. at 113.

¹⁰⁷ *Phila. Nat’l Bank*, 374 U.S. at 363.

firms would be required to carry a heavy burden to produce sufficient evidence “clearly showing” lack of harm.¹⁰⁸ The burden-shifting rule of reason is based on an implicit rebuttable presumption that the conduct is marginally procompetitive.

The setting of rebuttable presumptions raises issues of what type and how much evidence is necessary to carry the burden of rebuttal; whether the rebuttal burden involves the burden of persuasion or just a burden of production; and what if any evidentiary role the presumption plays in the post-rebuttal decision process. These are important issues in the law of evidence generally, not simply antitrust law.

1. Rebuttable Presumptions in Evidence Law

The magnitude of required rebuttal evidence, and the continuing role of the presumptions in a post-rebuttal phase of the trial have been complicated and contentious issues in evidence law. While it is not necessary to analyze these debates in detail for our purposes, a short review is useful to place the antitrust analysis in context.¹⁰⁹ The controversies involve both the burden of production to avoid an adverse judgment and the burden of persuasion to prevail with the jury. Discussion of these issues goes back more than a century to insights and disagreements among Thayer, Wigmore, Morgan and McCormick, among others. For example, as explained by Paul Rice, “Under the Thayer-Wigmore theory, the purpose of a presumption is to require a party against whom a presumption operates to come forward with *any* evidence of the nonexistence of the presumed fact. The production of this non-B [rebuttal] evidence destroys the presumption--making it disappear like a ‘bursting bubble.’¹¹⁰ Consequently, the court would not mention the existence of the presumption to the jury.” Rice contrasts the Morgan-McCormick theory as

¹⁰⁸ As the Court explained, “Specifically, we think that a merger which produces a firm controlling an undue percentage share of the relevant market, and results in a significant increase in the concentration of firms in that market is so inherently likely to lessen competition substantially that it must be enjoined in the absence of evidence clearly showing that the merger is not likely to have such anticompetitive effects.” *Phila. Nat’l Bank*, 374 U.S. at 363. The PNB formulation appears to place the burden of persuasion on the defendant, not just the burden of production. This distinction is discussed in more detail below.

¹⁰⁹ For a recent review of the current implementation of these rules, and a list of the classic articles, see Rothstein, *supra* note 2. See also Paul R. Rice, *Commentary on Revised Rule 301. Effect of Presumptions*, Evidence Project (Undated), available at <http://web.archive.org/web/20170722023522/https://www.wcl.american.edu/pub/journals/evidence/toc.html>.

¹¹⁰ Rice, *supra* note 109.

advocating that “if non-B [rebuttal] evidence is produced, the presumption nonetheless survives.”¹¹¹ The Morgan-McCormick theory also would shift the burden of persuasion to the disfavored party, not just the burden of production.¹¹²

For our antitrust analysis these questions usefully can be framed as four separate issues:¹¹³ (i) how much rebuttal evidence is required to avoid a judgment for lack of production; (ii) whether a “rebutted” presumption continues to play any role in the post-rebuttal process; (iii) if the presumption continues to play a role, what force it will have; and, (iv) whether the rebuttal shifts the burden of persuasion or only the burden of production. We will discuss these four issues in the context of presumptions favoring the plaintiff.

The first issue is how much evidence is sufficient for the defendant to produce in order to avoid a judgment. The statement that “some” evidence in principle could mean the slightest amount of evidence, that is, the Thayer-Wigmore view. This interpretation is neither required nor followed by all courts.¹¹⁴ Rice points out that courts have followed the approach of assigning “a standard of proof that must be satisfied to rebut the presumption,” which essentially adopts the Morgan-McCormick approach¹¹⁵ The Thayer-Wigmore view also would be inconsistent with the idea of a “sliding scale” that some presumptions are stronger than others and that a stronger presumption would require more evidence to rebut the presumption and avoid a judgment.

The second issue is whether there will be any continuing role of the presumption in situations where the defendant has produced sufficient rebuttal evidence to avoid a judgment. In this situation, there is a question of whether the presumption continues to have any weight in the post-rebuttal analysis when the burden of persuasion remains with the plaintiff. The Thayer-Wigmore view would hold that the rebutted presumption “bursts like a bubble” and carries no weight in the subsequent analysis. The Morgan-McCormick view would hold that the rebutted

¹¹¹ *Id.* As explained by Professor Morgan, “It seems to me it is futile to create a presumption if it is to be so easily destroyed.” *Id.*

¹¹² *Id.*

¹¹³ Rothstein *supra* note 2, distinguishes among six overall views. I have reorganized and combined some of the six here.

¹¹⁴ Rothstein, *supra* note 2.

¹¹⁵ Rice, *supra* note 109.

presumption continues to have force, though its force would be weakened in light of the rebuttal evidence.

The third issue is the weight that the presumption would have, if the presumption continues to place a “thumb on the scale” in helping the plaintiff satisfy its ultimate burden of persuasion. One approach is that the presumption might have force but additional evidence necessarily would be required for the plaintiff to satisfy its burden of persuasion. Alternatively, the presumption could continue to have enough force that it could be sufficient by itself for the fact-finder (whether jury or judge) to conclude that the plaintiff has satisfied the burden of persuasion.¹¹⁶ This latter approach might apply, for example, if the court resolves the first issue by treating a slight or limited amount of rebuttal evidence to be sufficient for the defendant to avoid a judgment.

The fourth issue is whether the presumption merely places a burden of production on the defendant to avoid a judgment or whether it also shifts the burden of persuasion to the defendant. The approach of also placing the burden of persuasion on the defendant (as suggested by the Morgan-McCormick theory) also may occur.¹¹⁷ In fact, it was adopted by Rule 301 of the Supreme Court Draft of the Federal Rules of Evidence¹¹⁸ as well as the 1974 Uniform Rules of Evidence.¹¹⁹

The final enacted version (as recently restyled) of the Federal Rule of Evidence Rule 301 now holds that burden of persuasion does not shift. However, the final rule fails to resolve the other issues.¹²⁰ That rule states:

¹¹⁶ Rothstein, *supra* note 2, provides the example of *McDougald v. Perry*, 716 so.2d 783 (1998). This was a negligence case where plaintiff relied only on the *res ipsa loquitur* presumption. The defendant had some rebuttal evidence against the presumed fact (defendant's negligence) that plaintiff did not rebut.

¹¹⁷ Professor Rothstein provides the example of *E. I. du Pont de Nemours & Co. v. Berkley and Co., Inc.*, 620 F.2d 1247 (8th Cir. 1980) (the statutory presumption of the validity of a patent requires the party asserting non-validity to bear the burden of going forward with evidence as well as the burden of persuasion on the issue).

¹¹⁸ PROPOSED FED. R. EVID. 301 (Supreme Court Draft Nov. 1972).

¹¹⁹ Revised Uniform Rules of Evidence, Rule 301 (1974).

¹²⁰ The rule does not demand that “slight” rebuttal evidence be sufficient to satisfy the defendant’s burden of production to avoid a judgment. Nor does it demand that the bubble must be burst when the defendant produces sufficient evidence. Nor does it specify how much evidentiary force the presumption must or must not be given in the post-rebuttal analysis.

In a civil case, unless a federal statute or these rules provide otherwise, the party against whom a presumption is directed has the burden of producing evidence to rebut the presumption. But this rule does not shift the burden of persuasion, which remains on the party who had it originally.¹²¹

2. Application to Antitrust Presumptions

These various approaches are utilized in antitrust law in various ways. In mergers, *Philadelphia National Bank* created a rebuttable anticompetitive presumption under Section 7 of the Clayton Act for certain mergers that were viewed as “inherently suspect” because of their size and the structure of the market in which the merger occurred.¹²² To rebut the presumption, the merging firms were required to carry a heavy burden to produce sufficient evidence “clearly showing that the merger is not likely to have such anticompetitive effects.”¹²³ This can be interpreted as placing both the burden of persuasion and the burden of production on the defendant, as suggested by Morgan-McCormick.

While recognizing that the distinction between the defendant’s burden of production and the ultimate burden of persuasion is “always an elusive distinction in practice,” this allocation of the burden of persuasion to the merging firms was rejected by the D.C. Circuit panel in *Baker Hughes*.¹²⁴ It lowered the burden of production and made it clear that the burden of persuasion remains with the plaintiff.¹²⁵ To reach this conclusion, the court opined that the Supreme Court had “lightened the evidentiary burden” on the defendant in the cases following *Philadelphia National Bank*.¹²⁶ The court rejected the “clear showing” standard, stating this formulation “overstates the defendant’s burden” to rebut a prima facie case based on high market share and

¹²¹ Fed. R. Evid. 301.

¹²² *Phila. Nat’l Bank*, 374 U.S. at 363.

¹²³ *Id.* This formulation appears to place the burden of persuasion on the defendant, not just the burden of production.

¹²⁴ *United States v. Baker Hughes Inc.*, 908 F.2d 981, 991 (D.C. Cir. 1990).

¹²⁵ *Baker Hughes*, 908 F.2d at 991. The court cites *United States v. General Dynamics Co.*, 415 U.S. 486 (1974), which may not have supported their broad conclusion because it involved a presumption being undermined by failure to measure concentration correctly rather than being offset by other market conditions. For further discussion, see *infra* Section III.E.

¹²⁶ *Id.*

concentration.¹²⁷ Instead, it adopted an evidentiary rebuttal burden requiring only a “showing.” The court emphasized that the presumption is just a probability of harm and that “[r]equiring a ‘clear showing’ in this setting would move far toward forcing a defendant to rebut a probability with a certainty.”¹²⁸

Consistent with decision theory and the Morgan-McCormick theory, the *Baker Hughes* court set the rebuttal burden in reference to its view of the strength of the anticompetitive presumption. It explicitly embraced a sliding scale approach, whereby “[t]he more compelling the prima facie case, the more evidence the defendant must present to rebut it successfully.”¹²⁹ This was followed and emphasized in *Heinz*. After finding high concentration in this 3-to-2 merger, the *Heinz* court concluded that the high concentration “creates, by a wide margin, a presumption that the merger will lessen competition.”¹³⁰ The sliding scale also was followed in *Arch Coal*, where the court opined that the FTC’s “statistical case of increased market concentration is far from compelling,” and that “fairly weak prima facie case . . . requires less of a rebuttal showing by defendants.”¹³¹

This analysis of the sliding scale also emphasizes why it makes decision theoretic sense for antitrust presumptions to apply to relatively narrow categories (e.g., mergers in highly concentrated markets), not broad categories (e.g., mergers). This is because the strength of the anticompetitive presumption may depend on certain case-specific facts. When those facts are taken into account in setting the presumption, the evidentiary burden for rebuttal can be adjusted accordingly.

E. Rebuttal by Undermining Versus Offsetting Conditions

When presumptions are rebuttable, there are two distinct ways in which presumptions may be rebutted. First, the facts forming the foundation for the presumption may be

¹²⁷ *Id.* at 989.

¹²⁸ *Id.* at 992.

¹²⁹ *Id.* at 991.

¹³⁰ Fed. Trade Comm’n v. H.J. Heinz Co., 246 F.3d 708, 716 (2001) (emphasis added).

¹³¹ Fed. Trade Comm’n v. Arch Coal, Inc., 329 F. Supp. 2d 109, 158 (D.D.C. 2004). The post-merger HHI was 2103 and the pre-merger HHI was 2054, for a delta HHI of 49. *Id.* at 128.

undermined.¹³² Second, evidence may be produced that weighs against and offsets the effects predicted by the presumption.¹³³ The *Baker-Hughes* court drew this distinction between the two ways in which presumptions may be rebutted. As explained by the court, “[a] defendant can make the required showing by affirmatively showing why a given transaction is unlikely to substantially lessen competition, or by discrediting the data underlying the initial presumption in the government's favor.”¹³⁴

Taking a decision theory approach, these two classes of rebuttal evidence would have very different implications for subsequent competitive effects analysis if and when the defendant produces sufficient rebuttal evidence to avoid a judgment and the burden shifts to the party favored by the presumption.¹³⁵ When the disfavored party produces sufficient evidence to undermine the very foundation of the presumption, the rebuttal evidence properly would cause the presumption to “burst like the bubble” and the presumption should carry no weight in the subsequent decision analysis. Instead, the party favored by the presumption must provide substitute case-specific evidence to carry its burden.

By contrast, suppose that the disfavored party produces affirmative evidence for why the conduct is unlikely to have the presumed effect. In this situation, the presumption would continue to have probative value and so properly would retain some evidentiary weight, though the weight of the presumption generally would need to be supplemented with additional case-specific evidence produced by the plaintiff.¹³⁶ One might say that the presumption here is not “burst,” but merely “squeezed.” The presumption would remain a “thumb on the scale” in the final determination of competitive effects.

Making the continued force of the presumption depend on which class of rebuttal evidence is produced is consistent with the views of evidence law discussed above. It also is

¹³² This would be a situation where the presumption is that *Fact A* generally leads to Fact B, and the rebuttal disproves *Fact A*.

¹³³ This would be a situation where the rebuttal shows that a case-specific Fact C generally leads to Fact not-B and the rebuttal proves Fact C.

¹³⁴ *Baker Hughes*, 908 F.2d at 991.

¹³⁵ For a complementary analysis to this one, see Sullivan, *supra* note 9.

¹³⁶ As noted earlier, *supra* note 116, a presumption in principle can retain sufficient weight to satisfy the plaintiff's burden of persuasion in the post-rebuttal analysis, if the rebuttal burden is satisfied by showing simply “some” evidence.

fully consistent with decision theory. If the facts are inconsistent with the premise of the presumption, then the presumption would no longer be probative. But if the presumption flows from either inferred effects that are not undermined, then the presumption would still provide probative evidence, in conjunction with other case-specific evidence, and so would still contribute to the burden of persuasion. This same analysis also would apply to rebuttable presumptions based on deterrence policy and may apply to overarching policy presumptions as well. But if the presumptions are offset by other facts, those offsets would not destroy the rationale or eliminate any force of the policy considerations. Thus, those presumptions should retain weight in the post-rebuttal decision process.

This distinction between the two types of rebuttal evidence has considerable relevance in current antitrust jurisprudence.

1. Undermining the Conditions of the Presumption

General Dynamics provides a clear example of the type of rebuttal evidence where the facts underlying the presumption are undermined and discredited by the evidence. In *U.S. v. General Dynamics Corp.*, the government improperly measured market shares on the basis of historical production rather than reserves.¹³⁷ The Court explained that the latter was the relevant measure for predicting competitive effects in the future.¹³⁸ When this adjustment was made, the market shares of the merging firms were no longer high enough to apply the anticompetitive structural presumption. In this situation, an anticompetitive presumption flowing from high market shares would no longer have any probative value. Therefore, it would become necessary for the government to prove anticompetitive effects from scratch with substitute evidence. For example, the substitute evidence might be facts that show that the industry had a history of collusion and the merger would facilitate coordination, perhaps because one of the merging parties was a maverick and the merger would alter its incentives.

¹³⁷ 415 U.S. at 493-94, 509-10.

¹³⁸ *Id.* at 501-02 (“In this situation, a company's past ability to produce is of limited significance, since it is in a position to offer for sale neither its past production nor the bulk of the coal it is presently capable of producing, which is typically already committed under a long-term supply contract. A more significant indicator of a company's power effectively to compete with other companies lies in the state of a company's uncommitted reserves of recoverable coal.”).

This type of undermining of the anticompetitive presumption also occurred in the *Oracle* merger case.¹³⁹ The district court concluded that the government failed to prove a relevant market that satisfied the conditions for the presumption. It explained that “without a relevant market having been established, the court cannot conduct a burden-shifting statistical analysis under *Philadelphia Nat’l Bank*, much less hold that plaintiffs are entitled to such a presumption. Nor, of course, can the court apply the concentration methodology of the Guidelines.”¹⁴⁰ The court went on to conclude that, “[w]ithout the benefit of presumptions, the burden remains upon plaintiffs to come forward with evidence of actual anticompetitive effects.”¹⁴¹

Presumptions also can be undermined in non-merger cases. In *BMI*, the anticompetitive presumption essentially was undermined by the determination that the blanket license created a “new product” that required a price.¹⁴² The fact that it was a new product means that competition *for this product* was not eliminated. This evidence undermines the role of a presumption that joint conduct that eliminates competition harms consumers.¹⁴³

The anticompetitive presumption regarding tying similarly would be undermined if the court determines that there are not separate products, or if the court determines that the defendant lacks market power.¹⁴⁴ But in the case of tying, if the anticompetitive presumption is not undermined, *Jefferson Parish* would not permit the presumption to be offset with other evidence, such as case-specific evidence that the tying leads to efficiency benefits, or that the tying actually has no anticompetitive effects despite the foreclosure.

The Ninth Circuit’s *Cal Dental* opinion on remand also might usefully be interpreted through this same lens. On remand, the court explained that “[t]he Supreme Court’s analysis, as applicable to the case at bar, primarily seems to be an instruction that, in considering the case on remand, we avoid over-relying on economic analyses and presumptions formed from

¹³⁹ *United States v. Oracle Corporation*, 331 F. Supp. 2d 1098 (2004).

¹⁴⁰ *Id.* at 1161.

¹⁴¹ *Id.* at 1165.

¹⁴² *BMI*, 441 U.S. at 22.

¹⁴³ But, if the agreement did not permit individual composers to compete independently of the collective, then the anticompetitive presumption would have been retained with respect to that restraint, even if the blanket license was considered a new product.

¹⁴⁴ *Jefferson Parish*, 466 U.S. at 14-15.

circumstances involving total advertising bans.”¹⁴⁵ In particular, the Association’s provisions were not an absolute advertising ban. The court analyzed the empirical evidence, and after a highly critical analysis, the court rejected the claim that the empirical literature showing adverse price effects in other professional services industries could apply to the allegations in the case.¹⁴⁶ This conclusion fits into the category of evidence undermining the presumption rather than the production of evidence to offset the impact of the presumed effects.

The Ninth Circuit also suggested that additional case-specific evidence would be required whenever the defendant produces sufficient rebuttal evidence to avoid a judgment which then requires application of the rule of reason, stating that “our rule-of-reason case law usually requires the antitrust plaintiff to show some relevant data from the precise market at issue in the litigation.”¹⁴⁷ This remark also could apply in situations where the presumption is rebutted and thereby weakened by evidence showing offsetting effects.

Procompetitive presumptions also can be undermined. Suppose that the procompetitive presumption is based on experience and evidence that a particular category of conduct generally has significant procompetitive efficiency benefits that tend to dominate a moderate likelihood of competitive harms. For example, consider a hypothetical procompetitive presumption is applied to mergers involving the combination of two firms with relatively small market shares, based on studies showing evidence that most such mergers provide some efficiencies or studies showing mergers between two such firms are unlikely to cause competitive harm. This presumption then would place the rebuttal burden on the plaintiff to show competitive harms. But, a showing that there is another narrower highly concentrated market in which these firms have high market shares would undermine that procompetitive presumption. In fact, the procompetitive presumption would be replaced with an anticompetitive presumption.

This raises a question regarding whether a presumption based on an overarching policy premise favoring market outcomes could be undermined. *Engineers* suggests a very high bar in that the Court made the explicit point that “petitioner’s attempt to do so on the basis of the potential threat that competition poses to the public safety and the ethics of its profession is

¹⁴⁵ *California Dental, Ass’n v. Fed. Trade Comm’n*, 224 F. 3d 942, 953 (9th Cir. 2000).

¹⁴⁶ *Id.* at 951-52.

¹⁴⁷ *Id.* at 952.

nothing less than a frontal assault on the basic policy of the Sherman Act.”¹⁴⁸ But, the facts also suggested that each individual customer individually could have chosen to forego competitive bidding. Each individual engineer also could have chosen to view competitive bidding as unethical and refused to participate. A different outcome might occur in a market in which fraud is so rampant that the market fails to operate. In that situation, an industry wide consortium that significantly constrained competition, but did not fully eliminate it, conceivably might pass muster. For example, the Better Business Bureau’s National Advertising Division adjudicates deceptive advertising complaints among its members on a voluntary basis and thereby restricts advertising competition.¹⁴⁹

2. Sufficiently Offsetting Market Conditions

A different type of rebuttal involves evidence showing that certain presumed effects are unlikely to occur because of offsetting market characteristics. In *NCAA*, for example, the offsetting market condition could have been benefits from maintaining competitive balance.¹⁵⁰ In a merger case, the rebuttal might consist of evidence of easy entry or lower variable costs resulting from the transaction. These types of evidence may be sufficient to rebut the anticompetitive presumption that such horizontal price agreements or significant mergers in highly concentrated market will lead to higher prices. Thus, the plaintiff would be required to produce additional case-specific evidence to satisfy its burden of persuasion.

However, this type of rebuttal evidence does not discredit the conditions that led to the inference from the presumption, which means that the presumption is not undermined. Instead, it shows only that there are offsetting effects in the particular case. This means that the inference that led to the presumption also would remain valid and still have probative value. Additional evidence would be needed to supplement the presumption, but not totally replace it. If the rebuttal evidence offsets an inferred effects inference, it would not make decision-theoretic sense to cause the presumption to burst like a bubble and be dismissed entirely. The inferred effects

¹⁴⁸ *Engineers*, 435 U. S. at 695.

¹⁴⁹ For further details, see *About NAD*; <http://www.asrcreviews.org/how-nad-works/>

¹⁵⁰ The *NCAA* Court viewed an increase in competitive balance as plausibly procompetitive. But it failed to see why the joint marketing was reasonably necessary to achieve these benefits, rather than using some other less anticompetitive alternative. *NCAA*, 468 U.S. at 118 (“television plan not even arguably tailored to serve such an interest”).

inference would continue to contribute to a prediction of the likely competitive effects. It would supplement whatever other case-specific evidence is produced.

This also would be the case for presumptions based on overarching policy considerations. For example, the policy that joint pricing by competitors is suspect because it interferes with competitive market processes would continue to be relevant even in a situation where there is evidence that the joint pricing plausibly would lead lower costs sufficient to escape per se condemnation. In the rule of reason, the court might look for a less restrictive alternative to achieve equal or nearly equal cost savings but would not require joint pricing. Or, a higher degree of reliability of the cost saving evidence would be required to offset the presumption against joint pricing by competitors.

A particular presumption might be subject to both types of rebuttal evidence. Consider *BMI*,¹⁵¹ the rebuttal evidence that the blanket license led to a “substantial lowering of costs” would be the nature of offsetting evidence.¹⁵² This is separate from the undermining evidence based on the view of the blanket license as a new product.

It sometimes may not be obvious whether particular rebuttal evidence is better classified as offsetting versus undermining. For example, suppose that merging firms were to produce a rigorous econometric study indicating that prices in the various geographic markets in which they compete are not increased when market concentration is higher, after controlling for other relevant factors that would affect prices. This study might be seen as undermining the economic relationship underlying the structural presumption as applied to this industry.¹⁵³ Or, it might be seen as suggesting that there are other offsetting factors at work in this industry. For example, it might be treated as evidence that there are relevant offsetting factors such as ease of entry or countervailing buyer power. Of course, this evidence of offsetting factors would be strengthened if there were additional evidence that explained convincingly the specific offsetting factors that caused the econometric results.

Procompetitive presumptions also can be rebutted by showing offsetting conditions. Suppose that there is a procompetitive presumption for a category of conduct because it has

¹⁵¹ *BMI*, 441 U.S. at 38.

¹⁵² *Id.* at 21.

¹⁵³ Since even well-designed econometric studies are subject to some criticisms, a court may not be willing to totally discount the presumed economic relationship based on one study.

significant procompetitive efficiency benefits that tend to dominate a moderate likelihood of competitive harms. Taking the example above of a hypothetical merger of two firms with relatively low market shares, this presumption would place the rebuttal burden on the plaintiff to show competitive harms. That rebuttal burden might be satisfied by showing that this was an industry with a history of attempted collusion and that one of the merger partners had played a key maverick role of disrupting those attempts. That showing would undermine the procompetitive presumption but would not necessarily eliminate any force of it. Even if the maverick was eliminated, other factors might prevent successful collusion or parallel accommodating conduct. Thus, additional case-specific evidence might be needed to supplement the force of this rebuttal evidence.

IV. The Sequential, Burden-Shifting “Structured” Rule of Reason Standard

In cases with marginally procompetitive presumptions, the decision process involves a multi-stage, sequential burden-shifting “structured” rule of reason. For example, as detailed in *Law v. NCAA*,

Under this approach, the plaintiff bears the initial burden of showing that an agreement had a substantially adverse effect on competition. If the plaintiff meets this burden, the burden shifts to the defendant to come forward with evidence of the procompetitive virtues of the alleged wrongful conduct. If the defendant is able to demonstrate procompetitive effects, the plaintiff then must prove that the challenged conduct is not reasonably necessary to achieve the legitimate objectives or that those objectives can be achieved in a substantially less restrictive manner. Ultimately, if these steps are met, the harms and benefits must be weighed against each other in order to judge whether the challenged behavior is, on balance, reasonable.¹⁵⁴

A similar multi-step process is set out in *Visa*¹⁵⁵ for a Section 1 exclusionary agreement matter and *Microsoft*¹⁵⁶ for a Section 2 exclusionary conduct monopolization matter. In this decision process, the first step can be viewed as the plaintiff having to produce sufficient evidence to rebut an implicit marginally procompetitive presumption.

¹⁵⁴ *Law v. Nat’l Collegiate Athletic Ass’n*, 134 F.3d 1010, 1019 (1998) (citations omitted).

¹⁵⁵ *United States v. Visa U.S.A., Inc.*, 344 F.3d 229, 238-44 (2003).

¹⁵⁶ *Microsoft*, 253 F.3d at 50-83.

When there is an anticompetitive presumption for an “inherently suspect” restraint, that presumption serves to satisfy the plaintiff’s initial burden as a substitute for a factual showing.¹⁵⁷ This “quick look” can be seen a part of the same basic decision process as the multi-step rule of reason, but with an additional step at the outset whereby the defendant must show a plausible efficiency justification for its conduct. This interpretation applies because the decision process transforms back to the multi-step rule of reason and the burden of production to avoid a judgment shifts back to the plaintiff, if the defendant satisfies its burden of production to avoid a judgment in the initial “quick-look” step. That is, the rebuttal evidence essentially moves the presumption back to a more neutral position.

Decision theory analysis has several implications for this multi-step decision process. First, the same basic burden-shifting structure can apply to conduct with a procompetitive presumption that is stronger than just marginal. Following the decision theoretic approach, this presumption would raise the burden of production on the plaintiff to rebut the presumption with evidence of competitive harm. The higher evidentiary burden thus serves as a heavier “thumb on the scale.”

Second, when the presumption is marginally anticompetitive (or competitively neutral), decision theory suggests that the plaintiff’s first-step burden of production (to show sufficient evidence of competitive harm) should be modest.¹⁵⁸ The plaintiff only should be required to produce evidence showing that harm to competition is more likely than not, assuming no case-specific evidence (or only marginal evidence) of procompetitive benefits from the conduct. A marginally procompetitive presumption would place only a marginal “thumb on the scale.”

Third, assuming that the plaintiff meets this first-step evidentiary standard, the burden-shifting decision process then places the burden of production on the defendant to show cognizable competitive benefits. This follows from the idea that the defendant must rebut the updated estimate of likely anticompetitive effects that resulted from the evidence produced by

¹⁵⁷ *Polygram Holding, Inc. v. Fed. Trade Comm’n*, 416 F.3d 29, 35-36 (2005). See also Andrew I. Gavil et al, *ANTITRUST LAW IN PERSPECTIVE: CASES, CONCEPTS AND PROBLEMS IN COMPETITION POLICY* (3rd Ed.) 246-252 (2016).

¹⁵⁸ *Supra* Section III.D.

the plaintiff. Decision theory also suggests a second reason to place this burden of showing efficiency benefits on the defendant. The defendant has better access to this evidence. As discussed previously, this flows from deterrence policy concerns.

Fourth, the usual statement of this multi-step rule of reason envisions that the issues should be analyzed and evaluated in the rigid sequence. This rigid sequencing is not compelled or even suggested by decision theory.¹⁵⁹ Trials are not typically trifurcated into the three stages that would call for this burden-shifting “tennis match.”¹⁶⁰ In presenting its affirmative case, the plaintiff also anticipates and attempts to counter the likely arguments the defendant will make.¹⁶¹ Moreover, after all the evidence has been produced and presented, the sequencing obviously does not achieve any resource savings. Indeed, requiring this rigid sequencing denigrates or ignores the potential advantages of taking into account the value of a particular piece of evidence for gauging both benefits and harms. For example, evidence of the defendant’s purpose in adopting certain restraints can be probative for evaluating the likelihood of both competitive effects.¹⁶² To take another example, in a horizontal restraints joint venture case, evidence regarding whether prices increased or decreased in response to the formation of a different (but similar) venture in a different (but similar) industry or market might have relevance for the analysis of both harms and benefits of this joint venture in this market.

¹⁵⁹ For a decision theory analysis of the sequencing order, see Beckner & Salop, *supra* note 30.

¹⁶⁰ As the Eleventh Circuit observed in *University Health*, “Conceptually, this shifting of the burdens of production, with the ultimate burden of persuasion remaining always with the government, conjures up images of a tennis match, where the government serves up its prima facie case, the defendant returns with evidence undermining the government's case, and then the government must respond to win the point. In practice, however, the government usually introduces all of its evidence at one time, and the defendant responds in kind.” Fed. Trade Comm’n, v. *University Health, Inc.*, 938 F.2d 1206, 1219 n.25 (11th Cir. 1991).

¹⁶¹ See *Chicago Bridge & Iron v. Fed. Trade Comm’n*, 534 F.3d 410, 426 (5th Cir. 2005) and the discussion in *Gavil et al*, *supra* note 157, at 714-716.

¹⁶² See *Chicago Board*, 246 U.S. at 238 (“knowledge of intent may help the court to interpret facts and to predict consequences.”) Applied to Section 2, the Court in *Aspen Skiing* inferred anticompetitive purpose from the defendant’s lack of a valid efficiency benefits. *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 608 n.39 (1985) (“[I]ntent to engage in predation may be in the form of . . . evidence that the conduct was not related to any apparent efficiency.” (citation omitted)). An analogous inference process can be used to exonerate conduct. For example, in *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210 (D.C. Cir. 1986), Judge Bork inferred that the conduct of Atlas Van Lines likely was efficient because Atlas lacked the market power necessary to cause harm competition. *Id.* at 221.

Since the trial is not trifurcated into these three parts, sequencing is merely an organizational tool for the trial judge or jury to organize its thinking about the elements of the proof. But this organizational benefit does not really require rigid sequencing of the analysis of those elements. In addition, it is not even clear that the sequencing would generate time savings. It is economical to analyze the easiest issue first.¹⁶³ Sometimes it will be obvious or easier to determine that there are no cognizable competitive benefits, for example, because the defendant did not make any non-pretextual efficiency claims. In this situation, there is no reason to defer that analysis until after determining whether or not the plaintiff has made a competitive harm showing. In fact, knowing that there are no competitive benefits would be highly relevant to evaluating the plaintiff's evidence of competitive harm. If there are only pretextual or no efficiency rationales, then that fact suggests that the true purpose of the conduct was to achieve, enhance, or maintain market power.¹⁶⁴

While it does not include every one of these elements, the *McWane* case provides an possible illustration of the shortcomings of rigid sequencing. The Commission analyzed the conduct under the usual rule of reason. The defendant justified its conduct on the specific grounds that the conduct prevented the entrant from “cherry picking” by selling only high-volume items. This efficiency rationale was rejected by the Commission and determined to be pretextual by the Eleventh Circuit.¹⁶⁵ Commissioner Wright's Dissent presumed that *McWane's* exclusive dealing was highly likely to be procompetitive, as discussed earlier.¹⁶⁶ In his analysis, Commissioner Wright applied rigid sequencing that analyzed competitive harm first without drawing any conclusions regarding whether the efficiency claims were pretextual or whether *McWane's* actual purpose was anticompetitive.¹⁶⁷ Had he done so, and found anticompetitive purpose and pretextual efficiency claims, this evidence would have led him rationally to revise and weaken (or even reverse) his initial presumption that the monopolistic exclusive dealing was

¹⁶³ For further details, see Beckner and Salop, *supra* note 30.

¹⁶⁴ It might appear that the sequencing may would be useful at the motion to dismiss or summary judgment stage. But even here, a showing by the plaintiff that there are no cognizable efficiency benefits helps to rebut the procompetitive presumption underlying the decision process. This showing should reduce the evidentiary burden on the plaintiff to show competitive harm or even fully satisfy that burden.

¹⁶⁵ *McWane*, *supra* note 58.

¹⁶⁶ Wright Dissent, *supra* note 58, at 2-3.

¹⁶⁷ *Id.* at 48-49 n.55.

highly procompetitive. Such revision then logically would have led him to place a much lower bar on the plaintiff's evidence required to show competitive harm. Instead, he analyzed competitive harm in a vacuum and set a very high evidentiary burden on Complaint Counsel in light of his strong procompetitive presumption.

V. Reviewing, Revisiting and Refining Competitive Presumptions

Antitrust law applies various presumptions to categories of conduct. Antitrust would be more coherent and transparent if the presumptions were given an even more ubiquitous role in antitrust jurisprudence. In principle, appellate courts could determine and make explicit a set of legal presumptions across a wide array of narrow categories of conduct. This more precise classification would permit stronger presumptions and would reduce the likelihood of error. The presumptions also would determine the rebuttal burdens. This project of determining the appropriate presumptions and evidentiary burdens would then comprise “the enquiry meet for the case.” These determinations could be used by lower courts and enforcement agencies, and could be relied upon by litigants and business planners.

Some current presumptions regarding some conduct categories are only implicit. Those would benefit from being analyzed and made explicit. Some presumptions might be revisited and reevaluated in light of more recent judicial experience, changes in market realities, and analytic and empirical developments in economics.¹⁶⁸ Others might be refined to apply to narrower categories of conduct.¹⁶⁹ Today, one key condition for determining presumptions is whether the conduct is carried out by a single firm or a group of firms pursuant to an agreement. The market power or monopoly power of the defendant would be another prime candidate for a condition that can be used to refine presumptions.¹⁷⁰

¹⁶⁸ The use of empirical studies raises the issue that there are difficulties in doing rigorous econometric analysis that is directly relevant to the formation of presumptions, when conduct is carried out in the shadow of existing law and there are data limitations. See discussion *infra* at n. 208 -210.

¹⁶⁹ This suggestion to apply presumptions to narrow categories is at odds with the type of presumptions suggested by strong Chicago-school adherents such as Professor Easterbrook, *supra* note 28.

¹⁷⁰ As Justice Scalia observed: “Where a defendant maintains substantial monopoly power, his activities are examined through a separate lens: Behavior that might otherwise not be of concern to the antitrust laws – or might be viewed as procompetitive – can take on exclusionary connotations when practiced by a monopolist. *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 488 (Scalia, J., dissenting).”

To further this project, this article makes some proposals to review and refine certain presumptions applied to various categories of conduct.¹⁷¹ In light of recent post-Chicago school developments in economics and judicial experience, a number of these proposals suggest adopting or strengthening anticompetitive presumption for certain conduct. However, these proposals are not intended to return to the inhospitality of the pre-Chicago period when evidence was given little weight. Other commentators nonetheless may disagree with some of these proposals, or may wish to propose other revisions. The set of proposals made here are not a complete list. In fact, a goal of this article is to spur others to join the project and add their criticisms and proposals of their own. The result will further the project of creating a more coherent set of antitrust presumptions and associated evidentiary rebuttal standards.

With this goal in mind, consider the following initial set of proposals. Tying arrangements are a category that clearly would benefit from updating. *Jefferson Parish* retained the per se rule for the category of tying arrangements where the defendant has market power and there is substantial foreclosure.¹⁷² This irrebuttable anticompetitive presumption, which currently can be undermined but not offset, has been subject to critical academic commentary,¹⁷³ as well as criticism by the D.C. Circuit in *Microsoft*.¹⁷⁴ Courts might consider applying a rebuttable anticompetitive presumption that permits rebuttal evidence of competitive benefits. Another scenario could be to limit an anticompetitive presumption only to monopolists and dominant firms.

Another fruitful area where presumptions might be honed to narrower conduct categories would be vertical intrabrand price restraints. *Leegin* appears to reflect a neutral or marginally procompetitive presumption in light of the fact that some empirical studies suggest anticompetitive outcomes while others suggest procompetitive outcomes.¹⁷⁵ The Court

¹⁷¹ For a similar suggestion, see Joshua D. Wright, *Abandoning Antitrust's Chicago Obsession: The Case for Evidence-Based Antitrust*, 78 ANTITRUST L.R. 301, 322-323 (2011).

¹⁷² *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 45 (1985).

¹⁷³ For one view, see Keith N. Hylton and Michael A. Salinger, *Tying Law and Policy: A Decision Theoretic Approach*, 69 ANTITRUST L.J. 469 (2001).

¹⁷⁴ *Microsoft*, 253 F.3d at 84-96.

¹⁷⁵ Studies of the impact of resale price maintenance on welfare during periods when it was legal were discussed in *Leegin*, 551 U.S. at 890-95, 905-07. For one recent study based on cross-state differences in legal rules in the post-*Leegin* period, see Alexander MacKay & David Aron Smith, *The Empirical Effects*

suggested that the presumption might be refined.¹⁷⁶ An anticompetitive presumption might be applied when those restraints by dominant firms or monopolists on the grounds that anticompetitive exclusionary effects are more likely in this situation. A somewhat weaker anticompetitive presumption might apply when the restraints are used by most or all oligopolistic manufacturers in that this outcome is more likely to suggest coordinated effects or exclusion of new entrants. However, these presumptions would be rebuttable and a procompetitive presumption would apply for other market conditions.

Actavis also contains an invitation to courts to provide more refined presumptions for alleged pay-for-delay agreements.¹⁷⁷ These presumptions might be based on narrower factual categories. For example, it seems reasonable to apply a strong anticompetitive presumption in the extreme case where the agreement delays entry until 6 months before the patent expires and the branded firm offers cash or other consideration to the generic far in excess of litigation costs. It is hard to envision a non-pretextual efficiency rationale for such an agreement and the potential harm from a non-competition agreement is clear. But even this presumption would be rebuttable.¹⁷⁸ For example, suppose the agreement involves only one of a number of generic

of Minimum Resale Price Maintenance, Kilts Center for Marketing at Chicago Booth – Nielsen Dataset Paper Series 2-006 (June 16, 2014).home.uchicago.edu/~mackay/research.html. For a critique of this study, see Thomas Lambert & Michael Sykuta, *Why the New Evidence on Minimum Resale Price Maintenance Does Not Justify a Per Se or “Quick Look” Approach*, CPI Antitrust Chronicle 1 (November 2013).

¹⁷⁶ *Leegin*, *supra* note 10, at 879 (“Courts can, for example, devise rules over time for offering proof, or even presumptions where justified, to make the rule of reason a fair and efficient way to prohibit anticompetitive restraints and to promote procompetitive ones.”). A number of suggestions have been made by other authors. For example, see Christine A. Varney, *A Post-Leegin Approach to Resale Price Maintenance Using a Structured Rule of Reason* 24 ANTITRUST 22 (2009); Thomas A. Lambert, *Dr. Miles Is Dead. Now What?: Structuring A Rule of Reason for Evaluating Minimum Resale Price Maintenance*, 50 WM & MARY L. R. 1937 (2009); Thomas A. Lambert, *A Decision-Theoretic Rule of Reason for Minimum Resale Price Maintenance*, 55 ANTITRUST BULLETIN 167 (2010).

¹⁷⁷ Fed. Trade Comm’n v. *Actavis, Inc.*, 133 S.Ct. 2223, 2237-38 (2013).

¹⁷⁸ The benefits and costs of presumption in pay-for-delay cases has been debated in the literature. For example, see Aaron Edlin, Scott Hemphill, Herbert Hovenkamp & Carl Shapiro, *Activating Actavis*, ANTITRUST (Fall 2013); Aaron Edlin, Scott Hemphill, Herbert Hovenkamp & Carl Shapiro, *The Actavis Inference: Theory and Practice*, 67 RUTGERS U. L. REV. 585 (2015); Barry C. Harris, Kevin M. Murphy, Robert D. Willig & Matthew B. Wright, *Activating Actavis: A More Complete Story*, ANTITRUST (Spring 2014); Bruce Kobayashi, Joshua Wright, Douglas Ginsburg & Joanna Tsai, *Actavis and Multiple ANDA Entrants: Beyond the Temporary Duopoly*, 29 ANTITRUST 89 (Spring 2015).

entrants. A weaker anticompetitive presumption might apply when there are payments far in excess of litigation costs, but the delay is shorter. Agreements that contain non-cash services or licenses provided by the branded product might involve an implicit payment but also might create procompetitive benefits to the generic.¹⁷⁹ These might weaken the presumption if the court believes that the cross-market balancing of harms and efficiencies rejected in *Philadelphia National Bank* should be permitted for pharmaceutical products.¹⁸⁰ The burden of production to show this linkage would best be placed on the defendant, because the defendant typically has better access to the relevant information.

Another area that might benefit from revisiting involves price verification communications among competitors in oligopoly markets. Information exchanges are generally subject to the conventional rule of reason.¹⁸¹ However, the competitive risks of price verification information exchanges in supporting price fixing agreements are clear. Their potential efficiency benefits are elusive. Economic reasoning suggests that the likelihood that these exchanges would quicken market price reductions when demand or costs decline seems far lower than the likelihood that they would reduce the probability of price reductions that would result from customer bargaining strategies.

Anticompetitive presumptions applied to interbrand vertical restraints such as exclusive dealing also might be refined into narrower categories. Exclusive dealing by a monopolist or dominant firm might be subject to a rebuttable anticompetitive presumption. Where the defendant lacks market power, the impact of the restraints is more likely to be procompetitive on balance and the rebuttable presumption might be procompetitive. Exclusive dealing implemented by a firm with modest market power might be treated as presumptively neutral.¹⁸²

¹⁷⁹ That high “net” value would amount to a payment by the brand in that the brand is not charging a market price for the license or services.

¹⁸⁰ *Phila. Nat’l Bank*, 374 U.S. 321 at 370-71.

¹⁸¹ *United States v. United States Gypsum Co.*, 438 U.S. 422, 441 n. 16 (1978). For an interesting judicial debate over the role of price verification, see *Blomkest Fertilizer, Inc., v. Potash Corp.*, 203 F.3d 1028, 1033-34 (8th Cir. 2000) (en banc); *Id.* at 1046-50 (J. Gibson dissenting).

¹⁸² Another related category of conduct involves the treatment of conditional pricing practices that incentivizes loyalty (i.e., prices contingent of larger purchases) by dominant firms and monopolists. The controversy here is clear in the cases and the literature: whether these practices should involve a procompetitive presumption of the sort accorded to alleged predatory pricing conduct; or whether they should involve an anticompetitive or neutral presumption accorded to exclusive dealing. For recent

When implemented by monopolists and dominant firms, however, these restraints are more likely to result in anticompetitive harm.¹⁸³ When implemented by a monopolist or dominant firm in response to entry, the anticompetitive presumption might be even stronger. Economic theory and recent judicial experience in *Dentsply*,¹⁸⁴ *Meritor*,¹⁸⁵ and *McWane*,¹⁸⁶ where exclusive dealing that was used to maintain monopoly power and also lacked efficiency benefits, would support this type of anticompetitive presumption.

This also raises the issue of the most appropriate presumption for exclusionary conduct directed at competitors who are less efficient than the dominant firm or monopolist. Actual or potential entry into a monopoly market that leads to a price reduction will benefit consumers, even if the entrant has somewhat higher costs or lower quality.¹⁸⁷ This may occur because the entrant charges a lower quality-adjusted price, because the successful entry causes the monopolist to reduce its price in order to maintain its monopoly market share, or because the

opposing views, see Benjamin Klein & Andres V. Lerner, *Price-Cost Tests in Antitrust Analysis of Single Product Loyalty Contracts*, 80 ANTITRUST L.J. 631 (2016); Steven C. Salop, *The Raising Rivals' Cost Foreclosure Paradigm, Conditional Pricing Practices, and the Flawed Incremental Price-Cost Test*, 81 ANTITRUST L.J. 371 (2017).

¹⁸³ By contrast, as noted earlier, *supra* note 58, Commissioner Wright's proposal in his *McWane* dissent involved a strong procompetitive presumption for exclusive dealing by a monopolist with an associated "clear evidence" rebuttal burden. Commissioner Wright argued that he relied on economic analysis and judicial experience. *Id.* at 2-3 ("it is well-accepted that the economic learning accumulated since *GTE Sylvania* has taught that such [vertical] restraints . . . rarely harm competition and often benefit consumers."). However, in justifying this presumption on the grounds that *intrabrand* vertical restraints by competitive firms often were procompetitive, his theoretical and empirical analysis ignored the general differences between *intrabrand* and *interbrand* restraints. He also did not take into account that most of the cited econometric evidence involved vertical restraints implemented by competitive firms, not exclusive dealing by monopolists. His analysis also did not properly rely on judicial experience in that it ignored the fact that the Supreme Court in *Leegin* did not adopt such a procompetitive presumption even for *intrabrand* restraints. For further criticism, see Steven C. Salop, Sharis A. Pozen & John R. Seward, *The Appropriate Legal Standard and Sufficient Economic Analysis for Exclusive Dealing Under Section 2: The FTC's McWane Case*, Working Paper (August 2014); available at <http://scholarship.law.georgetown.edu/facpub/1365/>.

¹⁸⁴ *United States v. Dentsply Int'l, Inc.*, 399 F.3d 181 (3d Cir. 2005).

¹⁸⁵ *ZF Meritor, LLC v. Eaton Corp.*, 696 F.3d 254 (3d Cir. 2012).

¹⁸⁶ *McWane Inc. v. Fed. Trade Comm'n*, 783 F.3d 814 (11th Cir. 2015).

¹⁸⁷ Under a total welfare standard, the issue would be less clear. However, that standard would amount to protecting competitors (here, the monopolist), not protecting competition. For further details, see Steven C. Salop, *Question: What is the Real and Proper Antitrust Welfare Standard? Answer: The True Consumer Welfare Standard*, 22 LOYOLA CONSUMER L.R. 36 (2010) and the references cited therein.

threat of entry causes the monopolist to reduce its price to deter the entry.¹⁸⁸ If the monopolist engages in exclusionary conduct that raises the entrant's costs, supra-competitive prices will be raised or maintained, whether or not the entrant is less efficient and whether or not the entrant remains viable. This suggests that attempting to rebut an anticompetitive presumption (or reinforce a procompetitive presumption) with evidence that the entrant is less efficient should be rejected as a matter of law, at least for the case of monopolists and dominant firms.¹⁸⁹

Exclusionary conduct by a dominant firm or monopolist with the rational purpose of deterring or weakening innovation competition also might deserve a strong rebuttable anticompetitive presumption. For example, *Microsoft* involved exclusionary conduct designed to destroy a nascent innovation competitor.¹⁹⁰ There is long-standing discussion among economists regarding the market structure most conducive to innovation.¹⁹¹ This same analysis also can be applied to exclusionary conduct.¹⁹² The defendant in such exclusion cases might want to argue that allowing it to protect its monopoly with exclusionary conduct generally will induce more investment and innovation competition by itself and future innovators.¹⁹³ This defense was rejected in *Kodak*.¹⁹⁴ In *Polygram*, the D.C. Circuit rejected the view that concerted efforts by competitors to maintain higher prices by reducing competition among themselves might be

¹⁸⁸ For further details of the economic analysis, *see*, for example, Salop, *supra* note 182, at 391-93. For the contrary view, *see* Richard A. Posner, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 194–95 (2d ed. 2001).

¹⁸⁹ However, this proposal is not intended to suggest that price cuts should be treated as predatory because they fall below the costs of a less efficient entrant but remain above the defendant's costs.

¹⁹⁰ *United States v. Microsoft Corporation* 253 F.3d 34, 58-78 (D.C. Cir. 2001)

¹⁹¹ For recent analysis, *see* Jonathan B. Baker, *Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation*, 74 *ANTITRUST L.J.* 575 (2007); Carl Shapiro, *Competition and Innovation: Did Arrow Hit the Bull's Eye?*, in *THE RATE AND DIRECTION OF INVENTIVE ACTIVITY REVISITED* 361 (Josh Lerner & Scott Stern eds., 2012).

¹⁹² For analyses of this issue, *see* Richard M. Brunell, *Appropriability in Antitrust: How Much Is Enough?*, 69 *ANTITRUST L.J.* 1 (2001); C. Scott Hemphill, *Higher Profits as a Merger Defense: Innovation, Appropriability, and the Horizontal Merger Guidelines*, in *EUROPEAN COMPETITION LAW ANNUAL: 2010*, at 43 (Philip Lowe & Mel Marquis eds., 2013); Ilya Segal & Michael D. Whinston, *Antitrust in Innovative Industries*, 97 *AM. ECON. REV.* 1703, 1718–23 (2007); Jonathan B. Baker, *Evaluating Appropriability Defenses for the Exclusionary Conduct of Dominant Firms in Innovative Industries*, 80 *ANTITRUST L.J.* 431 (2016).

¹⁹³ *See also* Baker, *supra* note 192, at n.33.

¹⁹⁴ *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451 (1992).

defended by a claim that the monopoly prices will incentivize innovation.¹⁹⁵ Even if carried out by a single firm or claimed as a merger efficiency, rejecting such claims also is supported by overarching antitrust policy favoring an unencumbered competitive process.¹⁹⁶

Horizontal merger presumptions have continued to evolve over the years as economic analysis of oligopolies has become more refined and the empirical literature has developed and obtained new results. Some commentators have suggested that the anticompetitive presumption based on market shares and concentration should be revoked.¹⁹⁷ This author and others would disagree.¹⁹⁸ More recent empirical studies have corrected the methodological flaws of the older studies of prices of concentration and found that there is a relevant positive correlation between prices and concentration.¹⁹⁹ The Merger Guidelines' analysis of unilateral effects also suggests that there might be alternative or supplemental anticompetitive presumptions based on upward pricing pressure measures and presumptions based on the acquisition of a maverick and a history of attempted or actual collusion for coordinated effects.²⁰⁰ Revisions in merger presumptions

¹⁹⁵ By contrast, an expansive reading of *Trinko* might suggest that the longer the would-be monopolist anticipates that it will be able to earn monopoly profits, the greater will be its incentives to invest in the hope of achieving a monopoly. *Trinko*, 540 U.S. at 407.

¹⁹⁶ Indeed, if this defense is permitted, then in other situations that do not satisfy these required conditions, *supra* note 193, plaintiffs might argue that price caps on the monopolist would not have adverse deterrence effects on investment.

¹⁹⁷ Douglas H. Ginsburg and Joshua D. Wright, *Philadelphia National Bank: Bad Economics, Bad Law, Good Riddance*, 80 ANTITRUST L.J. 201 (2015).

¹⁹⁸ Salop, *PNB Evolution* and the references to the empirical literature cited therein. For similar views, see Jonathan B. Baker & Carl Shapiro, *Reinvigorating Horizontal Merger Enforcement in HOW THE CHICAGO SCHOOL OVERSHOT THE MARK* 235, 253-54 (Robert Pitofsky ed., 2008); Herbert Hovenkamp & Carl Shapiro, *Horizontal Mergers, Market Structure and Burdens of Proof*, __ YALE L. J. (forthcoming, 2019).

¹⁹⁹ For example, see Richard Schmalensee, *Inter-Industry Studies of Structure and Performance*, in 2 HANDBOOK OF INDUSTRIAL ORGANIZATION 988 (Richard Schmalensee & Robert Willig, eds., 1989) (Stylized Fact 5.1). See also Leonard W. Weiss, (Ed.), CONCENTRATION AND PRICE (1989) (collection of studies); Timothy F. Bresnahan and Valerie Y. Suslow, *Oligopoly Pricing With Capacity Constraints*, 15 ANNALES D'ECONOMIE ET STATISTIQUE 267 (1989).

²⁰⁰ For further discussion of such additional sources of merger presumptions, see Salop, *PNB Evolution* at 298-306; Baker & Shapiro, *supra* note 198, at 259-67.

also might be animated by recent experience indicating greater skepticism of the effectiveness of remedies, which indicates a greater concern about false negatives.²⁰¹

Anticompetitive presumptions are not applied to acquisitions involving potential competitors. There appears to be a significant, albeit implicit, presumption that such mergers are procompetitive. This is reflected in the plaintiff's high burden of proof to show that the potential competitor likely would enter soon, including the requirement of concrete entry plans.²⁰² This burden may be set at too high a level, particularly in dynamic technology markets. For example, consider a situation in which the one firm is dominant in its market and a potential competitor enters into the complementary or vertically related market in which the other firm is dominant. A dominant firm in one market normally has a strong economic incentive to disrupt the market power of a dominant firm in the adjacent market, making the likelihood that the firm enters the other market high or even economically inevitable.²⁰³ This might suggest applying a rebuttable anticompetitive presumption to such mergers, a presumption that might be rebutted by showing that the incumbent firm would face prohibitive barriers to entry into the other market, either as a de novo entrant or entry sponsor, by guaranteeing a relationship with the entrant to reduce its entry risk.

²⁰¹ Dep't of Justice, *Antitrust Division Policy Guide to Merger Remedies* (June 2011), <https://www.justice.gov/sites/default/files/atr/legacy/2011/06/17/272350.pdf>; John W. Kwoka, Jr., *MERGERS, MERGER CONTROL AND REMEDIES: A RETROSPECTIVE ANALYSIS OF U.S. POLICY* (2015). For a critique of Kwoka's analysis by two FTC economists and his response, see Michael Vita & F. David Osinski, *John Kwoka's Mergers, Merger Control, and Remedies: A Critical Review* (SSRN December 2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2888485; John Kwoka, Jr., *Mergers, Merger Control, and Remedies: A Response to the FTC Critique* (AAI, March 2017), <http://www.antitrustinstitute.org/sites/default/files/Kwoka%20Response%20to%20FTC%20Critique%20of%20MMCR.pdf>.

²⁰² For example, see *Fed. Trade Comm'n v. STERIS Corporation, et al.*, No. 1:15-cv-1080 (N.D. Ohio).

²⁰³ Two potential examples might be the merger of Live Nation and Ticketmaster (announced in 2009) and the merger of Bell Atlantic and Nynex (announced in 1996). The latter transaction was cleared by the Department of Justice, with no remedy. *Antitrust Division Statement Regarding Bell Atlantic/Nynex* (April 24, 1997), <https://www.justice.gov/archive/opa/pr/1997/April97/173at.htm>. The Department of Justice negotiated a consent decree in the former transaction. See *Complaint at 9-11, United States v. Ticketmaster* (D.D.C. 2010) (No. 10-cv-139) (filed Jan. 25, 2010), available at <http://www.justice.gov/atr/cases/f254500/254552.pdf>.

Vertical mergers have been treated to a procompetitive presumption by notable Chicago-School commentators.²⁰⁴ The presumption that foreclosure is unlikely to raise serious competitive concerns was based on several economic theories -- that foreclosure is generally illusory, that there is only a single monopoly profit, and that vertical mergers invariably have large efficiency benefits. The first two theories are now considered economically valid only under very limited and unrealistic conditions.²⁰⁵ While efficiency benefits are not rare, they are neither inevitable nor necessarily outweighing foreclosure concerns. Vertical mergers by a dominant vertically integrated firm operating in a market with significant scale economies and network effects raises particular competitive concerns and so might be subject to an anticompetitive presumption.²⁰⁶ As with horizontal mergers, skepticism about the effectiveness of firewall and non-discrimination remedies also could suggest more skepticism about vertical

²⁰⁴ Robert H. Bork, *THE ANTITRUST PARADOX* 225-45 (1978) is the classic example.

²⁰⁵ Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Gain Power over Price*, 96 *YALE L.J.* 209 (1986). For a recent discussion of these criticisms, see Steven C. Salop, *Invigorating Vertical Merger Enforcement*, __ *YALE L.J.* __ (2018) (forthcoming). The "single monopoly profit" theory is a good example of how views have changed. This theory purports to show that vertical mergers and exclusionary vertical agreements have no value as anticompetitive conduct. The theory is that a monopolist in one market cannot profitably extend its monopoly power into a second market. Since this conduct has no anticompetitive value, the use of this conduct must be procompetitive. In their Jefferson Parish concurrence, Justice O'Connor (and 3 other Justices) relied on this single monopoly theory to reject the per se rule against tying arrangements. *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 35-40 (1984) (J. O'Connor concurring). This single monopoly theory is not logically wrong. But, the economic conditions under which it actually prevents anticompetitive effects are very limited. It applies only when there is a monopoly and that monopoly is protected by impenetrable barriers to entry. It also requires an assumption that all consumers purchase the two products and in the same proportions. Thus, this theory does not apply when a monopolist uses exclusionary vertical agreements or similar unilateral conduct to maintain its monopoly from entry that would occur, or where the conduct is used to achieve a monopoly over consumers that purchase only the tied product or the product sold by the downstream merger partner and its competitors. It also does not apply to situations where the impact of vertical merger or exclusionary conduct by an upstream dominant firm or oligopoly firm towards rivals of its downstream division incentivizes other upstream firms to raise their prices. Thus, understanding the failure of this theory supports new presumptions applied to vertical mergers, exclusive dealing, and tying.

²⁰⁶ For example, see Lina M. Khan, *Note: Amazon's Antitrust Paradox*, 126 *YALE L.J.* 710 (2017).

merger remedies, which could affect the relative error costs and the implied evidentiary standard.²⁰⁷

Each of these proposals is subject to debate, of course. In evaluating this debate and in assigning these presumptions, courts and commentators should take care to ensure that the presumptions they suggest are based on up-to-date economics and judicial experience. Judicial experience includes the learning of the courts over time in evaluating such conduct and applying particular types of evidence to the conduct. Economic analysis includes theoretical analysis, valid econometric studies of the conduct, and case studies. It is important to recognize both the ongoing development and limitations of economics. Some economic models are more likely to apply to certain oligopoly conduct than others. Empirical analysis also develops new data sources and estimation methodologies.

When interpreting experience, including empirical studies, it also is important to pay attention to issues of selection bias. A key source of selection bias is that firms choose market conduct in the shadow of legal rules.²⁰⁸ This means that litigation rates or outcomes in a world of intrusive legal standards will not reliably capture the effects of the category of conduct in the absence of liability or in the presence of less intrusive legal standards. To take an extreme example, predation by murder or arson is a rare antitrust phenomenon. But that rarity may be the result of criminal law. In the illegal drug market, where the participants already are violating the law, the use of murder and other violent acts as methods of exclusion or cartel punishment is not unusual.

The same point applies to market conduct. If case law or econometric studies suggest that a category of conduct has been relatively unlikely to cause anticompetitive effects, those results might seem to suggest that the conduct is procompetitive and so might suggest that the law should be relaxed. However, this interpretation is flawed if it ignores the fact that the more intrusive current legal standards deters the most likely anticompetitive uses of the conduct.²⁰⁹

²⁰⁷ For further discussion of vertical merger policy by this author, see Steven C. Salop & Daniel P. Culley, *Revising the U.S. Vertical Merger Guidelines: Policy Issues and an Interim Guide for Practitioners*, 4 J. ANTITRUST ENFORCEMENT 1 (2015).

²⁰⁸ Selection bias also makes it difficult if not impossible to draw inferences from win/loss rates. For the seminal analysis, see George Priest and Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984)

²⁰⁹ For further discussion, see Baker, *supra* note 28.

For example, suppose that antitrust law deters monopolists from engaging in exclusive dealing or tying, but does not deter that same conduct by smaller firms in highly competitive markets. Whether or not the conduct of the smaller firms is procompetitive cannot provide a reliable prediction of whether the same conduct by the dominant firms or monopolists also would be procompetitive. In addition, even if there are some procompetitive benefits, the likelihood of anticompetitive harms is also higher when exclusive dealing is used by such firms. A sample selection bias problem also limits the inference that properly can be drawn from the empirical results.

This selection bias sometimes is less serious. In the case of resale price maintenance, for example, the law has varied over time and state laws differ today. This variation over time and across states might permit econometric studies to gauge the impact on consumers and competition.²¹⁰ But, in situations where the law has been stable, it is more difficult to predict the impact of loosening legal standards.

Because information is limited, analysts may draw different presumptions from studies and experience. Thus, one cannot expect that all commentators or judges will reach consensus on the appropriate presumptions for every narrow category of conduct. Opinions may vary regarding confidence in market self-correction (even after taking into account the existence of barriers to entry), the efficiency of less restrictive alternatives to prohibited conduct, perceptions of the competence and objectivity of trial courts and juries, the goals of the antitrust laws (e.g., total welfare vs. consumer welfare; welfare vs. competitive process), the degree of deterrence, and so on.²¹¹ However, commentators should take care that their conclusions are driven by rational economic and experiential presumptions, not political or ideological preferences.²¹² This type of bias in presumption formation may not be purposeful but rather may reflect the type of

²¹⁰ For example, see MacKay & Smith, *supra* note 175.

²¹¹ Easterbrook, *supra* note 28 and Baker, *supra* note 28.

²¹² Steven C. Salop, *What Consensus? Ideology, Politics and Elections Still Matter*, 79 ANTITRUST L.J. 601 (2014); George L. Priest, *The Limits of Antitrust and the Chicago School Tradition*, 6 J. COMPETITION LAW & ECONOMICS 1 (2009).

confirmation bias that can affect real world decision-making even by highly educated lawyers and economists.²¹³

Confirmation bias may lead to overconfidence. However, the formation of presumptions also is subject to potential over-confidence that may be independent of confirmation bias. This could involve someone with such strongly held initial beliefs that even significant evidence conflicting with those presumptions is never strong enough to cause those presumptions to be revised. A variant of false confidence can affect fully rational Bayesian decision-makers with limited time horizons. Decision-makers with very strong but objectively false presumptions might rationally choose to make decisions on the basis of those erroneous presumptions and would not engage in the effort required to educate themselves to correct the errors. In this way, erroneous presumptions might never change.²¹⁴

These issues of confirmation bias and over-confidence unfortunately are ubiquitous in human decision-making. It is up to the individual decision-maker to work to avoid them. As a matter of public policy, one solution would be to appoint judges who do not hold strong and inflexible views. Another would be to appoint judges with views that run across the ideological spectrum in the hope that either collegiality on the court will cure the biases or that the opposing views will average out over a range of opinions.

VI. Conclusions

As noted at the outset, this article has three goals. One goal is to provide an analytic framework for understanding the formation and strength of these antitrust presumptions and the associated evidentiary burdens for rebutting those presumptions. A second goal is to contribute

²¹³ Confirmation bias involves interpreting ambiguous evidence as supporting initial beliefs and overly criticizing evidence that conflicts with initial beliefs. For the seminal article on confirmation bias, see Charles G Lord, Lee Ross & Mark R. Lepper, *Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence*, 37 J. PERSONALITY AND SOCIAL PSYCHOLOGY 2098 (1979). For a discussion of whether there is confirmation bias by antitrust judges, see Christopher R. Leslie, *Rationality Analysis in Antitrust*, 158 U. PENN L.J. 263, 314-18.

²¹⁴ A classic economic model involves a rational decision maker playing a “two-armed” slot machine where one arm has a known probability of winning and one arm with uncertain probability. A rational player would begin to play the uncertain arm. Suppose the player has a run of losses. A player with a sufficiently high rate of time discount would rationally switch to the other arm and never re-experiment with the uncertain arm. Thus, if the other arm actually had a higher win probability, the rational player would never correct his initial misimpression that was based on limited experience. See Michael Rothschild, 9 *A Two-Armed. Bandit Theory of Market Pricing*, J. ECON. THEORY 185 (1974).

to the refinement of use of antitrust presumptions and evidentiary burdens, and the structure of decision process in the burden-shifting rule of reason. A third goal is to propose a project to update and refine the current presumptions and evidentiary burdens. This article has made certain proposals along these lines. Other commentators may criticize these proposals or suggest their own. The hope of this article is to spur that debate. Moreover, by framing the analysis in the context of economic decision theory, the debate can progress in a more rigorous way. The result will be antitrust jurisprudence that is both more consistent and more transparent.