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REPLACING THE STRUCTURAL PRESUMPTION

LOUIS KAPLOW*

A party challenging a horizontal merger in the United States is said to benefit from a structural presumption. Under this rebuttable presumption, the challenged merger is deemed to be sufficiently likely to substantially lessen competition, without the challenger having to prove anticompetitive effects, if the merger would significantly increase concentration in a highly concentrated market. This structural presumption is associated with the Supreme Court's decision in *Philadelphia Bank*¹ and is instantiated in modified form in the U.S. Horizontal Merger Guidelines.² It is also a subject of significant contemporary debate³ and provides the foundation for antitrust reform proposals that are

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¹ *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 363 (1963) ("[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.").

² See U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines 7–19 (2010) [hereinafter U.S. Merger Guidelines]; see also Guidelines on the Assessment of Horizontal Mergers Under the Council Regulation on the Control of Concentrations Between Undertakings, 2004 O.J. (C 31) 5, ¶¶ 14–21 [hereinafter EU Merger Guidelines]. Although much of this article's analysis is applicable to any formulation of the structural presumption, for concreteness and practical relevance it often focuses on the version stated in the text—looking to a significant increase in concentration in a highly concentrated market—which is in fact reflected in the U.S. Horizontal Merger Guidelines and many modern cases. As quoted in the preceding footnote, the triggering language in *Philadelphia Bank* instead refers to the merged firm having an undue share (which is omitted in many modern formulations) and a significant increase in concentration (which is followed), without mentioning overall market concentration.

³ See, e.g., Peter C. Carstensen, *The Philadelphia National Bank Presumption: Merger Analysis in an Unpredictable World*, 80 ANTITRUST L.J. 219 (2015); Douglas H. Ginsburg & Joshua

advanced in a recent U.S. House Majority Staff Report on Big Tech and in a broader Senate bill.⁴

The allure of the structural presumption is easy to appreciate. The prediction of a merger's anticompetitive effects is a costly, time-consuming, complex, and uncertain undertaking. Antitrust enforcement agencies, particularly early in the investigation of large numbers of proposed mergers, would like to be able to use proxies, screens, and other shortcuts to provide a provisional indication of which mergers are likely to be anticompetitive and thus warrant further scrutiny. Courts likewise stand to benefit from simplification, even after completion of a full trial, given the aforementioned difficulties, judges' lack of expertise, and the absence of independent analytical resources.

Unfortunately, although these sensible objectives might seem to be advanced through the use of a structural presumption, they cannot be achieved in practice because, upon analysis, the contemplated methodology does not work in principle. This article explains how the structural presumption is fundamentally flawed because of its own internal illogic, its sharp conflict with the economic analysis of anticompetitive effects, and the unintelligibility of its associated legal framework. The structural presumption's failure even as a preliminary screening device a fortiori renders it unsound as a basis for actual decision-making. It is therefore necessary to replace the structural presumption—and dangerous to extend and enshrine it as currently proposed.

Part I examines the structural presumption's internal logic, emphasizing its fatal reliance on market definition. This dependence is lethal both because of market definition's incoherence and because the very need for market definition contradicts the central point of the presumption. To explain the latter, the presumption is triggered when concentration (market share) measures are sufficiently high. Courts and agencies have long required, however, that such concentration be assessed only in a so-called relevant market, which is one that is chosen after completion of the market definition process. But how is one to choose the best market definition? In principle and to a significant degree in practice, this choice is made based on evidence that helps to predict

D. Wright, Philadelphia National Bank: *Bad Economics, Bad Law, Good Riddance*, 80 ANTITRUST L.J. 377 (2015); Herbert Hovenkamp & Carl Shapiro, *Horizontal Mergers, Market Structure, and Burdens of Proof*, 127 YALE L.J. 1996 (2018); John Kwoka, *The Structural Presumption and the Safe Harbor in Merger Review: False Positives or Unwarranted Concerns?*, 81 ANTITRUST L.J. 837 (2017); Steven C. Salop, *The Evolution and Vitality of Merger Presumptions: A Decision-Theoretic Approach*, 80 ANTITRUST L.J. 269 (2015); Sean P. Sullivan, *What Structural Presumption?: Reuniting Evidence and Economics on the Role of Market Concentration in Horizontal Merger Analysis*, 42 J. CORP. L. 403 (2016).

⁴ See MAJ. STAFF REP. AND RECOMMENDATIONS, SUBCOMM. ON ANTITRUST, COM. AND ADMIN. L. OF THE COMM. ON THE JUDICIARY, INVESTIGATION OF COMPETITION IN DIGIT. MKTS. 391–99 (2020) [hereinafter HOUSE MAJORITY STAFF REPORT]; Competition and Antitrust Law Enforcement Reform Act of 2021, S. 225, 117th Cong. (Feb. 4, 2021) [hereinafter Senate Bill].

anticompetitive effects. Hence, we have come full circle. The judge assesses a battle of experts and other evidence relating to anticompetitive effects in order to define the market, in order to measure concentration, in order to see if the structural presumption is triggered, in order that we can then *presume* anticompetitive effects without actually having to consider them. That the structural presumption is patently illogical at its core is largely ignored.

Part I further demonstrates that matters are worse for reasons related to deep flaws in the market definition process, however well one attempts to undertake it. (This is so unless one renders the matter moot via complete reverse engineering: that is, choosing the market definition that ratifies an outcome determined entirely on other grounds.) Market definition throws away information, redefined markets are useless for analysis, and market shares cannot coherently be interpreted in the manner that Supreme Court cases demand and merger assessments purport to do. An immediate corollary is that, when information is particularly scarce—such as when a competition agency screens merger filings to identify those deserving further scrutiny—market definition and the structural presumption are counterproductive. One can ill afford to discard information when it is especially meager to begin with, and there is no force capable of suspending the laws of logic when a decision maker would find it convenient to do so.

Part II relates the structural presumption to decades of economics research on the prediction of mergers' likely anticompetitive effects. Because the presumption relies on concentration measures, the focus of this Part's analysis is on when and how they—or other market share information—may illuminate the analysis. In light of the aforementioned defects with market definition, one must proceed carefully. As it happens, certain market share information is sometimes relevant if the shares are in “narrow” markets that align with particular economic models, regardless of whether such markets would be “relevant” under existing protocols.

The possible use of concentration or market share information is considered with respect to the standard types of anticompetitive effects from horizontal mergers: unilateral effects with homogeneous goods, unilateral effects with differentiated products, and coordinated effects. Three key lessons emerge. First, the correct method of analysis—and thus the relevance, if any, of information on market shares—differs greatly across these settings. Hence, the one-size-fits-all structural presumption—and closely related methods in merger guidelines in the United States, European Union, and elsewhere—is a nonstarter. Second, even when market shares in a particular model are relevant, other factors (notably, the elasticity of demand) are also relevant and quite important, so market share information alone—which is all the structural presumption considers—cannot give even an approximate indication of anticompetitive effects in any setting. Third, the concentration or market share

information, if any, that matters in various models in the different settings generally does not correspond to the presumption's focus on the level of and change in concentration, such as may be measured by the Herfindahl-Hirschman Index (HHI) and the change in that index (Δ HHI), respectively. The concentration level is mostly not probative at all. The change in concentration is useful in only the most basic model in a single setting, and even there the market shares of the two merging firms should be used in ways that differ from the Δ HHI.

Part II closes by reflecting on the implausibility of the familiar hypothetical monopolist test (HMT) that is featured in modern merger guidelines, most obviously because barely any cases involve mergers to monopoly. Moreover, even mergers to monopoly (or those that might be similar to a merger to monopoly, such as by enabling coordinated price increases) are improperly evaluated: the HMT throws away the correct assessment and replaces it with substantially unrelated measures. Also considered is the bearing of various strands in the economics literature on merger assessment, including that on the demise of the structure-conduct-performance paradigm. Finally noted is the policy relevance of the level of market power—in contrast to how much a proposed merger would increase market power, which is the traditional focus of legal and economic analysis of horizontal mergers.

Part III addresses the law. It begins by unpacking the burden-shifting framework commonly employed in cases involving the structural presumption. Under it, the party challenging a horizontal merger must first prove its *prima facie* case to trigger the presumption, after which (if successful) the merging parties bear a burden of rebuttal, which, if met, shifts the burden back to the challenger. Court opinions and other sources state each of these basic elements in multiple, differing, and often contradictory ways. Surprisingly, some are internally inconsistent and may contradict the very authorities (often within-circuit controlling precedents) cited for the stated propositions.

Some of the more important quandaries are then explored. First, there is some question whether the structural presumption is optional (as typically imagined) or mandatory—meaning that the government loses if the presumption is not triggered, even if likely anticompetitive effects can be demonstrated. Second, the strength of the presumption, when triggered, is obscure, which makes it hard to understand what in principle constitutes sufficient rebuttal. Third, the presumption's shifting production burdens are bizarre when one considers that these shifts are announced only in a trial judge's opinion after a complete trial and, moreover, that the judge is the factfinder.⁵ (For-

⁵ Throughout, merger proceedings in federal district courts will be referred to as "trials" even though some are "hearings."

mally, the only legal consequence of failing to meet a production burden—rather than the higher persuasion burden—is that the judge is to take the decision from the factfinder, herself, and instead decide the matter herself.) Fourth, persuasion burdens seem to matter greatly even though as a formal legal matter they should not under the preponderance rule.

Part IV examines proposals in a recent U.S. House Majority Staff Report on Big Tech and in a Senate bill that would legislate a version of the structural presumption and extend similar presumptions to other antitrust domains. It explains how the core critiques advanced in this article are applicable, which undermines such efforts. To be clear, no position is taken on the accuracy of the Report's analysis of Big Tech or the wisdom of these calls for greater antitrust scrutiny. Instead the point is that any prescriptions for reform should be sound responses to identified problems rather than invocations of superficially appealing formulations that are misleading and misdirected.

On reflection and analysis, we can see that the structural presumption cannot mean what it proclaims in a number of respects, is internally incoherent, entails counterproductive use of market definition, conflicts in multiple ways with the teachings of economic analysis, and does not provide a useful legal framework. Part V concludes this article by considering its long overdue replacement. A first step is abandonment of the structural presumption. Instead, one should employ the proper methods of analysis elaborated in Part II directly rather than using them as mere inputs into the market definition component of the structural presumption's malfunctioning machinery. For example, when there is an applicable formula, it should be used as best one can. Agencies and courts should not instead do all the analysis necessary and then discard some of its inputs and misuse others to define a market, from which to make less reliable inferences from market shares therein. An important caveat to this article's critique, which is suggested variously throughout the article, is that competition agencies and even trial courts may be much less influenced by the structural presumption's dictates than meets the eye. Even so, clear thinking, accurate decision-making, transparency and accountability, and the development of law and policy are all advanced by removing obfuscation.

I. THE STRUCTURAL PRESUMPTION'S RELIANCE ON MARKET DEFINITION

Section A breaks down the structural presumption into its constituent parts. A key element is market definition, a task that must be undertaken to determine whether the presumption is triggered. Merely seeing the structural presumption for what it is demonstrates that it makes no sense on its own terms.

Section B elaborates this core deficiency, which is intertwined with fundamental defects in the market (re)definition process.⁶

A. UNPACKING THE STRUCTURAL PRESUMPTION

The structural presumption is deemed to be applicable when a horizontal merger causes a significant increase in concentration in a highly concentrated market.⁷ These conditions have long since been embodied in U.S. merger guidelines, with similar approaches employed in other important jurisdictions.⁸ Whether referring to these or other aspects of concentration, using one or another means of measuring concentration, or employing higher or lower triggering thresholds for concentration, the core of the structural presumption is a mapping from market shares to presumed anticompetitive effects.

⁶ The criticisms in this Part extend those first advanced in Louis Kaplow, *Why (Ever) Define Markets?*, 124 HARV. L. REV. 437 (2010) [hereinafter Kaplow, *Why Define Markets?*]. For references to and discussions of some of the subsequent debate (which does not substantially address the logical claims most relevant to this article), see Louis Kaplow, *Market Definition Alchemy*, 57 ANTITRUST BULL. 915 (2012), and Louis Kaplow, *Market Definition: Impossible and Counterproductive*, 79 ANTITRUST L.J. 361 (2013). Prior literature, agency guidelines, and court opinions that advance the structural presumption have almost entirely ignored the issues examined in this Part. For example, David Glasner and Sean Sullivan highlight three claims regarding the need for market definition in light of my prior critiques. See David Glasner & Sean P. Sullivan, *The Logic of Market Definition*, 83 ANTITRUST L.J. 293, 295–97 (2020). First, econometric estimates are said to often be difficult and insufficient, which is correct but does not justify reliance on a method that always fails on its own terms. All evidence, whatever its strengths and limitations, should be used to answer the correct questions as best one can rather than to answer incorrect ones. Second, courts are said to rely on market definition, which is important for lawyers and agencies litigating cases but does not address the incoherence of such reliance. (This point is also inapt to proposed legislation, discussed in Part IV, that would increase reliance on this misguided construct.) The point about courts is also overstated. For example, their support from *Amex*, see *id.* at 296 n.12, omits that the cited statement was in the vertical context, whereas the Court also said that direct proof without market definition was acceptable in the horizontal context, the one relevant here and in other settings that they address. See *infra* note 92 (discussing *Amex*). Furthermore, as Subsection III.B.1 notes, the Court has long qualified the use of market shares to such a degree that the requirement is partly undermined in practice. Third, they note additional uses of market definition, such as at the investigative stage or as a conceptual framework, but those are unwise if market definition provides the *wrong* framework, one that is *always inferior* to the correct one no matter how limited is the information at hand.

⁷ Ordinarily, the increase in concentration, such as reflected in the Δ HHI measure, is computed naively for this purpose, assuming that the merged firm's market share will equal the sum of the premerger shares of the merging firms and that the market shares of other firms will remain unchanged. Shortcomings of this simplification are addressed in some of the economics literature discussed in Part II but are not central to the critique in this Part.

⁸ See, e.g., U.S. Merger Guidelines, *supra* note 2, at 3 (“Mergers that cause a significant increase in concentration and result in highly concentrated markets are presumed to be likely to enhance market power, but this presumption can be rebutted by persuasive evidence showing that the merger is unlikely to enhance market power.”); Carstensen, *supra* note 3, at 237–40 (offering a brief history). Cf. EU Merger Guidelines, *supra* note 2, ¶¶ 19–21 (employing a similar framework to indicate that challenges are unlikely when concentration or the increase in concentration is low, but not affirmatively stating a high likelihood of challenge when both are high).

Let us now decompose the structural presumption into its basic elements using a series of figures, which will build from right side of the page to the left. To begin, a case in which the structural presumption is indeed triggered is depicted in Figure 1.

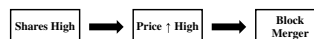


FIGURE 1: STRUCTURAL PRESUMPTION SUCCEEDS

In the box at the left, “Shares High” indicates some level of market shares, or outputs of formulas based on market shares (like HHIs and Δ HHIs), that is sufficiently high to trigger the structural presumption.⁹ The arrow to the right of this box, leading to the next box with “Price ↑ High,” constitutes the essence of the structural presumption. The key point here is that the party challenging the merger need not *prove* that these high shares will in fact be sufficiently likely to cause a large price increase in the case at hand. Rather, if all is in order, this effect is *presumed*. Now, to complete the story in Figure 1, the subsequent arrow leads to the “Block Merger” box, indicating that, if the presumption is unrebutted (as will be assumed throughout this Section), the government would seek to block the merger or, when invoked by a court, the tribunal would agree to block the merger.¹⁰

By contrast, a case in which the structural presumption is not triggered is depicted in Figure 2.

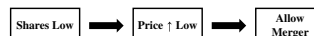


FIGURE 2: STRUCTURAL PRESUMPTION FAILS

Here, the shares are low rather than high, so the price increase is presumed to be low, which implies that the merger would be allowed. This depiction is oversimplified in a number of respects: the shares may be “not sufficiently high” (perhaps medium) rather than “low”; the price increase may not be presumed to be low, both for the aforementioned reason and also because, formally, one may simply fail to presume that the price increase would be high;

⁹ For example, under the 2010 U.S. Horizontal Merger Guidelines, an HHI (post-merger) exceeding 2500 and a Δ HHI exceeding 200 are taken to indicate that the merger “will be presumed to be likely to enhance market power.” U.S. Merger Guidelines, *supra* note 2, at 19.

¹⁰ The government will often be supposed here to be the party challenging the merger, and the setting will be taken to be the familiar one in which blocking a merger refers to obtaining an injunction to prevent a proposed merger from being consummated. The exposition here follows a number of other simplifying conventions (for example, identifying anticompetitive effects as price increases when they may take other forms, such as quality reductions or less vigorous innovation).

and the merger may not be “allowed” but instead subject to further scrutiny. These qualifications can be important, but not for present purposes, so Figure 2’s stark depiction will be used for the remainder of this Section.

Whatever share-based formulation is employed and whatever levels are deemed to be sufficiently high, the pertinent market shares must be determined in some “market.” And not just any market, but what is called the “relevant market.”¹¹ Figure 3 juxtaposes the foregoing two figures and adds corresponding relevant markets to the left of the diagram.

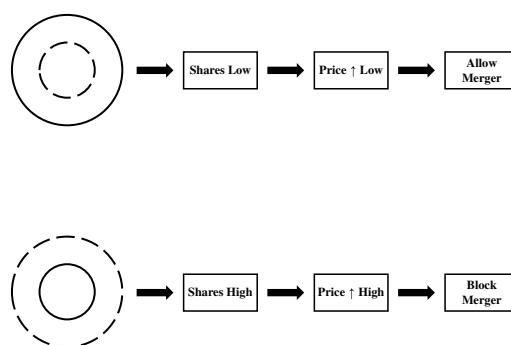


FIGURE 3: STRUCTURAL PRESUMPTION—WHICH MARKET?

Note the two sets of concentric circles: Along the upper pathway, the outer circle is solid and the inner one dotted, indicating that a “Broad” market definition is apt, which explains why the right-pointing arrow leads to a box indicating “Shares Low.” Conversely, along the lower pathway, the inner circle is solid and the outer one dotted, indicating that a “Narrow” market definition is apt, which explains why the right-pointing arrow leads to a box indicating “Shares High.” But which market—Broad or Narrow—is the relevant market?¹²

The answer, a central element of the structural presumption apparatus (even though, remarkably, it is ignored in some leading discussions of the subject¹³), is determined by the familiar market definition process, depicted in Figure 4.

¹¹ See, e.g., *United States v. Phila. Nat’l Bank*, 374 U.S. at 363; U.S. Merger Guidelines, *supra* note 2, at 19.

¹² Implicit in the exposition are a number of assumptions, here that there are only two market definitions in play. In many cases, it might be natural to view this as the choice between the two definitions being compared (contested) when the market definition decision must be made.

¹³ See, e.g., Kwoka, *supra* note 3; Sullivan, *supra* note 3. This omission also characterizes the U.S. House Majority Staff Report’s discussion of structural presumption proposals. See *infra* Part IV.

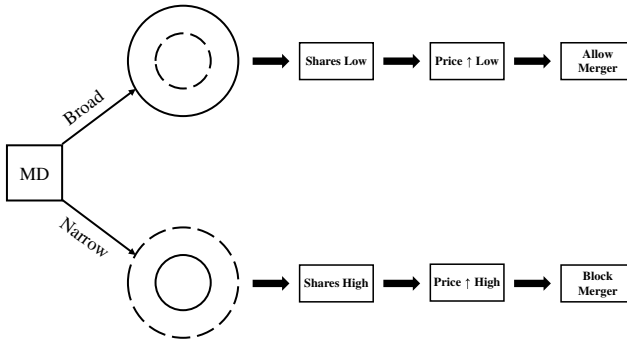


FIGURE 4: STRUCTURAL PRESUMPTION REQUIRES MARKET DEFINITION

In the box at the left, “MD” is short for “market definition,” and this box represents a decision to be made (in the standard depiction of decision trees).¹⁴ The arrows labeled Broad and Narrow indicate the possible results of the market definition decision, which, as stated, is the predicate for the relevant market being Broad or Narrow, which in turn determines whether the structural presumption is triggered.

Finally, however one goes about defining the market, one will need inputs, as depicted in Figure 5.

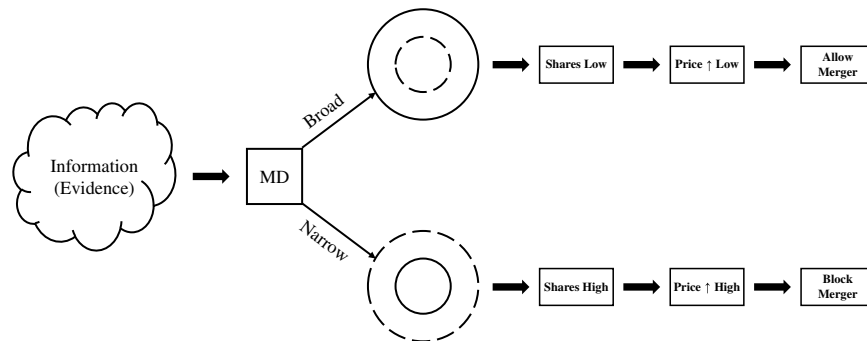


FIGURE 5: MARKET DEFINITION REQUIRES INFORMATION

The cloud added at the left of the figure indicates the information (or, when in court, the evidence) relevant to the merger under scrutiny that constitutes the

¹⁴ For a simple exposition and illustration aimed at a legal audience, see HOWELL E. JACKSON ET AL., *ANALYTICAL METHODS FOR LAWYERS* 4–22 (3d ed. 2017).

input to the market definition decision, with the pertinent analysis reflected in the arrow pointing to the MD box.

Consider finally what this information consists of in general terms. Let us contemplate two possibilities.¹⁵ First, and most naturally, suppose that the information pertains to anticompetitive effects, and in particular, that it will somehow be analyzed as such in making a market definition decision.¹⁶ At this point, we have a profound circularity—or really a deep contradiction. Recall that the entire point of the structural presumption is that it involves a *presumption* that Shares High \rightarrow Price \uparrow High, *without the government having to prove anticompetitive effects*. That is, the very meaning of the structural presumption is that anticompetitive effects are presumed rather than having to be proved based on the information in the case at hand. Yet the structural presumption can only be triggered if the party challenging the merger wins on market definition, and *that decision requires proof of anticompetitive effects* under this first possibility (although, as will emerge below, the effects presumed may differ from those proved). This point can be illustrated by adding some labels to Figure 5:

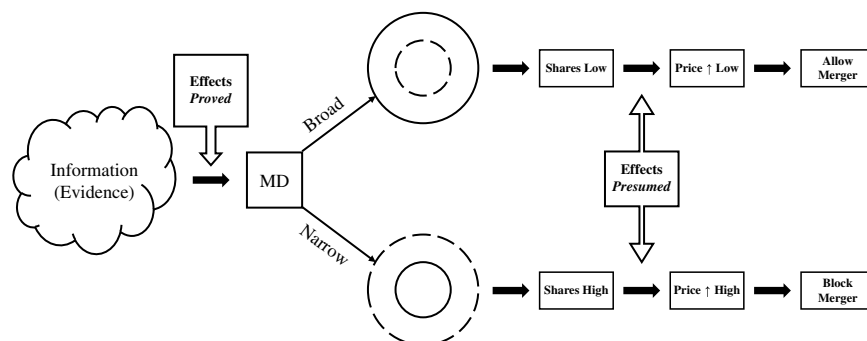


FIGURE 5': MARKET DEFINITION REQUIRES INFORMATION:
ABOUT EFFECTS

These labels indicate how the effects that are purportedly presumed toward the right of the diagram were in some sense already proved at the outset, as indicated toward the left of the diagram. Unfortunately, as Section B will explain, the matter is worse: the effects presumed on the right side of Figure 5' typically differ from the effects that have been proved (estimated) in defining the market on the left side, resulting in needless error—that is, above and

¹⁵ These possibilities are mutually exclusive and exhaustive, but if one is a contradiction and the other is absurd, a weighted average or other mix of the two would likewise be unsound.

¹⁶ For elaboration, see Section B.

beyond the uncertainty inherent in any prediction of a proposed merger's effects.

Before proceeding, it should be emphasized that the core logic, as developed in the foregoing diagrams and analysis, applies without regard to the stage in a proceeding, the merger setting, or how much information one has in hand. For example, when a competition agency engages in preliminary screening to winnow down the many merger filings to those that most warrant further scrutiny, it will need to form a guesstimate of anticompetitive effects. It is no better able to presume them without regard to the proper analysis of what limited information it has than could a court at the end of a trial, having heard much more. To invoke a structural presumption, the agency staff would still have to define the market, using whatever they know. But using that information to define a market and then indulge in presumptions cannot create something out of nothing. Moreover, as just suggested (and elaborated below), some of the precious, scarce information is destroyed in the process, so the result can only be worse and usually will be. Only magical thinking can resurrect market definition and the structural presumption in this setting, just as in any other.¹⁷

Second, suppose instead that we are not contemplating information about anticompetitive effects and analysis pertaining thereto as the input to the market definition decision. This possibility is strange: If the relevant market is not to be chosen based on its implications for inferences about anticompetitive effects, *just what inputs, regarding what factors, are we considering?* The day of the week? What the decision maker ate for breakfast? Whether the target firm's machines are the same brand as the acquirer's machines? *And for what purpose?* To select a number to play in the lottery? To decide whether the firms deserve a tax break? Whether the two CEOs would make a good couple? These are all ludicrous questions, but so are all the other questions one can imagine if they do not pertain to anticompetitive effects. On reflection, the structural presumption itself is ridiculous. Either the information and analysis leading to the requisite market definition are based on predicted anticompetitive effects—contradicting the very presumption under consideration—or they are based on something other than anticompetitive effects—undermining the mission of making a sensible decision whether to block a merger.

¹⁷ Sometimes a structural presumption might seem useful because market definition is obvious. However, this can only be so (particularly if one imagines that market definition is not only obvious but also correct in some sense) when anticompetitive effects are obviously large or absent, as elaborated in Subsection B.1. The core logical point always holds: a probative output requires probative inputs—you cannot get something for nothing—and distorting or discarding various of the pertinent inputs cannot improve the quality of the output. For further elaboration, see note 100.

B. ELABORATION

Section A simply states what the structural presumption is and always has been. The simple decomposition reminds us of something everyone has known all along: that the structural presumption builds on top of and is largely determined by market definition. Moreover, per the final paragraphs of Section A, we see that, *however one goes about defining the market*, the structural presumption is nonsensical, although in different ways depending on how the market definition process is undertaken.

This Section elaborates the first of the two aforementioned possibilities, that we indeed are interested in defining the market so as to illuminate anticompetitive effects. It elaborates some of the key elements in Figures 1–5 in order to understand more sharply the fundamental problems with market definition.¹⁸

1. *On the Criterion for Defining the Market*

Continuing with our illustration in which there are two candidate market definitions, Broad and Narrow, the market definition process should, of course, choose the one that is better. But any notion of “better” or “best” presupposes some criterion. A surprising feature of court opinions, agency guidelines, and commentary is how rarely any explicit criterion is stated.¹⁹

The most appealing criterion for antitrust applications should be something like the following: choose the market definition whose implication for presumed or inferred anticompetitive effects is most accurate.²⁰ (An alternative, which will be elaborated at various points later in this article, entails reverse

¹⁸ These problems are not new, but many are typically ignored and, in any event, it is valuable to relate them explicitly to the structural presumption, a central application of market definition. See Kaplow, *Why Define Markets?*, *supra* note 6; Louis Kaplow, *Market Definition and the Merger Guidelines*, 39 REV. INDUS. ORG. 107 (2011).

¹⁹ For an exception (along the lines followed here), see Kaplow, *Why Define Markets?*, *supra* note 6, at 468–73. One might think that the hypothetical monopolist test (HMT) in merger guidelines (and elsewhere) is such a criterion, but this supposition confuses the concepts of criterion and algorithm. A criterion here refers to an objective or at least presupposes an objective. Invocations of the HMT in government guidelines and discussions thereof neither state the objective explicitly nor offer a demonstration that the HMT selects the best “market” in pursuing that objective. (Aspects of the latter failure are developed in Part II.) Another way to see this gap is to ask: What is the (non-circular) question to which the HMT algorithm constitutes an answer? (The circular question, of course, is what a hypothetical monopolist would do, but the guidelines are analyzing mergers, not monopolies, and even mergers to monopoly in a narrow market are not monopolies in HMT-redefined markets. See *infra* Section II.B.)

²⁰ Another common usage is to refer to the increase in market power. See, e.g., U.S. Merger Guidelines, *supra* note 2, at 2. Likewise, when analyzing monopolization or dominance, the analogous usage is to refer to the level of market power. See also *infra* Part II (discussing the use and misuse of HHI levels—often regarded as proxies for the level of market power—in horizontal merger analysis).

engineering: first determine the right outcome—whether to block the merger—using the proper analysis and then choose whatever market definition leads to or supports that outcome, whether by a structural presumption or otherwise, ignoring all of what is ordinarily said about how properly to define the relevant market.)

The criterion that the best market definition is that which leads to the most accurate conclusions about likely anticompetitive effects has two immediate implications. The first reinforces the point at the end of Section A about the circularity of the entire methodology and the related contradiction with the essence of the structural *presumption*. That implication will be elaborated here; the second is the subject of Subsection 2.

To determine which market definition better indicates anticompetitive effects, one must be analyzing anticompetitive effects. Moreover, to know which indication of these effects—the inference from Broad or that from Narrow—is more accurate, one must have some benchmark in mind. The best thermometer most accurately measures the temperature, but we need some independent indication of the true temperature to know which thermometer is closest. In the present setting, to say anything intelligible about what constitutes the more accurate indication of anticompetitive effects of a proposed merger, we need some estimate of its anticompetitive effects as our reference point. What estimate should we use when, as is typical, there is conflicting information? Our best estimate (or guesstimate), of course. Why use anything worse or that diverges in some way? (In making an important medical treatment decision in light of uncertainty, we should not give up on doing the best we can at diagnosis and prediction, instead making the call on some grounds unrelated to which treatment has superior expected effects.)

This simple point, which does little more than make our criterion for market definition explicit, means that we must formulate our best estimate of anticompetitive effects based on the information in hand—*before* we have defined the market—so that we can use that estimate in deciding which market definition to choose. But, if the whole point of defining a market is to help us draw implications for anticompetitive effects—to then be able to *presume* them—the entire exercise is pointless.

Restated, the central purpose of the analysis in the market definition (MD) box in Figures 4 and 5 has to be our formulation of a best estimate (prediction) of anticompetitive effects. But once we have that, we should just stop and decide in light thereof (and other possible considerations, such as merger efficiencies) whether or not to block the merger. This conclusion stands independently of Section A's observation that in Figure 1—illustrating the use of the structural presumption to block a merger—we were fooling ourselves if we thought that we could presume anticompetitive effects without analyzing

them as such and concluding that they would indeed arise with sufficient probability and magnitude, or could in any rational sense be presumed to do so.

2. *Throwing Away Information*

The foregoing discussion also shows how the market definition process inevitably throws away information. In transforming its inputs (information bearing on anticompetitive effects) into an output (a market definition), we in general degrade our best estimate of anticompetitive effects. This information loss implies that sometimes we will allow mergers that our best analysis indicates are likely to be anticompetitive (by choosing Broad despite sufficient anticompetitive effects) and sometimes we will block mergers that our best analysis indicates are likely to be benign (by choosing Narrow despite the absence of significant anticompetitive effects).

This information loss can be seen in a number of ways. First, consider that in the typical struggle over market definition, we typically believe that the truth probably lies somewhere in between—that is, in between the substantial anticompetitive implications that are deemed to follow from Narrow and the minimal anticompetitive implications that are taken to follow from Broad.²¹ Hence, if the choice is Narrow, anticompetitive effects will be overstated, and if the choice is Broad, they will be understated.²² But why make either error, even if it is the lesser of two evils? Why not simply stick with—and decide based on—our best estimate? Instead, we needlessly overstate or understate anticompetitive effects in virtually all contested cases. And, at least sometimes, overstating anticompetitive effects will lead to blocking beneficial mergers and understating them will lead to allowing harmful ones.

It is well recognized that market definition is clunky, and, in particular, lumpy. So are many things: one either acquires a dog as a pet or one does not. If there are pros and cons, one must come to a decision, not split the difference. But dichotomous choice at this stage in the analysis is an entirely unnecessary feature in the present setting that is forced on us only by insisting on market definition. Market definition is just an abstraction, and its use is meant

²¹ If not, we have an easy case: anticompetitive effects are greater than implied by the government-advanced Narrow market (which, if selected, already implies that the merger should be blocked) or smaller than implied by the parties-proffered Broad market (which, if selected, already implies that the merger should be allowed).

²² More rationally, one would—given the information and analysis of anticompetitive effects—draw the same conclusion regardless of whether Narrow or Broad was chosen. If that were done, market definition would obviously (but merely) be entirely pointless. Moreover, the fact that everyone—including the contesting parties and the decision maker—thinks that market definition does matter and indeed may determine the outcome of the case indicates that they are acting in the manner described in the text (unless they are engaging in crass reverse engineering and dissembling).

to somehow aid in recognizing different levels of anticompetitive effects. However, because one must already have an estimate of their pertinent level to know which lumpy choice is best (least bad), we can instead follow the straightforward path of just sticking with that best, intermediate estimate.

This logical point can also be viewed from another, more formal perspective that will be familiar to economists. The market definition process involves the use of two functions: one function (the left side of Figure 5) maps all relevant information to some market definition with its resulting vector of market shares, and a second function (the Figure's arrows from boxes with shares to boxes with price effects) maps the share vector (often summarized, such as with the HHI and Δ HHI) to a level of anticompetitive effects. In general, the composite function—wherein effects are a function of shares that in turn depend on some market definition that was a function of the available information—differs from the best direct mapping from the information to anticompetitive effects.²³ In the increasingly common economics terminology, a vector of market shares is not a sufficient statistic for anticompetitive effects. This point will be developed in Section II.B, drawing on the economics literature that analyzes horizontal mergers. Moreover, the mapping of all relevant information to a market definition is itself highly constraining, not only because the list of “markets” that a judge is likely to swallow is highly limiting but also because, even if blends were allowed (say, a weighted average of Broad and Narrow), we are still stuck with just the (now weighted) market share vectors. Significant information is lost when we are forced to employ these two intermediate and highly restrictive functions rather than the single, direct one.

3. *On the Uselessness of Market Shares in Redefined Markets*

Yet another problem with market definition that is routinely ignored—including by individuals testifying as economic experts—is that the concept of market definition (and, in particular, redefinition) does not really exist in the field of industrial organization economics.²⁴ The notion of a market is really a

²³ A caveat, mentioned previously, involves the use of reverse engineering. That is, one could figure out what is the right outcome: block or allow. Then one could define a share mapping and a market definition function that—without regard to what is ordinarily understood by these functions—yields this outcome. One such set of functions would be: If the share is 100%, block; otherwise allow; and define the market as *just one of the merging firms* if the merger should be blocked, and define the market as all firms on the planet otherwise. As will be clear in Section II.B, the HMT, along with its many a priori deficiencies, does not come close to producing such correct results. The virtue of reverse engineering is that, although it is cheating and renders market definition and the structural presumption empty shells of obfuscation, it does generate the correct outcome.

²⁴ See, e.g., Franklin M. Fisher, *Horizontal Mergers: Triage and Treatment*, J. ECON. PERSP., Fall 1987, at 23, 27; Louis Kaplow & Carl Shapiro, *Antitrust*, in 2 HANDBOOK OF LAW AND ECONOMICS 1073, 1170 (A. Mitchell Polinsky & Steven Shavell eds., 2007); Adriaan ten Kate &

metaphor, or, more usefully, related to some economic model. The models most relevant to horizontal mergers will be discussed in Section II.B. As will become evident there, those models in which market shares may play a role correspond to what would ordinarily be regarded as narrow markets. Once one “redefines” the market, broadening it using the merger guidelines’ HMT or some other process, one then has a “market” in which the resulting shares do not—even with supplemental information about that so-called market—enable inferences about anticompetitive effects.

Hence, in Figure 2 (and those following), the step “Shares Low → Price ↑ Low,” which in Figure 3 (and those following) refers to shares in Broad, involves an inference that has never had any foundation. Specifically, there has never been a basis for stating what constitutes “Low” shares in a market like “Broad” or, more generally, for drawing any particular implication for anticompetitive effects from such shares.²⁵ Indeed, if one is in such a market, the best one can do is annul the market redefinition, return to Narrow, and proceed accordingly.

A related point developed below is that, even when there are ways to use market shares in a narrow market to make inferences, share information is not nearly sufficient. In particular, one needs information about the market elasticity of demand. Furthermore, that market elasticity already contains information about substitution, which ironically is regarded to motivate market redefinition (broadening the market) in the first place. This observation also relates to throwing away information. The pertinent elasticity in the narrow market contains strictly more substitution information than about substitution to the products or geographies that would be added by moving to the broad market. It fully but more accurately embodies the latter information, and it contains more than that. By contrast, redefinition—moving from Narrow to Broad—does not properly capture either set of information.²⁶

Gunnar Niels, *The Relevant Market: A Concept Still in Search of a Definition*, 5 J. COMPETITION L. & ECON. 297, 298 (2009). This state of affairs might, at some point, create a significant problem for any testifying expert economist under FED. R. EVID. 702 (*Daubert*) governing the admissibility of expert testimony, but I am not aware of any such challenges. See also *infra* note 91 (discussing the predicament of an expert attempting to conditionally challenge the usefulness of market definition).

²⁵ See Kaplow, *Why Define Markets?*, *supra* note 6, at 453–59. If one genetically crossed apples and wheat, what would be the properties of the offspring? That question has no answer (or the answer “none” because there would be no offspring), so no serious biologist (unless writing science fiction) would attempt to answer it, much less be willing to testify about the answer in court.

²⁶ It might be viewed as overstating the importance of substitutes to the set of products or geographies included in Broad and ignoring the rest. Sometimes we will be lucky and the two errors will approximately offset each other, but it is easy for one or the other to be much larger, so why count on luck? This observation illuminates the widespread confusion about the relevance of elasticities versus cross-elasticities of demand in determining the degree to which substitution constrains profit-maximizing price elevation. See *id.* at 480–95.

In sum, the market (re)definition process requires that shares in broad markets have meaning: that, implicitly, there exists some formula mapping them (and perhaps some other information) to anticompetitive effects. But there is no such meaning or formula. Moreover, we actually had better information on the typical matter in dispute (substitution) when examining *Narrow*, which is distorted or destroyed in the market redefinition process. We should quit while we are ahead.

4. *What Are Market Shares Thought, or Presumed, to Mean?*

This Part explains how the structural presumption is internally contradictory and suffers from all the defects of the market definition framework in which it is grounded. When the elements of each are laid bare, their strangeness is apparent.

A further, related set of mysteries has always been endemic in the translation of market shares into presumptions or inferences about anticompetitive effects or about market power more broadly. First, using the terminology of Section A's figures, just what is meant by "High" or "Low" market shares? And how "High" or "Low" are the price increases associated with them deemed to be? We know that Judge Hand in *Alcoa* offered statements regarding what shares constitute a monopoly for purposes of Sherman Act Section 2,²⁷ that the opinions in *Philadelphia Bank*²⁸ and other merger cases associate outcomes with shares, and that each iteration of merger guidelines proclaims various market share combinations to be associated with low, intermediate, or substantial risks of anticompetitive effects.²⁹ But it is never said just what we are talking about. For example, if we have a simple case in which the post-merger HHI is 3000 and the Δ HHI is 300, is it imagined that prices typically would rise by 18%? 1.8%? 0.18%?

Second and related, from the beginning—at least since *Brown Shoe* and *General Dynamics* in the merger context³⁰—it has been understood that the ordinarily supposed (whether presumed or inferred) price increase associated with particular market shares should be revised upward or downward if the facts of a case so warrant. But how in principle can this be done? Suppose that the merging parties convince the court that a key factor has a value of 10 and

²⁷ *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 424 (2d Cir. 1945).

²⁸ *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 363–64 (1963).

²⁹ *See, e.g.*, U.S. Merger Guidelines, *supra* note 2, at 19.

³⁰ *United States v. General Dynamics Corp.*, 415 U.S. 486, 498 (1974) (citing *Brown Shoe* for the proposition that "statistics concerning market share and concentration, while of great significance, [are] not conclusive indicators of anticompetitive effects" and quoting *Brown Shoe*'s statement that "Congress indicated plainly that a merger had to be functionally viewed, in the context of its particular industry," *Brown Shoe Co. v. United States*, 370 U.S. 294, 321–22 (1962)).

argue that, accordingly, the ordinarily assumed price effect should be revised downwards substantially. If we do not know how high that original price effect was taken to be, how do we know it should be revised downward and not upward? Indeed, what if the government states that they agree that the value of this factor is 10 and argue that, accordingly, the price effect is likely to be greater than typically supposed? How can a judge adjudicate such a dispute without any suggestion of the starting point? Or without knowing the typical or benchmark level of the proffered factor? (What is the “normal” level of the contested factor? Do any guidelines tell us? What is it implicitly taken to be in *Alcoa*, *Philadelphia Bank*, or any other court decision?) And if the normal value is 7, does 10 constitute a huge deviation or are the 3 additional units mere rounding error? My research of cases and commentary has not unearthed a secret decoder ring that could supply even crude answers to such questions.³¹

* * * * *

Markets are metaphors. They can be given meaning only in the context of particular economic models that vary widely, as we will see in Part II. Market shares can have very different implications even in a given model and, per Subsection 3, they have no ascertainable implications in redefined markets.

Abba Lerner, in his well-known 1934 article on the measurement of market power, brought into the world of economic and antitrust discourse what is now referred to as the Lerner index of market power, the portion of price that is in excess of marginal cost.³² Yet it is forgotten why he wrote that article. His aim was to put an end to the then-emerging practice of using market shares when discussing matters relating to market power. He repeatedly referred to “commodity” and “industry” using scare quotes.³³ It is remarkable that, although his proffered replacement—the Lerner index—was embraced for some purposes, we have not only retained but increasingly enshrined the confused practice that he mocked. Worse, the structural presumption (and

³¹ See, e.g., Kaplow, *Why Define Markets?*, *supra* note 6, at 459–65; Louis Kaplow, *Market Share Thresholds: On the Conflation of Empirical Assessments and Legal Policy Judgments*, 7 J. COMPETITION L. & ECON. 243 (2011). Contrast body temperatures or blood counts, which have normal values or ranges, as well as units with which to communicate the magnitude of any deviations and a basis for drawing implications from any deviations in a given context.

³² A.P. Lerner, *The Concept of Monopoly and the Measurement of Monopoly Power*, 1 REV. ECON. STUD. 157, 169 (1934).

³³ Lerner refers to market shares as “irrelevant statistics” and emphasizes the need to “put[] an end to attempts . . . to find a measure of monopoly in terms of the proportion of the supply of a commodity under single control and clears the way to a better understanding.” *Id.* at 168. “The ‘industry’ is to be considered as a group of firms, chosen for the purpose of the special investigation. It is quite unnecessary, for this purpose, to say anything at all about the ‘commodity’ which the ‘industry’ produces All the difficulties of definition of ‘commodity’ or ‘industry’ are completely avoided.” *Id.* at 171.

market definition more broadly) employs the very defective notions he criticized and uses them as the primary (and some would say exclusive) means of presuming or inferring the thing that matters.

It is as if antitrust, despite a century of serious academic attention, operates in a time warp, one reminiscent of medicine before the modern era. Back then, much medical diagnosis and treatment was entirely mysterious. Patients and doctors, not knowing of anything else, readily embraced techniques that we now understand to be not merely suboptimal but baseless and sometimes dangerous. Today, medical knowledge in many domains is frustratingly limited; each patient is unique and to a degree inscrutable. But no one would accept treatment decisions based on entirely ungrounded, unscientific methods, particularly for maladies about which there has been a century of learning, albeit imperfect. Likewise, no judge would accept expert testimony in a medical malpractice lawsuit built on such outmoded and unsubstantiated methods, opining that the judge and jury are not experts and thus cannot be expected to grasp the truly relevant facts, methods, and analysis developed in modern times.³⁴ Nor would judges craft or retain presumptions that embodied such bygone notions.

Philadelphia Bank and other courts have never understood themselves to be doing any such thing. Instead, the early cases relied on their own best understanding of economic teachings at the time.³⁵ Whatever one might say of those contemporaneous judgments, they have long passed their discard date. And if Lerner's teachings had penetrated sooner, some of these rubrics would have been regarded as obsolete on arrival.

II. THE STRUCTURAL PRESUMPTION'S MISMATCH WITH ANTICOMPETITIVE EFFECTS

This Part's heading may signal overkill, for the incoherence of the market definition process that underlies application of the structural presumption already indicates that the presumption cannot provide a reliable indication of anticompetitive effects. Nevertheless, debunking market definition as well as identifying the uselessness of market shares in redefined markets leaves open the possibility that market share information in certain "narrow" markets may sometimes be informative of anticompetitive effects. This Part explores this possibility and relates its analysis to the structural presumption, including the use of market share indicators in merger guidelines (after exorcizing market definition entirely). Relatedly, it illuminates how analysis would proceed in a world without the structural presumption.

³⁴ See also *supra* note 24 (noting possible implications for the admission of expert economic testimony on market definition).

³⁵ See, e.g., *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 363–64 & nn. 38, 39, 41 (1963).

In order to identify the potential relevance of any market share information, it is necessary to begin by stating affirmatively how economic analysis and evidence may enable the prediction of a horizontal merger's anticompetitive effects. Any valid use of market shares would have to emerge from that analysis. Section A sketches this methodology and Section B applies it in standard settings. The discussion reveals that only sometimes will market share information be probative, that only certain particular market share information is relevant in various settings, and that it is never even close to sufficient. The applications show that the correct approach diverges substantially from conventional formulations in every instance, and in qualitatively different ways across the settings. Section C offers further reflections that draw on the relevant economics literature.

A. METHODOLOGY

Regarding the use of market shares in merger (and other antitrust) analysis, the cart has been put before the horse from the beginning. The first, central question is not market definition; nor is it anything about market shares as such. Instead, it is: How should one analyze the merger under consideration? To be sure, because of limits on time, resources, and available methods for predicting mergers' effects, some simplification is inevitable, and one may wish to undertake preliminary analysis that sets to the side certain issues like post-merger entry and merger-generated efficiencies. Even so, any relevance of market shares (or any other input), either directly or as a proxy for something else, can only be determined as a byproduct of the proper process for analyzing mergers.

To begin, one would examine the setting at hand in order to select the right tools. For decades, analysis has distinguished unilateral and coordinated effects and, regarding the former, settings with homogeneous goods and differentiated products.³⁶ We can already see the *first* fundamental and supplemental objection to *Philadelphia Bank's* structural presumption and merger guidelines' analogues: the appropriate models and analysis are qualitatively different across these settings; hence, whatever should be done is likely to differ, perhaps substantially, among them. It cannot make sense to use the same methods, or the same market share composites, or the same thresholds, for each setting—not even close—yet this is what has been done and continues to be advanced—and, as Part IV discusses, is now proposed to be expanded for Big Tech and more broadly.

³⁶ This Part focuses on the conventional three categories. Auction markets and individualized price negotiations involve variations (that are, in respects, analyzed similarly to differentiated products), which magnifies the importance of the argument in the text on the need to match tools to tasks.

This point has a further implication. A focus on coordinated effects was dominant in both the 1960s cases and the initial incarnations of U.S. merger guidelines that became the model for the world. By contrast, today, in the guidelines (starting in 1992) and inside the agencies (although to a lesser degree in court), unilateral effects are central, typically involving differentiated products. Hence, even if the basic apparatus was appropriate at the beginning (because it was designed to be so rather than plucked from thin air), it often would not be now.³⁷

Next, after selecting the model and analytical techniques for the pertinent domain, we would then ask what key inputs are needed to conduct the analysis. For convenience here, let us group these inputs into two sets: market shares in narrow markets and everything else (such as demand elasticities and traits of firms' production functions).³⁸ The latter set immediately suggests a *second* basic problem with the standard approach: even in a given model, differences, notably in the elasticity of demand, mean that anticompetitive effects will be quite different, holding the market share information constant. That is, market shares are not nearly sufficient statistics for anticompetitive effects. Even with the correct formula and given market share information, anticompetitive effects may be negligible or large. Nor is there anything like a typical value of such effects for given market share inputs.³⁹

Informal recognition of this problem, particularly regarding substitution, has long motivated market (re)definition. Part I explained why this is a deeply flawed response to a nonexistent (or misunderstood) problem. Substitution must be addressed, but this is properly done directly, by using (now, correctly) the informational inputs from the misconceived battle over market definition. That is, the intuitions and analysis that led to concerns about market share information from the beginning were valid, but the polluted bathwater of market definition was often poisoning the baby rather than cleansing it.

The *third* core defect lies with the market share information itself. Even if we have the right formula and good estimates for the other parameters, we

³⁷ See generally Richard Schmalensee, "On a Level with Dentists?" *Reflections on the Evolution of Industrial Organization*, 41 REV. INDUS. ORG. 157 (2012) (discussing how the field of industrial organization economics has primarily developed tools for analyzing unilateral effects—which are now the focus of government investigations—largely abandoning the original focus of both economists and merger law on coordinated effects).

³⁸ Many readers, particularly economists, should be concerned about any use of market shares given their endogeneity, a matter discussed in Subsection C.3, below. Likewise, "narrow" markets are not self-defining; the meaning can be made determinate in the context of a particular model and analysis, as discussed in Section B.

³⁹ Cf. William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 947–48, 955 tbl.1, 958 tbl.2 (1981) (emphasizing the widely varying implications of market shares in the context of measuring monopoly power). Aspects of this point were also discussed in Subsection I.A.4.

still have to determine *what* market share information (if any) in this narrow market is relevant and *how* so. Is it the HHI level after the merger? The Δ HHI? Both? Some combination? Something else? Perhaps the sum rather than the product of the merging firms' market shares? As we shall see, different models, corresponding to different settings, give different answers. In none are the HHI and Δ HHI the right answer. In some, they are irrelevant, and there are even cases in which they can have the wrong sign: specifically, a higher level of the HHI, all else equal, may imply smaller anticompetitive effects.⁴⁰

At its core, these criticisms—which are made concrete in Section B—imply that we are misusing existing information. In other words, at any given stage in any particular case, we could take the same inputs that are used now and put them into the correct formula (or our best guess at a simplified version of that formula), instead of inserting them into a certainly and often substantially incorrect formula. Making that switch alone should improve decisions across the run of cases. Part I already explained how the market definition process, to the extent it relies on relevant information (pertaining to anticompetitive effects), misuses and destroys some of the informational inputs. By contrast, the correct formulations for the prediction of anticompetitive effects do better, which is hardly surprising because they were designed to identify the pertinent parameters and combine them for the purpose of predicting anticompetitive effects. The added point in this Part is that this is true in particular for any market share information (which needs to be in the narrow market): if one has such market shares and is in a setting where they are indeed relevant, one should use them (in combination with other pertinent information) in the manner that best predicts anticompetitive effects, not in some other, often substantially different manner.

B. APPLICATIONS

From the beginning, the so-called structural presumption could only be invoked after the market definition exercise had been completed, using the shares in the so-called relevant market. Because this methodology is fatally flawed, we are here considering whether some use can be made of market shares in *some* “market,” from which one might make inferences about the likely anticompetitive effects of horizontal mergers in particular settings. The answer that emerges in this Section is that one must stick with the so-called narrow market, which should not be surprising in light of Subsection I.B.3's remarks on the uselessness of market shares in redefined markets.

⁴⁰ The discussion in this Part focuses on the HHI and Δ HHI because they are used in government guidelines, expert reports, and most modern court opinions. In any event the proper use of market share information in narrow markets, in those instances in which such a use exists, will be made clear in the course of the analysis.

The applications that follow draw on modeling and empirical work by economists. The analyst ordinarily begins by choosing the modeling approach that best fits the competitive setting of the merging firms. The chosen model entails assumptions about relevant competitive interactions, and further restrictions are often imposed, at least initially, in the interests of simplification. The apparatus is then employed to organize and draw inferences from all pertinent sources of information, including through the use of empirical techniques to estimate core parameters that, when combined with the chosen model, yield a prediction.⁴¹ Importantly, the underlying analytical constructs do not themselves depend on the particular mix of sources of information—price data, customer interviews, internal documents from the merging parties, and so forth. Hence, they guide all economic analysis and expert testimony, not just formal demand estimation or merger simulation.

1. *Unilateral Effects with Homogeneous Goods*

If products are homogeneous and firms compete on price (taking other firms' prices as given), as supposed in textbook analyses of competition, price will be competed down to marginal cost. Horizontal mergers short of monopoly will not change this. Unilateral effects do tend to arise, however, if firms compete in quantities (the Cournot model), wherein each firm takes other firms' outputs rather than prices as given.⁴² This possibility is often motivated by reference to situations in which each firm's output is determined by a choice of capacity—the size of a plant or production run—that is fixed for a period of time. In this model, prices are above marginal cost and, under standard and simple assumptions (including a lack of merger efficiencies), mergers increase price.⁴³

⁴¹ Also, what is learned along the way feeds back on the initial modeling choices, sometimes leading to revision or relaxation of some of the assumptions.

⁴² Despite the prominence of Cournot analysis in the academic literature discussed in the next footnote, this modeling approach is not specifically advanced (even informally) in U.S. Merger Guidelines, *supra* note 2, at 22–23. Moreover, it may not play much role in many actual merger investigations. See, e.g., Fed. Trade Comm'n & U.S. Dep't of Justice, *Commentary on the Horizontal Merger Guidelines* 27 (2006) [hereinafter U.S. Merger Guidelines Commentary] (devoting less than half a page to this category—and giving as its only example a merger creating a single, dominant firm in contrast to the many pages and examples devoted to the other types of mergers); Ginsburg & Wright, *supra* note 3, at 385 n.40.

⁴³ A seminal development of the Cournot model for merger analysis is Joseph Farrell & Carl Shapiro, *Horizontal Mergers: An Equilibrium Analysis*, 80 AM. ECON. REV. 107 (1990); a brief survey appears in Kaplow & Shapiro, *supra* note 24, at 1139–43; and a modern application with simulations is Volker Nocke & Michael D. Whinston, *Concentration Screens for Horizontal Mergers* 7–11 (Nat'l Bur. Econ. Res., Working Paper No. 27533, 2020). For discussion of some important limitations of the Cournot model (without regard to merger analysis in particular), see JEAN TIROLE, *THE THEORY OF INDUSTRIAL ORGANIZATION* 216–18 (1988). Another caveat is that some mergers which analysis based on the Cournot model indicates will raise price are nevertheless unprofitable to the merging parties (which lose sufficient market share to reduce their overall profits). For this and other reasons, it is important in merger analysis to consider as well merger

Economists have derived basic formulas that, under the requisite assumptions, indicate what price will be charged in a given setting and how much a merger would elevate that price. In the simplest case, the markup of price over marginal cost is given by HHI/ε , where HHI is computed *in the homogeneous goods market*, that is, without any market redefinition, and ε is the magnitude of the elasticity of demand in that market.⁴⁴ Making further assumptions, including a particular, naive view of the effect of a merger, the price increase would simply be the difference between the price elevation after the merger and that before the merger in a manner that would be given by $\text{HHI}^{\text{post}}/\varepsilon - \text{HHI}^{\text{pre}}/\varepsilon$. Note that this difference equals $\Delta\text{HHI}/\varepsilon$. The key point here is not the precise formula but rather that, for basic cases, there do exist ways to determine the price effects of horizontal mergers in this setting, but only if one sticks with the narrow market. Should one instead redefine the market (as might be required by the HMT) and use HHIs therein, there would be no way to use that information (for example, the ΔHHI in that market) to predict a merger's anticompetitive effects.

Note further that the ε in the denominator constitutes a comprehensive measure of substitution: the stronger are the substitutes for the product in question, the greater is ε and the lower is the predicted price effect. If the motivation for the market definition exercise is to account for the fact that given market shares may have different implications for price depending on the degree of substitution, we can see that the exercise is entirely unnecessary. Indeed, we have a formula that fully takes into account the strength of substitution—both for products that one might imagine adding to the market through redefinition and for products that would remain outside the broader market.⁴⁵ We can have our cake and eat it too without redefinition, whereas we have nothing if we redefine the market.

Where does this leave the structural presumption? First, in this simple, naive example, we can see that ΔHHI —a measure of the increase in concentration due to the merger—is in our formula for a horizontal merger's effect on price but HHI—a measure of the market's concentration—is not. Indeed, this scenario is the strongest (and in fact the only one) for the relevance of ΔHHI as such. And as we proceed, we will see that none ground use of the HHI. Furthermore, if one makes the analysis more complete in the present case, the role of ΔHHI becomes more complicated: ΔHHI is no longer the sufficient

efficiencies and more broadly to take merging parties' incentives into account when making inferences. See Louis Kaplow, *Efficiencies in Merger Analysis*, 83 ANTITRUST L.J. 557 (2021).

⁴⁴ This elasticity is often defined so as to be a negative number (the percent change in quantity is negative for a positive percent change in price). For ease of exposition (and following a sometimes-used convention), ε is taken here to be the *magnitude* of the elasticity, which is positive.

⁴⁵ See Kaplow, *Why Define Markets?*, *supra* note 6, at 480–95.

statistic for the impact of the two merging firms' shares in the homogeneous goods market.⁴⁶

And what about a ΔHHI cutoff? In our simple formula, the price increase is given by $\Delta\text{HHI}/\epsilon$, so it is obvious that ΔHHI is not a sufficient statistic for the price effect. The ΔHHI may be twice as large in one case as in another, but perhaps the magnitude of the elasticity is three times as large, so the price effect is smaller, not larger. If one wants a simple indication of the price effect, one needs an estimate of the elasticity, ϵ , as well as the ΔHHI . But, once one has those two pieces of information in hand, one has a prediction of the price effect itself, so it makes no sense to have some sort of HHI-based (or ΔHHI -based) trigger for the application of a presumption that price effects would be "substantial."⁴⁷ Also, it is worth recalling that market redefinition would instead give us useless HHIs and ΔHHI s, with no formula that enables a prediction of price effects.

To explore how far astray one can go with market redefinition, consider the U.S. Horizontal Merger Guidelines' instantiation of the structural presumption. One first applies the HMT to determine the relevant market and then consults the thresholds. A merger is "presumed to be likely to enhance market power" if the postmerger HHI (HHI^{post}) exceeds 2500 and ΔHHI exceeds 200 in the HMT-determined market.⁴⁸ Under some crude simplifying assumptions, one can show that, in a homogeneous goods market that just passes the HMT (a hypothetical monopolist would raise price 5%), a merger with a ΔHHI of 201 and an HHI^{post} of 2501 would (using the above formula) raise price approximately 0.13% (that is, 13 one-hundredths of one percent).⁴⁹ By contrast, suppose that the HMT barely fails in the homogeneous goods market (a hypothetical monopolist would raise price by only 4.9%), and that the broader market results in HHIs that are low (an "unconcentrated" market). Then, under the guidelines' market definition machinery and its HHI thresholds, a merger to monopoly—which, here, raises price 4.9%—would fall in the class of merg-

⁴⁶ See Nocke & Whinston, *supra* note 43, at 9–11. Inspection of their expression (4), *see id.* at 10, indicates just how large is this gap.

⁴⁷ Although one might object that information about ϵ may be hard to come by, it is precisely this sort of information that is central in battles over market definition, including application of the HMT. This discussion vividly illustrates how using market definition (whether the guidelines' methodology or otherwise) requires the very information necessary to predict anticompetitive effects but then, in using it instead to define markets, gives us strictly inferior proxies for anticompetitive effects.

⁴⁸ U.S. Merger Guidelines, *supra* note 2, at 19.

⁴⁹ This exercise takes the $\Delta\text{HHI}/\epsilon$ simplification literally and assumes that the postmerger share of the merged firm equals the sum of the premerger shares, with other firms' shares unchanged.

ers that “are unlikely to have adverse competitive effects and ordinarily require no further analysis.”⁵⁰

In this simple pair of what may be regarded as plain vanilla, over-the-plate cases, the Guidelines’ structural presumption, which builds on market definition (the HMT), presumptively challenges a merger that raises price by 0.13% and gives a pass to a merger that raises price by 4.9%, *more than 35 times as much*. The point of this illustration is not that the stated formula and calculations are correct (they are highly oversimplified). Rather, in the most basic setting, without any complications or special circumstances that might interfere with the ordinary operation of its machinery, the methodology and metrics of the Guidelines’ structural presumption can be wildly off. Cases can readily be misordered—dangerous mergers are seen as benign and benign mergers as dangerous—and by huge amounts.⁵¹

Even as a simple proxy or screening mechanism, the Guidelines’ (and courts’) approach is inherently and substantially misleading. But how could it be otherwise? Market redefinition makes no sense. The basic formula requires sticking with the narrow market. Moreover, that formula includes a key component—the elasticity of demand—that the structural presumption’s thresholds ignore. In addition, that formula does not include the postmerger HHI, which the structural presumption weighs heavily. The foundational defects identified in Part I and in Section A of this Part are indeed present, and their impact is devastating. The only defect missing in this first application is the point that the correct method of analysis and any associated formula for predicting price effects vary greatly across contexts. This too will become apparent the moment we consider a second setting.

2. *Unilateral Effects with Differentiated Products*

If products are differentiated and firms compete on price (Bertrand competition), prices will be elevated above marginal cost. When products are identical, a firm that cuts its price slightly takes the entire market when other firms

⁵⁰ *Id.* This example also poses a sharp irony for the HMT. It is strange that, in merger guidelines, there is so much focus on what a hypothetical *monopolist* would do. Here, we have an actual merger to monopoly, so one might have thought that, for a change, the HMT might actually be apt. Yet it is only the *first step* in the HMT apparatus that makes sense, for it asks how much a hypothetical monopolist—here the merged firm in question—would find it profitable to increase price. The HMT does not, however, present that answer as the output of the apparatus. Instead, it is an intermediate step: if that figure is sufficiently high, we ignore it and proceed to calculate the HHI and Δ HHI in the homogeneous goods market, which does not answer our question at all. If that figure is not high enough, we again ignore it and calculate HHIs in a redefined market. In both cases, we have a direct answer to the core question, but in both we throw it away and proceed to do something else, in order to apply, in one way or another, the structural presumption embodied in the Guidelines’ HHI thresholds.

⁵¹ It should be apparent from this illustration that, even if we modified the 5% HMT cutoff in either direction or adjusted the thresholds, these sorts of examples could be constructed.

are assumed to maintain their previous prices. With differentiation, only some customers would switch to the price-cutting firm. The degree of substitutability among a related cluster of products will (in part) determine how much prices are elevated above marginal cost in the resulting equilibrium.

As has become increasingly familiar in merger analysis, the degree to which a merger in this setting will increase price depends, in the first instance, on how much of the premerger losses of customers from a price increase in one of the firm's products (product A) was captured by the merger partner (which sells product B). After the merger, those lost sales are to oneself, so price increases are more profitable. The magnitude of what is often referred to as the upward pricing pressure caused by a merger thus depends on two factors: the portion of lost sales that are now internalized (the diversion ratio between the products in question), and the profit margins on the products. The explanation for the latter is that if, for each sale lost on product A, the profit margin was \$1, upward pricing pressure will be greater if diversions to product B—now owned by the merged entity—involve higher margins (above \$1) rather than lower margins (below \$1).⁵²

A number of observations are immediate. First, market redefinition is inapt. Indeed, information about the two products is sufficient, and placing weight on irrelevant traits of other products can only degrade our inferences. One could, cleverly, apply the HMT to the “market” consisting of just the two merging firms' products (which is not what is done; nor would this be consistent with other suggested market definition exercises). After all, the merged firm will not merely become a hypothetical but rather an actual monopolist of the two merged firms' own products. Importantly, and contrary to the HMT even in this contrived market, one would have to stop at the first step regardless. Indeed, the answer to how much this hypothetical monopolist of just the two products would profitably raise price is the very answer we seek. How much some other hypothetical monopolist—whether of all the products in a narrow market or of all those in some broader market—would raise price on some of those products is neither here nor there. Conventional market definition analysis is a wild distraction, being entirely unrelated to the matter at hand.

Second, market share information, however computed, is clearly insufficient to determine the mergers' likely price effects under the correct methodology. Economic analyses of these cases are concerned with substitution elasticities between the merging firms' products (to determine diversion ratios) and firms' marginal costs (to measure profit margins). Again, market

⁵² See, e.g., Joseph Farrell & Carl Shapiro, *Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition*, B.E. J. THEORETICAL ECON., Jan. 2010, art. 9, 1; Kaplow & Shapiro, *supra* note 24, at 1143–48.

shares are not nearly sufficient statistics; price effects could be small even with high market shares and large even with low shares.

Third, the postmerger HHI (even in the “narrow” market) and Δ HHI are the wrong market share summaries in the formulas that have been developed in this setting for certain simple cases. The market shares of the merging firms’ products—but only those shares—do enter these formulas, at least for specific, special-case demand systems (that capture consumers’ preferences and thus substitution patterns).⁵³ But the functional forms they take are varied and can be complex: the two firms’ shares enter in multiple ways, and they look nothing like Δ HHI (although, when holding the right things constant, price effects may be positively correlated with Δ HHI). Moreover, formulas in which the merging firms’ market shares are (partly) indicative of price effects arise in models that variously *assume* that diversion is proportional to firms’ market shares (in the narrow market), whereas in actual cases this will often be one of the key matters in dispute.⁵⁴

In sum, we have a complete failure of both market definition and the structural presumption’s core features, if anything a more substantial gap than in the prior setting of unilateral effects with homogeneous goods. This failure is of particular significance given that so many contemporary challenges to horizontal mergers arise in this setting. Finally, we have seen that the relevant formulas for price effects are qualitatively different between this case and the previous one, illustrating that the rejection of a common template is important in practice.

3. Coordinated Effects

As mentioned in Section A, *Philadelphia Bank’s* structural presumption and its instantiation in early merger guidelines had coordinated effects in

⁵³ See Nocke & Whinston, *supra* note 43, at 12–20. To elaborate slightly for those who are unfamiliar and also to illustrate what is meant in practice by sticking to a “narrow” market in these settings, empirical demand estimation often assumes a particular (simplified) structure of consumers’ preferences—for example, that individuals decide how much to spend on some cluster of goods (versus an “outside good” that is a stand-in for the rest of the economy) and then allocate their expenditures among goods in that cluster in accordance with some posited functional form or process—and then estimates the substitution parameters of that model (and more), which in turn can be used in a merger simulation. That cluster of goods might be regarded as what is here called the “narrow” market, but note that the estimation might find that higher prices in that cluster cause little or substantial substitution to the outside good. In that sense, just as with the modeling and analysis with homogeneous goods where economic analysis sticks with the narrow market, there is an elasticity of demand that captures fully the magnitude of substitution outside that “narrow” market in response to higher prices inside.

⁵⁴ As a starting point—whether for screening at an early stage or simply in exposing more complex analysis—one may find it helpful to make such simplifying assumptions, determine their implications (are price effects large? tiny?), and then consider whether and how much these preliminary predictions should be revised in light of case-specific facts that might indicate otherwise.

mind. Although it is unclear the extent to which modern challenges are substantially motivated by concerns for coordinated effects, they are in the domain of modern merger guidelines and the law and are discussed by courts.⁵⁵ And they may be important in fact. Hence, we will consider whether the standard paradigm might be of use in this setting for which it was created.

The magnitude and likelihood of coordinated effects from horizontal mergers depends on two considerations: How much would successfully coordinating firms find it profitable to raise price? And to what extent would a particular merger contribute to such success?

Regarding the former question, the answer is essentially given by the first step of the HMT, but without any consideration of market redefinition. It should be seen as odd (although, surprisingly, it usually isn't) that a hypothetical *monopolist* test is central in merger guidelines when most mergers are not to monopoly. Nevertheless, for coordinated effects (but not the two settings with unilateral effects), we are imagining a hypothetical monopolist of sorts because that is what coordinating firms seek to emulate. Still, once we know how much a hypothetical monopolist in the narrow market would raise price, we are done with this piece of the analysis. Whether it is 1.6% or 23.4%, that is our answer. What the shares of the merging firms—or the hypothetically coordinating firms—would be in some broader, hodge-podge market is neither here nor there. Because coordination is ordinarily thought to be feasible only in homogeneous goods markets (or those that are nearly so), the narrow, homogeneous goods market is indeed the pertinent one for analysis.

Note further that, for this first question, the HHI and Δ HHI—and, indeed, any other market share measures—are entirely irrelevant even in this narrow market. It turns out that the demand elasticity for the homogeneous goods market is the key sufficient statistic, and shares just do not enter into consideration. So, in this respect, both the market definition predicate and the concentration thresholds of the structural presumption are completely beside the point.

Consider now our second question, regarding the extent to which a given merger would contribute to the success of coordination. Many factors are un-

⁵⁵ On one hand, a number of pages and examples are devoted to coordinated effects in U.S. Merger Guidelines Commentary, *supra* note 42, at 18–25, and a number of court opinions continue to consider them. On the other hand, some inside and outside the agencies have suggested to me that allegations of coordinated effects are often included for good measure but are not really the focus of the agencies' analysis or most of the government's litigated cases, particularly regarding experts' analyses. An interesting illustration of these disparate forces is *FTC v. CCC Holdings Inc.*, 605 F. Supp. 2d 26, 60–72 (D.D.C. 2009), where the court, after accepting the FTC's position on coordinated effects, briefly considered unilateral effects, the parties' primary focus, and found the evidence insufficient. *See also* *United States v. H&R Block*, 833 F. Supp. 2d 36, 77–89 (D.D.C. 2011) (finding both coordinated and unilateral effects).

derstood to be relevant, such as the transparency of prices, the size of buyers, and the ability to rapidly punish defectors.⁵⁶ Most of these considerations have no connection to market shares. But some do: notably, the number of firms and the degree of symmetry among firms.

All else equal, having fewer firms makes coordination easier and also tends to be associated with a larger HHI. And a horizontal merger (if it does not induce postmerger entry) reduces the number of firms and, by combining the merging entities, raises the postmerger HHI, implying a positive ΔHHI . It is not clear, however, whether larger values of either measure (and just what values) are associated with greater contributions to the ease of coordination once one accounts for the number of firms and the fact that a single merger reduces this number by one.

For a given number of firms, the values of these HHI measures tell us something else; specifically, they contain information about the symmetry of the firms. More symmetric firms are expected to have an easier time coordinating. Differences in marginal costs or discount rates, for example, lead to differences in the preferred price and affect the cost of future punishments.

The postmerger HHI will, all else equal (including the number of firms), be higher the more asymmetric the firms are postmerger. That is, on this factor the HHI level gets it backwards. For example, if five firms each have market shares of 20%, each contributes 400 to the HHI, for a total of 2000.⁵⁷ But if one firm has a share of 40% and the other four are each at 15%, the contributions are 1600 and four times 225 (i.e., 900), for a total of 2500. The HHI level is minimized when the firms' shares are perfectly symmetric. Therefore, a lower, not higher, HHI for the firms indicates greater symmetry and suggests, under this common hypothesis, that coordination is easier.

Consider next the ΔHHI . Holding the sum of the two merging firms' market shares constant, a higher ΔHHI indicates that the two firms were more nearly symmetric premerger. What does this imply for the change in symmetry in the industry as a whole as a consequence of the merger? Nothing in particular; it could go either way. Note that, taking as given the sum of the merging firms' market shares, the higher is the ΔHHI , the more nearly equal were those two shares premerger, suggesting that a higher ΔHHI is associated with their having previously had an easier time to coordinate with each other.⁵⁸ But this tells us little about symmetry as a whole, either before or after the merger (and it is the change in that degree of symmetry among all the

⁵⁶ See George Stigler, *A Theory of Oligopoly*, 72 J. POL. ECON. 44 (1968).

⁵⁷ As is familiar to those in the field, the HHI is the sum of the squares of each firm's market share (conventionally measured in percentage points).

⁵⁸ Viewing the two firms in isolation (as they should not be), a greater ease premerger may suggest a smaller increment to the ease of coordination caused by the merger (because they are

firms, in either direction, that is indicative under this view). For example, the merged firm's similarity with the other firms postmerger depends on how its postmerger share (the sum of the merging firms' initial shares, in a naive analysis) compares with the shares of the nonmerging firms.

In our third setting, we again find that the market definition prerequisite for the structural presumption is entirely inapt. In addition, market shares are not (nearly) sufficient statistics for either the effect of successful coordination on price or the contribution of the merger to successful coordination. Market shares are essentially irrelevant to the former. They are relevant to some of the determinants of the latter, but even there the HHI and Δ HHI are not what we need to know (and the HHI itself has an opposite implication from that underlying the presumption).⁵⁹ Finally, not only do all aspects of the guidelines' version of the structural presumption fail in the domain for which it was originally formulated, but also the correct analysis differs qualitatively and substantially from that appropriate for unilateral effects in either of the two settings examined previously.

C. REFLECTIONS

In all three settings, each of the critiques from Part I and Section A of this Part are powerful. Neither the market definition process (whether performed using the HMT or otherwise) nor market shares—particularly the postmerger concentration and increase in concentration, often measured by the HHI and Δ HHI, that are the focus in modern merger guidelines—are useful even to provide a simple, rough proxy indicator for a merger's anticompetitive effects. Correct analysis—even confined to the same information ordinarily employed in undertaking market definition—is quite different, often unrelated, and occasionally opposite to what these traditional methods suggest. Moreover, the correct approach is importantly different across the three settings, rendering a one-size-fits-all template inapt. This Section reflects further on the structural presumption and anticompetitive effects by examining more closely the U.S. Horizontal Merger Guidelines and pertinent literatures in economics.

1. *On the HMT and HHIs*

On their face, the U.S. Horizontal Merger Guidelines and similar approaches in other jurisdictions are curious in key respects, in ways suggestive

starting at a higher baseline), in which case a higher Δ HHI would suggest smaller anticompetitive effects from the merger.

⁵⁹ By contrast, the original formulation in *Philadelphia Bank*—which focuses (unlike modern merger guidelines) in part on whether the merged firm itself has a large market share (as well as on whether the merger significantly increases concentration)—may sometimes be relevant if the emergence or enlargement of a price leader facilitates coordination. Note here that a particular sort of asymmetry is regarded to facilitate coordination rather than inhibit it.

of some of the critique advanced in this Part. First, as mentioned in some of the applications, it is strange to employ a hypothetical *monopolist* test in merger analysis when most cases are not mergers to monopoly.⁶⁰ Even when they are—or when considering coordinated effects, where the firms might act as if they were a monopolist—it is patently the wrong test. How much prices can be raised by the actual or hypothetical (coordinating firms acting as a) monopolist is the answer to our question, not a mere first step in some market (re)definition machinery. Why in such cases would one sometimes redraw the boundaries to no longer correspond to the matter at hand? And why do we always throw away the relevant information on price effects that we have just determined and instead compute various market share aggregates and compare them to thresholds, all of which are irrelevant in such cases?

Second, these Guidelines are schizophrenic, not only on market definition (as some have noted) but on HHIs themselves. On one hand, after application of the HMT, one computes HHIs and Δ HHIs and applies the thresholds. The term “HHI” appears 19 times in this segment of the Guidelines.⁶¹ On the other hand, in the sections that actually analyze unilateral and coordinated effects, “HHI” appears but once, and that is to *disclaim* its relevance.⁶² If HHIs—computed in HMT-generated markets—were indeed so probative of anticompetitive effects, it is interesting that not one instance of such illumination is offered in the entire document. Nevertheless, it is precisely such HHI information that the Guidelines and courts employ for purposes of the structural presumption.

2. *On the Relationship Between the Structural Presumption and the Economics Literature on Horizontal Mergers*

Stepping back, economics literature that analyzes models, performs simulations, or undertakes empirical analysis of horizontal mergers does not employ key aspects of the structural presumption or the merger guidelines’ methodology, although this gross mismatch generally goes unmentioned.⁶³ For example, the literature cited in Section B simply omits market (re)definition and implicitly sticks with narrow markets. Much analysis also ignores the tradi-

⁶⁰ Interestingly, the HMT was first developed for and deployed in U.S. merger guidelines and later extended to other areas of antitrust, including monopolization, not the other way around—which would have made current practice at least more understandable even if no less disturbing in this respect.

⁶¹ See U.S. Merger Guidelines, *supra* note 2, at 18–19.

⁶² See *id.* at 21 (“The Agencies rely much more on the value of diverted sales than on the level of the HHI for diagnosing unilateral price effects in markets with differentiated products.”).

⁶³ See, e.g., John Kwoka & Chengyan Gu, *Predicting Merger Outcomes: The Accuracy of Stock Market Event Studies, Market Structure Characteristics, and Agency Decisions*, 58 J.L. & ECON. 519 (2015); Nocke & Whinston, *supra* note 43.

tional concentration measures and the structural presumption's thresholds, even as they might be applied to those narrow markets.

Some literature, however, does note the HHI or Δ HHI explicitly and may also refer to the thresholds in the U.S. Horizontal Merger Guidelines or those of other jurisdictions for purposes of assessing them. This research finds that using economic models' formulas directly, in the ways described in Section B, better predicts mergers' (unilateral) anticompetitive effects than do the official protocols.⁶⁴ Sometimes, these findings are a tautology, but one that reinforces some of the argument here. To explain, the benchmark for anticompetitive effects is often the prediction of some model rather than empirical facts, which are unavailable for most of the broad range of mergers that are analyzed. It is thus unsurprising that using the correct factors called for by a pertinent model will perform better than other methods do in matching that model's predictions. The value added by such comparisons is to indicate the errors that arise when a model is misapplied, such as by using HHI or Δ HHI in place of more apt market share information combined in the manner appropriate to the model, or by omitting information on the pertinent elasticities.

When empirical analysis is undertaken, one achieves more practical confirmation of the superiority of employing the correct economic methods, albeit subject to the limitations inherent in attempting to determine the effects of consummated mergers relative to a hypothetical scenario in which the mergers were blocked.⁶⁵ Because the benchmark is counterfactual, effects there must

⁶⁴ See, e.g., Christopher Garmon, *The Accuracy of Hospital Merger Screening Methods*, 48 RAND J. ECON. 1068 (2017); Martin S. Gaynor, Samuel A. Kleiner & William B. Vogt, *A Structural Approach to Market Definition with an Application to the Hospital Industry*, 61 J. INDUS. ECON. 243 (2013); Nathan H. Miller, Marc Remer, Conor Ryan & Gloria Sheu, *Upward Pricing Pressure as a Predictor of Merger Price Effects*, 52 INT'L J. INDUS. ORG. 216 (2017); Nocke & Whinston, *supra* note 43.

⁶⁵ See, e.g., JOHN KWOKA, *MERGERS, MERGER CONTROL, AND REMEDIES: A RETROSPECTIVE ANALYSIS OF U.S. POLICY* (2015) (presenting evidence and generating critical commentary, Michael Vita & F. David Osinski, *John Kwoka's Mergers, Merger Control, and Remedies: A Critical Review*, 82 ANTITRUST L.J. 361 (2018) and a response, John Kwoka, *Mergers, Merger Control, and Remedies: A Response to the Vita-Osinski Critique*, 82 ANTITRUST L.J. 741 (2019)); Garmon, *supra* note 64; Graeme Hunter, Gregory K. Leonard & G. Steven Olley, *Merger Retrospective Studies: A Review*, ANTITRUST, Fall 2008, at 34; Craig Peters, *Evaluating the Performance of Merger Simulation: Evidence from the U.S. Airline Industry*, 49 J.L. & ECON. 627 (2006).

Confusion or mystery (albeit often hidden) surrounds most empirical work that purports to evaluate the structural presumption. Specifically, data sometimes refers to some (perhaps narrow) market (perhaps given by a government data source, such as with hospital mergers in Garmon's study), in which case market definition has been eschewed, which means that the structural presumption (which applies only to shares in the relevant market, after markets have been defined) is not what is actually being tested. In other instances, by contrast, the market shares (apparently from internal government files or from the researcher's own construction) purport to be in a relevant market. But in that case we have an unusual and highly problematic form of endogeneity in the form of reverse engineering, for the market definition was chosen by some analyst who was already examining anticompetitive effects or (as with meta-analysis of

either be predicted or imputed, which can be a fraught exercise.⁶⁶

3. *On the Structure-Conduct-Performance Paradigm*

It is useful to consider the relationship between the present analysis of the use (and misuse) of market share information in predicting the anticompetitive effects of horizontal mergers—including through the structural presumption—and the demise of the structure-conduct-performance paradigm almost a half century ago.⁶⁷ Under that paradigm, market structure (often featuring

merger retrospectives) by one who may already know the price effects that appear as the dependent variable. *See, e.g.*, FED. TRADE COMM'N, HORIZONTAL MERGER INVESTIGATION DATA: FISCAL YEARS 1996–2011 (2013) (presenting tabulations of HHIs and Δ HHIs from second-request cases in this time period, making no mention of how markets were defined for these purposes or even that some market definition had to have been used at all).

A further implication is that it is difficult to determine from such evidence or published statements on cleared or closed mergers the relationship between concentration and merger challenges. Naturally, an agency clearing a merger is more likely to write down and/or present to the public lower shares (or larger numbers of competitors), implicitly premised on broader markets, whereas one challenging a merger or announcing an approval subject to significant conditions is more likely to indicate higher shares (or smaller numbers of competitors), implicitly premised on narrower markets. When the underlying data and other information is unavailable to the researcher and nothing is said about how the markets were implicitly defined, it is hard to know what to make of any claims about the determinants of agency challenge decisions.

In addition to having to finesse (or fudge) the market definition problem, there are a number of sample selection challenges facing many analyses drawing on merger retrospectives. A key one that is usually overlooked is that such analyses typically focus on mergers for which there was a second request or other basis for serious concern. As a consequence, the mergers under analysis likely are substantially different from mergers that, upon preliminary analysis by the agencies or others, were deemed not of concern. Factors observable to researchers undoubtedly omit much that was observable to the decision makers and that likely influenced their decisions. This limitation is especially problematic for comparisons of merger screening methods because the substantial mass of cases currently screened out is not in the data set yet is almost surely different in relevant ways.

⁶⁶ The standard approach in merger retrospectives is to compare the difference between prices before and after the merger was allowed to the same difference for comparison firms (a difference-in-differences approach). The core challenge regards selection of the comparison firms: if they are related to the merging firms (for example, if they are competitors or produce close substitutes), then their prices may also be affected by the merger, confounding the interpretation. But if they are sufficiently unrelated, then they were probably subject to other influences over the relevant time period that independently affect the latter difference estimate, again interfering with the ability to draw meaningful conclusions. Finally, there may be no intermediate “sweet spot,” among other reasons because intermediate choices may suffer significantly from both problems.

⁶⁷ A prominent industrial organization economist recently wrote: “[T]he support in the industrial organization economics literature for a ‘structural presumption’ collapsed before I entered the profession some 40 years ago, and not many active scholars could today tell you what that support was. (It comes up for a minute in the first lecture of some industrial organization economics courses as ancient history, but even that is disappearing as the body of teachers of those courses turns over.)” Timothy F. Bresnahan, *Economic Testimony in Mergers*, ANTITRUST, Fall 2016, at 56, 57; *see also* Chad Syverson, *Macroeconomics and Market Power: Context, Implications, and Open Questions*, J. ECON. PERSP., Summer 2019, at 23, 28 (“But by the 1980s, given the very real concerns that concentration was likely to be misleading as a measure of market power, the field of industrial organization essentially stopped comparing market outcomes such

market concentration) was taken to cause particular conduct (notably, coordinated price elevation, if concentration was high), which in turn determined performance (supracompetitive prices). If concentration causes higher prices, then mergers that significantly increase concentration appear to be undesirable.

The core critique, often associated with Harold Demsetz, emphasizes that market structure is endogenous, undercutting or at least complexifying the posited causal chain.⁶⁸ For example, a firm may have a high market share (and, as a result, an industry may be more concentrated) because the firm is more efficient, offering consumers better products at lower prices. In this instance, the large market share is associated with good, not poor, performance.

Another illustration—which is relevant, for example, to studies finding a positive correlation between concentration and price in a given industry across geographies—is that an important, causal source of variation may be determinants of firms' costs. For example, rent, labor, or electricity may be more expensive in some places than in others. Higher costs would tend to cause fewer firms to enter (resulting in higher concentration) and would lead to higher prices (even with perfect competition). Of course, it may well be true that concentration nevertheless is associated with even further price elevation than that directly caused by higher costs—through unilateral or coordinated effects—but that contribution to price elevation has to be disentangled.⁶⁹

What are the takeaways from this lesson for the analysis of horizontal mergers and for the structural presumption in particular? For the former, the

as prices, margins, and profit rates to concentration levels—especially when making comparisons across markets or industries that differ in demand and technology fundamentals.”). This critique is applied to the structural presumption by Ginsburg & Wright, *supra* note 3, at 382–86; *see also id.* at 393–94 (observing that, to the extent structure does not predict performance, the *Philadelphia Bank* presumption will not effectively reduce errors).

⁶⁸ *See, e.g.*, Harold Demsetz, *Industry Structure, Market Rivalry, and Public Policy*, 16 J.L. & ECON. 1 (1973); Syverson, *supra* note 67, at 26 (“Perhaps the deepest conceptual problem with concentration as a measure of market power is that it is an outcome, not an immutable core determinant of how competitive an industry or market is. The nature and intensity of industry competition combine with other supply and demand primitives to determine equilibrium concentration. However, the conditions of competition drive concentration, not vice versa. As a result, concentration is worse than just a noisy barometer of market power. Instead, we cannot even generally know which way the barometer is oriented. Even if researchers agree on a definition of the market, concentration can be associated with either less or more competition.”).

⁶⁹ *See, e.g.*, Timothy F. Bresnahan & Peter C. Reiss, *Entry and Competition in Concentrated Markets*, 99 J. POL. ECON. 997 (1991); *see also* Syverson, *supra* note 67, at 26 (“a large class of commonly used industry models predict a positive relationship between competition and concentration”); *id.* at 27 (“A negative relationship between market power and concentration is not just a theoretical curiosity. Many empirical studies in varied settings have found that greater substitutability/competition—resulting from, say, reductions in trade, transport, or search costs—shifts activity away from smaller, higher-cost producers and toward larger, lower-cost producers. . . . It is not an exaggeration to say that there are scores, perhaps hundreds, of such studies.”).

act of two firms merging is an event that clearly can cause changes in conduct and performance. The economics literature discussed in Section B is designed to assess such effects. There remains the warning that empirically making simple comparisons of existing markets with different levels of concentration can readily be misleading, whereas examining the effects of prior, similar mergers would be more probative. A related point (most often associated with consideration of postmerger entry, efficiencies, and failing firms) is that underlying factors (like costs, technology, and demand) may be changing, which implies that all will not continue as is without the merger and that the merger itself may be prompted by such changes.⁷⁰

The demise of the structure-conduct-performance paradigm—which postdates *Philadelphia Bank* but predates all but the earliest merger guidelines—has serious implications for the structural presumption. As an initial matter, the presumption and related concentration thresholds tend to assume that simple measures of market concentration tell us what we need to know about competition, which is problematic. Going deeper, both the structural presumption and appropriate economic tools (as discussed in Section B) make use of market shares, which we know to be endogenous. Recall the example of a firm that has a large market share precisely because it is more efficient.

There is a straightforward reconciliation of this ostensible tension between these different strands of the economics literature. Importantly, the models and analyses examined in Section B (that, in some cases, made use of market shares in narrow markets) do not take market shares as primitives—as if they simply exist—from which the analyst then purports to trace implications for competitive effects. Instead, the models' building blocks are the underlying determinants of firms' costs and consumers' demand. Using those inputs, and making further assumptions about competitive interactions (such as invoking Cournot or Bertrand competition), the analyst derives the market equilibrium, which is characterized by firms' prices, the quantities of goods that are produced, and what consumers purchase. From firms' quantities in this equilibrium, one can compute the firms' market shares. Finally, in expressions, say, for the degree to which prices exceed marginal cost, one can sometimes manipulate the relevant equations to substitute functions of market shares for certain primitives, notably marginal costs. This then (sometimes) yields formulas that express anticompetitive effects as a function of certain market share information, along with other factors. And those are the formulas that were referenced in Section B's discussion of unilateral effects. That is, impli-

⁷⁰ The latter point does not imply that such mergers are likely to be benign. It may be that underlying changes enhance anticompetitive effects, perhaps by improving the prospect for successful coordination.

cations of observed market shares, under given conditions, can be interpreted, all the while recognizing that these shares are endogenously determined.⁷¹

4. *On the Relevance of Levels of Market Power*

The level of market power—perhaps proxied by measures of the level of concentration, such as with the HHI—is, on one hand, routinely deemed central in application of the structural presumption but, on the other hand, is irrelevant for most purposes in predicting mergers' competitive effects. The simple reason that underlies most of the particulars developed in Section B is that a merger's effects regard the *change in* rather than the *level of* market power.

Market power levels, however, are relevant to the overall economic harm resulting from increases in price. The change in total welfare—the sum of consumer and producer welfare—equals the change in deadweight loss, and that change depends on the extent to which prices are already in excess of marginal cost. As is familiar from basic economics, marginal deadweight loss from raising the price is initially (when price equals marginal cost) negligible, and the marginal loss is greater for a given price increase the more elevated is the initial price. Accordingly, although the level of market power (whether or not well indicated by concentration⁷²) is irrelevant in most respects to determining a merger's likely effect on price, it is relevant to determining the total social cost of any resulting price effect.⁷³

This observation also can be important under a pure consumer welfare standard if one takes a long-run perspective. Over time, fixed costs are variable

⁷¹ There is an important caveat in interpreting such formulas that derives directly from the foregoing explanation. It concerns the meaning of statements like: "If such and such market shares were different (this one higher, that one lower), then, all else equal, anticompetitive effects would be this much larger." Because those market shares are endogenous, it may not be immediately clear what it means (as in an ordinary comparative statics exercise) to raise one market share while lowering another by the same amount, holding all else equal. For how is it that those shares are altered when all else (including the determinants of those shares) is held constant? The answer is that the correct thought experiment is somewhat different. What is really involved is the comparison of two hypothetical worlds in which the market shares that endogenously arise are different in the stated fashion. Put another way, to imagine being in one of those worlds rather than another, we are imagining differences (that often not are expressly stated) in underlying parameters that would generate the posited differences in market shares. For example, if we were to suppose that firm A's marginal cost was lower and firm B's higher, this would, in many models with unilateral effects, result in firm A having a higher market share and firm B a lower one.

⁷² As this Part indicates in a number of ways, concentration (measured by the HHI or otherwise) is indeed not a good proxy for the level of market power, and this point holds in addition to Part I's criticisms regarding market definition being a prerequisite for measuring concentration.

⁷³ See Louis Kaplow, *On the Choice of Welfare Standards in Competition Law*, in *THE GOALS OF COMPETITION LAW* 3, 7–18 (Daniel Zimmer ed., 2012); Louis Kaplow, *On the Relevance of Market Power*, 130 *HARV. L. REV.* 1303, 1342–45 (2017) [hereinafter Kaplow, *Market Power*].

and hence fixed-cost efficiencies tend to be passed on to consumers. Similarly, entry and exit tend to dissipate profits, and to that extent consumer and total welfare do not diverge in the long run.⁷⁴ Also relevant, competition is imperfect to varying degrees in most sectors of the economy, not just in whichever sector is the focus of a particular merger assessment. As a consequence, it tends to be preferable to prevent price increases in more distorted sectors than in less distorted ones, which likewise renders the preexisting level of market power an important consideration.⁷⁵

The relevance of market power levels to merger policy does not, however, provide a basis for using the structural presumption. Nearly all of the defects identified in Part I and in this Part remain applicable. The only qualification of note is that, as mentioned, the HHI level is often thought to be a proxy for the level of market power, and we saw in Section B that this is mainly so in settings with unilateral behavior and homogeneous goods, where in the simplest model the markup of price over marginal cost is given by HHI/ϵ . In addition to the HHI not being a sufficient statistic even in this case—the demand elasticity is likewise important—one should keep in mind that this HHI refers to that in the narrow, homogeneous goods market. We have no such formula for redefined markets.

III. THE STRUCTURAL PRESUMPTION'S BURDEN-SHIFTING FRAMEWORK

Parts I and II focus on the logic and economics of market definition analysis and the uses of market share information that determine whether the structural presumption is triggered in a given horizontal merger case. This Part takes a legal perspective on this subject and, from that perspective, also considers what happens once the presumption is triggered.⁷⁶ Section A unpacks the burden-shifting framework ordinarily associated with the structural presumption, and Section B elaborates a number of conundrums that emerge once one looks carefully at what this framework may actually entail.

⁷⁴ See Kaplow, *supra* note 43, at 591–98.

⁷⁵ See Louis Kaplow, *Competition Policy in a Simple General Equilibrium Model* (Nat'l Bur. Econ. Res., Working Paper No. 28482, 2021); Louis Kaplow, *Market Power and Income Taxation*, 13 AM. ECON. J.: ECON. POL'Y 329 (2021).

⁷⁶ Much of this article, including all of the economic analysis, is applicable to the use of market definition and constructs like the structural presumption (or weaker versions, like that employed in the European Union) used anywhere in the world. This Part focuses on U.S. legal doctrine and institutions, although analogous problems arise more broadly. Part IV, in addressing proposed extensions of structural presumptions in the United States, likewise informs competition law elsewhere in the world, particularly because many of the extensions address “dominance,” which is at the core of anti-monopoly provisions in many jurisdictions, including the European Union.

A. UNPACKING THE BURDEN-SHIFTING FRAMEWORK

A burden-shifting framework is commonly employed in cases involving the structural presumption associated with *Philadelphia Bank*. Under it, the party challenging a horizontal merger must first establish a prima facie case that typically focuses on market definition. If the resulting concentration measures in the relevant market are sufficient to trigger the presumption, the merging parties then bear a burden of rebuttal. If met, the burden shifts back to the party challenging the merger.

No canonical statement of this burden-shifting framework associated with the structural presumption exists.⁷⁷ Instead, there are multiple, sometimes murky or confusing, and even contradictory pronouncements in court opinions and commentary.⁷⁸ Typically, there is no attempt to justify the key components, elaborate their meaning, or explain why the version being proffered should govern rather than various alternatives. Indeed, there is little indication that those making various statements are aware that differing versions exist or appreciate what their own formulations, taken on their face, imply.⁷⁹ This Section briefly notes the main elements and raises questions about each, and the next Section examines some of the more important issues.

First, in deciding whether the structural presumption is triggered, just what must the government or other plaintiff show?⁸⁰ Does it have a production or

⁷⁷ In this regard, it is worth noting that “presumption” has famously been described as one of the “slipperiest” legal terms. See CHARLES T. MCCORMICK, HANDBOOK OF THE LAW OF EVIDENCE 639 (1954). When one adds that the structural presumption employs a specialized and perhaps nonstandard usage of that term (as explained in the text, we cannot really tell) and that much of the discussion of its meaning and import is by economists (who confront conflicting usages and may supply their own), one can see how readily confusion can reign.

It is also of interest that in another antitrust setting, involving the so-called structured rule of reason (which has similarities to the structural presumption’s burden-shifting framework), circuit courts are also remarkably inconsistent and even incoherent in articulating just what the rule entails. See Louis Kaplow, *Balancing Versus Structured Decision Procedures: Antitrust, Title VII Disparate Impact, and Constitutional Law Strict Scrutiny*, 167 U. PA. L. REV. 1375, 1391–95, 1403–09 (2019).

⁷⁸ *Baker Hughes* and *Heinz*, two opinions from the D.C. Circuit that are discussed in the footnotes that follow, are the most often quoted or cited, in part because many subsequent merger cases have been tried in the D.C. District Court, although courts in other jurisdictions invoke them as well. See, e.g., *FTC v. Lab. Corp. of Am.*, 2011 WL 3100372, *14 (C.D. Cal. 2011); *United States v. Oracle Corp.*, 331 F. Supp. 2d 1098, 1110 (N.D. Cal. 2004). The prominence of *Baker Hughes* may partly be due to it having been authored by then-Judge Thomas, with then-Judge Ginsburg also on the panel—combined with the lack of substantive Supreme Court merger cases since the mid-1970s.

⁷⁹ Those in court opinions are often dicta, may be written by authors (law clerks, or judges with little experience in merger cases) who fail to appreciate the issues, or (as discussed variously in Section B) may more reflect rationalizations and reverse engineering than a binding framework that actually dictated a judge’s processing of evidence to determine the outcome.

⁸⁰ Even as to basics, there are substantial inconsistencies. For example, at the first step, the oft-quoted opinion in *United States v. Baker Hughes Inc.*, 908 F.2d 981, 982 (D.C. Cir. 1990),

persuasion burden? Since court opinions determining whether it is met follow full trials, including all of the merging parties' refutations, how much if any of the defendants' evidence is to be taken into account at this first step? Given that market definition is fraught and that factors regarded to bear on it are a matter of degree (even though the market definition choice is typically dichotomous), and given that one next must assess postmerger concentration and changes therein—which are also matters of degree, with no sharp dividing lines in the cases—just what combinations of beliefs, held with what degrees of confidence, are sufficient? Put another way, if there is a persuasion burden, just what is it that the judge must believe to be more likely than not if the presumption is to be triggered?⁸¹ Finally, if the government's prima facie case (often stated to require the triggering of the structural presumption) fails but it nevertheless has succeeded in proving that the merger is likely to be anticompetitive, who wins?

Second, when the structural presumption is triggered, just what is it that the merging parties must do next? Do they have a persuasion burden (as implied by opinions referring to what the defendants “must show”⁸²) or a production

states that the structural presumption is triggered merely by the government showing “undue concentration” after the merger, whereas *Chicago Bridge & Iron Co. N.V. v. FTC*, 534 F.3d 410, 423 (5th Cir. 2008), cites these very passages in *Baker Hughes* for the proposition that the presumption is instead triggered merely by the government showing that the merger “will significantly increase concentration.” To add to the confusion, *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 715 (D.C. Cir. 2001), cites its own circuit's *Baker Hughes* precedent (which required only one element) for a proposition quoted from *Philadelphia Bank* that refers not only to that requirement but also that the resulting firm control an undue share (which is absent in modern tests), continuing to omit any requirement of a high level of concentration. If that isn't enough, *Baker Hughes*, immediately following its now widely cited formulation quoted above, promptly talks about its being met by a “showing that combining the market shares of [the merging parties] would significantly increase concentration in the already highly concentrated United States HHUDR market,” including the additional concentration-increase requirement it had omitted in stating the test (and making reference to the then-current version of merger guidelines). 908 F.2d at 983 (emphasis added).

⁸¹ Part of the conundrum is that, whatever the answer, it would seem that it cannot involve a likelihood of anticompetitive effects because, as emphasized in Section I.A, these effects are to be presumed, not proved, under the structural presumption. Put another way, if one is required to persuade the court of anticompetitive effects, the ultimate issue, what is left to be presumed?

⁸² See, e.g., *FTC v. Penn State Hershey Med. Ctr.*, 838 F.3d 327, 347 (3d Cir. 2016). *Philadelphia Bank* seemed to put a high persuasion burden on defendants. *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 363 (1963) (stating that a merger meeting the stated requirements “must be enjoined in the absence of evidence clearly showing that the merger is not likely to have such anticompetitive effects”). But subsequent cases more often refer more simply to what defendants must “show.” The most sustained discussion of this issue appears in *United States v. Baker Hughes Inc.*, 908 F.2d 981, 990–92 (D.C. Cir. 1990), which quotes subsequent Supreme Court opinions, interprets them as describing what defendants must do is “to show” that market shares are inaccurate or unreliable indicators, and emphasizes that the defendants' burden should not be “unduly onerous” or “heavy.” These latter statements, in turn, are quoted in many subsequent cases, including most of those cited in the other footnotes in this Section.

burden (as implied by direct statements to this effect,⁸³ the use of “offer,” and statements about a production burden “shifting back”⁸⁴ to the government, and as seemingly required by the Federal Rules of Evidence⁸⁵)? Can there ever be a persuasion burden on the defendants when courts also state that the persuasion burden is on the government throughout?⁸⁶ But if there is only a production burden, how much can it matter since defendants are not typically silent (as imagined in seminal legal writing and Supreme Court cases addressing production burdens and related subjects in other contexts) but instead spend millions, tens of millions, or more on all manner of rebuttal? And what counts as sufficient rebuttal, in terms of persuasive force and magnitudes? For example, how large must a proffered efficiency be to meet this burden? If less than the presumed anticompetitive effects, does the burden still shift back? But since these effects were presumed rather than quantified, how can we tell whether any proffer or proof is sufficient to overcome whatever it was that was presumed?

Third, if the merging parties meet whatever this burden is, just what must the government then show if it is to prevail? Can they demur and still win—notably, if defendants only had to meet production burdens, or if they did not have to show, for example, that their efficiencies exceeded anticompetitive effects? (Observe that, otherwise, proof of an efficiency savings of \$1 would rebut the presumption and place the full burden on the government, rendering the structural presumption effectively moot.) And, in proving anticompetitive effects, does the rebutted structural presumption continue to carry any weight? If so, how much?

My reading of cases and commentary does not provide answers to many of these questions, and those that I do find conflict across sources and sometimes internally. Section B addresses a number of these matters.

⁸³ See, e.g., *Baker Hughes*, 908 F.2d at 982 (“The burden of *producing* evidence to rebut this presumption then shifts to the defendant.” (emphasis added)); *Chicago Bridge & Iron Co. v. FTC*, 534 F.3d 410, 423 (5th Cir. 2008) (“Once the Government establishes the *prima facie* case, the respondent may rebut it by *producing* evidence to cast doubt on the accuracy of the Government’s evidence as predictive of future anti-competitive effects.” (emphasis added)).

⁸⁴ See, e.g., *Chicago Bridge & Iron Co.*, 534 F.3d at 423.

⁸⁵ See FED. R. EVID. 301 (“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.”); see also *Baker Hughes*, 908 F.2d at 991 (citing Wigmore’s treatise for the proposition that persuasion burdens never shift away from the plaintiff).

⁸⁶ See, e.g., *Baker Hughes*, 908 F.2d at 983 (“If the defendant successfully rebuts the presumption, the burden of producing additional evidence of anticompetitive effect shifts to the government, and merges with the ultimate burden of persuasion, which remains with the government at all times.”).

B. ELABORATION

1. *Is the Structural Presumption Optional or Mandatory?*

Conventional wisdom seems to hold that the structural presumption is optional for the government or a private plaintiff, a path it can choose to pursue, providing what is generally regarded to be an easier route to successfully blocking some mergers than if the challenger must demonstrate a sufficient likelihood of anticompetitive effects. I say “seems” because this view is usually implicit. Those debating the presumption as a matter of policy proceed as though this were so. Nevertheless, when describing the government’s prima facie case, some court opinions refer to what the government “must” show when describing the trigger of the structural presumption.⁸⁷ This may well mean that the posited requirements are compulsory if, but only if, the government seeks to invoke the structural presumption. Because this is not usually explicit and contradicts what is actually written in the opinions, it is hard to be sure and even harder to know what thoughts pass through the mind of a district court judge who is presiding over her first merger case and examining the pertinent circuit court’s prior opinions that, taken literally, seem to hold otherwise, that is, that the structural presumption is mandatory.

Closely related is the question whether market definition is mandatory. On one hand, if the government seeks to invoke a presumption based on market shares, the answer would seem to be affirmative, which is consistent with the language of many court opinions. On the other hand, when opinions refer to market definition being required specifically in the context of determining the applicability of the presumption, it is less clear what the implications are if the

⁸⁷ See, e.g., *United States v. Anthem, Inc.*, 855 F.3d 345, 349 (D.C. Cir. 2017) (“First, the plaintiff must establish a presumption of anticompetitive effect by showing that the ‘transaction will lead to undue concentration in the market for a particular product in a particular geographic area.’” (quoting *Baker Hughes*)). Taken literally (and consistent with the context in which the passage appears), this statement mandates the use of the structural presumption. The full passage from *Baker Hughes* is: “The basic outline of a section 7 horizontal acquisition case is familiar. By showing that a transaction will lead to undue concentration in the market for a particular product in a particular geographic area, the government establishes a presumption that the transaction will substantially lessen competition.” 908 F.2d at 982. On one hand, the latter sentence simply states that the pertinent showing triggers the presumption, but on the other hand, this is stated to be how Section 7 cases are decided in general, not just if the government, perhaps as only one branch of its argument, voluntarily chooses to try to invoke the presumption.

But there are also entirely different statements of what the government must do to establish a prima facie case. Indeed, some refer explicitly to the demonstration of the likelihood that the merger would be anticompetitive. See, e.g., *FTC v. Penn State Hershey Med. Ctr.*, 838 F.3d 327, 337–38 (3d Cir. 2016) (“To establish a prima facie case, the Government must (1) propose the proper relevant market and (2) show that the effect of the merger in that market is likely to be anticompetitive.”). Further looseness in the statement of the legal standard is evident in this formulation: the court’s statement of the rule governing its decision requires only that the government “propose” a relevant market, yet it must “show” that the “effect of the merger in that market is likely to be anticompetitive.” Moreover, as discussed in the text to follow, one must consider further whether the market definition requirement undermines optionality.

government seeks directly to prove a sufficient likelihood of anticompetitive effects, following other language in opinions describing the statutory requirements in that manner. We know from Parts I and II that market definition makes no sense in attempting to predict anticompetitive effects. Moreover, whatever market definition is chosen, it has been clear from early on—notably, from *Brown Shoe* and *General Dynamics*—that market shares in whatever market is chosen are to be interpreted in light of their actual competitive significance.⁸⁸ When that interpretation is undertaken, it is unclear how much the market definition ultimately matters, although it seems to matter greatly in many cases.

To take a sharp illustration, what happens if the government concedes that the merging parties' broader market definition is correct, notes (and confirms through expert testimony) that the admittedly low shares do not rule out anticompetitive effects as a matter of basic economics, and then offers direct proof of likely and substantial anticompetitive effects, which the court finds convincing?⁸⁹ Does the government win because it has met the statutory requirement? (Note that the supposedly mandatory market definition exercise was undertaken, but the government is not conceding that it has “lost” on the issue when a broad definition that yields low market shares is chosen.) Or is the law to the contrary? That is, not only might the market definition exercise be mandatory, but might there also exist an *irrebuttable negative structural presumption* when a broad market is accepted? Specifically, if either the post-merger concentration measure (in the “relevant” market) is fairly low or the increase in that measure due to the merger is not large enough, *is it conclusively presumed that there cannot be significant anticompetitive effects?* Even if the merging parties were to concede the government's evidence to the contrary or, more plausibly, even if the government's demonstration is convincing in spite of the defendants' attempted rebuttal?⁹⁰

It seems that, as a matter of logic, either the structural presumption is optional, as ordinarily supposed, so that the government does win in this situation, or that the government necessarily loses if a broad market is chosen—no

⁸⁸ See *supra* note 30 (quoting both opinions).

⁸⁹ See, e.g., Gopal Das Varma, *Will Use of the Upward Pricing Pressure Test Lead to an Increase in the Level of Merger Enforcement?*, ANTITRUST, Fall 2009, at 17 (suggesting an affirmative answer to the title's question, supported by simulations indicating that the primary difference arises when the structural presumption fails due to a broad market definition yet the merging firms would find it profitable to increase prices significantly).

⁹⁰ A further irony would be that, under a mandatory structural presumption and, relatedly, if market definition is required (that is, the government must win the market definition dispute), the government loses when the broad market is chosen despite proving anticompetitive effects directly yet it wins if, in sequence: the narrow definition is chosen, this definition is then shown to be highly misleading and useless, and the government then proves anticompetitive effects directly.

matter the anticompetitive effects—in which case the structural presumption is mandatory after all. But not only that. Because merging parties often mount massive defenses—surely enough to meet production burdens as ordinarily understood (see Subsection 3)—at which point the government has a persuasion burden on actual anticompetitive effects, it seems that the government is being required to win twice in seriously contested merger cases. First, it must win on market definition—with a narrow market selected—for otherwise it loses on this implicit, negative, irrebuttable presumption. Second, it must also win on likely anticompetitive effects. If so, the apparatus associated with the structural presumption taken as a whole is not, as ordinarily supposed, pro-government in merger cases in which the merging parties present serious defenses.⁹¹

These problems can be mitigated or fully circumvented, however, as noted in Part I, if the market definition is chosen in a reverse-engineered fashion. In that event, any presumption—whether positive or negative—is brought into alignment with the best estimate of predicted anticompetitive effects, so there is only a single, correctly focused inquiry after all. And one under which the structural presumption is largely moot, either way.

Reverse engineering of a market definition and thus of the trigger for the structural presumption is, however, an inferior way to operate. It complicates and may well confuse the processing of information. It interferes with transparency and accountability in guidelines and judicial opinions. And it undermines the development of analytical tools, policy making, and the law. Better to replace the structural presumption entirely, as Part V elaborates.

Regarding market definition in particular, Part I's unpacking shows how, at best, the process is circular, and, as ordinarily conducted, needlessly throws away information. As previously mentioned, courts—at least since *General Dynamics* and even *Brown Shoe*—have required that market shares in any market be interpreted in light of actual competitive conditions. It is rather

⁹¹ The discussion in the text may also help to understand the stability of the existing doctrinal state of affairs. The government (or others challenging a merger) is reluctant to give up the structural presumption because it offers the best hope of blocking the merger. Merging parties, on the other hand, like the market definition foundation on which it stands because it helps them win cases and, moreover, most arguments that the merger is not really anticompetitive can be crafted as arguments for defining the market broadly. Both sides are reluctant to ask the judge to do what seems like changing the law, all the more so because the effort would convey weakness in the party's ability to prevail under existing doctrine. Finally, it is difficult for either side's experts to testify in the alternative: "In my expert opinion, using reliable methods, the correct market definition is X. And, in my expert opinion, there are no reliable methods because the entire market definition concept does not exist in my field of expertise and is complete nonsense." Likewise, an expert who ever offered the latter testimony (or so opined in public) might forever be foreclosed from future engagement as an expert witness. See also note 24 *supra* (providing references for the point that the concept of market definition does not really exist in the field and raising the possibility of FED. R. EVID. 702 (*Daubert*) objections).

circuitous to insist on consideration of actual competitive effects to somehow adjust interpretations of market shares in problematically defined markets, all for the purpose of invoking a presumption that purports to render unnecessary the consideration of anticompetitive effects.⁹²

Nor does Clayton Act Section 7 provide a strong basis for a market definition requirement. Its core substantive language refers to mergers whose effect “may be substantially *to lessen competition*, or to tend *to create a monopoly*.”⁹³ The provision’s language about “line[s] of commerce” and “section[s] of the country” talks of “any.”⁹⁴ That clause, taken as a whole, is readily understood as more jurisdictional in nature and, specifically, to convey the notion that anticompetitive effects occurring “anywhere” are prohibited, rather than as constituting a straightjacket that is in tension with the language about lessening competition and creating monopoly. Moreover, those drawing on the statutory language to support a market definition mandate just omit the existence of a further “or” clause in Section 7 that refers as well to “*any activity affecting commerce*.”⁹⁵ “Or” should not be that difficult to interpret. Indeed, these passages together strongly suggest a jurisdictional rather than a substantively restrictive interpretation.⁹⁶

⁹² Courts have long seen market definition primarily as a tool, and cases such as *Indiana Dentists* hold that direct proof of anticompetitive effects is permissible. See Kaplow, *supra* note 6, at 508–15. A footnote in the Supreme Court’s opinion in *Ohio v. American Express Co.*, 138 S. Ct. 2274, 2285 n.7 (2018), states that, although market definition may well not be required in challenges to horizontal arrangements, it is nevertheless required in vertical cases. In any event, this statement seems to reinforce that market definition is indeed not really required in a horizontal setting such as the present one if anticompetitive effects are established. Although the Court’s discussion is in the context of challenges to restraints under Sherman Act Section 1, this would not seem to matter and, in any event, mergers can be challenged under that provision as well as under Clayton Act Section 7.

⁹³ 15 U.S.C. § 18 (emphasis added).

⁹⁴ *Id.*

⁹⁵ *Id.* (emphasis added).

⁹⁶ Interestingly, for market definition many courts cite prior opinions (including *United States v. Marine Bancorporation*, 418 U.S. 602, 618 (1974)) that rely on a quotation from *United States v. E.I. du Pont de Nemours & Co.*, 353 U. S. 586, 593 (1957), a case filed before and decided without regard to the 1950 Amendments to Clayton Act Section 7. To add to the confusion, *du Pont* is relying on a prior case on Clayton Act Section 3 that does not support the cited proposition but merely quotes the language of the 1914 Clayton Act. And the government lost its proffered market definition in *Marine Bancorporation* in significant part because it failed to prove anticompetitive effects. See 418 U.S. at 622–23. The Court further states that precedent defines the “relevant geographic market . . . as the area in which the goods or services at issue are marketed to a significant degree by the acquired firm,” *id.* at 620–21, an approach greatly at odds with criteria commonly used for market definition, including those stated in cases that cite this very opinion for authority. More commonly, citations trace to *Brown Shoe*’s discussion of the 1950 Amendments. See *Brown Shoe Co. v. United States*, 370 U. S. 294, 324 & n.41 (1962) (itself relying on *du Pont*).

Yet the 1980 Amendments to Clayton Act Section 7 (Pub. L. No. 96-349, 94 Stat. 1154, Sept. 12, 1980) added the phrase “or in any activity affecting commerce” discussed in the text. Moreover, the legislative report describing the proposed changes to this part of Section 7 refers to this

2. *How Weighty Is the Structural Presumption?*

The structural presumption's weight is central in determining just what it is that the merging parties must do to rebut it. Its weight has two dimensions: the degree of confidence in the anticompetitive effects that are presumed and the magnitude of those effects. Beginning with the former, this degree should depend as an initial matter on whether the government had a production or persuasion burden in establishing the presumption. If only a production burden, it should not take as much to dislodge the presumption.

Suppose instead that the government has a persuasion burden, which appears more consistent with opinions containing detailed discussions of the evidence and sometimes finding for the merging parties despite substantial proffers from the government. Then we confront a further, conceptual question: If effects are presumed rather than established to some degree of confidence, how are we to understand the strength of the supposition of anticompetitive effects and therefore to know how much pushback is required to open the question to further inquiry? Because we are speaking of a presumption and not an inference based on the weight of the evidence, and because no direct answer has been provided to the immediately preceding question, it is unclear what is supposed to be determined at the second step. Perhaps all we can say is that the answer is in the eye of the beholder (the judge). Beyond that, courts often state that, the stronger is the case for triggering the presumption, the more it takes to dislodge it.⁹⁷ This suggests a broader weighing of the evidence throughout and, moreover, that courts are indeed invoking the presumption in a manner that reflects, perhaps to a significant degree, the extent to which they were convinced of anticompetitive effects in the first instance.

As a matter of decision theory and logical inference, the problem is viewed differently from the framework of presumptions and shifting burdens. Instead, it is understood in a standard Bayesian fashion.⁹⁸ Ultimate degrees of belief—one's posterior beliefs—depend on one's prior beliefs and the information that updates them. As an initial matter, before assessing the government's

set of provisions as jurisdictional. See H.R. REP. NO. 96-1234, at 10 (1980) (heading the pertinent section of the report "Merger Jurisdiction"). That report explains that the new language permits "the Department of Justice and private parties to challenge anticompetitive mergers involving business entities engaged in any activity 'affecting' interstate commerce." *Id.* Hence, even a Supreme Court that over a century ago abandoned literal interpretations of the antitrust statutes as well as their legislative history would, if now adopting a literal interpretation, an originalist one, or one grounded in the contemporaneous legislative explanation, have difficulty imputing a market definition requirement.

⁹⁷ See, e.g., *United States v. Baker Hughes Inc.*, 908 F.2d 981, 991 (D.C. Cir. 1990); *United States v. Anthem, Inc.*, 855 F.3d 345, 349–50 (D.C. Cir. 2017).

⁹⁸ For an exposition in the legal context, see Louis Kaplow, *Likelihood Ratio Tests and Legal Decision Rules*, 16 AM. L. & ECON. REV. 1, 5–20 (2014).

prima facie case, a decision maker in principle has priors, perhaps about mergers in general, horizontal mergers on average, or horizontal mergers of a particular type (retail) or in a particular sector (hospitals).⁹⁹ The government offers evidence to update those priors, and its prima facie case succeeds if, after that updating, there is a sufficient likelihood of the requisite anticompetitive effects. The defendants' rebuttal consists of offering further evidence, resulting in further updating, which (to the extent successful) generates a revised set of posterior beliefs that is sufficiently low that their merger would be allowed at that point. Then the government would offer yet further evidence, and so forth, and the court would decide at the end if its ultimate posterior beliefs, after updating based on all of the evidence, indicated that the merger should be blocked. (As Subsection 3 will elaborate momentarily, all of this is strange under the supposed burden-shifting framework because each of these supposedly sequential determinations is made after the conclusion of a full trial, with all of the evidence in hand, and with no clear demarcations of which evidence should be considered at step one, deferred to step two, or held back until step three. As a matter of logical information processing, these artificial divisions are irrelevant, and as a matter of practice, judicial opinions routinely consider defendants' evidence at step one, rendering obscure just what divisions between the steps are being imposed.)

Under this interpretation, a presumption might simply be a way of referring to a decision maker's priors as updated based only on some limited amount of information. This and related views seem more apt when an agency is deciding, after only a few weeks of investigation and analysis, whether to give a proffered merger a pass or to proceed further, such as by making a second request. In that scenario, all it has are its priors and some preliminary information.¹⁰⁰ However, once the investigation is complete, much less after a full

⁹⁹ Although not important for present purposes, these categories can blur. For example, an expert witness in a hospital merger case might refer to empirical evidence on the effects of previous hospital mergers.

¹⁰⁰ Even for such preliminary screening, the value of something akin to a structural presumption, such as appears in merger guidelines, is hardly clear. Agency analysts might, for example, ask whether accepting the most pro-government market definition yields shares in merger guidelines' lower ranges, suggesting the lack of any anticompetitive concern. In truly obvious cases of this nature, the particular method of analysis may be unimportant. However, once some real thought and analysis is required, it is distracting (as Part I explains) to use whatever (limited) information one has to struggle at all over market definition (such as by applying the HMT) rather than to use that information directly. (For example, in a merger in which the two firms each produce a single product, analysts would use their best estimate of the diversion ratio and margins to formulate their best estimate of upward pricing pressure rather than their best estimate of the market definition under the HMT.) Moreover, Part II explains that only market share information in narrow markets is useful and that its uses differ from those in merger guidelines. Finally, the underlying economic models need to be chosen and applied with a correct understanding—even if that is done quickly and highly informally, in a back-of-the-envelope manner—at which point market definition and the structural presumption can only interfere with clear thinking. *See also* Deborah A. Garza, *Market Definition, the New Horizontal Merger*

trial, it is unclear why that initial view, whether it proved prescient or not, should count for anything, except that the priors and initial evidence are part of the broader pool that feeds into the decision at the end of the day.

Turn now to the magnitude of the anticompetitive effects that are presumed. This magnitude, of course, is never stated even approximately. But how, then, is a decision maker to know whether the defendants' rebuttal, even if believed, actually rebuts the prima facie case? For example, suppose that the merging parties' evidence convincingly establishes that cognizable efficiencies would be \$87 million per year, and they claim victory—or at least that the burden shifts back to the government. Does it? What if the government accepts these efficiencies and asserts that they are not enough. How can we tell? If anticompetitive effects were presumed and not established, and no amount in particular was ever stated, who wins? It cannot be that any efficiencies are enough to shift the burden back, for then a \$1 savings would suffice to neutralize the structural presumption. So how much is enough?

This problem is also relevant to other forms of rebuttal. When the merging parties offer arguments and evidence suggesting that actual anticompetitive effects would be lower than what is presumed, we need to know just what was presumed in the first place to make sense of this claim. If we do not, we cannot even tell whether the defendants' proffer calls for a downward revision rather than an upward one, much less whether the downward revision is large enough to shift the burden back.

Much rebuttal will not, taken alone, indicate any particular level of anticompetitive effects but instead will suggest that some factor relating to market definition or market shares provides a weaker indication of anticompetitive effects than is typical or is presumed to follow from the presumption. However, as explained in Subsection I.B.4, there is no such reference level for presumed anticompetitive effects, for any particular input or market share, or for the degree to which those factors translate into anticompetitive effects (for some given but unspecified levels of other relevant factors). If merging parties can convincingly demonstrate that their rebuttal, viewing points of contention individually or collectively, indicates that anticompetitive effects can indeed be determined and, moreover, that they are negligible or absent entirely, they should prevail on the issue or at least succeed in shifting the burden back to the government. But, short of that, it is obscure what showings would be sufficient to meet their (production or persuasion) burden at this stage. By contrast, if there really are not distinct stages but, instead, a single, final decision is to be made using all the evidence to update the decision maker's priors, these

Guidelines, and the Long March Away from Structural Presumptions, ANTITRUST SOURCE (Oct. 2010), at 1, 4 (former DOJ Antitrust Division official stating that market shares are no longer used internally by the agencies even to screen cases).

quandaries would be immaterial. But if, as ordinarily stated, we have a sequential, siloed, burden-shifting apparatus, it is hard to know what that apparatus really consists of at steps one and two.¹⁰¹

3. *What Does It Mean for Production Burdens to Shift After Completion of a Bench Trial?*

Shifting production burdens, taken at face value, are exceedingly odd in the present context, for tribunals are nearly always considering these shifts after the conclusion of a full trial. For example, it may be at page 37 of the final opinion that one first learns (months after the trial is over) whether a production burden shifted to the defendants, and at page 62 whether it ever shifted back. Moreover, these are bench trials.¹⁰²

Consider first that the definition of meeting a production burden—as presented by seminal authorities—is that a party’s evidence is sufficient for a reasonable factfinder to find in favor of the party carrying that burden. If it is not (the operative branch), the judge is to take the decision from the jury.¹⁰³ But there is no jury to take the decision from in merger cases, so the matter is formally moot in literally every case at trial.¹⁰⁴

Closely related is a further matter of logic and psychology. A persuasion burden is harder to meet than a production burden. Imagine, now, a judge deciding whether the weaker, production burden has been met. If it has been, the judge then applies the higher, persuasion burden, in which event the production burden is not binding.¹⁰⁵

¹⁰¹ For a broader critique of such legal decision rules, including applications to antitrust, see Kaplow, *supra* note 77.

¹⁰² When the government seeks an injunction against a proposed merger, the typical setting, there is no jury.

¹⁰³ See, e.g., John T. McNaughton, *Burden of Production of Evidence: A Function of a Burden of Persuasion*, 68 HARV. L. REV. 1382, 1383 (1955) (offering one of the classic statements: “Burden of production has two meanings. In its first meaning, burden of production describes a standard: evidence which would justify a reasonable jury in finding the existence or nonexistence of the fact must be adduced if a judicial ruling for the other party is to be avoided. . . . It describes the risk of nonpersuasion of the judge that the burden of persuasion of a reasonable jury may have been fulfilled. In its second meaning, burden of production describes the onus cast upon one party or the other during the trial by a comparison of the above standard with the evidence actually adduced.”); see also *id.* at 1384 (depicting this definition by reference to John Wigmore’s famous diagram); James B. Thayer, *The Burden of Proof*, 4 HARV. L. REV. 45 (1890) (offering the classic statement distinguishing the production burden from the persuasion burden).

¹⁰⁴ Production burdens can matter on appeal because, when an appellate court reverses on such grounds, it is taking the decision away from the trial judge. (This observation pertains as well to the points that follow in the text.) Within an appellate opinion, however, the conundrums considered here reappear if the burden-shifting framework is followed.

¹⁰⁵ Note that, even if that burden is on the other party, since we have a preponderance rule, requiring only that the proposition be more likely than not, it should always be harder for the party bearing the production burden to prevail with respect to the persuasion burden (regardless of who carries that burden).

Now suppose that the judge believes that the production burden on some issue has not been met. The production burden then demands that the judge take the issue from the factfinder—herself—and instead decide the issue—herself—for fear that, if the issue were instead left to be decided by the factfinder—herself—she might make the incorrect, opposite decision. In other words, the production burden matters only when the same judge simultaneously holds two beliefs: (1) I believe that there is insufficient evidence for any reasonable factfinder to believe that X is more likely than not true. (2) I myself believe that X is more likely than not true. (A partial reconciliation is offered in Subsection 4.)

Finally, return to the point that any and all findings on production burdens are ordinarily made in the court's opinion after a completed trial, battle of experts and all. As a matter of legal procedure, the defendants may move for a judgment in their favor at the close of the government's case and, if the judge believes that a *prima facie* case has not been established, the trial could be ended there, saving time and resources. Likewise, the government may move for judgment after the merging parties' rebuttal—on particular issues (such as efficiencies) or on the case as a whole—and if granted, the cost of the government's subsequent rejoinder will be saved. But neither typically happens; more precisely, even if such motions are made, the judge would be unlikely to rule on them, in particular, to grant such motions before the end of the trial. Nor does the government's initial case, including its pretrial depositions and its own experts' reports, usually ignore rather than substantially confront much of the argument and evidence that the defendants will present later at the trial.¹⁰⁶

At most, a trial judge could end her opinion part way through the burden-shifting framework if she decides, at step one, that there is no *prima facie* case or, at step two, that the defendants failed to meet their production burden on an issue or the case as a whole. This would save none of the tens of millions of dollars spent before and during the trial but would spare the judge some effort in finishing her opinion. This too is not ordinarily done, in part because of the possibility of an appeal. Moreover, if the production burden question is at all close, it may take substantial effort to decide and then write the opinion on that question, whereas the persuasion burden would not be a close call in such a case so it actually would save effort to skip the production burden decision as moot and decide just the easier persuasion burden question. Hence, none of the formal (legal) or practical (resource-saving) implications of production burdens seem to materialize.

¹⁰⁶ Cf. Sullivan, *supra* note 3, at 432–33 & n.170 (quoting cases for the proposition that parties in merger cases usually present their evidence all at once).

What remains is the manner in which the judge processes information. Does she engage in the sequential, siloed inquiry posited by the burden-shifting framework? Implementation of this method would require separating the evidence—even particular points or paragraphs in expert reports or answers to questions during cross-examination—into three buckets. Only evidence in the first bucket is considered in determining whether there is a prima facie case; only evidence in the first and second buckets may be used in deciding whether any production burden thereby imposed on the merging parties has been met; and the third bucket is added to the mix in reaching a final decision only if the prior burdens have both been met. A corollary is that there would arise numerous meta-disputes about which evidence falls into which bucket, since it is imagined that the sequential decisions may actually matter to the outcome rather than being mere window-dressing for a decision based on all of the evidence. Although judicial opinions are inevitably presented linearly, from the first sentence to the last (like this article), and topics are often separated from closely related ones (also like here), these features no doubt partly reflect ease in exposition. To this reader, there often are indications of interconnectedness (for example, routine references to defendants' rebuttal in the market definition stage of the opinion that is part of step one), but also signals of siloing and resulting confusion (such as when evidence of actual anticompetitive effects is ignored or downplayed in concluding that a government's prima facie case has failed because of market definition).¹⁰⁷

4. *What Do Persuasion Burdens in Merger Cases Really Do?*

In U.S. civil litigation, the burden of persuasion is by a preponderance of the evidence. For some time, this standard has been interpreted to require the party carrying such a burden to show that the pertinent proposition it wishes to have accepted is more likely than not to be true.¹⁰⁸ That is, the probability must exceed 50 percent.

On its face, the view that it is important—indeed, often decisive—who has this burden presents yet another puzzle. After all, assignment of such a burden matters only when there is an exact tie—the factfinder believes that the

¹⁰⁷ Some of the disagreement between the majority and dissent in *Ohio v. American Express Co.*, 138 S. Ct. 2274 (2018), seems to have been about the step (in a structured rule of reason) at which certain procompetitive justifications advanced by the defendant should have been considered, which is strange in a setting where a full trial had been completed. See Kaplow, *supra* note 77, at 1405 n.54.

¹⁰⁸ See, e.g., 2 MCCORMICK ON EVIDENCE 484 (Kenneth S. Broun ed., 6th ed. 2006); David Kaye, *Naked Statistical Evidence*, 89 YALE L.J. 601, 603 (1980) (reviewing MICHAEL FINKELSTEIN, *QUANTITATIVE METHODS IN LAW* (1978)) (“A majority of courts and almost all commentators have concluded that [the preponderance of the evidence rule] is satisfied by evidence that indicates to the trier of fact that the event that must be established is more likely to have occurred than not.”).

probability is precisely 50 percent (50.000 . . .%)—and the probability of an exact tie is essentially zero.¹⁰⁹ This cannot be what the fight is about even though this is what the assignment of the persuasion burden under the preponderance rule literally means.

Something else is going on, and it seems fairly clear what some of its contours are. Judges (and juries, and just about everyone else) have trouble making decisions under uncertainty. When the decisions are complicated, the task is even harder. When they are very complicated, relate to settings with myriad unfamiliar details, and feature sometimes incomprehensible battles of experts, they are harder still. Now add that the decision is highly consequential. And that others are watching—not just the outcome, but also the written explanation of how it was determined. Some are outsiders, who may be critical. Some are peers. And some are superiors, who may well be asked to review the decision and proclaim to the world whether it was correct or mistaken.

Judges in merger cases are understandably queasy, indeed extremely queasy, about much of what they are called on to decide. This is not a personal defect but rather a reflection of their role and responsibility. Some judicial opinions in merger cases are clear about this, although judges vary greatly in their personal style regarding whether they feel more comfortable admitting and even emphasizing these limitations or presenting a more confident face. Some opinions have elements of both.

A simple psychological point is that, in settings like these, it feels much easier to say, and to defend, “I am not convinced of X” than “I *am* convinced of *not* X.” Formally, as just noted, these are essentially identical statements under a preponderance rule. (They would not be if the proponent had to prove its claims by clear and convincing evidence or beyond a reasonable doubt.) But the verbal formulations feel different to both speaker and audience.

An implication is that, when assessing the competing tangle of evidence, if a judge has the sense that the likelihood the government is right is somewhat over 50 percent—but it is all a mess—she may be more comfortable proclaiming and defending in a written opinion the proposition “not convinced” than “convinced.” Consequently, there may be a significant range of cases—perhaps those falling roughly between 45% and 55%, or perhaps between 30% and 70%—where queasiness will result in a decision for whichever party

¹⁰⁹ For those not familiar with this point, consider how likely it would be that, after weighing a mass of competing considerations, the probability of a proposition would lie between 49% and 51%. Usually, not that likely, although more likely than zero. Now ask, in those cases, how often will the probability be between 49.9% and 50.1% (an interval only a tenth as wide as that between 49% and 51%)? Between 49.999% and 50.001% (an interval only a thousandth as wide)? Between 49.99999% and 50.00001%? And so forth.

does not have the burden of persuasion.¹¹⁰ In these cases, which may be many, who bears the burden determines the outcome.¹¹¹

Alternatively, the persuasion burden may have a more modest effect on outcomes, with uncertainty and queasiness leading judges to draft opinions that suggest the case was not nearly as close as it was actually perceived to be. A judge who believes that the government is 55% likely to be correct may draft an opinion that gives the impression that it is more in the range of 90% likely to be correct—that is, as if it was not a close case at all. One suspects that this phenomena as well as the preceding one in which persuasion burdens significantly influence outcomes are sometimes operative.

Note further that the first understanding, wherein queasiness leads to decisions against whomever has the persuasion burden—hardly a radical notion, but one not often made explicit—may help to explain much of the murkiness identified in this Part and indeed in the entire article. If the apparatus associated with the structural presumption—both the presumption itself and steps in its burden-shifting framework—matters primarily when the decision maker is queasy and uncertain, and thus when the opinion will centrally feature “not convinced,” there is much less need to be precise or even moderately concrete about various components and factors. Indeed, being clear about what a party must prove will increase the felt need to say more about just what has or has not been proved, which would amplify the opinion-writer’s sense of unease. That is, much of the aforementioned opacity may provide comfort in such settings and hence, for the opinion writer, be a feature and not a bug.

Turn now to another dimension of the persuasion burden in merger cases: a preponderance of evidence in support of *what proposition?* Of a substantial

¹¹⁰ A complementary but different explanation draws on a decision theoretic formulation that may be implicit in a decision maker’s thinking. Elaborating on the discussion in Subsection 2, consider the odds ratio formulation of Bayes rule under which the ratio of posterior odds equals the ratio of prior odds times the likelihood ratio. The likelihood ratio, in turn, reflects the influence of the evidence in the case at hand. If the decision maker does not feel capable of processing that information very well, the likelihood ratio will be near 1.0, so the ultimate belief about the posterior odds will be close to the perceived prior odds. Now if the decision maker also does not have a good sense of those prior odds—because the factual context is unfamiliar and complex—an external indication of the level of the prior odds may be influential. Furthermore, the legal system’s setting of the persuasion burden may be taken as a signal of those odds. For example, if the burden is on the party challenging the merger on some issue, the prior probability that the merger is anticompetitive may be perceived as 0.4, whereas if the burden is on the merging parties, it may be perceived as 0.6. Hence, if a decision maker’s priors are little revised by the evidence presented, they will prove decisive under a preponderance rule requiring that the posterior probability exceed 0.5. (Note that viewing the assignment of the persuasion burden as signaling prior probabilities has similar implications to the anchoring heuristic, that is, if the assignment is similarly taken to provide a value below or above 50% on which to anchor.)

¹¹¹ Note that, if this band of queasiness is sufficiently wide, it could overlap with the threshold for production burdens, contrary to uncontroversial expositions of the two burdens. See sources cited *supra* note 103.

lessening of competition? That there *may be* such a lessening of competition (the language of the statute)? And what, by the way, is meant by an above-50-percent probability of a “maybe”?

Consider also: What if there is just over a 50 percent likelihood that competition would (or may be) lessened, but a nearly 50 percent likelihood that competition would be enhanced (perhaps through efficiencies) by much more? That is, the expected value of the effect on competition is a significant improvement, although there is more than a 50 percent likelihood that it will (may) be a bit worse. Or, conversely, what if there is not quite a 50 percent probability that competition will (or may be) substantially lessened, but it surely will be lessened at least somewhat and there is just under a 50 percent probability that competition will (or may be) reduced greatly?

One can dissect the language of various formulations, including that in the statute, and attempt to derive determinant answers to these questions. But different phrasings will yield different answers and some are ambiguous. Moreover, it is hardly clear that authors of pertinent passages contemplated these questions, much less thoughtfully considered which answers were more apt.

As a matter of policy, it usually makes sense to be guided by expected values and not probabilities alone. A drug may be 95% likely to have a mildly unpleasant effect, 4% likely to have a more adverse but still moderate side effect, and 1% likely to save one's life. Taking the drug is strongly favored. Similarly, suppose that using a face cream is 90% likely to improve one's acne, 9% likely to do nothing, and 1% likely to result in death from an allergic reaction. This cream would be banned. In highly consequential and uncertain decisions, such as in medical treatment, acting on just the probabilities—and, worse, using a one-size-fits-all 50 percent rule—would be gross malpractice by a doctor or a regulator. Merger decisions are important and uncertain, and they should likewise be subject to the principles of sound information processing and decision-making that are applicable in medicine and other important domains.

There remains the question whether various jurisdictions' merger statutes, guidelines, and doctrines require or even permit sensible decision-making, and also whether decision makers in practice tend to act largely in accord with proper principles—and common sense—regardless, such as by reverse-engineering a market definition to align with the correct outcome. Interestingly, in some legal realms, including court opinions in merger cases, one sees reference to the notion of a “reasonable” probability.¹¹² This juxtaposition of terms

¹¹² For merger law, see, for example, *Brown Shoe Co. v. United States*, 370 U. S. 294, 325 (1962) (“[I]t is necessary to examine the effects of a merger in each such economically significant submarket to determine if there is a reasonable probability that the merger will substantially

is interesting, for a probability is simply an abstract measurement that falls in the range zero to one, whereas reasonableness often refers to providing sound justifications, which are purposive. In the first medical example, one would definitely say that the 1% likelihood that the drug will be life-saving constitutes a reasonable probability for the purpose of deciding whether to take the drug. In the second example, the 90% likelihood of benefit would not be a reasonable probability for using the cream in light of the 1% likelihood of death. So the modifier “reasonable,” when referring to probabilities, may suggest an appreciation of basic principles of sound decision-making that necessitate consideration of magnitudes. Its use should not be surprising in merger cases if this is how judges view their role, and even without such language we should not be surprised if decisions are influenced by such powerful, common-sense considerations.¹¹³

IV. PROPOSED EXTENSIONS OF THE STRUCTURAL PRESUMPTION

This Part applies the analysis throughout the article to recent proposals in a U.S. House Majority Staff Report on Big Tech and a Senate bill, some of which would broadly amend U.S. antitrust laws.¹¹⁴ Most relevant for present purposes are codifications of a version of the structural presumption for horizontal mergers and the creation of new presumptions that address an array of actions by firms with sufficiently high market shares.¹¹⁵ For example, the Sen-

lessen competition. If such a probability is found to exist, the merger is proscribed.”). *See also* Louis Kaplow, *Multistage Adjudication*, 126 HARV. L. REV. 1179, 1256–58 (2013) (discussing similar language usage in the context of assessing plausibility for deciding motions to dismiss).

¹¹³ I have heard some experienced antitrust practitioners (including when discussing cases that they lost) describe at least some judges as appearing to be not much influenced by merger doctrine but rather to be attempting to determine the merger’s effects as best they can.

¹¹⁴ *See* HOUSE MAJORITY STAFF REPORT, *supra* note 4, at 391–99; Senate Bill, *supra* note 4. In this Part, discussions of rationale will refer mostly to the House Report, which offers extended treatments thereof, whereas those of statutory formulations will refer to both.

¹¹⁵ *See* HOUSE MAJORITY STAFF REPORT, *supra* note 4, at 393 (“This structural presumption would place the burden of proof upon the merging parties to show that the merger would not reduce competition. A showing that the merger would result in efficiencies should not be sufficient to overcome the presumption that it is anticompetitive. It is the view of Subcommittee staff that the 30% threshold established by the Supreme Court in *Philadelphia National Bank* is appropriate”); *id.* at 394 (“Congress could [codify] a presumption against acquisitions of startups by dominant firms, particularly those that serve as direct competitors, as well as those operating in adjacent or related markets”); *id.* at 395 (“Congress [should] explore presumptions involving vertical mergers, such as a presumption that vertical mergers are anticompetitive when either of the merging parties is a dominant firm operating in a concentrated market, or presumptions relating to input foreclosure and customer foreclosure”); *id.* at 396 (“Furthermore, the Subcommittee should examine the creation of a statutory presumption that a market share of 30% or more constitutes a rebuttable presumption of dominance by a seller, and a market share of 25% or more constitute[s] a rebuttable presumption of dominance by a buyer.”); *see also id.* at 388 (“ . . . Subcommittee staff recommends that Congress consider shifting presumptions for future acquisitions by the dominant platforms. Under this change, any acquisition by a dominant plat-

ate bill would, in merger cases brought by the government, create presumptions of illegality—which shift the burden of persuasion to the merging parties—when “the acquisition would lead to a significant increase in market concentration in any relevant market” (dropping *Philadelphia Bank*’s requirement that this result in an undue share or the Merger Guidelines’ requirement of a concentrated market) and when an acquirer having “a market share of greater than 50 percent . . . in any relevant market” acquires any competing asset, with no requirement that the purchase be more even than *de minimis* (contrary to *Philadelphia Bank* and the Merger Guidelines).¹¹⁶ The purpose here is to assess neither the House Report’s and Senate bill’s diagnosis of existing problems nor their calls for tougher antitrust enforcement. Instead, this Part examines solely whether these proposals are sensible means to the stated ends. Given the structural presumption’s foundational infirmities, it is unsurprising that they are not.

The aforementioned proposals are triggered by market share tests that, as always, require market definition. Yet the House Report does not attempt to explain how that can be done in a manner consistent with the proffered aims. Even if the House Report regards the purposes of antitrust law as broader than or different from the promotion of consumer or total welfare,¹¹⁷ it remains true that market definition never helps and only hurts, in light of the logic elaborated in Part I. Market definition always requires some criterion, but none is stated in the House Report, which is hardly surprising in light of its failure even to recognize the basic point that its approach necessarily requires market definition in every such instance.¹¹⁸ Any plausible criterion would require de-

form would be presumed anticompetitive unless the merging parties could show that the transaction was necessary for serving the public interest and that similar benefits could not be achieved through internal growth and expansion.”). Provisions of the Senate bill on mergers are noted in the text that follows, and those on exclusionary practices are discussed in note 126.

¹¹⁶ See Senate Bill, *supra* note 4, § 4(b)(3).

¹¹⁷ See HOUSE MAJORITY STAFF REPORT, *supra* note 4, at 392 (“In addition to these specific reforms, the Subcommittee recommends that Congress consider reasserting the original intent and broad goals of the antitrust laws, by clarifying that they are designed to protect not just consumers, but also workers, entrepreneurs, independent businesses, open markets, a fair economy, and democratic ideals.”). In addition, under the proposed presumption against acquisitions by dominant platforms, they are permitted to rebut the presumption not merely by arguing that an acquisition is procompetitive but apparently by offering any argument that it “serv[es] the public interest.” *Id.* at 388. An important implication is that anticompetitive acquisitions that currently would be illegal may instead be deemed legal on a variety of grounds.

¹¹⁸ Without mentioning the infirmities of market definition or even mentioning that it is central to many of its proposals, the Report also suggests legislation “[c]larifying that market definition is not required for proving an antitrust violation, especially in the presence of direct evidence of market power.” *Id.* at 399. At other points, however, the Report criticizes antitrust law’s focus on market power, which makes it all the harder to understand how one would simultaneously create many new market share tests that require market definition, allow market definition to be skipped when there is market power (which makes it impossible to apply any of the new tests, all of which are defined in terms of market shares rather than market power), all the while redirecting antitrust law away from its focus on market power. This and other of the Report’s proposals

termination of which definition best comports with the prohibition's purpose, which in turn renders the market definition process circular and, through the loss of information, inferior to simply abandoning it. Interestingly, the Senate bill provides that market definition is not generally required under the anti-trust laws, but with the important proviso that it is necessary whenever the bill refers to relevant markets, market concentration, or market shares, which of course it must whenever it establishes structural presumptions.¹¹⁹ Hence, the Senate bill recognizes the need for market definition for some of its most important provisions but nevertheless contains no guidance on how it should be undertaken.

The disconnect between a structural presumption and anticompetitive effects, highlighted in Part II, also remains. In respects it may be even worse for one of the proposed new presumptions—including the House Report's (perhaps casual and mistaken) statement of the structural presumption for horizontal mergers¹²⁰—that focuses on market share levels rather than changes, even though we saw that it is at best the latter that may be positively correlated with anticompetitive effects. By contrast, as previously mentioned, the Senate bill enacts a structural presumption that employs only *Philadelphia Bank's* requirement of a significant increase in concentration, which is better on this dimension although still highly problematic. In addition, as noted, it also creates a second structural presumption that depends only on the acquirer having a high market share, without regard to whether that share is nontrivially increased, a factor that at least tends to be correlated with mergers' likely anticompetitive effects. In all these instances, the motivation is to make challenges to mergers easier, but apparently with little regard for whether the new presumptions have any nexus to which mergers are more likely to be detrimental.

The relevance of market power as such—for which market shares are often taken to be a proxy—is a complex subject¹²¹ that the House Report largely takes for granted as well. Regarding the House Report's advancing goals for antitrust law that diverge from consumer or total welfare, it likewise does not

suggest that perhaps it should more be understood as a broadside against an overly cautious status quo than a blueprint for action.

¹¹⁹ Senate Bill, *supra* note 4, § 13(a).

¹²⁰ The Report states “the view of Subcommittee staff that the 30% threshold established by the Supreme Court in *Philadelphia National Bank* is appropriate.” HOUSE MAJORITY STAFF REPORT, *supra* note 4, at 393. No reference is made to *Philadelphia Bank's* requirement that the merger “results in a significant increase in the concentration of firms in that market.” *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 363 (1963). No explanation is offered, making it difficult to infer whether a critically important change is intended. If that were so, one might expect it to be mentioned, although this section of the Report recommends numerous substantial changes, mostly with little elaboration.

¹²¹ See *supra* Subsection II.C.2; Kaplow, *Market Power*, *supra* note 73.

explain how firms' market shares relate to those objectives.¹²² In these respects, the Senate bill is similar, although by its nature proposed legislation does not elaborate the analysis behind its recommendations.¹²³

Part III's unpacking and criticism of the structural presumption's burden-shifting framework has uncertain application to various of the House Report's proposals, reflecting in significant respect that little elaboration is offered (as the House Report aims to offer suggestions rather than developed legislation). To this reader, there is an important potential for misunderstanding because the House Report's repeated use of the term "presumption" does not seem to have in mind its formal legal meaning—an inference taken to be true, unless rebutted under a production burden, without shifting the burden of persuasion¹²⁴—but instead seems to contemplate an opposite effect as its primary objective: shifting the burden of persuasion on the central issue to defendants. The Senate bill, as noted previously, likewise shifts the persuasion burden to defendants.¹²⁵ Accordingly, the discussion in Subsection III.B.4 is apt. To the extent that the persuasion burden would often be decisive—the party who bears it typically loses—the implications for some of the House Report's and Senate bill's proposals are startling.¹²⁶

¹²² For example, it is hardly clear that firms with market shares above a critical level tend to treat workers more poorly (one might suppose the opposite because, for example, very small firms—favored by the Report—are exempt from having to provide most employment protections). The Report expresses concern for entrepreneurs, but any upstart firm that, say, invents a new product thereby immediately and presumptively becomes dominant, at which point many of its actions are presumptively illegal, and it also may have affirmative obligations to aid other firms, including giants that wish to enter its new market. The point here, however, is more modest: the Report offers no discussion whatsoever of how its many proposed market share tests and presumptions relate (positively, or at all) to the other goals that are advanced.

¹²³ That said, the bill does contain a fairly extensive statement of findings and purposes, *see* Senate Bill, *supra* note 4, § 2, although little compared to the House Report.

¹²⁴ *See supra* note 85 (quoting FED. R. EVID. 301 on the meaning of "presumption" in federal courts).

¹²⁵ The Senate Bill is inconsistent. In the merger provision, Senate Bill, *supra* note 4, § 4, the term "presumption" is not employed, and the provisions deem there to be a violation unless the merging parties affirmatively prove, by a preponderance of evidence, that there is no appreciable anticompetitive effect. Yet in the provision on exclusionary practices, *id.* § 9, the term "presumption" is employed yet the structure and substance parallels the merger provision rather than actually creating a legal presumption in the standard, formal sense.

¹²⁶ In suggesting its reform to merger law, the House Report presents as a motivation that, "since 1998, Amazon, Apple, Facebook, and Google collectively have purchased more than 500 companies. The antitrust agencies did not block a single acquisition." *See* HOUSE MAJORITY STAFF REPORT, *supra* note 4, at 392. Hence, perhaps it is contemplated that nearly all of these acquisitions would have been illegal given that they would all be presumed to be so. But the implications are far broader. For example, the Report calls for both filing requirements and presumptive illegality—eliminating any de minimis threshold—of all "acquisitions" (which includes any asset purchase, down to a paperclip, *see* 15 U.S.C. § 18, reflecting that the 1950 amendment to Clayton Act § 7 plugged the asset acquisition loophole, including "assets" in "acquisitions") and all "transactions." *See, e.g., id.* at 388 ("Under this change, *any acquisition* by a dominant platform would be *presumed anticompetitive* unless the merging parties could

V. REPLACING THE STRUCTURAL PRESUMPTION

The structural presumption makes no sense and, as generally articulated, can interfere with sound decision-making in many ways. It needs to be replaced, not fortified and extended. This Part concludes this article by addressing the question: with what? The most straightforward answer is, really: with nothing. As elaborated in Part II, one should use the methods—sometimes, formulas—that have been developed to predict anticompetitive effects and apply them directly, to predict anticompetitive effects, rather than employing them indirectly and nonsensically, to define a market in which to apply the structural presumption. We are, after all, attempting to determine which mergers should be permitted and which prohibited. In most realms, inquiries by expert agencies and decisions by courts are not governed, really straightjacketed, by artificial rubrics that defy common sense, contradict basic teachings in the relevant discipline, and are difficult to make sense of in any event.

That said, it is helpful to reflect on some of the motivations for the structural presumption. Specifically, merger decision-making is challenging, as it involves predictions in complex environments that have to be made or re-

show that the transaction was necessary for serving the public interest and that similar benefits could not be achieved through internal growth and expansion. This process would occur outside the current Hart-Scott-Rodino Act (HSR) process, such that the dominant platforms would be required to report *all transactions* and no HSR deadlines would be triggered.” (emphasis added). The Report further elaborates that “[e]stablishing this presumption would better reflect Congress’s preference for growth through ingenuity and *investment* rather than through acquisition.” *id.* (emphasis added), not appreciating that if internal growth through investment requires any *transactions* such as by *acquiring* various *assets*, those too are presumptively illegal. On another note, the Report proposes eliminating any efficiency defense, apparently even one that would negate anticompetitive effects. *Id.* at 393. Hence, a merger whose only effect was to enable reduced costs, improved quality, or innovation—all passed on to consumers—would not only be presumptively anticompetitive but illegal period. As noted previously, many of the Report’s statements and proposals might best be understood as part of a broadside against what it sees as weak enforcement rather than as charting an actual path forward. (Subsequently proposed legislation, the Platform Competition and Opportunity Act of 2021, H.R. 3826, 117th Cong. (June 11, 2021), arguably prohibits all future acquisitions (i.e., purchases of anything) by covered platforms. *See id.* § 2(a)(2). They may defend each one by presenting clear and convincing evidence, but among what must be shown is that the acquired asset does not assist the platform in boosting or maintaining its market position with respect to the sale or provision of any products or services, which might be understood to include anything that improves these products or services. *See id.* § 2(b). In sharp contrast, the Senate version of this legislation, the Platform Competition and Opportunity Act of 2021, S. 3197, 117th Cong. (November 4, 2021), contains a \$50 million de minimis exception. *See id.* § 2(b)(2).)

Regarding the Senate bill, as already mentioned in the text, even de minimis acquisitions by firms with high market shares are illegal unless affirmatively proved not to be anticompetitive. The provision on exclusionary conduct, Senate Bill, *supra* note 4, § 9(a), makes presumptively illegal all acts of firms with a greater than 50 percent market share that “materially disadvantage 1 or more actual or potential competitors,” which on its face would include sensible investments, hiring any functional employee, and all sales of quality products at attractive prices. If a persuasion burden constitutes a substantial hurdle, one can imagine the difficulty and cost of attempting annually to defend many millions of such acts in court, being subject to injunctions, damages, and new, steep fines for any actions with respect to which one failed to meet that burden.

viewed by nonexpert decision makers. Some commentators and enforcers are understandably concerned that the difficulty of the enterprise will lead too many judges simply to allow mergers, as suggested by the discussion of queasiness just above. If the structural presumption helps the government block mergers—and if at least some mergers do need to be blocked—then there is concern about abandoning the presumption and relatedly, a desire by some to strengthen it, as discussed in the preceding Part.¹²⁷

Viewed in this manner, the structural presumption and associated market definition apparatus operate as a crutch. If someone has a broken leg or a permanent limitation on mobility, a crutch may be entirely appropriate. But if the actual device functions more like a stumbling block, something to be tripped over, landing its user—perhaps simply, promptly, and determinately—on whatever patch of ground is beside the first bump in the path, the crutch should be tossed away.

But what about the actual challenges of complexity and uncertainty? First, statutory and related legal authority widely require competition agencies and courts to decide merger cases rather than to abstain, *de facto* permitting all horizontal mergers. In the United States, the statutory language of Section 7 of the Clayton Act familiarly prohibits mergers whose effects “*may be* substantially to lessen competition, or to *tend* to create a monopoly,”¹²⁸ which clearly contemplates that the uncertainty inevitable in prediction does not confer immunity.¹²⁹ Nevertheless, some believe that, perhaps due to the aforementioned queasiness, courts have made merger challenges too difficult, while others fear that allowing excessively speculative challenges would be worse.

Second, as a matter of policy, the optimal stringency of a merger regime depends importantly on empirical questions on the prevalence of anticompeti-

¹²⁷ As indicated in Subsection III.B.1, it is not clear whether the presence of the apparatus as a whole actually helps the government. If it is taken to entail a market definition requirement in all cases (not just those where the government seeks to invoke the structural presumption), the government may win fewer, not more cases. The central focus here, however, is not primarily on the *win rate* but instead on whether the government can and does win the *right cases*, which may well include many it now loses but may not include all that it currently wins (or successfully stops or allows subject to concessions, given parties’ fear that they may lose in court or at least suffer costs from delaying their deals).

Another caveat, suggested variously throughout this article, is that it is unclear the extent to which various features of the structural presumption actually influence outcomes rather than constitute language in opinions that mainly rationalizes decisions made on other grounds, such as through the decision maker’s best efforts to weigh all of the evidence in assessing the bottom-line question of the merger’s likely anticompetitive effects.

¹²⁸ 15 U.S.C. § 18 (emphasis added).

¹²⁹ Interestingly, one of the House Report’s proposals is to reemphasize this aspect of Section 7, although in the process changing it as well. See HOUSE MAJORITY STAFF REPORT, *supra* note 4, at 394 (“Congress [should] consider strengthening the incipency standard by amending the Clayton Act to prohibit acquisitions that ‘may lessen competition or tend to increase market power.’”).

tive effects and efficiencies and on the past performance of competition agencies and courts—subjects that are widely and appropriately debated but are beyond the scope of this investigation.¹³⁰ The focus here is on how best to analyze horizontal mergers. The better are the predictions, the more anticompetitive mergers can be stopped while at the same time the more procompetitive ones can be allowed. It is important not only to be optimally stringent but also to order the cases correctly. Intrusive medical procedures should be performed with the correct frequency, but it is even more critical to perform them on the right patients. Additional, unnecessary surgery on some patients does not offset but rather augments the loss from failing to perform surgery on other patients who truly need it.¹³¹

Third, as a matter of practice, we should focus on how this difficult task can better be performed. This article shows the structural presumption to be a stumbling block, not an effective crutch, despite appearances or wishful thinking to the contrary. Part I explains how market definition throws away information, so the structural presumption generates inferior outcomes unless it is employed entirely in a reverse-engineered fashion. The best inputs to market definition are all the information that pertains to anticompetitive effects, and the best way to use that information is directly, to form a best estimate of anticompetitive effects. Moreover, when contemplating the use of market shares, they are sometimes probative but only in what would generally be regarded as narrow markets. And even there, market shares are not nearly enough, and the correct market share information to use and how to use it correctly (if it is relevant at all) vary by context and do not correspond to the structural presumption's two components: the postmerger degree of concentration and how much the merger increases concentration, as superficially appealing as those measures may seem.¹³² Finally, the structural presumption's burden-shifting framework provides a false sense of security: it may seem to create clarity but actually is a fuzzily and inconsistently deployed Rube Goldberg machine that does not work and obstructs clear thinking. In reflect-

¹³⁰ See, e.g., sources cited *supra* note 65.

¹³¹ Indeed, as is familiar to economists, it is usually not that important to get the cutoff just right or, relatedly, to decide the closest cases correctly, because they often have expected costs and benefits that are nearly in balance. But it is very important to correctly classify the stronger cases on either side of the divide.

¹³² The allure of the structural presumption may be viewed as arising from what psychologists refer to as attribute substitution. See, e.g., Daniel Kahneman & Shane Frederick, *Representativeness Revisited: Attribute Substitution in Intuitive Judgment*, in *HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT* 49 (Thomas Gilovich, Dale Griffin & Daniel Kahneman eds., 2002). There are two aspects of this phenomenon relevant in the present context. First, market shares are a salient attribute, more so than are underlying, often subtle, and hard to measure determinants of anticompetitive effects. Second, the structural presumption substitutes a seemingly easier but incorrect question (should I choose Narrow or Broad?) for a harder but apt one (what is the likely magnitude of anticompetitive effects?).

ing on Part IV's criticism of the U.S. House Majority Staff Report's and Senate bill's advancement of structural presumptions, it is notable that most of the defects emphasized in this article are unknown to or disregarded by most anti-trust analysts, including those who participated in various roles in the process that ultimately generated the Report and proposed legislation. It thus should not be surprising that the associated documents and commentary—both for and against—reflect deep confusion on the most basic aspects of what is being proposed.

All of these criticisms suggest that we can operate far better simply by casting the structural presumption aside. To some unknown degree, agencies and some courts already do so, at least implicitly. But hard problems are more readily solved when the correct analysis—which for horizontal mergers is already well developed in some respects—is kept in focus rather than driven underground, employed indirectly, or eschewed altogether. Indeed, the more challenging is the problem, the more important it is to think clearly and to approach the task directly.

In U.S. civil litigation of merger challenges, it seems possible to enhance the system's quality through broader and more creative use of expertise. Court-appointed experts have long been permitted and have been suggested for anti-trust cases, even though they are little used.¹³³ In addition or instead, expert magistrates or advisers might be deployed to better structure litigation and decision-making. For example, they might help focus and clarify issues at the outset, structure the order of testimony to provide for consecutive or even parallel presentations on particular questions, aid in directing questions at both expert economists and industry insiders (including key employees of the merging parties), and more.¹³⁴ Firms contemplating mergers and agencies reviewing proposed transactions might behave differently—and better—from the outset if such procedures were anticipated. For those disputes that do proceed to court, more of the evidence will be on point, seemingly persuasive but actually deceptive lines of analysis will be harder to advance, and the most relevant conflicts will be cast in sharper relief.

In addition, early screening decisions by agencies are best made using the appropriate decision framework to process whatever information is then available rather than by reference to incoherent and economically misleading indicators. Because market definition and the structural presumption can never make something out of nothing and always misprocess whatever information

¹³³ See, e.g., J. Gregory Sidak, *Court-Appointed Neutral Economic Experts*, 9 J. COMPETITION L. & ECON. 359 (2013).

¹³⁴ See, e.g., ABA SECTION OF ANTITRUST LAW, PRESIDENTIAL TRANSITION REPORT: THE STATE OF ANTITRUST ENFORCEMENT 17–19 (Jan. 2017).

is available, they are counterproductive in this setting as well. When information is scarce, it is all the worse to ignore some of it and misuse the rest.

Performing merger analysis well is not easy. And presenting it in a cleaner, more straightforward fashion may make decision makers' task feel harder—contributing to their sense of unease. But no one wants his doctor to close her eyes to evidence and substitute soothing nostrums when making critical medical decisions in the face of complexity and uncertainty. Judges deciding merger cases often display remarkable effort to understand the issues and evidence in order to arrive at the correct outcome. Academics and agencies should do all they can to support these efforts rather than marketing a defective product in a manner that would violate the Federal Trade Commission's truth-in-advertising regulations if peddled to the public.

