Antitrust for the Modern Era

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Antitrust law is ill-adapted to perform its modern role, which includes securing competition in the digital-economy arena and enforcement measures against tech-giants and online platforms. Recent academic writings have consequently called for radical changes in antitrust law. Some have argued that the remedies currently available under antitrust law are insufficient, and others have even contended that new approaches to antitrust law's traditional goals are mandated. This Article suggests that such profound changes are, for the most part, unnecessary. The Article suggests an alternative measure. Specifically, it suggests that much can be achieved by updating antitrust law's starting point—market definition. Adopting this new starting point requires no legislative amendments or major shifts in the fundamental understanding of antitrust law. It can be done within existing frameworks and doctrines.

The alternative starting point suggested in this Article carries three main benefits. First, it allows antitrust law to be readily applied in areas in which it is currently failing. Second, it allows market definition—the cornerstone of most antitrust analyses—to overcome a major theoretical problem associated with it. Finally, it overcomes the practical shortcomings of the traditional starting point. Thus, the proposal in this Article not only adjusts antitrust law to modern markets, but also streamlines its application in traditional markets.

INTRODUCTION

In a recent decision, the U.S. District Court for the District of Columbia dismissed a lawsuit brought against Facebook by the Federal Trade Commission (FTC).[2] The FTC's argument that Facebook holds a dominant share of the market, in excess of 60%, and that it therefore has a dominant position, was found to be an unsupported assertion.[3] This assertion, the court found, could not survive in the Personal Social Networking services market, which is "an unusual, nonintuitive product market."[4]

This decision may appear odd. It would seem self-evident that Facebook has a large market share, and that it holds a dominant position by any reasonable interpretation of the term "dominant position." But whether or not the court was correct on the substantive issue, it was justified in insisting on a rigorous process to establish something that is intuitively clear. Antitrust law demands that markets be defined as a starting point for virtually all antitrust inquiries.[5]

The need for the methodology stems from the fact that substitutability is a matter of degree. Every product has numerous substitutes, each exerting a different degree of competitive pressure on the seller or sellers of the product on which the analysis is focused. Mere

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2. FTC v. Facebook, Inc., 560 F. Supp. 3d 1 (D.D.C. 2021). On the same date, the court also dismissed a parallel claim filed against Facebook by several states in *New York v. Facebook, Inc.*, 549 F. Supp. 3d 6, 14 (D.D.C. 2021). The states' claim was dismissed for laches and is therefore immaterial to the argument pressed in this Article. *Id.*

3. *FTC*, 560 F. Supp. 3d at 2.

4. *Id.*

5. *See* Ramsi A. Woodcock, *The Hidden Rules of a Modest Antitrust*, 105 Minn. L. Rev. 2095, 2098–2101, 2107 (2021) (explaining that *per se* illegality currently applies only to horizontal price fixing and surveying a host of practices which were previously subject to a *per se* illegality rule).

intuition may be either over- or under- inclusive. Competitive analyses must thus begin with an accurate assessment of the *degree* of substitutability between the product in question and its different substitutes. The "market" is, in essence, the group of close substitutes that exert immediate competitive pressure on a product. Market definition is the methodology that has been adopted across the globe as the standard starting point for nearly all antitrust inquiries.[6]

However, the methodology suffers from two major flaws. The first flaw is a practical one. The methodology is extremely difficult to employ. The reason is that the methodology essentially attempts to answer a hypothetical question: how many consumers will turn to substitutes if the price of the product is increased slightly? If many consumers will discontinue purchases, other products are obviously close substitutes for the product in question.[7] Thus, the core element of the process is an attempt to gauge consumers' hypothetical response to a hypothetical increase in the price of the product of interest. Because the process requires hypothesizing about a host of issues, it is a cumbersome economic exercise, and is ultimately an extremely costly method that results in little more than a guess.

In recent years the practical issues associated with the methodology have become a major impediment to the efficacy of antitrust law due to the constantly-growing role of the digital economy in the commercial world, and the rise of tech-giants and online platforms.[8] In order to prevail in an antitrust case, a plaintiff must demonstrate that competition in a specific market or in specific markets has been (or is likely to be) harmed.[9] The murkiness of the methodology and the unpredictability of the outcome allow for disparate market definitions that are all plausible, or at least possible.[10] This makes the outcome of an antitrust challenge uncertain. At the same time, the complexity of

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6. *See infra* Part I.A.

7. *See infra* notes 33–37 and accompanying text.

8. *See* Gregory Day & Abbey Stemler, *Are Dark Patterns Anticompetitive?*, 72 ALA. L. REV. 1, 8 (2020) ("With a combined market capitalization of $5.9 trillion, companies relying on platform technology lie at the heart of the modern economy.").

9. FTC v. Facebook, Inc., 560 F. Supp. 3d 1, 19–21 (D.D.C. 2021); United States v. AT&T Inc., 916 F.3d 1029, 1032 (D.C. Cir. 2019); *see* U.S. DEP'T OF JUST., *Mission* (July 20, 2015), https://www.justice.gov/atr/mission; Rebecca Klar, *Independent Business Groups Push Biden Against FTC, DOJ Appointees with Ties to Big Tech*, THE HILL (Feb. 4, 2021), https://thehill.com/policy/technology/537222-independent-business-groups-push-biden-against-ftc-doj-nominees-with-ties.

10. *See* Benedict Evans, *What's Amazon's Market Share?*, BEN-EVANS.COM (Dec. 19, 2019), https://www.ben-evans.com/benedictevans/2019/12/amazons-market-share19 (raising the question of whether Amazon's market share is 5% or 35%); Kevin Indig, *How Big Is Google's Market Share Really?*, KEVIN-INDG.COM (Nov. 15, 2020), https://www.kevin-indig.com/blog/how-big-is-googles-market-share-really/ (listing six major problems with identifying Google's market share and noting that these are applicable to other markets as well).

the methodology makes any adversarial process extremely lengthy and costly. These two features serve tech-giants well when combatting their opponents in court. There is always a reasonable chance that the powerful defendants will prevail, and the process can be expected to drain their adversaries' resources. One need only look at the lawsuits launched against Microsoft at the turn of the millennium to be persuaded of this point. Numerous states and the federal government attempted to challenge Microsoft's tying of its internet browser, Internet Explorer, to its operating system.[11] This tying practice jeopardized the viability of Microsoft's competitor – Netscape. The various proceedings against Microsoft went on for nearly six years, the equivalent of eternity in terms of a business's life cycle.[12] And even then, the outcome was far from a governmental victory. In the courtroom, the lawsuit was settled.[13] On the commercial battlefield, Netscape had by then been defeated.[14]

Private plaintiffs bringing antitrust suits against these tech-giants are even less likely than the government to prevail. Often, they cannot afford to litigate against these mammoths given the uncertainty of the outcome and the unimaginable costs of a lawsuit that entails complex economic issues.[15]

Another contemporary practical issue with the methodology is that it is impossible to employ in digital markets. The methodology calls

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11. United States v. Microsoft Corp., 87 F. Supp. 2d 30, 39 (D.D.C. 2000); United States v. Microsoft Corp., 97 F. Supp. 2d 59, 66–71 (D.D.C. 2000); United States v. Microsoft Corp., 253 F.3d 34, 64, 66 (D.C. Cir. 2001).

12. For key developments see WIRED, U.S. v. Microsoft*: Timeline* (Nov. 4, 2002), https://www.wired.com/2002/11/u-s-v-microsoft-timeline/ (dating the beginning of the relevant proceedings to October 27, 1997).

13. U.S. DEP'T OF JUST., U.S. v. Microsoft *Corporation Information on the Settlement* (Nov. 20, 2015), https://www.justice.gov/atr/usdoj-antitrust-division-us-v-microsoft-corporation-information-settlement#docs; *see also* Ina Fried, *Court Upholds Microsoft-Justice Dept. Settlement*, CNET (July 1, 2004), https://www.cnet.com/news/court-upholds-microsoft-justice-dept-settlement/.

14. W. Joseph Campbell, *The Rise and Fall of Netscape*, THE BALT. SUN (Aug. 8, 2016), https://www.baltimoresun.com/opinion/op-ed/bs-ed-netscape-lessons-20160808-story.html.

15. Yotam Kaplan & Ittai Paldor, *Social Justice and the Structure of the Litigation System*, N.C. L. Rev. (forthcoming 2022) (manuscript at 6–7), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4046524; *see* also Deborah L. Rhode, *Access to Justice*, 69 FORDHAM L. REV. 1785, 1785 (2001); Gideon Parchomovsky & Alex Stein, *Empowering Individual Plaintiffs*, 102 CORNELL L. REV. 1319, 1319, 1331 (2017); Gideon Parchomovsky & Alex Stein, *The Relational Contingency of Rights*, 98 VA. L. REV. 1313, 1314–21 (2012); Judith Resnik, *Diffusing Disputes: The Public in the Private of Arbitration, the Private in Courts, and the Erasure of Rights*, 124 YALE L.J. 2804, 2826 (2015); F. Patrick Hubbard, *The Nature and Impact of the "Tort Reform" Movement*, 35 HOFSTRA L. REV. 437, 471–72 (2006) (in the specific context of tort law).

for a hypothetical price increase of 5%.[16] When consumers do not pay for a product at all—as is often the case in digital markets and in online platforms—a hypothetical price increase of a certain percentage is meaningless.[17]

In recent years, academics and others have forcefully argued that antitrust law should be utilized to address the concentration of power in the hands of very few tech-giants—chiefly Google, Amazon, Facebook, and Apple.[18] Regulators have been attentive to these calls, and investigations and lawsuits have been launched by state attorneys general, the Department of Justice (DOJ), and the FTC against these tech-giants.[19] But as the example at the beginning of this Article demonstrates, these efforts have yet to bear fruit. Even the starting point remains highly contestable.

As fatal as they are to antitrust law, the practical issues pale in comparison to a major theoretical problem. In an influential article published in 2010, Professor Kaplow showed that the methodology is logically flawed.[20] Due to an overlooked element, the process is in fact a logical tautology (at best): it begins with an estimate of the degree of market power, which is based on nothing more than intuition.[21] And the whole process can in fact do no more than bring the adjudicator back to this initial estimation.[22] The process offers a scientific guise—but is the logical equivalent of alchemy.

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16. *See* U.S. Dep't of Just. & Fed. Trade Comm'n, Horizontal Merger Guidelines 10 (2010), https://www.justice.gov/atr/horizontal-merger-guidelines-08192010 [hereinafter Horizontal Merger Guidelines].

17. John M. Newman, *Antitrust in Zero-Price Markets: Applications*, 94 Wash. U. L. Rev. 49, 65 (2016).

18. *See generally* Lina M. Khan, Note, *Amazon's Antitrust Paradox*, 126 Yale L.J. 710 (2017) (arguing that antitrust's current framework is unequipped to capture the architecture of market power in the modern economy and calling for a reorientation of antitrust's traditional goals); Herbert Hovenkamp, *Antitrust and Platform Monopoly*, 130 Yale L.J. 1952, 2001–39 (2021) (discussing antitrust remedies against digital platforms). *See also* Day & Stemler, *supra* note 8, at 24 (arguing that antitrust law should be utilized to address digital manipulation).

19. *See* Tony Romm, *The Justice Department Is Preparing a Potential Antitrust Investigation of Google*, Wash. Post (May 31, 2019), https://www.washingtonpost.com/technology/2019/06/01/justice-department-is-preparing-potential-antitrust-investigation-google/; Brian Fung, *Facebook Must Be Broken Up, the US Government Says in a Groundbreaking Lawsuit*, CNN (Dec. 10, 2020), https://edition.cnn.com/2020/12/09/tech/facebook-antitrust-lawsuit-ftc-attorney-generals/index.html; Brian Fung, *The Antitrust Lawsuits Against Google Just Keep Coming*, CNN (Dec. 17, 2020), https://edition.cnn.com/2020/12/17/tech/google-antitrust-lawsuit/index.html.

20. Louis Kaplow, *Why (Ever) Define Markets?*, 124 Harv. L. Rev. 437, 515 (2010) [hereinafter *Market Definition*]; Louis Kaplow, *Market Definition Alchemy*, 57 Antitrust Bull. 915, 951 (2012) [hereinafter *Alchemy*].

21. Kaplow, *Market Definition*, *supra* note 20, at 471.

22. *Id.*

Consequently, as has been observed, "the handwriting is on the wall for market definition."[23] However, "to this day, no one has advanced anything better."[24] It is this gap that the current Article fills by developing an alternative method that can serve as the starting point for antitrust analyses. Specifically, this Article suggests assessing the degree of substitutability on a snapshot of actual price-differentials. Similar to the existing methodology, the proposed process begins by identifying *which* products are substitutes for the product on which the analysis is focused.[25] The method diverges from the current methodology at the second stage – the stage of assessing the *degree* of substitutability.[26] Rather than determining this degree through a hypothetical exercise, the proposed method identifies those products that were sold for a price that is, and has been, within a close price range to the price of the product in question. All products within a price-range of 5% of the product in question—those that are clearly the closest substitutes—are considered the relevant market for purposes of antitrust analyses. No more is required at the market definition stage.

To use an illustrative example, consider a hypothetical merger between Apple and Samsung. There are other smartphone manufacturers: Huawei, Nokia, and Motorola, to name a few. But what is the market in which Apple and Samsung compete? Are they two of many competitors in the overall smartphone market, or are they the only two competitors in what consumers consider to be the high-end smartphone market? Under the existing methodology, it is all but impossible to decide which of the two market definitions is correct. The method suggested in this Article would do so swiftly. As will be demonstrated, a quick search of smartphone manufacturers' websites vindicates intuition, according to which iPhones and Galaxy phones constitute a separate market.[27] Challenging Apple and Samsung's hypothetical merger would become extremely simple.

The method developed in this Article exploits the understanding that price differences between substitutes are a *consequence* of the degree of substitutability. Substitutability can therefore be deduced

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23. Daniel A. Crane, *Market Power Without Market Definition*, 90 Notre Dame L. Rev. 31, 33 (2014).

24. David Scheffman et al., *Twenty Years of Merger Guidelines Enforcement at the FTC: An Economic Perspective*, 71 Antitrust L.J. 277, 282 (2003).

25. At times, the practice or merger under scrutiny may be relevant to a number of products, and a 'market' must be identified for each product. This is no different from the application of the current methodology.

26. Horizontal Merger Guidelines, *supra* note 16, at 8–11.

27. *See infra* notes 83–84 and accompanying text.

from such differences. Simply put, if the price of two functionally similar products is nearly the same, this indicates that the products are close substitutes for each other. Conversely, if their prices are different, this indicates that they are not close substitutes.

The method developed in this Article overcomes both the theoretical shortcomings of the existing methodology and its practical deficiencies. It requires no percentage-price increase, so it can easily be applied to products supplied for no monetary consideration, as is the case for a host of products and services in the modern commercial world—for example the products and services supplied by YouTube, WhatsApp, Instagram, Facebook, and the like. The method is in line with, and can help implement, the FTC's updated policy seeking to streamline antitrust challenges and make antitrust law more useful in the modern economy.[28]

The remainder of this Article is structured as follows: Part I elaborates on the role of market definition, its theoretical underpinnings, and its importance. Part II elaborates on the shortcomings of the existing methodology and explains the need for an alternative. Part II also shows that, to date, no alternative of general applicability is available. Part III develops an alternative method that can substitute for market definition as a starting point for antitrust analyses. Part IV explains how this alternative overcomes the shortcomings of market definition. Part V then addresses two limitations of the method developed in this Article. A brief conclusion follows.

I. MARKET DEFINITION

A. *The Role of Market Definition*

Antitrust law's focal point is market power – the power over price and quantity.[29] The key question in antitrust cases is whether the conduct in question has created, entrenched, or enhanced market power or will create, entrench, or enhance market power.[30] For practically all

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28. FEDERAL TRADE COMM'N, *FTC Rescinds 2015 Policy That Limited Its Enforcement Ability Under the FTC Act* (July 1, 2021), https://www.ftc.gov/news-events/press-releases/2021/07/ftc-rescinds-2015-policy-limited-its-enforcement-ability-under.

29. *See e.g.*, ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF 116–117 (1993); Benjamin Klein, *Market Power in Antitrust: Economic Analysis After* Kodak, 27 J. REPRINTS ANTITRUST L. & ECONS. 617, 620 (1997).

30. *See, e.g.*, E. Food Servs., Inc. v. Pontifical Cath. U. Servs. Ass'n, 357 F.3d 1, 5 (1st Cir. 2004). Cartelistic horizontal agreements such as price fixing are subject to a *per se* illegality rule and thus do not require a comprehensive rule of reason analysis. *See, e.g.*, Robert Pitofsky, *The Political Content of Antitrust*, 127 U. PA. L. REV. 1051, 1058 (1979). But even in such cases one must know if the agreeing parties are competitors, that is if the agreement is truly a horizontal one. More importantly, *per se* illegality rules are the rare exception. *See* D. Daniel Sokol, *The*

practices under scrutiny—mergers, tie-ins, vertical agreements, exclusivity arrangements, and so on—the question mandates a comprehensive analysis of the relevant market circumstances under the rule of reason.[31] And it is impossible to conduct such an analysis without first assessing the market power of the firm (or firms) in question.

Market power is, however, practically impossible to measure directly. A key component of the formula expressing market power, the Lerner Index, is marginal cost.[32] And marginal cost is unmeasurable.[33] The inability to assess market power directly has resulted in a focus on market *share* as a proxy for market *power*,[34] because there is a strong positive correlation between a firm's (or firms') market share and its (or their) market power.[35] All else equal, the larger a firm's market share, the greater its market power; that is, the greater its control over market price and quantity.[36] The formal illustration of this correlation is presented in the margin.[37] The logic behind it is intuitive. When a firm raises the price of its product, it earns more on units of the product it continues to sell. At the same time, it loses some sales, because some customers discontinue purchases. Additionally, both existing and potential competitors attempt to increase their output to meet the now-unsatisfied demand. The firm raising the price gains from the increase in per-unit profits but loses from those sales that are no longer made at the elevated price. The first effect is more pronounced the

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Transformation of Vertical Restraints: Per Se Illegality, The Rule of Reason, and Per Se Legality, 79 ANTITRUST L.J. 1003, 1011–12 (2014). On the justifications for *per se* illegality rules, see Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division*, 74 YALE L.J. 775, 783–805 (1965). *But see* Alan Grant & Chetan Sanghvi, *The Economic Foundations and Implications of the Per Se Rule*, 2021 COLUM. BUS. L. REV. 92 (2021) (challenging the justification for the rule).

31. *See* Woodcock, *supra* note 5, at 2100. On the evolution of the rule of reason and the scope of the analysis conducted under this rule see Andrew I. Gavil & Steven C. Salop, *Probability, Presumptions and Evidentiary Burdens in Antitrust Analysis: Revitalizing the Rule of Reason for Exclusionary Conduct*, 168 U. PA. L. REV. 2107, 2114–19 (2020).

32. The Lerner Index is given by L=P-MCMC, where *P* is price and *MC* is marginal cost. *See* Kaplow, *Market Definition*, *supra* note 20, at 446.

33. *See* Crane, *supra* note 23, at 55. Phillip Areeda & Donald F. Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 HARV. L. REV. 697, 700–13 (1975).

34. *See* Robert G. Harris & Thomas M. Jorde, *Antitrust Market Definition: An Integrated Approach*, 72 CAL. L. REV. 3, 14–20 (1984).

35. *See* E. Food Servs., Inc. v Pontifical Cath. U. Servs. Ass'n, 357 F.3d 1, 6 (1st Cir. 2004).

36. *See, e.g.*, United States v. Gen. Dynamics Corp., 415 U.S. 486, 501 (1974). A formal illustration of this correlation is developed in William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 27 J. REPRINTS FOR ANTITRUST L. & ECONS. 493, 495 (1981).

37. The index for measuring market power, the Lerner Index, is expressed using the following formula: $L=P-MCMC= \frac{1}{\varepsilon_f}= \frac{\varepsilon_d + (1-S)\varepsilon_r}{}$, where *P* is price, *MC* is marginal cost, ε_d is the market elasticity of demand, ε_f is the firm's elasticity of demand, *S* is the firm's market share (thereby making (*1-S*) competitors' market share), and ε_r is rivals' elasticity of supply. Kaplow, *Market Definition*, *supra* note 20, at 44.

larger the firm's market share is. The more sales a firm makes, the more units it will continue to profit from. Conversely, the second effect is attenuated the larger the firm's market share. Competitors' ability to increase output has a smaller impact the smaller these competitors' market share is.[38]

Therefore, the larger a firm's market share, the more it gains from a given price increase. There is thus a strong positive correlation between a firm's market share and its market power. Due to the impossibility of measuring market power, market share serves as an important proxy.

B.   *The Current Methodology*

In order to estimate a firm's (or firms') market share, one must naturally first identify the market. The contours of the "market" are, however, not bright line boundaries. Every product has many substitutes, some of which are close substitutes and some of which are distant substitutes. As the Canadian Competition Tribunal observed:

> "One can conceptually think of a series of concentric areas whereby as the price rises the radii lengthen."[39]

The first step of the market share analysis is therefore identifying the group of products that consumers consider close-enough substitutes for the product in question to be included in the "market" for purposes of establishing market shares.[40]

It is here that the market definition methodology comes into play. The technique employed is known as the SSNIP, an acronym for "Small but Significant Non-transitory Increase in Price."[41] The SSNIP test, also referred to as the Hypothetical Monopoly Test, is designed to assess the degree of substitutability between the product in question and its substitutes by looking at the net effect of a price-increase on a firm's profits.[42] The smallest group of products being considered as a standalone market is assumed to be controlled by a single manufacturer or seller (the hypothetical monopoly).[43] Then, the adjudicator

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38. Small existing competitors are often referred to as "the competitive fringe." *See, e.g.*, Janusz A. Ordover et al., Comment, *Herfindahl Concentration, Rivalry, and Mergers*, 95 Harv. L. Rev. 1857 (1982).

39. *Canada (Director of Investigation and Research) v. Hillsdown Holdings Ltd.,* Can LII 2092, 16 (1992).

40. . In formal economic terms, the endeavor is an attempt to measure a firm's own demand elasticity, although elasticity of demand if in fact determined not only by the competitive pressure exerted by close substitutes. *See infra* Part II.B.

41. Horizontal Merger Guidelines, *supra* note 16, at 8–9.

42. Kaplow, *Market Definition*, *supra* note 20, at 466.

43. Horizontal Merger Guidelines, *supra* note 16, at 8–9.

asks whether this hypothetical monopoly would profit from imposing a small but significant, non-transitory, price increase.[44] The figure normally considered is a 5% increase.[45] If the price increase would have been profitable, the inference to be drawn is that relatively few consumers would have been lost to substitutes (because the loss would be offset by the increased revenue from those consumers who continued to purchase the product at elevated prices). This, in turn, implies that the product in question is relatively isolated from competitive pressure exerted by substitutes, and can be regarded as a standalone market. If the opposite is true—that is, if the price increase would *not* have been profitable—the implication is that a large number of consumers would have shifted demand to other products, which suggests that there is a group of products that consumers consider to be close substitutes for the product in question.[46] When this is the case, the closest group of substitutes is added into the market, and the test is conducted again for the broadened group (or "market"). The exercise is repeated until the price of the products included in the group can be profitably raised by 5% for a non-transitory period (normally, one year).[47] The smallest group of products satisfying the SSNIP test is defined as the product market.[48] Once the product market has been identified, the relevant firms' market share becomes obvious, and an initial assessment of market power becomes almost immediate.

In merger control, a second step must follow. Merger review is normally conducted before the merger has been consummated.[49] Therefore, after the merging firms' *current* degree of market power has been determined, a second stage of predicting the merged firm's post-merger market power must follow.[50] At this stage, additional factors

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44. *Id.*

45. *Id.* at 10.

46. *Id.* at 8.

47. *Id.* at 9.

48. Once the product market has been defined, antitrust authorities also consider the geographic area in which the producer competes. *Id*. § 4.1. This process is known as *geographic market definition. See id.* § 4.2. Geographic market definition is beyond the scope of this Article.

49. This is the case for all mergers that require pre-merger notification under the Hart, Scott, Rodino Antitrust Improvements Act of 1976, 15 U.S.C. § 18a; *see* FTC, WHAT IS THE PRE-MERGER NOTIFICATION PROGRAM? AN OVERVIEW 1 (2009), https://www.ftc.gov/sites/default/files/attachments/premerger-introductory-guides/guide1.pdf.

50. *See* United States v. Gen. Dynamics Corp., 415 U.S. 487, 510 (1974); *see also* HORIZONTAL MERGER GUIDELINES, *supra* note 16, at 1 ("Most merger analysis is necessarily predictive, requiring an assessment of what will likely happen if a merger proceeds as compared to what will likely happen if it does not.").

that are not necessarily captured by market shares are considered.[51] For example, rivals' elasticity of supply—the speed and cost at which competitors can divert means of production to satisfy unmet demand—is an important determinant of the competitive threat posed by a merger.[52] But pre-merger market power is nonetheless a key factor in the decision.

Incorporated in the 1982 version of the Horizontal Merger Guidelines,[53] market share has become the almost invariable starting point of the analysis.[54] In reality, market definition is much more than a mere starting point. It is a key element of the analysis, and is often determinative of the outcome, because it offers a persuasive (although formally tentative) conclusion regarding market power.[55] As the FTC attempts to broaden the scope of antitrust law and apply it to address types of conduct not under its traditional purview,[56] he importance of a quick understanding of the competitive situation increases.

II.   The Shortcomings of the Methodology

Market definition has always been challenging in real-life cases. A decade ago, it was also proven illogical. The shortcomings of the methodology are reviewed next.

A.   *The Impracticability of the Methodology*

The first problem with the market definition methodology is that it is impractical. The SSNIP test requires assuming a hypothetical price increase imposed by a hypothetical monopoly and hypothesizing about how different groups of consumers will respond to such a hypothetical price increase.[57]

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51. *Gen. Dynamics Corp.*, 41 U.S. at 522–27; United States v. Waste Mgmt., Inc. 743 F.2d 976, 982–83 (1984).

52. *See generally* Landes & Posner, *supra* note 36. Some have even suggested that defining markets focusing solely on demand-side considerations and ignoring supply-side substitution is erroneous. *See* Rebel Oil Co. v. Atl. Richfield Co., 51 F.3d 1421, 1436 (9th Cir. 1995); Lantec, Inc. v. Novell, Inc., 146 F. Supp. 2d 1140, 1147 (D. Utah 2001); Nobody in Particular Presents, Inc. v. Clear Channel Commc'n., Inc., 311 F. Supp.2d 1048, 1087 (D. Colo. 2004).

53. Horizontal Merger Guidelines, *supra* note 16.

54. In the context of merger analysis, it has even been argued that market definition is a prerequisite, given the language of Section 7 of the Clayton Act, 15 U.S.C. § 18 (1914). *See* Roger D. Blair & Jill Boylston Herndon, *Market Definition: An Introduction*, 28 J. Reprints for Antitrust. L. & Econs. 3, 5 (1998); *see also* Lantec, *supra* note 43; Harris & Jorde, *supra* note 34, at 4. On the evolution of merger analysis throughout the various revisions of the Horizontal Merger Guidelines, see Scheffman et al., *supra* note 24, at 282–86.

55. On the determinative effect of the market-definition analysis and conclusion, see Crane, *supra* note 23, at 69.

56. *See supra* notes 19–22.

57. Horizontal Merger Guidelines, *supra* note 16, § 4.1.2.

In the abstract, the effects of a price increase are easy to predict: some consumers will discontinue purchases, resulting in lost revenue. And some consumers will continue to purchase the product, resulting in increased per-unit profits. But what the SSNIP is geared at is determining which effect will outweigh the other. This determination requires approximating the size of each group with a large degree of accuracy, an impractical task when the scenario considered is a hypothetical one. An attempt to assess the number of consumers that would have shifted consumption in response to the price being hypothetically raised by a specific amount is little more than a guess.[58]

Theoretically, past experience may be revealing. One can look at past price increases and learn of substitutability from consumers' responses to those increases. But this possibility offers little relief. First, the SSNIP test is often conducted in industries in which prices have been relatively stable for long periods of time. And price fluctuations that date long back are not indicative of the responses of contemporary consumers to similar price increases.

Second, even relatively recent price fluctuations will normally be of little help. The SSNIP requires holding the price of all other products constant.[59] The reason is that the analysis attempts to measure the competitive pressure exerted by substitutes.[60] Past instances in which both the price of the product being considered as the candidate market *and* the price of its substitutes changed are not helpful. For example, if the prices of apples and pears increased or decreased in the past, this will tell the adjudicator little about their substitutability. Only idiosyncratic price increases of the product in question are potentially useful. But such idiosyncratic price increases are unlikely absent a change in the competitive structure. Therefore, even recent price fluctuations are not a helpful substitute for the SSNIP test.

The problem of the SSNIP test's impracticability is further exacerbated by the fact that the benchmark against which the (hypothetical) response to the (hypothetical) price increase is compared, is itself hypothetical. The benchmark for the SSNIP analysis is the *competitive* price of the product in question; one must conduct the SSNIP test assuming the price of the product was the competitive one, not its actual price.[61] Prevailing market prices already reflect any degree of market power that is possessed by the seller or sellers of the product

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58. *See infra* note 62 and accompanying text.

59. Horizontal Merger Guidelines, *supra* note 16, § 4.1.1.

60. *Id.*

61. Ioannis Kokkoris, *The Concept of Market Definition and the SSNIP Test in the Merger Appraisal*, 26 E.C.L.R. 209, 211–13 (2005).

in question. At the extreme, if the product is sold by a monopoly, prices will already be at their monopolistic level and any price increase, however trivial, will be unprofitable. In order to assess the degree to which the product in question is isolated from competition, one must inquire whether or not it would have been possible to profitably raise its price by 5% from the competitive benchmark.[62] But as perfect competition is a theoretical construct,[63] one cannot even approximate, let alone know, what the competitive price would have been.

Finally, the hypothetical exercise is normally repeated more than once. The exercise begins with the closest set of substitutes. But if the SSNIP is not satisfied, the next-best substitute is added, and the exercise is repeated until the SSNIP has been met.[64] This means conducting the test more than once.[65] Repetition of the same hypothetical process further exacerbates the problems associated with it.[66]

To add to the long-recognized practical issues associated with its application, the SSNIP also suffers from a problem that is unique to the analysis of digital economy markets—the problem of zero-price markets. In the digital economy, many products are provided to consumers for no monetary consideration. Google's search engine, Gmail, YouTube, WhatsApp, Facebook, Twitter, and Instagram, for example, all provide consumers with a product or service that consumers do not directly pay for. To be sure, this does not mean that consumers are not actually charged for the service. They pay by devoting attention and time to advertisements or by allowing the service providers to obtain personal data and information which is then used to target these consumers.[67] But in terms of applying the SSNIP test, this creates an in-

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62. Using actual market prices as the benchmark has come to be known as the "cellophane fallacy", following the ruling in *United States v E. I. Du Pont de Nemours & Co.*, 351 U.S. 377, 395–96 (1956). *See* Kokkoris, *supra* note 61, at 211.

63. *See* EDWARD HASTINGS CHAMBERLIN, THE THEORY OF MONOPOLISTIC COMPETITION: A RE-ORIENTATION OF THE THEORY OF VALUE 77–79 (7th ed. 1960).

64. HORIZONTAL MERGER GUIDELINES, *supra* note 16, § 9. Kaplow, *Market Definition*, *supra* note 20, at 439.

65. HORIZONTAL MERGER GUIDELINES, *supra* note 16, § 4.1; Marc Remer & Frederick R. Warren-Boulton, United States v. H&R Block*: Market Definition in Court Since the 2010 Merger Guideline*, 59 ANTITRUST. BULL. 599, 602 (2014).

66. Robert H. Lande & James Langenfeld, *From Surrogates to Stories: The Evolution of Federal Merger Policy*, 11 ANTITRUST 5, 7 (1997); *see also* Paul Geroski & Rachel Griffith *Identifying Antitrust Markets*, *in* THE INTERNATIONAL HANDBOOK OF COMPETITION 5–6 (2005). For an illustrative example (in the context of summary judgment) see *Nobody in Particular Presents, Inc. v. Clear Channel Commc'n., Inc.*, 311 F. Supp. 3d 1048, 1081, 1084.

67. *See generally* Daniel G. Goldstein et al., *The Economic and Cognitive Costs of Annoying Display Advertisements*, 51 J. MARKETING RES. 742 (2014); *see also* Rani Molla, *The Cost of an Ad-Free Internet: $35 More Per-Month*, VOX (June 24, 2019), https://www.vox.com/recode/2019/

surmountable problem. As the price charged is zero, a 5% price-increase is meaningless, so the SSNIP cannot be applied.[68] Regardless of the regular difficulty in applying it—a troubling issue in its own right—the SSNIP is simply unsuitable for modern markets.

B.   The Theoretical Shortcomings of the Methodology

In the previous Part, I have shown that the market definition methodology is impractical, certainly in modern markets. In this Part, I focus on its theoretical flaws. In a seminal article published in 2010, Professor Kaplow established that the methodology is not a persuasive one even on a purely theoretical level.[69] In fact, it is completely illogical, and requires the equivalent of alchemy.[70]

To see why, it is helpful to begin with the correlation between market share and market power in the homogeneous goods' markets. Homogeneous goods are goods that are viewed by consumers as perfect substitutes for one another.[71] For example, consumers might view different brands of oranges as identical for all purposes, or as extremely similar. When homogeneous goods are considered, the formula expressing market power as a function of market share "yields the correct measure of market power without any need to engage in further analysis of market definition, regardless of how many substitutes may exist and how close some of the substitutes may be."[72] Market power in the homogeneous goods' market can therefore be derived from market share with precision, if one knows rivals' elasticity of supply and market demand elasticity.[73] Even if one does not know these elas-

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6/24/18715421/internet-free-data-ads-cost. For an analysis of the value of attention see Day & Stemler, *supra* note 8, at 8–10.

68. *See* Digital Reg. Platform, *Approach to Market Definition in a Digital Platform Environment* (Aug. 26, 2020), https://digitalregulation.org/approach-to-market-definition-in-a-digital-platform-environment/. A possible alternative would be to apply the SSNIP by (hypothetically) increasing the amount of time consumers are forced to spend on watching commercials by five percent or by increasing the amount of information collected by the service-providers by five percent. Organisation for Economic Co-operation and Development, The Role and Measurement of Quality in Competition Analysis 11–19 (2013), http://www.oecd.org/competition/Quality-in-competition-analysis-2013.pdf [hereinafter OECD Quality Report] Such tests are sometimes referred to as SSNDQ (Small but Significant Non-transitory Decrease in Quality) tests. *Id.* at 14. But these alternatives are extremely impractical and are even more complicated than the standard SSNIP. *See id.* at 9, 79; Ariel Ezrachi & Maurice E. Stucke, *The Curious Case of Competition and Quality*, 3 J. Antitrust Enforcement 227, 236 (2015).

69. *See generally* Kaplow, *Market Definition*, *supra* note 20.

70. Kaplow, *Alchemy*, *supra* note 20, at 915.

71. Kaplow, *Market Definition*, *supra* note 20, at 448.

72. *Id.* at 453, 458, 469.

73. *Id.* at 451–53.

ticities, an initial appreciation of market power is immediate, because market power is positively correlated to market share.[74]

However, the key feature of market definition is the move from the homogeneous market to the heterogenous one (and subsequently, if the SSNIP is not satisfied, to more heterogeneous candidate markets).[75] At this stage, the market is redefined to include additional products, which are—from consumers' perspectives—more distant substitutes than those previously considered. The move to the redefinition stage introduces three major problems that plague the analysis.

First, the move from a homogeneous product market setting to a heterogeneous one is either redundant or impossible. As mentioned, if one knew the market elasticity of demand and rivals' elasticity of supply in the original (homogeneous goods') market, one could infer the firm's own elasticity of demand directly, with no need for market definition.[76] The firm's market power in the heterogeneous goods' market is determined by its market share in this market, and by rivals' elasticity of supply and market elasticity of demand in this market. The only way to plug a number for these elasticities in the broadened market is by using the original elasticities in the narrow market, adjusted to the broader market.[77] But had elasticities in the narrow market been known, the whole endeavor would have been redundant, and the firms' market power could have been pinpointed with no need for market redefinition. Put differently, to figure out what (market) demand elasticity and rivals' supply elasticity in the *new* market are, one must "undo" the broadening of the market. But if that were helpful, there would have been no need to broaden the market in the first place.

An example may be useful. Consider a carpenter who makes chairs. If chairs are not a standalone market (the SSNIP is not satisfied), then benches, the closest substitutes, are added into the market. In order to assess the carpenter's market power in the "chair-and-bench" market,

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74. On the correlation see Kaplow, *Market Definition*, *supra* note 20, at 451–53.

75. *Id.* at 453.

76. This is because the firm's own elasticity of demand, its market power, is insensitive to the question of *which* products consumers switch to. This is shown in Kaplow's expression (*3*). *Id.* at 450.

77. Formally, the Lerner Index in the broadened market is given by L=P-MCMC= 1åf= Sd+ (1-S)r, where S is the firm's market share in the broadened market, d is the demand elasticity of the broadened market, and r is rival's supply elasticity in the broadened market. Kaplow, *Market Definition*, *supra* note 20, at 455. These unknown values can be expressed in terms known from the homogeneous market, but this requires adjusting the formulas to the homogeneous-goods-market formula (*see* Kaplow's equation *(6)* for the new market elasticity of demand: d= SSåd, and equation *(7)* for rival's (new) supply elasticity: r=1-SS(1-s)sår), which is essentially undoing the (re)definition process). *Id.* at 456.

the court or the agency must know what demand for chairs and benches is, and how quickly other carpenters can transfer means of production to chairs and benches. If this is known for the "chairs" market, broadening the market is redundant, because market power could have already been established. If this is not known, then the move to the heterogeneous "chairs-and-benches" market is impossible.

A second problem with the methodology is that there is no standard reference market. There is no specific level of market power associated with any specific market share. Even if a market has somehow been properly defined, and a firm's market share in that market has been pinpointed, the inference with respect to market power is unclear. For example, what does a 75% market share imply in terms of market power? Specific market shares must somehow be associated with corresponding degrees of market power. A standard reference market "must be shared if communication employing market share is to enable common understanding."[78]

Finally, there is no criterion for the choice of one market definition over the other. Even assuming that some standard reference market exists, different market definitions may over- or underestimate the precise degree of market power. The adjudicator must then choose between two (or more) candidate markets. The correct market is, of course, the one that most accurately reflects the degree of market power the firm possesses. But this implies that in order to choose between competing market definitions, the adjudicator must have some preliminary idea of how much market power the firm in question has.

Suppose, for example, that the FTC is contemplating two different market definitions. In one, the narrow market, a firm's market share is 70%, which—according to the standard reference market we assume has been put in place—indicates significant market power. When the next-best substitute is brought in and the market is broadened, the firm's market share drops to 30%, which indicates insignificant market power.[79] The FTC must then decide which of these market definitions is the correct one. The natural criterion for selection is the degree to which each of the market shares reflects the firm's market power. But if market definition is chosen based on some preliminary estimation ("guesstimation," as it is termed by Kaplow) of market power, then the methodology has merely brought the adjudicator

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78. Kaplow, *Market Definition*, *supra* note 20, at 463.
79. The numeric example largely follows that presented in Kaplow. *Id.* at 462–65.

back to this preliminary estimation. The whole process is a mere tautology.

Moreover, if the firm's precise market power corresponds to a 25% market share or a 40% market share, the second candidate market will still be chosen (because 30% approximates the firm's market power more accurately than 70%), but the estimation of market power will not accurately reflect the firm's market power. The market will be defined as the second market, the firm's market share in the market will be found to be 30%, and its market power will be found to be that associated with a 30% market share (according to the standard reference market that we assume has somehow been put in place). But the firm's market power is actually greater or smaller (because by assumption it corresponds to a 40% or 25% market share). Thus, when the process is not a mere tautology, it is a worsening of the original guess.[80]

Based on these three critiques of market definition, Professor Kaplow argued that the market definition process is logically flawed and should never be undertaken.[81] Professor Kaplow's argument has been subject to a debate, [82] but his key points remain unchallenged, and it is now relatively clear that market definition is logically flawed. And even if it is helpful as a very crude starting point,[83] it is, as explained, impossible to employ in modern markets.

C.   *Potential Alternatives*

In non-merger cases, an alternative to market definition, namely direct evidence, is sometimes available. When direct evidence of competitive harm is available, federal agencies and courts have been willing to look at this evidence in lieu of the standard focus on market definition.[84]

However, the "direct effects" alternative is unsatisfactory as a method of general application. The different indicators of direct effects on competition suffer from a host of limitations which have been surveyed by Professor Crane. It is helpful to briefly recapitulate this account.[85]

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80. *Id.* at 467.

81. *Id.* at 440, 502–06.

82. *See* Duncan Cameron et al., *Good Riddance to Market Definition?*, 57 Antitrust Bull 719, 719–20 (2012); Malcom B. Coate & Joseph J. Simons, *In Defense of Market Definition*, 57 Antitrust. Bull. 667 (2012).

83. Coate & Simons, *supra* note 82, at 671.

84. James A. Keyte & Neal R. Stoll, *"Markets - We Don't Need No Stinking Markets!" The FTC and Market Definition*, 49 Antitrust Bull. 593, 594 (2004).

85. Crane, *supra* note 23.

The first potential indicator is profit margins. Theoretically, if a firm's profit margins are large, this indicates that it possesses market power. But this option has only surface appeal. Slim profit margins do not necessarily imply lack of market power, because monopoly profits may be consumed internally by firms.[86] And large margins do not necessarily indicate the existence of market power, mainly because firms allocate (accounting) profits to specific products based on considerations entirely unrelated to competitive issues (such as tax considerations). Moreover, even if there was some objective way to measure accounting profits, this would not be helpful because accounting profits are distinct from economic profits, which are the real indicator of market power.[87]

The Lerner Index mentioned earlier,[88] is, as explained, practically impossible to employ, as one of its two determinants—marginal cost—is never known in real life.[89] Additionally, from an economic perspective, large (economic) profits may be perfectly compatible with competition and may reflect what are known as Ricardian rents rather than monopoly rents.[90]

Price discrimination could also theoretically be indicative of market power, as market power is a prerequisite for price discrimination. But all sellers have some market power, so the question becomes one of degree. And in real life, price discrimination is weakly correlated, if at all, with the degree of market power, and is consequently of little probative value.[91] Control over prices does not do any better, as essentially all real-life sellers have some control over prices. As no products are perfectly homogeneous, equating control over price with market power "would impose a fantastical construct on antitrust enforcement in differentiated goods markets."[92]

Ultimately, "at present, direct proof of market power is a basket of broken or incomplete tools."[93]

In the context of merger control, direct evidence is even less likely to be helpful. The reason is that when dealing with mergers, the agen-

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86. *Id.* at 54.

87. *Id.* at 54–56.

88. Ordover et al., *supra* note 38.

89. Crane, *supra* note 23, at 56. *See* Areeda & Turner, *supra* note 33, at 700–13.

90. Crane, *supra* note 23, at 57. Ricardian rents are attributable to the fact that marginal cost increases as quantity increases. Therefore, even when price equals marginal cost, as in the theoretical setting of perfect competition, the profit on the pre-marginal units is positive. A firm under perfect competition may well show significant rents on its balance sheet.

91. *Id.* at 60.

92. *Id.* at 61.

93. *Id.* at 34.

cies normally scrutinize the merger *before* it is consummated.[94] Merger control is designed to "interdict competitive problems in their incipiency. . . ."[95] Direct evidence of the *future* effects of a merger is, by definition, nonexistent. When the merger under scrutiny is a consummated merger (if the merger was not one that required premerger notification), evidence may theoretically exist of its actual anti-competitive effect.[96] But in the typical merger-review case direct evidence is not a viable option.[97]

Alternatives to market definition are thus either a basket of incomplete tools (in non-merger cases) or not even that (in merger cases). If antitrust law is to be effective against tech-giants and in the digital economy, certainly if its scope is to be broadened,[98] it cannot afford a starting point which is either an easily contestable, impractical methodology or a basket of broken tools. Antitrust law requires a simple starting point of general applicability. The next Part proposes such a starting point.

III.   MARKET PREDEFINITION

In the previous Parts it has been shown that antitrust law is in dire need of an alternative for market definition. This Part provides such an alternative, referred to as "market predefinition."

A.   The Basic Method

The market predefinition method proposed here is simple: much like the existing methodology, it begins with the product (or products) to which the practice or merger is relevant. But rather than trying to hypothetically raise the price of the product in question by 5%, the process looks at *actual* market prices.[99] All substitutes, the price of

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94. HORIZONTAL MERGER GUIDELINES, *supra* note 16, at 11.

95. *Id.* at 1.

96. *Id.* at 3. Theoretically, the opposite is also true. If a consummated merger has not brought about an increase in price, this suggests that it is competitively benign. However, in such cases the evidence is far less compelling because the merging parties may have been aware of the possibility of review. *See* Scott A. Sher, *Closed But Not Forgotten: Government Review of Consummated Mergers Under Section 7 of the Clayton Act*, 45 SANTA CLARA L. REV. 41, 68 (2004):

> [M]erging parties cannot simply rely on the non-occurrence of competitive harm after an acquisition's close to establish conclusively that a merger is free from section 7 concerns. The non-existence of such evidence could simply result from the company's conscious decision to forestall raising prices, reducing output, or affecting innovation while the government is reviewing the merger.

Id.

97. Keyte & Stoll, *supra* note 84, at 625–31; Remer & Warren-Boulton, *supra* note 65, at 602.

98. *Supra* notes 19–22.

99. HORIZONTAL MERGER GUIDELINES, *supra* note 16, at 10.

which is within a 5% "radius" of the price of the product in question—whether higher or lower—are considered to be the "market" for a finding of market share (and a *prima facie* finding of market power). This completes the process.

In order to see how a snapshot of price differences accomplishes all that is needed, it is helpful to think of what brings about a price difference between substitutes. Clearly, substitutes are priced differently because consumers, as a group, value them differently. And when substitutes are priced similarly it is because consumers view them as very close substitutes for one another. If products are perfect substitutes for each other, their prices will necessarily be identical. Conversely, if a product is, from consumers' perspectives, inferior to its substitutes, its producers will be forced to lower its price, and the product will be priced differently from its substitutes. Actual prices of substitutes are the *consequence* of the degree of substitutability, and thus every market has, in fact, already spontaneously *applied* the SSNIP. If the price of a product is 5% higher than the price of the closest substitutes for that product, this itself is conclusive proof that the product is a standalone market; that is, that the competitive pressure exerted by substitutes is not significant enough to have constrained a 5% price increase. Had the traditional SSNIP test been applied to the group of (homogeneous) products using the competitive price as a benchmark, a standalone market would have been found. A 5% price "radius" thus defines the homogeneous market.[100]

Before explaining how the proposed method overcomes market definition's deficiencies, it is helpful to return to our intuitive response to the Apple-Samsung merger. This time, however, with information about the actual price of smartphones. When Apple launched the iPhone 11 Pro for sale in February 2020, its price on Apple's website was $1379.[101] On the same date, Samsung offered its equivalent smartphone, Galaxy S20, for a price of $1320.[102] The price difference between the two models is in the tune of 4%, undoubtedly a trivial

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100. As a technical-economic point, products are not perfectly homogeneous if their price is not identical. But even if there are very slight differences in consumers' perceptions of the products leading to a trivial price difference, for all practical purposes the products may be treated as homogeneous. *See* Coate & Simons, *supra* note 82, at 679, 684, 694 ("The literal truth of the homogeneity assumption is much less important than whether the simplification aids in the development of accurate economic analysis. In effect, if the competitive process behaves 'as if' the market is homogeneous, then the assumption is scientifically useful."). *See also* Crane, *supra* note 23, at 49; Cameron et al., *supra* note 82, at 734 (both making a similar point).

101. APPLE, PRODUCTS (Mar. 24, 2020), https://www.apple.com/ca/shop/buy-iphone/iphone-11-pro.

102. SAMSUNG, PRODUCTS (Mar. 24, 2020), https://www.samsung.com/ca/smartphones/galaxy-s20/buy/.

difference. By contrast, on the same date Huawei's leading model, the P30, was offered for $949, or 69% of the price of an iPhone. Motorola and Nokia's leading models were priced at less than half of the price of an iPhone. Thus, it becomes crystal clear that iPhone and Galaxy compete vigorously between themselves, but consumers do not view other smartphones as close substitutes for either of them.

Like traditional market definition, the market predefinition method is insensitive to the reason for the price difference. There may be various reasons for why other substitutes are priced at significantly different prices – costs of production, differences in branding, or any other reason. But this does not matter for purposes of the analysis, that focuses on consumers' perspectives. [103]

The key advantage of the proposed method is that it is based on an *ex post* analysis. It focuses on how the degree of substitution between different products has shaped the market prior to the point at which the analysis is conducted. It is this feature of the method that characterizes it as market predefinition. Importantly, there is never any need to redefine markets. Hypothetical markets need not be broadened, and the introduction of additional products into the market is unnecessary. As will be recalled, this is the stage of the market definition methodology that is illogical. This is also the stage that is problematic in modern zero-price markets. The proposed method is both logical and easily employed in modern markets.

B.   Application of the Method

One potential problem with looking at actual prices is that these may be manipulated by interested parties. By raising or lowering prices prior to scrutiny, parties may be able to become part of a "market," thereby creating the impression that their market shares are smaller than they actually are. This is especially concerning in the merger context. Merging firms know well in advance that they will be under scrutiny and can even control *when* they will be under scrutiny.[104] They may find it profitable to forgo profits (by raising or lowering prices) for a limited period of time in order to secure approval of the merger. For example, in our hypothetical Apple-Samsung merger, Apple and Samsung may lower the prices of their smartphones for a limited period in order to appear to be part of the broader

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103. *See, e.g.*, Horizontal Merger Guidelines, *supra* note 16, at 7 ("Market definition focuses solely on demand substitution factors.").

104. The merging firms can control when the merger will be under scrutiny, because scrutiny begins with the filing of Merger Notices. *See supra* note 40 and accompanying text; *see also* Sher, *supra* note 96, at 52–56.

smartphone market. Similarly, non-merging entities who have a stake in the approval or disapproval of the merger—buyers, sellers, and competitors—may also strategically alter their conduct when review of the merger is anticipated.[105]

It is therefore important to ensure that the price-differential snapshot is taken at a point in time in which enquiry was not yet envisaged. At the same time, it is important not to look too far back. Markets are dynamic, and the degree of substitutability between different products and brands changes over time. Price differentials dating back may thus be misleading. The precise period of time that is appropriate depends on a host of variables and is therefore case-sensitive. For example, when a merger is a strategic one and is of great importance from the merging firms' perspective, it can be assumed that it had been contemplated for quite some time, and that the merging parties were willing to incur a loss for a relatively long period. This would generally justify looking at an earlier point in time. Conversely, when the market is a very dynamic one, a shorter period of time may be justified. As a rule of thumb, it seems reasonable to suggest a one-year look-back, echoing the Merger Guidelines' one-year period for market definition.[106]

As a supplementary measure, it will be helpful to verify that the snapshot is of representative price differentials. Focusing on a single point in time introduces the risk that one has looked at atypical prices. This may be the case not only because prices were manipulated in anticipation of antitrust scrutiny, but also due to business dynamics. For example, the brand in question may have been offered for a time-limited discount, and so on. To safeguard against such errors, it is helpful to look at other points in time as well, to verify that the price differentials used are representative. Importantly, this does not suggest that one should use weighted averages of price differentials, apply convoluted formulas, or review price trends.[107] It is simply a way of verifying that the snapshot is not completely off mark. The price differential used for applying the method is a single price differential – the difference observed one year before scrutiny. Earlier price differentials function only as a safety measure to verify its suitability. Using the smartphone example once again, a quick look at the prices of previous models when these were launched will provide all the necessary

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105. Although this is probably less of a concern. Non-merging parties are not always aware of the merger early enough to manipulate prices, and they have less control over when the merger is scrutinized. Additionally, non-merging parties do not capture the full benefits from preventing mergers, as these are shared by all buyers or sellers, so non-merging individuals and corporations are under-incentivized to act.

106.   Horizontal Merger Guidelines, *supra* note 16, at 9.

107. On the problem of relying on price trends, see Crane, *supra* note 23, at 61–62, 64.

information. Even if price differences were slightly greater or smaller than those identified in February 2020, the most recent differences may be used.

C.   *Different Products Within the Same Cluster*

The proposed method does not imply that all products in a cluster are close substitutes for *all* other products in the cluster. The market predefinition will depend on the product from which the analysis begins. Products A and C may both be close substitutes for product B, but not for one another. Consider, for example, a hypothetical market for cars, the price of which is presented in Table 1 below.

TABLE 1: MARKET FOR DIFFERENT BRANDS OF CARS

Brand	Price
A	$9,400
B	$9,000
C	$8,600
D	$8,200

Each of the cars will, under the market predefinition method, be found to be a close substitute for the cars directly above it and directly under it in the table. But although cars *A* and *C* are both considered part of the market for purpose of calculating manufacturer *B*'s market share (because both are within a 5% price-range of car *B*), car *A* will not be part of the market for purposes of establishing manufacturer *C*'s market share, and vice versa. The "market" thus changes depending on the starting point of the analysis.

But this is not an error. It is simply a reflection of the competitive reality, and a consequence of the fact that unlike the traditional methodology, the method proposed here does not ask an abstract question ("what is the market?"), but rather one that centers on a specific product ("what are the closest substitutes for the product"). Cars *A* and *C* are both close substitutes for car *B*. But they are not close substitutes for one another.

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I now turn to evaluate the method proposed here against the flaws identified in the market definition methodology (Part IV). Subsequently, in Part V, I address two potential objections to the proposed method. First, I address the possibility that two products are priced

similarly by sheer coincidence. Second, I address the possibility that the competitive pressure is exerted by more distant substitutes. For example, a luxurious car may exert significant competitive pressure on a simple car, even though it is priced at twice the price of the simple car.

IV. Market Predefinition and Market Definition

In previous Parts, the shortcomings of the existing methodology were reviewed, and the market predefinition method was proposed. I now turn to show that both the impracticability of traditional market definition and the methodology's theoretical shortcomings are overcome by the method advocated in this Article.

A. *The Practical Advantages of the Proposed Method*

The first advantage of the proposed method is its simplicity. All that is required is information regarding actual prices. The data are readily available and inexpensive to obtain, and once they have been – no complicated formulae are required. The smartphone case provides a useful example. A brief review of the different smartphone manufacturers' websites suffices for an understanding of the "market".

A second, arguably more important, practical advantage of the proposed method, is that it can easily be applied to zero-price products. Many digital-economy markets are such markets, and the traditional methodology cannot be applied to these markets because a 5% price-increase is meaningless if the price is zero. Thus, for example, although Google holds a share of approximately 90% of search-engine usage,[108] the question of whether this is a standalone market in which Google has a monopoly has yet to be resolved under the current methodology.[109] Under the proposed method, all search engines that charge consumers nothing are considered close substitutes for the purpose of market definition.[110] Nothing more is required, and Google is easily (and swiftly) identified as a monopoly.

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108. Statcounter, *Search Engine Market Share United States of America*, https://gs.statcounter.com/search-engine-market-share/all/united-states-of-america/#monthly-202102-202202 (last visited May 7, 2022).

109. As early as 2012, the agencies were contemplating taking action against Google. *See* Marcus Wohlsen & Michael V. Copeland, *Feds Move Closer to Suing Google Over Search*, Wired (Oct. 13, 2012), https://www.wired.com/2012/10/google-gets-closer-to-a-court-date. But the question of whether or not Google has a monopoly it is using to inhibit competition proved to be an extremely difficult one. *See also* Indig, *supra* note 10.

110. For such an implicit view outside the context of market definition, see Maurice E. Stucke & Ariel Ezrachi, *When Competition Fails to Optimize Quality: A Look at Search Engines*, 18 Yale J.L. & Tech. 70, 78 (2016).

An extreme case illustrating the advantages of the proposed method is the case in which the product is isolated from competition, but price-pressure comes from the possibility of discontinuing purchases altogether. Suppose that if prices are raised significantly, consumers (or a large subset of consumers) will turn to savings rather than to substitutes. Even if we assume the Hypothetical Monopoly Test suffers from no practical difficulties in application, it will result in a never-ending process. A small but significant non-transitory increase in the price of the smallest group of products will be unprofitable (because a price increase will result in many lost consumers that shifted to savings). This will result in the next-best substitute being added into the market. When applying the SSNIP to the broadened candidate market, two outcomes are possible: the SSNIP may be profitable, or unprofitable. The SSNIP will be profitable if the second product constitutes a standalone market (although it is not a substitute for the first). If this is the case, the two products together will be found to constitute a single market, although they are not. The Hypothetical Monopoly test will produce an error. The second possible outcome is that the SSNIP will be unprofitable in the new candidate market as well. The Hypothetical Monopoly Test will be repeated indefinitely.[111] By contrast, the proposed method will offer a correct understanding of the competitive reality. The product in question has no close substitutes because it commands a premium of 5% or more over its closest substitutes.

B.   *The Theoretical Shortcomings of the Traditional Methodology*

The proposed method is clearly more practical than the current methodology. It is also applicable to modern markets. Importantly, the method also overcomes the key theoretical shortcomings of the market definition methodology.

As will be recalled, the first flaw in the market definition methodology is the shift from the homogeneous goods' market to the heterogeneous goods' market, and the need to essentially "undo" the redefinition.

The market predefinition method developed in this Article is not susceptible to this flaw, because it focuses on the homogeneous market alone, without ever trying to broaden the market in any sense. In the homogeneous goods' setting, the formula expressing market

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111. Or until enough products have been brought into the market to offset the loss incurred due to the increase in the original product's price.

power as a function of market share yields the correct result.[112] Even if not all other variables are known, the positive correlation between market share and market power allows for an inference of market power.[113] For example, even if rivals' elasticity of supply cannot be pinpointed, the firm in question is likely to possess market power even if it has a large market share. Even if competitors can divert some of their production capacity to meet unsatisfied demand in case of a price increase, this is not likely to change much if their market share is small.

The suggested method also overcomes Professor Kaplow's third criticism of the market definition methodology, namely that the choice between different possible market definitions cannot be made unless the adjudicator already has some sense of what the correct market is.[114] As will be recalled, the market definition methodology essentially requires inferring market power from market share, while simultaneously inferring market share from market power.[115]

This "chicken-egg" problem is eliminated under the proposed method. The proposed method is actually a process of observing the results of a natural experiment – attempting to deduce from *actual* price behavior, settled spontaneously by the competitive forces, which products are considered by consumers to be homogeneous to the product in question. Market share is derived from a "market" that is *revealed*, not *defined*. There is no choice between alternatives because there can never be alternatives.

Professor Kaplow's last criticism of the market definition methodology is, as will be recalled, that no standard reference market, or agreed "conversion table," exists. [116]

This critique does not challenge the method advocated in this Article. First, as previously mentioned, Professor Kaplow's point is not that a common conversion table cannot be created, but that it should. Indeed, both processes—traditional market definition and the market predefinition method advocated in this Article—require a conversion table. Such a table should be adopted by regulatory agencies. But this does not challenge the core issue, which is the correlation between market power and market share. It simply calls for a clear conversion table to be put in place. This is a regulatory-administrative point rather than a challenge to the substance of the method.

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112. *Supra* note 73.

113. *See supra* note 75 and accompanying text.

114. Kaplow, *Market Definition*, *supra* note 20, at 467–71.

115. *See supra* notes 77–78 and accompanying text.

116. Kaplow, *Market Definition*, *supra* note 20, at 462–65.

Second, the conversion problem is irrelevant to the stage at which the method advocated in this Article is applied. Market shares must first be identified. Then, market power may be inferred. The method proposed in this Article focuses only on the first stage. Before an inference can be drawn, whether through the use of a standard reference market or by other means, one first needs a method through which market share can be assessed at all.

In this respect, the method proposed here is markedly different from market definition. Traditional market definition requires a conversion table for the choice between candidate markets.[117] It thus requires a conversion table as part of the process of assessing market shares. By contrast, the method proposed in this Article requires no choice between candidate markets. It focuses on *revealing* the firm's market share. It therefore does not require a conversion table to accomplish its role.

Of course, none of this suggests that a conversion table is not important. It undoubtedly is, if only for the sake of predictability. But the lack of a conversion table is not material to the method proposed here.

The conversion table espoused by the federal agencies—the DOJ and the FTC—need not be identical to the table adopted by other global agencies. As long as the conversion table provides predictability (and correlates market power to market share), it will function properly. Therefore, suggesting a universal conversion table is beyond the scope of this Article. Yet, it is helpful to note that there is no need for an elaborate table identifying the degree of market power that is associated with every conceivable market share. Thresholds are often used in various contexts in antitrust law.[118] In the current context, it is sufficient to have a table in which market shares are divided into five different categories. Market shares of up to 20% are assigned a value of one. Market shares of between 20% to 40% are assigned a value of two, and so on. A value of four to five will invoke a presumption of

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117. *Id.*

118. For example, threshold figures of concentration levels that raise concern are used in merger control. *See* HORIZONTAL MERGER GUIDELINES, *supra* note 16, at 19. Thresholds have also been put in place in the context of premerger notifications. *See* FTC, *supra* note 49, at 2–5. Threshold figures are also used to assess the competitive concerns emanating from exclusivity. *See, e.g.*, ZF Meritor, LLC v. Eaton Corp., 696 F.3d 254, 282 (3d Cir. 2012); Kentucky v. Marathon Petroleum Co., 191 F. Supp. 3d 694, 701–02 (W.D. Ky. 2016); McWane, Inc. v. FTC, 783 F.3d 814, 837 (11th Cir. 2015); Omega Envtl. Inc. v. Gilbarco, Inc., 127 F.3d 1157, 1162 (9th Cir. 1997). Thresholds are also employed in the context of tying arrangements. *See* Jefferson Par. Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 15 (1984); *see also* HERBERT J. HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE 534–35 (5th ed. 2016).

market power, whereas values of one or two will give rise to the opposite presumption.[119]

Regardless of the ease with which the standard reference market can be devised, the key point is that the need for such a conversion table does not challenge the method developed in this Article. In fact, the method proposed in this Article is a prerequisite for such a table, because market shares must be identified before they can be converted to market power values.

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The market predefinition method thus overcomes both the practical and the theoretical shortcomings of the traditional market definition methodology. It is also easily applicable to modern markets.

When market shares are extreme, the market predefinition process can be not only the starting point of the analysis, but also its end. Specifically, when the firm in question is found to possess a trivial market share within the "market" of close substitutes, very little additional information will be required. Conversely, Google's contention that "[c]ompetition is always one click away"[120] should be viewed skeptically given Google's near 90% market share. When market shares are not extreme, the method can accomplish market definition's traditional role. It can serve as the standard starting point for the market power inquiry.

V. Challenges to the Proposed Method

Two potential challenges to the method proposed in this Article render discussion. First, the method may wrongfully include products in the "market" because their price happens to be similar to the price of the product in question. Second, the method may ostensibly underestimate the competitive pressure exerted by distant substitutes. These two potential challenges are addressed next.

A. Wrongful Findings of Insignificant Market Power

One type of error that may seemingly be brought about by the market predefinition method is a false identification of close substitutes, resulting in a false-negative finding of insignificant market power.

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119. The corresponding market power values may also be expressed in Lerner Index units, and the categories may be adapted accordingly.

120. David Wismer, *Google's Larry Page: "Competition Is One Click Away" (and Other Quotes of the Week)*, Forbes (Oct. 14, 2012), https://www.forbes.com/sites/davidwismer/2012/10/14/googles-larry-page-competition-is-one-click-away-and-other-quotes-of-the-week/?sh=3a6b31c65ea1.

Specifically, this may happen when prices of products which are mistaken for close substitutes are similar by coincidence. Consider, for example, a toothbrush brand that is priced at $2. The adjudicator mistakenly considers dental floss picks to be substitutes for toothbrushes. When looking at the price of dental floss picks, a brand is identified that is priced at, say, $1.95. This will lead the adjudicator to wrongfully regard the dental floss picks as close substitutes for toothbrushes and include them in the market. Consequently, the market share of the toothbrush manufacturers (who are the focus of the analysis) will be found to be much smaller than it actually is.

But past experience teaches us that this is not a real problem. If identifying *which* products are substitutes for the product in question were a real-life problem, it would have surfaced under the application of traditional market definition. Recall that under the existing market definition methodology, the adjudicator gradually broadens the market, including the next set of substitutes at each stage. The adjudicator must therefore know *which* substitutes are closer than others (as opposed to *how close* they are, which is what the methodology aims to gauge).[121] In nearly forty years of application, this element of the process has not proved challenging or prone to error. In practice, the federal agencies and courts identify substitutes and competitors whenever the methodology is applied.[122] This identification is regularly informed by conversations with consumers, producers and other market participants.[123] And a look at the functionality of the products being considered is often helpful.[124] If in forty years courts and experts have not found it problematic to map which substitutes are closer than others, they should have little difficulty in identifying which products are substitutes at all.[125]

B. *Wrongful Findings of Significant Market Power*

The second possible challenge to the proposed method is that it may underestimate the degree of competitive pressure exerted by *distant* substitutes. Products that are priced far above or well below the product in question may limit a firm's market power. If a court underestimates the competitive pressure exerted by distant substitutes, it

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121. Kaplow does not contest this assumption. *See* Kaplow, *Alchemy*, *supra* note 20, at 945. But he notes that the question of how the closest substitute is to be defined is set aside. *Id.*

122. *See, e.g.*, Geroski & Griffith, *supra* note 66, at 295.

123. Horizontal Merger Guidelines, *supra* note 16, at 4 ("The most common sources of reasonably available and reliable evidence are the merging parties, customers, other industry participants, and industry observers.").

124. For an early case, see *Brown Shoe v. United States*, 370 U.S. 294, 235 (1962).

125. Horizontal Merger Guidelines, *supra* note 16, at 4, 7.

will overestimate the firm's market power, resulting in a false-positive finding of market power.

Returning to the smartphone example, although Apple and Samsung smartphones are homogeneous for all practical purposes, and although each firm's market share in the homogenous goods' market is significant (50% on average), other smartphones may exert competitive pressure on both companies' smartphones. Consumers are willing to pay a significant premium for Apple and Samsung smartphones. But they will not pay *any* premium. If a merger between Apple and Samsung is allowed and the merged firm attempts to raise the price of its smartphones, consumers may switch to other brands. The difference in quality (real or perceived) may not justify the greater price gap.

This, however, is not an objection to the method itself, but rather a cautionary note on the inferences to be drawn regarding the future from the current competitive state. It is, of course, possible that a distant substitute exerts competitive pressure (or that several distant substitutes jointly exert significant pressure) on the producer of the product in question. But this does not make them close substitutes. As should be clear to the reader, the object of the method at this stage is not to substitute for the full competitive analysis conducted under the rule of reason or to conclude the inquiry. The final outcome will depend on additional factors and on the specific elements that need to be considered under each of the relevant statutes. Rather, the object of the method at this stage is to generate an understanding of the *current* market reality and an appreciation of the varying degrees of substitutability. And in this respect, it is absolutely correct to deduce that products that are priced differently are not close substitutes.

For some practices under review, an understanding of the current competitive reality will suffice for an appreciation of the firm's or firms' market position. Practices such as exclusive dealing, tied selling, and loyalty discounts—all practices the legitimacy of which depends on the share of the market impacted by the practice[126]—require no inquiry into the future conduct of the firm engaging in the practice.

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126. On the importance of the foreclosed market share for the analysis of exclusivity agreements and tying arrangements, see *supra* note 118. On the importance of the market share affected by loyalty discounts for the analysis of their legitimacy see Willard K. Tom et al., *Anticompetitive Aspects of Market-Share Discounts and Other Incentives to Exclusive Dealing*, 67 ANTITRUST L. J. 615, 636–38 (2000); Andrew Gavil, *Exclusionary Distribution Strategies for Dominant Firms: Striking a Better Balance*, 72 ANTITRUST L. J. 3, 9–10 (2004); Dennis W. Carlton, *A General Analysis of Exclusionary Conduct and Refusal to Deal—Why Aspen and Kodak Are Misguided*, 68 ANTITRUST L. J. 659, 664 (2001).

The requisite understanding of the firm's current standing may be dealt with swiftly.

In merger control, the analysis is forward looking. The current competitive state is thus one element of the competitive landscape. But in this setting too, an understanding of the current market forces is a necessary starting point.

It is also important to note that the structure of the process will also safeguard against wrongful findings of market power. If a distant substitute indeed exerts competitive pressure, the merging firms will be well aware of this. And it is in their interest to draw attention to factors that negate the presumption of market power. If Motorola smartphones limit the ability of Samsung and Apple to raise the prices of their smartphones, both Samsung and Apple should be able to present market analyses, surveys, and the like showing that this is the case. Consequently, the possibility that such competitive pressure will ultimately be overlooked in the process seems highly unlikely.

As a practical rule, if market shares are found to be trivial or even small, a refutable presumption of no competitive danger may be applied. Objectors would then need to proffer evidence suggesting that the firms in question would acquire some post-merger control over price and quantity despite their small market shares. If the merging firms' (joint) market share is extremely large, a presumption of harm to competition can be set, requiring the merging firms to produce evidence to the contrary. Using the conversion table previously suggested, mergers of firms with a joint market share producing a corresponding market-power value of one or two should be presumed competitively benign. And mergers of firms with a four or five score on the market power index justify a presumption of injury to competition. In both cases, the proposed method offers a quick understanding of the current competitive state, and a *prima facie* appreciation of whether the merger is injurious to competition.[127]

Ultimately, the proposed method offers all that is needed if the relevant question is the firm's (or firms') *current* market position. In merger control, a second step of predicting future outcomes is inevitable (as it is under the current methodology). But even in this setting, the proposed method provides a crucial starting point. And it may also be used to establish a *prima facie* conclusion.

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127. The focus here is on the unilateral effects of the merger. Merger may also produce coordinated effects, captured by HHI values. *See* HORIZONTAL MERGER GUIDELINES, *supra* note 16, at 24–26. The analysis is equally applicable to coordinated effects.

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Neither the possibility of false negative findings of insignificant market power nor the possibility of false positive findings of significant market power challenge the proposed method. The possibility that products which are not close substitutes will wrongfully be considered close substitutes is implausible. It is theoretically possible under any method but it has not proven to be a problem. The possibility that distant substitutes exert significant competitive pressure is not to be dismissed. But it does not undermine the proposed method. When the relevant question is the current market position of the firms in question, the method provides an understanding of the current competitive reality. In merger review cases, the method accomplishes the first step—an understanding of the current competitive reality. At the second stage geared at evaluating post-merger outcomes, courts' attention can be expected to be drawn to additional evidence, if required, either through an institutional mechanism (burden-shifting) or by mere power of the merging parties' incentives.

Conclusion

Antitrust theory and practice are in dire need of some method that will serve as a starting point for the market power analysis, most specifically in modern digital markets. This Article shows that much can be achieved with no radical changes to antitrust law's basic goals or other extreme legislative amendments. The Article puts forward a substitute for market definition, that can easily be adopted by agencies and courts. This alternative starting point is a quick, simple, and cost-effective method of understanding the actual competitive reality as it has been shaped by market forces.

The method will allow antitrust law to achieve its modern role of combatting tech-giants and addressing competitive issues in the digital economy, which it cannot do under the existing methodology.

The market predefinition method can be swiftly implemented, thereby streamlining the application of antitrust law, and remediating its failure in modern markets. The method will also increase predictability and significantly lower the costs of antitrust enforcement.