LEAD ARTICLE

TWO-SIDED INTERNET MARKETS AND THE NEED TO ASSESS BOTH UPSTREAM AND DOWNSTREAM IMPACTS

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This Article explains how information, communications, and entertainment companies can acquire market dominance by erecting a platform serving both downstream consumers and upstream ventures via broadband networks. Operating in a two-sided market, these intermediaries can achieve fast growth as they serve diverse geographical markets without having to erect or lease all the infrastructure needed to reach end users. Intermediaries can quickly grow by accruing positive networking externalities and offering attractive services, thereby creating incentives to subscribe.

Intermediary platform operators have thrived in a largely deregulated marketplace based on the assumption that consumers have benefitted without the need for government oversight. However, the court of public opinion may have begun to shift from the view that platform operators present a universally positive value proposition. A proper assessment of consumer welfare must balance downstream enhancements, which are achieved through convenience, cost savings, free-rider opportunities, and innovation, with upstream costs, including uncompensated consumer data collection, privacy intrusions, reduced or eliminated consumer surpluses, and harm to information, communications, entertainment, and technology ventures. Such assessment also must take into consideration the earnings, employability, and stability of the workforce operating within the "gig economy."

This Article explains how many of the platform intermediaries most likely to harm consumers and competition have benefitted by a reluctance of government

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agencies to examine upstream impacts. Such reticence stems from legitimate concerns about overreach, mission creep, and jurisdiction. It also may represent prudent concerns that the government should not handicap successful ventures at the expense of other market entrants. Concentrating on consumer impact steers agencies and reviewing courts toward a downstream emphasis because consumers reside on that side of the two-sided market. Additionally, a court might consider the relevant market as limited solely to one side.

On the other hand, this Article explains that upstream market assessments will become essential for a complete and statutorily-compliant evidentiary record. This Article examines the disagreement reflected in Ohio v. American Express Co. *about whether the relevant market for credit card services requires courts to examine the transactions occurring on both sides of a platform that links vendors and consumers. The Supreme Court has validated the need to examine both sides of an intermediary's market platform to determine the combined effects on consumers and competition when a credit card issuer tries to impose a contractual prohibition on upstream merchants "steering" consumers to an alternative credit card that offers lower processing fees. The lower court rejected the language as potentially raising consumer costs without considering whether such terms might accrue consumer benefits, such as financial rebates and airline miles.*

This Article concludes that two-sided markets require assessments of the potential competitive and consumer benefits as well as the harms occurring on both sides in antitrust court and other regulatory proceedings. This approach does not favor more extensive government oversight, but instead supports a better calibrated assessment of the impact on competition and consumers.

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INTRODUCTION

Many market segments in the large information, communications, and entertainment ecosystem have a dominant venture serving as an intermediary between upstream ventures—such as content creators, video programming aggregators, and software vendors—and downstream consumers.[1] With the successful development of a platform, intermediaries can serve a large percentage of the total number of available downstream users without having to install and operate all the broadband networks needed to switch, route, and deliver content.[2] These ventures can accrue what economists term "positive network[ing] externalities,"[3] where the overall value in a network and its ability to generate consumer benefits grows as more users participate. Broadband platform operators can quickly serve a global consumer population and convince prospective customers of the benefits in joining the

1. *See, e.g.*, Kenneth A. Bamberger & Orly Lobel, *Platform Market Power*, 32 BERKELEY TECH. L.J. 1051, 1052–54, 1069–70 (2017); Linda M. Khan, *Amazon's Antitrust Paradox*, 126 YALE L.J. 710, 774–76 (2017); Orly Lobel, *The Law of the Platform*, 101 MINN. L. REV. 87, 94–101 (2016).

2. There is a split between edge providers and end users over "'who should pay who' in interconnection arrangements"—edge providers contend that end users who pull data, such as Broadband Service Providers (BSPs), have the responsibility to ensure accessibility to data that will accommodate their requests, while BSPs claim that the duty to ensure data is in a reliable and usable form rests on edge providers. John Meisel, *Reactions by Broadband Service Providers to the Growth of Video Streaming*, 22 COMMLAW CONSPECTUS 267, 277 (2014); *see also* William Lehr & Douglas Sicker, *Would You like Your Internet With or Without Video?*, 2017 U. ILL. J.L., TECH. & POL'Y 73, 103–06 (2017).

3. *See* Herbert Hovenkamp, *Post-Chicago Antitrust: A Review and Critique*, 2001 COLUM. BUS. L. REV. 257, 300 (2001) (highlighting the classic example of a positive network externality—the telephone system—where its worth is derived from the growth of interconnections forged over time); Mike Moffatt, *Introduction to Network Externalities*, THOUGHTCO. (Mar. 17, 2017), https://www.thoughtco.com/introduction-to-network-externalities-1146145 (explaining that positive network externalities become more beneficial to consumers as the number of users increases (e.g., Facebook); in contrast to negative network externalities, which become less beneficial as their consumer base increases).

bandwagon.[4] Early mover success can quickly lead to "winner take all" market dominance,[5] despite the availability of alternatives.[6]

Platform intermediaries can generate a compelling value position for consumers by opting to recover most, if not all costs, from upstream users, rather than split the financial burden between both upstream and downstream participants.[7] Economists use the term two-sided markets[8] to identify platform functions where transactions occur both upstream and downstream from the intermediary.[9] Successful insertion of an intermediary platform has generated both positive and negative impacts on consumer welfare, competition, rate of

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4. *See, e.g.*, Micah L. Sifry, *In Facebook We Antitrust*, NATION (Oct. 12, 2017), https://www.thenation.com/article/in-facebook-we-antitrust.

5. Khan, *supra* note 1, at 785 (recognizing that the "winner take all" dominance is most prevalent in online platform markets because network effects and control over data acquired early on become self-reinforcing over time—leading to market dominance by a small number of firms, which is illustrated by Walmart's recent purchase of Jet.com); *see also* Jonathan M. Barnett, *The Host's Dilemma: Strategic Forfeiture in Platform Markets for Informational Goods*, 124 HARV. L. REV. 1861, 1876 (2011) (noting that the general need to "trigger and maintain positive feedback effects" in order to succeed is augmented in "winner take all" markets where users tend to only use, or not use, one single platform at a time); Nathan Newman, *Search, Antitrust, and the Economics of the Control of User Data*, 31 YALE J. ON REG. 401, 413 (2014) [hereinafter *Economics of Control*] ("Google's rise was facilitated by an array of exclusive contracts that, given the seeming winner-take-all nature of the search advertising market, should be evaluated by antitrust authorities as a potential exercise in illegal foreclosure by the company.").

6. Des Traynor, *Surviving and Thriving in Two-Sided Markets*, INSIDE INTERCOM (Aug. 14, 2012), https://blog.intercom.com/surviving-thriving-in-two-sided-markets ("Winner-takes-all markets are high risk and high reward. The losers crash and burn while the winner is left with a lucrative legal monopoly.").

7. Julie E. Cohen, *Law for the Platform Economy*, 51 U.C. DAVIS L. REV. 133, 146 (2017) (explaining that the relationships forged through the platform intermediaries are unique in that they are "two- or multi-sided: they serve buyers, the sellers seeking to reach them, and often advertisers seeking the buyers' attention" and that the terms of each relationship can be defined differently).

8. Two-sided markets operate when the amount of transactions effectuated between end-users depends on both the structure and level of fees charged by the platform which simultaneously impact both sides' willingness to trade. Jean-Charles Rochet & Jean Tirole, *Two-Sided Markets: A Progress Report*, 37 RAND J. ECON. 645, 646 (2006).

9. *See* DAVID S. EVANS & RICHARD SCHMALENSEE, MATCHMAKERS: THE NEW ECONOMICS OF MULTISIDED PLATFORMS 45–48 (2016) [hereinafter EVANS & SCHMALENSEE, MATCHMAKERS]; David S. Evans & Richard Schmalensee, *The New Economics of Multisided Platforms: A Guide to the Vocabulary* 7 (2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2793021 [hereinafter Evans & Schmalensee, *Vocabulary*]; Lapo Filistrucchi et al., *Market Definition in Two-Sided Markets: Theory and Practice*, 10 J. COMPETITION L. & ECON. 293, 296–99 (2014).

innovation, employment, and other key factors.[10] On the positive side, intermediaries can promote efficiency, economies of scale,[11] and beneficial network externalities. On the negative side, intermediaries may leverage dominant market shares to extract high prices from both upstream and downstream participants after acquiring market dominance through a sustained period of below market pricing.[12] Additionally, they can erect barriers to market entry, acquire insurgent companies, and use comparative advantages to dominate in both core and related markets, such as the collection, processing, and sale of "Big Data"[13] about subscriber behavior.[14]

Intermediaries attempt to maximize market share in their decisions about cost recovery.[15] Consumers may think platform operators offer "free"[16] or subsidized services by appearing to recover all costs from

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10. *See generally* Hermant K. Bhargava & Vidyanand Choudhary, *Economics of an Information Intermediary with Aggregation Benefits* 1–3 (eBus. Res. Ctr. Working Paper, 2003); Benjamin Edelman, *Mastering the Intermediaries*, HARV. BUS. REV. (2014), https://hbr.org/2014/06/mastering-the-intermediaries.

11. *See generally Economies of Scale*, WIKIDOT (May 2, 2011, 10:19 AM), http://ibiz.wikidot.com/economies-of-scale ("A firm exhibits economies of scale if the average cost of producing a good falls as the quantity produced rises. . . . Many internet businesses exhibit large economies of scale, because many of their costs are fixed. For example, many of eBay's costs come from servers and software development, and these do not increase with the number of customers. Every additional transaction lowers the average cost of a transaction.").

12. *See* Edelman, *supra* note 10.

13. The term "Big Data" refers to data that "can only be analyzed through the establishment of a unique platform that can manage substantial volumes of information in a reasonable timeframe." *See* Daniel L. Rubinfeld & Michal S. Gal, *Access Barriers to Big Data*, 59 ARIZ. L. REV. 339, 345 (2017); Max N. Helveston, *Consumer Protection in the Age of Big Data*, 93 WASH. U. L. REV. 859, 861 (2016) (explaining that Big Data will "provide businesses with insights about their customers, enabling them to tailor their practices to better satisfy consumers and identify ways to increase the efficiency of their operations"); *see also* Solon Barocas & Andrew D. Selbst, *Big Data's Disparate Impact*, 104 CALIF. L. REV. 671, 673–74 (2016).

14. Laura Palk & Krishnamurty Muralidhar, *A Free Ride: Data Brokers' Rent-Seeking Behavior and the Future of Data Inequality*, 20 VAND. J. ENT. & TECH. L. 779, 794 (2018) (noting that while data mining helps predict future behaviors, which is highly valuable to the economy, this added value is at the "extreme expense of unwitting users and the research community"); *see also* David S. Evans, *Attention Rivalry Among Online Platforms*, 9 J. COMPETITION L. & ECON. 313, 338–39 (2013).

15. *See, e.g.*, Natascha Just, *Governing Online Platforms: Competition Policy in Times of Platformization*, 42 TELECOMM. POL'Y 386, 387 (2018) (recognizing that the coordination between platforms highlights the importance of the overall price structure).

16. *See* John M. Newman, *Antitrust in Zero-Price Markets: Foundations*, 164 U. PA. L. REV. 149, 151 (2015) [hereinafter Newman, *Zero-Price Markets*] (explaining that

upstream ventures.[17] While consumers do have to pay for products and services, of which the advertising costs and other subsidies generate higher prices, consumers embrace marketing promotions that offer real or perceived subsidies.[18] In exchange for free or below cost services, consumers allow intermediaries to compile information about their online behavior, location, purchases, searches, website visits, and other activities, which is then used by data analytics firms and advertisers to improve targeting of commercial advertisements.[19] Privacy intrusions[20] and the commodification of consumer behavior generate significant value that a platform operator can use to generate revenues in ways that most subscribers may not fully understand or quantify.[21]

This Article asserts that any analysis of costs and benefits occurring via broadband intermediary transactions necessitates an assessment of impacts occurring on both sides of the platform. Heretofore, legislators, judges, regulators, policy makers, business executives, and academics have solely examined or emphasized the downstream impacts.[22] This focus appears prudent because consumers, who vote with dollars, are situated downstream. Likewise, the most immediate and measurable

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antitrust law has yet to "develop an adequate response to zero-price markets" and that the advent of the internet has increased the use of zero-price products, making the current combined market capitalization easily exceed $1 trillion); *see also* David S. Evans, *The Antitrust Economics of Free*, 7 COMPETITION POL'Y INT'L 71, 72–74 (2011); Chris Jay Hoofnagle & Jan Whittington, *Free: Accounting for the Costs of the Internet's Most Popular Price*, 61 UCLA L. REV. 606, 608–09 (2014).

17. Steven Semeraro, *Assessing the Competitive Effects of Surcharging the Use of Payment Mechanisms*, 26 U. MIAMI BUS. L. REV. 29, 37 (2018) (emphasizing that to obtain an efficient output level in a two-sided market, producers "must charge the customer set that is more sensitive to price less than marginal cost of serving that customer (effectively enabling those consumers to internalize the benefits to both sides of the market)").

18. *See, e.g.*, *id.* at 42–44 (highlighting the delicate balance of a company's ability to actually render benefits to cardholders).

19. *See* Howard A. Shelanski, *Information, Innovation, and Competition Policy for the Internet*, 161 U. PA. L. REV. 1663, 1678 (2013) (distinguishing the value of consumer information to digital platforms from other businesses because of the platforms' greater access to consumer data and processing ability of digital platforms).

20. Frank Pasquale, *Privacy, Antitrust, and Power*, 20 GEO. MASON L. REV. 1009, 1010 (2013) [hereinafter Pasquale, *Privacy, Antitrust, and Power*] (noting that while it would be ideal if market forces promoted optimal levels of privacy for consumers, this is not the reality in today's era of Big Data because "every business has an incentive to be nosy in order to maximize profits").

21. *See* Shelanski, *supra* note 19, at 1690–91.

22. *See* Rob Frieden, *The Internet of Platforms and Two-Sided Markets: Implications for Competition and Consumers*, 63 VILL. L. REV. 269, 313–14 (2018).

consequences may appear on the downstream side.[23] Considering the decision by intermediaries to shift costs upstream, analysts of two-sided markets may overestimate consumer benefits by failing to consider offsetting costs occurring when upstream transactions are examined.[24]

The predisposition to concentrate on consumer impacts and identify welfare enhancement has existed well before the onset of internet-based intermediaries. For example, credit card vendors have offered subsidies, including cash rebates, to consumers even if they pay on time and trigger no offsetting interest charge.[25] Free to radio and television, broadcasters have offered consumers the opportunity for "free rider" consumption of content, without the obligation to purchase any of the goods and services advertised by upstream vendors.[26]

This Article demonstrates how a dual analysis of both downstream and upstream impacts can result in a better calibrated impact assessment. In some cases, apparent harm to consumers and competition, such a contractual prohibition on vendors steering customers to credit cards with lower vendor fees, can be offset by

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23. *See* Allen St. John, *Facebook Breach Exposed Personal Data of Millions of Users*, CONSUMER REP. (Oct. 12, 2018), https://www.consumerreports.org/digital-security/facebook-data-breach-exposed-personal-data-of-millions-of-users (exemplifying how downstream consumers can be severely injured by the actions of intermediaries).

24. *See* Frieden, *supra* note 22, at 279–81, 290, 320.

25. For background on credit card platform intermediaries, see, for example, Lloyd Constantine et al., *In re Visa Check/MasterMoney Antitrust Litigation: A Study of Market Failure in a Two-Sided Market*, 2005 COLUM. BUS. L. REV. 599, 605–10 (2005); David S. Evans & Richard Schmalensee, *Applying the Rule of Reason to Two-Sided Platform Businesses*, 26 U. MIAMI BUS. L. REV. 1, 5–6 (2018); David S. Evans, *It Takes Two to Tango: The Economics of Two-Sided Markets*, 1 PAYMENT CARD ECON. REV. 1, 3–4 (2003); Benjamin Klein et al., *Competition in Two-Sided Markets: The Antitrust Economics of Payment Card Interchange Fees*, 73 ANTITRUST L.J. 571, 571–77 (2006); Adam J. Levitin, *Priceless? The Economic Costs of Credit Card Merchant Restraints*, 55 UCLA L. REV. 1321, 1326–27 (2008); Timothy J. Muris, *Payment Card Regulation and the (Mis)Application of the Economics of Two-Sided Markets*, 2005 COLUM. BUS. L. REV. 515, 517–22 (2005); Jean-Charles Rochet & Jean Tirole, *Cooperation Among Competitors: Some Economics of Payment Card Associations*, 33 RAND J. ECON. 549, 551–52 (2002); Richard Schmalensee, *Payment Systems and Interchange Fees*, 50 J. INDUS. ECON. 103, 115 (2002); Steven Semeraro, *Assessing the Costs & Benefits of Credit Card Rewards: A Response to Who Gains and Who Loses from Credit Card Payments? Theory and Calibrations*, 25 LOY. CONSUMER L. REV. 30, 38–39 (2012); Steven Semeraro, *Credit Card Interchange Fees: Three Decades of Antitrust Uncertainty*, 14 GEO. MASON L. REV. 941, 947–49 (2007); Steven Semeraro, *The Reverse-Robin-Hood-Cross-Subsidy Hypothesis: Do Credit Card Systems Tax the Poor and Reward the Rich?*, 40 RUTGERS L.J. 419, 422–27 (2009).

26. *See* Gregory P. Magarian, *Forward into the past: Speech Intermediaries in the Television and Internet Ages*, 71 OKLA. L. REV. 237, 243 (2018).

consumer and competitive benefits, e.g., diversification of credit card types including ones offering rebates and airline miles.[27] In other instances, so-called false negative findings of no harm to consumers and competition can be corrected with the identification of detrimental impacts, particularly on the often-unexamined upstream side of the market.[28]

Countervailing proof of harm may result from an assessment of the marketplace and consumer impact in upstream commercial transactions occurring directly and indirectly with downstream consumers. For example, consumers agree to intermediary mining, analysis, and sale of data about their wants, needs, interests, consumptive behavior, website visits, purchases, location, and internet searches.[29] This data has value that subsidizes the "free" access to content and other services.[30] Upstream vendors and intermediaries also can use data mining[31] to make frequent changes to their prices for goods and services.[32] Such calibration has the potential to eliminate or reduce consumer surplus, which occurs when the charged price falls below what a consumer willingly would pay.[33] Simply put, the value proposition of what broadband intermediaries offer combines both costs and benefits, and thus requires an assessment of both factors by consumers and government agencies that have jurisdiction to oversee the potential for harm to consumers and markets.

This Article identifies reasons the upstream impact analysis does not occur and provides recommendations on what consumers and governments should do to reduce or eliminate direct and indirect harms.

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27. *See, e.g.*, Ohio v. Am. Express Co., 138 S. Ct. 2274, 2280 (2018) (explaining the additional benefits that American Express cardholders have including deferring payments, making purchases without cash, and rewards for airline miles).

28. *See* Evans & Schmalensee, *supra* note 25, at 9.

29. Internet platforms "generate, collect, process and aggregate big data" of competitors and individuals through algorithmic methods "in order to extract economic value." Just, *supra* note 15, at 391.

30. *See* Newman, *Zero-Price Markets*, *supra* note 16, at 172–73.

31. "When used by a layman, the term data mining likely refers to a '[t]ype of database analysis that attempts to discover useful patterns or relationships in a group of data' or 'us[e of] mathematical formulas to sift through large sets of data to discover patterns and predict future behavior.'" Liane Colonna, *A Taxonomy and Classification of Data Mining*, 16 SMU SCI. & TECH. L. REV. 309, 310 (2013) (internal citations omitted).

32. *See* Swati Aggarwal, *What Data Scientists at Uber Are Doing with Your Data*, GREAT LEARNING (Nov. 10, 2017), https://www.greatlearning.in/blog/data-scientists-uber-data.

33. *See generally id.*

I. TWO-SIDED MARKETS IN THE DIGITAL BROADBAND ECOSYSTEM

Two-sided markets have operated in the economy for many centuries, well before the onset of the internet and broadband networks.[34] Recent examples include advertiser subsidized access to newspapers and broadcast media, wireless smartphone operating systems, commercial aviation reservation systems, dating matchmakers, and travel agencies.[35] Conversion of analog telecommunications infrastructure into high-speed broadband networks, fast processing computers, cheap and high capacity memory and data storage, and other technological innovations have led to a proliferation of platform intermediaries as well as the potential for them to achieve remarkably quick financial success.[36] Companies such as Airbnb, Alibaba, Amazon, Didi Chuxing, Facebook, Google, Netflix, Tencent, Twitter, and Uber have quickly achieved "unicorn" status with over $1 billion in market value.[37]

The internet ecosystem favors two-sided market platforms because intermediaries can offer faster, better, smarter, cheaper, and more convenient solutions to consumers' wants, needs, and desires than what traditional "bricks and mortar" ventures offer.[38] By interconnecting with broadband networks, digital platform operators can establish a global service footprint without having to invest startup funds on content distribution networks.[39] Two-sided market ventures are optimally suited to exploit the positive networking externalities available from widespread availability and robust consumer adoption.[40] Likewise,

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34. *Two-Sided Market*, INVESTOPEDIA, https://www.investopedia.com/terms/t/two-sidedmarket.asp (last visited Feb. 5, 2019) (providing the yellow page telephone directory as an example of a two-sided market).

35. *See id.*

36. *See* Frieden, *supra* note 22, at 271 (explaining how cost efficiency advantages benefit internet services); Uta Kohl, *Google: The Rise and Rise of Online Intermediaries in the Governance of the Internet and Beyond (Part 2)*, 21 INT'L J.L. & INFO. TECH. 187, 187–88, 223 (2013) (describing the difficulties of regulating internet intermediaries because their success and innovation is based on algorithms and data).

37. *See The Unicorn List (2016)*, FORTUNE, http://fortune.com/unicorns (last visited Feb. 5, 2019) ("They're called 'unicorns'—private companies valued at $1 billion or more. The billion-dollar technology startup was once the stuff of myth. Today they're seemingly everywhere, backed by a bull market and a new generation of disruptive technology.").

38. *See* Pasquale, *Privacy, Antitrust, and Power*, *supra* note 20, at 1010 (discussing how internet intermediaries have an incentive to collect Big Data to determine consumer needs).

39. Frieden, *supra* note 22, at 269–71.

40. *Id.* at 312–13.

digital platforms can take advantage of first mover opportunities to acquire large market share and subscribership quickly.[41]

A major business model for internet-mediated platforms masterfully uses flexibility in pricing to create the impression by prospective subscribers that their access to valuable content and services can occur without payment.[42] Intermediary platforms can calibrate who pays and, in most instances, the direct payment of financial compensation comes primarily or exclusively from upstream ventures, such as advertisers.[43] Advertising rates and other revenues can defray or eliminate the need for platform operators to require monetary payment from downstream subscribers.[44] Of course, consumers bear an obligation to provide something of great value: consent to the acquisition, processing, and marketing of data about their wants, needs, desires, web travels, location, interests, searches, etc.[45] Most platform users may underestimate the value of the privacy invading consumer data they relinquish freely.[46]

Many of the internet unicorns, operating a digital platform, rely on advertiser subsidies, broadband network distribution, and the convergence of content and conduit to package a desirable internet-mediated service, such as social networking.[47] Digital platform operators surely enhance consumer welfare and offer a compelling value proposition as evidenced by their marketplace success.[48] However, these ventures do not operate as charities and their extraordinary market values reflects their current or prospective ability

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41. *Id.* at 313.

42. *See, e.g.*, Newman, *Zero-Price Markets*, *supra* note 16, at 154–57 (explaining sustainable zero-price strategies such as "tying," multisided platforms, and "freemiums").

43. *See* Newman, *Economics of Control*, *supra* note 5, at 403–06.

44. *Id.*

45. *Id.* at 439, 448 (explaining that the FTC has suggested that companies such as Google obtain express consent for usage of consumer data).

46. *Id.* at 441–43 (describing the various consumer costs of freely relinquishing one's personal information).

47. *See, e.g.*, Ben Gilbert, *How Facebook Makes Money from Your Data, in Mark Zuckerberg's Words*, BUS. INSIDER (Apr. 11, 2018, 10:25 AM), https://www.businessinsider.com/how-facebook-makes-money-according-to-mark-zuckerberg-2018-4 (describing how Facebook makes its profit through advertising sales by placing the ads for the advertisers to preclude compromising user data).

48. *See, e.g.*, Elizabeth Dwoskin, *Facebook Profit Hits an All-Time High, Unaffected by Recent Scandals—So Far*, WASH. POST (Apr. 25, 2018), https://www.washingtonpost.com/news/the-switch/wp/2018/04/25/facebook-profit-hits-an-all-time-high-unaffected-by-recent-scandals-so-far (describing how even with consumer privacy concerns, Facebook's first-quarter revenue "grew by [forty-nine] percent to $12 billion").

to accrue massive profits, largely from their ability to mine, analyze, collate, and market consumer data.[49]

To acquire a full appreciation of broadband intermediary costs and benefits to consumers, one should examine the transactions that occur on both sides of the platform. For example, downstream subscribers may benefit from access to "free" content, but at a possibly substantial cost considering the effect of upstream data analysts, brokers and advertisers, as well as election meddlers, provocateurs, and purveyors of "fake news."[50]

II. CONSUMER WELFARE GAINS FROM TWO-SIDED MARKETS

Two-sided markets offer many benefits to consumers, largely because upstream ventures willingly pay intermediaries that in turn subsidize downstream access.[51] Having no direct financial payment to make, consumers may assume they pay nothing for opportunities to participate in beneficial transactions. For example, the legacy credit card model[52] offers users the opportunity to purchase products and services without point of sale cash payments, a benefit in terms of both convenience and the opportunity to acquire a short-term loan without interest.[53] Information, communications, and entertainment intermediaries provide access to many different types of software, applications, services, and diverse content, typically without requiring any direct payment.[54] A mutually beneficial transaction combines ample benefits for platform

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49. *E.g.*, Prableen Bajpai, *How Uber is Selling all Your Ride Data*, INVESTOPEDIA (Mar. 9, 2016, 7:35 AM), https://www.investopedia.com/articles/investing/030916/how-uber-uses-its-data-bank.asp.

50. Alexandra Andorfer, Note, *Spreading like Wildfire: Solutions for Abating the Fake News Problem on Social Media via Technology Controls and Government Regulation*, 69 HASTINGS L.J. 1409, 1411 (2018) (explaining that while the term "fake news" was brought to light during the November 2016 election, the concept has been an issue for years with politicians overstating and embellishing statistics); *see also* Lee Rainie et al., *The Future of Free Speech, Trolls, Anonymity and Fake News Online*, PEW RES. CTR. (Mar. 29, 2017), http://www.pewinternet.org/2017/03/29/the-future-of-free-speech-trolls-anonymity-and-fake-news-online.

51. Newman, *Zero-Price Markets*, *supra* note 16, at 156.

52. *Id.* at 156–57 (noting that the ability of loyalty cardholders to pay zero or even be re-paid through loyalty points for using the services provided is balanced by the value of the acquired consumer information which is then sold to advertisers or data seekers).

53. *See, e.g.*, Ohio v. Am. Express Co., 138 S. Ct. 2274, 2280 (2018).

54. *See* Just, *supra* note 15, at 387–88 (providing Google Maps as an example of a free service subsidized by advertisements).

operators and consumers by updating the pre-existing model of subsidized access to services and content.[55]

Digital broadband platform operators can afford such generosity because they extract a form of payment from downstream consumers who may not fully appreciate the value of what they relinquish, but who willingly do so through a binding contractual commitment.[56] Even as platform subscribers underestimate the value of what they must allow upstream ventures to use, the intermediary model has thrived and proliferated.[57]

The massive increase in platform subscriptions helps broadband intermediaries quickly acquire scale economies[58] and efficiency gains by attracting growing numbers of users and spreading costs over an ever-increasing population of users.[59] The incremental cost for serving additional participants approaches zero because information, communications, and entertainment platforms have high initial investment costs but very low incremental costs incurred when adding users.[60] Broadband intermediaries also can accrue positive networking externalities[61] as subscribership grows. When intermediaries reach a

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55. Benjamin Edelman, *How to Launch Your Digital Platform*, HARV. BUS. REV. (2015), https://hbr.org/2015/04/how-to-launch-your-digital-platform (explaining how internet intermediaries launch new services and content through automatically enrolling their current users).

56. *See* David Glance, *How Facebook Uses the 'Privacy Paradox' to Keep Users Sharing*, CONVERSATION (Apr. 15, 2018, 4:00 PM), https://theconversation.com/how-facebook-uses-the-privacy-paradox-to-keep-users-sharing-94779 (arguing that consumers are "unwilling to take actual steps to protect themselves" because "privacy is an abstract feeling" and people struggle to place an absolute value on it); Just, *supra* note 15, at 391 (explaining that internet platforms "extract economic value" from data).

57. *See* Lobel, *supra* note 1, at 89 (stressing the scope of the "digital platform revolution").

58. Scale economies refer to the ability of a single firm to produce a good or service at the lowest per unit cost. "For nearly 100 years, microeconomic theory said that widespread access to telephone technology was more likely if there was only one telephone company, because of economies of scale resulting in what economists call 'natural monopoly.'" Henry H. Perritt, Jr., *Keeping the Internet Invisible: Television Takes over*, 21 J. TECH. L. & POL'Y 121, 127 (2017).

59. *See* Joseph Farrell & Garth Saloner, *Standardization, Compatibility, and Innovation*, 16 RAND J. ECON. 70, 70–71 (1985) (noting that standardized or compatible goods may have a "market-mediated effect," as these goods become more readily available and cheaper).

60. *See* John M. Newman, *Anticompetitive Product Design in the New Economy*, 39 FLA. ST. U. L. REV. 681, 687 (2012) [hereinafter *Anticompetitive Product Design*] (explaining that digital markets and their positive network externalities result in high fixed costs and low variable costs).

61. *See id.* at 688–89 (explaining that positive networking externalities occur when "the value to each individual consumer increases with the number of other individuals who use the same network"). Newman uses the telephone network as an example,

critical mass of popularity, non-users see the advantages in joining the bandwagon, further enhancing the comparative attractiveness of the most popular platform operator vis-à-vis other competitors and options.[62]

III. CONSUMER COSTS FROM TWO-SIDED MARKETS

Unmeasured and often unrecognized costs offset readily identifiable, if overstated, benefits from two-sided platforms. In the short term, ventures like Amazon enhance consumer welfare by offering a growing inventory of products and services at lower prices, which is the product of operational efficiencies and the willingness to eschew profits in exchange for increasing market share and "shelf-space."[63] Similarly, advertiser-provided subsidies help create the impression among most consumers that they have more to gain in terms of "free" access to content, and even subscribers, who recognize the value in commodifying and selling their data, may perceive the benefits as exceeding the indirect costs.[64]

Most consumers may not fully understand both the short- and long-term consequences of intermediary transactions,[65] particularly in terms of not easily quantified gains accruing to upstream ventures and platform operators, at least partially at the expense of downstream

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providing that as the amount of telephone users increased, the more valuable the telephone became to the single, individual user. *See id.*

62. *See* Farrell & Saloner, *supra* note 59, at 70 (explaining that a "consumer's value for a good increases when another consumer has a compatible good"); Michael L. Katz. & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424, 425 (1985) (arguing that if consumers expect a seller to be dominant, then they are willing to pay more for the seller's good); Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CALIF. L. REV. 479, 546 (1998) (providing that the "bandwagon network effect" occurs when consumers want to be connected to the same network as everyone else).

63. *See* David Streitfeld, *As Competition Wanes, Amazon Cuts Back Discounts*, N.Y. TIMES (July 4, 2013), https://www.nytimes.com/2013/07/05/business/as-competition-wanes-amazon-cuts-back-its-discounts.html (explaining that Amazon grew to become "one of the largest retailers in the country" by reducing or eliminating profit margins, which in turn drove retail competitors out of business). However, now, Amazon can raise prices because consumers may not take the time and effort to search for alternatives. *Id.*

64. *See* Evgeny Morozov, *Tech Titans Are Busy Privatizing Our Data*, GUARDIAN (Apr. 24, 2016, 4:00 AM), https://www.theguardian.com/commentisfree/2016/apr/24/the-new-feudalism-silicon-valley-overlords-advertising-necessary-evil (contending that tech firms are willing to offer goods and services "at highly subsidised [sic] rates" because they yield more data).

65. *See id.* (explaining that it can be difficult for users to understand the true cost of these subsidized services).

consumers.[66] Because intermediary platform users permit data mining without compensation, it could be assumed that such content constitutes a commodity or currency that the data miner can use, while at the same time claiming that no market-based transaction has occurred. Arguing that no market exists can bolster assertions that zero-price transactions have limited, if any, impacts on relevant market definitions made by antitrust courts.[67]

Even in the short term, consumers may suffer from the loss of brick and mortar store competition, as well as from the consequences of more accurate assessment of consumer price sensitivity and increasingly invasive collection of subscribers' consumption behavior and the brokering of such data by largely unregulated ventures.[68] At some point, online platform operators may consider their market position sufficiently impenetrable so that they can refrain from aggressive price cutting and forgoing near term profitability to acquire market share.[69]

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66. Glance, *supra* note 56 (explaining that, despite user concern for privacy, users are unwilling to "take actual steps to protect themselves" because "privacy is an abstract feeling," people struggle to place an absolute value on it or evaluate how privacy violations may be harmful); *see also* Susan Athey et al., *The Digital Privacy Paradox: Small Money, Small Costs, Small Talk* 1 (Nat'l Bureau of Econ. Res., Working Paper No. 23488, 2017), http://papers.nber.org/tmp/99580-w23488.pdf (examining consumer behavior when faced with "notice and choice" to safeguard their privacy).

67. "With personal data being a potential currency, essentially a non-monetary price paid . . . and privacy a possible non-price competitive element . . . the question regarding the relationship between regulation—in this case privacy, consumer and data protection laws—and competition law has re-emerged . . . ." Just, *supra* note 15, at 391 (asserting the need for changes in competition policy to consider how zero priced transactions affect competition and consumers).

68. Data brokers, or information reselling companies, collect consumer information and convert it into marketable information about categories of consumers, or even individual dossiers about a single consumer. *See* Ashley Kuempel, Comment, *The Invisible Middlemen: A Critique and Call for Reform of the Data Broker Industry*, 36 NW. J. INT'L L. & BUS. 207, 210 (2016) (emphasizing that because transactions between data brokers and marketing companies occur without consumers' knowledge or consent, the public is unaware of their impact on daily life, let alone their existence).

69. Earlier this year, Amazon increased the price of its most important service, Prime membership, by twenty percent, from $99 to $119. Nick Wingfield, *Amazon's Profit Swells to $1.6 Billion, Lifted by Its Cloud Business*, N.Y. TIMES (Apr. 26, 2018), https://www.nytimes.com/2018/04/26/technology/amazon-prime-profit.html (contrasting this change with the company's assertions of providing low prices); *see also* Streitfeld, *supra* note 63.

A. Dynamic Pricing Reduces Consumer Surplus

Platform operators and upstream vendors can develop sophisticated data analytics to help accurately set and frequently modify prices for commercial transactions.[70] Bear in mind that while some platform operators, such as Facebook and Twitter, rely almost solely on upstream advertiser payments,[71] other intermediaries combine that revenue stream with downstream sales of goods and services, e.g., Amazon, Airbnb, Didi Chuxing, and Uber.[72]

Dynamic pricing refers to the ability of product and service vendors to calibrate prices more frequently and accurately.[73] Such calibration can help vendors eliminate or reduce what economists term consumer surplus: the opportunity to acquire a good or service at a price below what a consumer would willingly pay.[74] Digital intermediaries can

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70. *See, e.g.*, Laura Fleming, *How Much Does J. Crew Really Know About You?: The Harsh Reality of a Mega-Retailer's Privacy Policy*, 31 SYRACUSE J. SCI. & TECH. L. 1, 18–20 (2015) (explaining how retailers use customers' browser history to determine what products they searched for, bought, and even how much they paid).

71. *See* Rakesh Sharma, *How Facebook Makes Money*, INVESTOPEDIA, https://www.investopedia.com/ask/answers/120114/how-does-facebook-fb-make-money.asp (last updated Dec. 19, 2018) (noting that more than ninety-nine percent of Facebook's total 2017 revenue of $40 billion came from digital advertisements).

72. *See* Jeff Desjardins, *Breaking down How Amazon Makes Money*, VISUAL CAPITALIST (Dec. 19, 2017, 1:32 PM), http://www.visualcapitalist.com/breaking-amazon-makes-money (providing a breakdown of Amazon's 2016 revenue).

73. Humans were responsible for determining prices by monitoring market activity and either raising or lowering prices accordingly. Now, computers have taken on this role and are able to determine prices within seconds. However, computers can still make mistakes. For example, Amazon's price algorithm caused an unintended price hike in Peter Lawrence's book, *The Making of a Fly*. Its highest price was listed as $23,698,655.93 (plus $3.99 shipping). *See* Ariel Ezrachi & Maurice E. Stucke, *Artificial Intelligence & Collusion: When Computers Inhibit Competition*, 2017 U. ILL. L. REV. 1775, 1780–81 (2017); *see also* Salil K. Mehra, *Antitrust and the Robo-Seller: Competition in the Time of Algorithms*, 100 MINN. L. REV. 1323, 1323–24 (2016) (using Uber's "surge pricing" as an example of dynamic pricing).

74. "Those who are able to purchase tickets from the box office and pay only face value receive a 'consumer surplus,' which is the positive difference between what they would have paid for the ticket and the price they actually paid." Avi Loewenstein, Note, *Ticket Sniping*, 8 J. ON TELECOMM. & HIGH TECH. L. 243, 249 (2010). "By discriminating on price in such a way that reflects granular knowledge of individual users' reservation values, a firm gains the capacity to capture all available consumer surplus for itself." Bamberger & Lobel, *supra* note 1, at 1080–81. "First, for any given price increase, the loss in consumer surplus exceeds the loss in total surplus because the latter subtracts the additional profits accruing to sellers. Second, even fairly small price elevations are a significant concern if only consumer surplus counts." Louis Kaplow, *An Economic Approach to Price Fixing*, 77 ANTITRUST L.J. 343, 354 (2011); *see also*

acquire and analyze data about current consumer demand and available supply of products and services—e.g., the number of available Uber drivers in a specific locality.[75] Rather than set a fixed price, only occasionally raised or lowered, vendors can make frequent pricing changes based on current marketplace conditions calculated by proprietary software that processes freely acquired user data collected by the intermediary platform operator and forwarded to upstream vendors.[76]

Arguably, dynamic pricing promotes overall marketplace efficiency by injecting more frequently and timely fine-tuning of prices based on changes in supply and demand.[77] However, consumers may consider it unfair and discriminatory, particularly when so-called surge pricing unexpectedly raises out of pocket costs significantly.[78] As demand increases, or supply drops, prices quickly rise above a level most consumers consider fair and reasonable.[79] Even though low demand

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Akiva A. Miller, *What Do We Worry About when We Worry about Price Discrimination? The Law and Ethics of Using Personal Information for Pricing*, 19 J. TECH. L. & POL'Y 41, 56 (2014) (explaining that sellers can collect data about a consumer to achieve "differentiation" or what the seller must know to determine what price to offer, such as willingness to pay).

75. This data is referred to as "electronic footprints," which can consist of consumers' previous purchases, addresses, or even other websites they have visited. From this data, vendors can adjust prices based on what a particular consumer is willing to pay. *See* Vivian Adame, Comment, *Consumers' Obsession Becoming Retailers' Possession: The Way that Retailers Are Benefiting from Consumers' Presence on Social Media*, 53 SAN DIEGO L. REV. 653, 667 (2016) (citing Paul Krugman, *Reckonings; What Price Fairness?*, N.Y. TIMES (Oct. 4, 2000), http://www.nytimes.com/2000/10/04/opinion/reckonings-what-price-fairness.html).

76. *See* Ezrachi & Stucke, *supra* note 73, at 1780 (explaining that online platforms can adjust prices within milliseconds using dynamic pricing and algorithms, which optimize a good's price based on available stock and anticipated demand).

77. For example, if the electric industry used dynamic pricing, ideally "temporary price spikes would induce immediate demand reductions, and ultimately, lower prices," whereas "sustained high prices would provide a sufficient reward for investment in adequate generation resources, ensuring reliability." *See* Emily Hammond & David B. Spence, *The Regulatory Contract in the Marketplace*, 69 VAND. L. REV. 141, 170 (2016).

78. Ryan Calo, *Digital Market Manipulation*, 82 GEO. WASH. L. REV. 995, 1029 (2014) (noting that digital market manipulation "creates subjective privacy harms" because consumers do not know whether they are being charged the same price as someone else or even if "using a different browser or purchasing the item on a different day" would have saved them money).

79. Dynamic pricing is also coupled with behavioral psychology. For example, a real-time gasoline pricing tool in Holland had not lowered a station's prices in response to a sale at the station across the street. Instead, the program "determined that long waiting times at the bargain-priced station would discourage buyers," accurately predicting that many buyers would utilize the station "across the street

and oversupply might trigger short term price reductions, consumers may focus on rapid and substantial surge prices.[80]

Critics of a platform-dominated economy emphasize harm to both consumers and workers:

> A "peer economy" of platform-arranged production will break down old hierarchies. Gig workers will be able to knit Etsy scarves in the morning, drive Uber cars in the afternoon, and write Facebook comments at night, flexibly shifting between jobs and leisure at will. But is platform capitalism really a route to opportunity for labor, or just one more play for capital accumulation in an increasingly stratified economy?[81]

The costs and risks borne by non-employee contractors surely challenge the view that they can combine flexible schedules and independence with certain and generous hourly earnings.

B. Lack of Transparency

Far too many platform operators rely on lengthy and obtuse subscription agreements to set out the terms and conditions for their acquisition, analysis, use, and sale of consumer data.[82] These non-negotiable contracts of adhesion create enforceable rights for platform intermediaries, but few responsibilities and curbs on their data mining and sale.[83] Worse yet, some major broadband platform intermediaries have allowed data acquisition and mining opportunities, directly or through third parties, far exceeding the ample options they have reserved.[84] To make matters worse, some platform operators do not

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where they would be willing to pay more." *See* Gregory P. Nowell, *Markets, Elites, and Information Technology in the Internet Age*, 53 TULSA L. REV. 335, 340 (2018).

80. On occasion, product offers via intermediaries may reach outrageous multiples over bricks and mortar pricing. *See, e.g.*, David Streitfeld, *Amazon's Curious Case of the $2,630.52 Used Paperback*, N.Y. TIMES (July 15, 2018), https://www.nytimes.com/2018/07/15/technology/amazon-used-paperback-book-pricing.html.

81. Frank Pasquale, *Two Narratives of Platform Capitalism*, 35 YALE L. & POL'Y REV. 309, 312–13 (2016) [hereinafter Pasquale, *Two Narratives*].

82. *See* Omer Tene & Jules Polonetsky, *Big Data for All: Privacy and User Control in the Age of Analytics*, 11 NW. J. TECH. & INTELL. PROP. 239, 260–61 (2013) (arguing that an emphasis on "consent" in privacy law imposes unrealistic obligations on individuals to read and understand complex agreements).

83. *See id.* at 268 (explaining that consumers rarely opt in or opt out of these agreements).

84. For an example of this practice, see Matthew Rosenberg et al., *How Trump Consultants Exploited the Facebook Data of Millions*, N.Y. TIMES (Mar. 17, 2018), https://www.nytimes.com/2018/03/17/us/politics/cambridge-analytica-trump-campaign.html, which discusses how the voter-profiling company Cambridge Analytica harvested private information of over fifty million Facebook users without their permission.

disclose data security breaches in a timely manner,[85] or admit to instances where they have intentionally or inadvertently caused such privacy invasions to occur.[86]

Platform intermediaries risk losing subscribers' trust,[87] particularly when failing to disclose data breaches, and instances where third parties accessed and "mined" consumer data well beyond the scope of permitted uses.[88] When confronted with press accounts of data breaches or exceeding permissible data mining opportunities, some platform operators offer incomprehensible excuses, refuse to accept responsibility, or claim the breach or excessive use of subscriber data did no harm to subscriber privacy.[89]

For example, the *New York Times* reported that Facebook provided wireless smartphone manufacturers with access to subscriber data, including immediate location, without subscriber consent.[90] Rather

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85. For example, Yahoo announced that hackers had stolen at least 500 million users' account information two years after the breach occurred. *See* Nicole Perlroth, *Yahoo Says Hackers Stole Data on 500 Million Users in 2014*, N.Y. TIMES (Sept. 22, 2016), https://www.nytimes.com/2016/09/23/technology/yahoo-hackers.html.

86. Kevin Roose, *How Facebook's Data Sharing Went from Feature to Bug*, N.Y. TIMES (Mar. 19, 2018), https://www.nytimes.com/2018/03/19/technology/facebook-data-sharing.html (arguing that Facebook's broad data collection practices may compromise the data of its over 2.2 billion registered users); *see also* Natasha Singer, *What You Don't Know About How Facebook Uses Your Data*, N.Y. TIMES (Apr. 11, 2018), https://www.nytimes.com/2018/04/11/technology/facebook-privacy-hearings.html.

87. *See* Lee Rainie, *Americans' Complicated Feelings About Social Media in an Era of Privacy Concerns*, PEW RES. CTR. (Mar. 27, 2018), http://www.pewresearch.org/fact-tank/2018/03/27/americans-complicated-feelings-about-social-media-in-an-era-of-privacy-concerns (arguing that the rapid growth of online platforms has triggered rising user concerns about privacy). A 2014 survey found that ninety-one percent of Americans agree that users do not have control over how their information is collected and used; furthermore, two-thirds of Americans have endorsed the statement that "current laws are not good enough in protecting people's privacy, and [sixty-four percent] support more regulation of advertisers." *See id.*

88. *See infra* notes 89–93 and accompanying text.

89. *See, e.g.*, Sarah Frier, *Facebook on Defensive as Cambridge Case Exposes Data Flaw*, BLOOMBERG (Mar. 17, 2018, 6:11 PM), https://www.bloomberg.com/news/articles/2018-03-17/no-breach-but-not-secure-cambridge-misuse-shows-facebook-flaws (reporting that Facebook executives initially dismissed Cambridge Analytica's abuse of Facebook compiled data and even denied that the abuse was a data breach).

90. Gabriel J.X. Dance et al., *Facebook Gave Device Makers Deep Access to Data on Users and Friends*, N.Y. TIMES (June 3, 2018), https://www.nytimes.com/interactive/2018/06/03/technology/facebook-device-partners-users-friends-data.html; *see also* Jennifer Valentino-DeVries & Natasha Singer, *Los Angeles Accuses Weather Channel App of Covertly Mining User Data*, N.Y. TIMES (Jan. 3, 2019), https://www.nytimes.com/2019/01/03/technology/weather-channel-app-lawsuit.html.

than admit to this breach of trust and violation of the non-negotiable subscription agreement it wrote and required customers to accept, Facebook representatives claimed, with no proof, that consumers suffered no harm.[91] According to Facebook, the wireless manufacturers left such valuable consumer data inside handset memory storage so that it could only enhance the Facebook experience without any other sort of commercial exploitation by third parties.[92] This response appears to create the impression that the handset manufacturers, which surely paid for the consumer data access opportunity, made no apparent use of the data other than to offer more convenient mobile access to Facebook service features. Apparently, this enhancement offsets any potential for consumer privacy invasion, intentional violation of contractual curbs, and national security threats when offering access to Chinese handset manufacturers accused of supporting espionage endeavors of their government.[93]

C. Free Does Not Mean at No Cost

Internet users may have only vague notions that access to free services comes at some cost. Words like data mining and Big Data[94] have entered the vernacular so by now consumers should have some sense that the operators of platform services have devised ways to

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91. *See id.* (explaining that Facebook officials defended their data sharing practices as being compliant with its privacy policies, FTC regulations, and contracts that strictly limit the use of collected data).

92. *See id.* (quoting a Facebook vice president, Ime Archibong, who claimed that "device partners can use Facebook data only to provide versions of 'the Facebook experience'"); *see also* Gabriel J.X. Dance et al., *Facebook's Device Partnerships Explained*, N.Y. TIMES (June 4, 2018), https://www.nytimes.com/2018/06/04/technology/facebook-device-partnerships.html.

93. Michael LaForgia & Gabriel J.X. Dance, *Facebook Gave Data Access to Chinese Firm Flagged by U.S. Intelligence*, N.Y. TIMES (June 5, 2018), https://www.nytimes.com/2018/06/05/technology/facebook-device-partnerships-china.html.

94. *See* Neil M. Richards, *The Dangers of Surveillance*, 126 HARV. L. REV. 1934, 1939 (2013); *see also* VIKTOR MAYER-SCHÖNBERGER & KENNETH CUKIER, BIG DATA: A REVOLUTION THAT WILL TRANSFORM HOW WE LIVE, WORK, AND THINK 6–7 (2013) (arguing that the explosion of Big Data in the 2000s is only the start of this new era of information); Danah Boyd & Kate Crawford, *Critical Questions for Big Data*, 15 INFO., COMM. & SOC'Y 662, 664–65 (2012) (analyzing "Big Data" in the social media context); Tene & Polonetsky, *supra* note 82, at 240 (explaining that the Big Data explosion is driven by "reduced costs of storing information" and the "increased capacity to instantly analyze" large quantities of data). *See generally* Barocas & Selbst, *supra* note 13, at 675, 677 (arguing that data mining results in discrimination).

recoup costs and generate ample profits.[95] On its face, better and more accurately targeted commercials, thoughtful music and video recommendations, and reports on what products and services other buyers have combined can provide consumers with helpful data analytics.[96] Consumers still can free-ride subsidized services by not following through with initial and supplemental purchases as suggested by platform software.[97]

On the other hand, most consumers seem uncertain about the marketplace value of their data, even though many intermediaries have business plans that derive most revenues from frequent auctions for highly calibrated advertising placements.[98] Advertisers underwrite consumer access to content and services through paid placements[99] on all the display screens currently in use (televisions, computers, smartphones, tablets, and wearables, such as watches). These micro-transactions add up, particularly for ventures such as Facebook[100] and Google[101] that have a global subscriber base making frequent service requests almost every day.

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95. *See* Boyd & Crawford, *supra* note 94, at 663–64 (describing "Big Data" as "a cultural, technological, and scholarly phenomenon" and the rhetoric surrounding the concept).

96. *See* Natasha Singer, *Your Online Attention, Bought in an Instant*, N.Y. TIMES (Nov. 17, 2012), https://www.nytimes.com/2012/11/18/technology/your-online-attention-bought-in-an-instant-by-advertisers.html (explaining how data mining determines the ads that an internet user views).

97. *See* Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 926–27 (1979) (explaining the "free-rider" problem).

98. *See* Singer, *supra* note 96 (explaining that, within milliseconds, algorithms collect users' browsing history and auction this information to marketers, so that they can show users ads that are tailored specifically to them).

99. *See* Cade Metz, *How Facebook's Ad System Works*, N.Y. TIMES (Oct. 12, 2017), https://www.nytimes.com/2017/10/12/technology/how-facebook-ads-work.html; Jack Nicas, *How Google's Ad Auctions Work*, WALL ST. J. (Jan. 19, 2017, 7:00 AM), https://www.wsj.com/articles/how-googles-ad-auctions-work-1484827203.

100. During the first quarter of 2018, Facebook generated $5.449 billion with an operating margin of forty-six percent. *See Facebook Reports First Quarter 2018 Results*, FACEBOOK (Apr. 25, 2018), https://investor.fb.com/investor-news/press-release-details/2018/Facebook-Reports-First-Quarter-2018-Results. In 2017, the company generated $3.327 with a forty-one percent operating margin. *See* Maddy Osman, *28 Powerful Facebook Stats Your Brand Can't Ignore in 2018*, SPROUT SOC. (Feb. 15, 2018), https://sproutsocial.com/insights/facebook-stats-for-marketers/#general.

101. For the first three months ending in March 31, 2018, Google generated $31.16 billion, compared to $30.36 billion in the previous year, a twenty-six percent year-over-year increase. Matthew Lynley, *Google Beats Expectations Again with $31.15B in Revenue*, TECHCRUNCH, https://techcrunch.com/2018/04/23/google-beats-expectations-again-with-31-15b-in-revenue (last visited Feb. 5, 2019).

Few would criticize Google and other ventures for failing to offer something of significant value or for having exceeded the boundary lines of capitalism and entrepreneurship. However, consumers increasingly may have begun to realize that "free access" to platforms comes at a significant cost. Economists remind us that there "is no free lunch"[102] in commercial transactions and neither is there truly free access to internet-mediated content and services.[103] Rather than require payment in currency, platform operators extract value from the consumer data they mine, process, collate, curate, analyze, and sell.[104] In effect, subscribers are both consumers of service provided by the intermediary, as well as the product of what the platform operator offers advertisers in exchange for monetary compensation.[105]

IV. REASONS FOR EMPHASIS ON DOWNSTREAM IMPACTS

Government agencies have several rationales supporting their emphasis on downstream impacts of intermediary activities. The agencies can reasonably conclude that the most significant impact on consumers will occur in their direct interaction with the intermediary, perhaps discounting the significance of less direct interaction with upstream ventures whose access to consumers is specified in separate commercial agreements with the platform operator.[106]

Privity of contract exists only between the intermediary and downstream consumers who may not even know with what ventures the intermediary also has established commercial relationships for sharing and deriving value from consumer data.[107] Indeed, the use of nondisclosure agreements

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102. Daniel J. Croxall, *Cheers to* Central Hudson*: How Traditional Intermediate Scrutiny Helps Keep Independent Craft Beer Viable*, 113 NW. U. L. REV. ONLINE 1, 6 (2018) ("[T]he phrase 'there is no free lunch' is often credited to pre-Prohibition U.S. saloons. Tied-houses would offer thirsty lunch crowds a 'free lunch' if they purchased beer or other alcoholic beverages during the lunch session.").

103. *See* Morozov, *supra* note 64 (explaining platforms are willing to offer services "at highly subsidised [sic] rates" because data is the source of their profits).

104. *See* Just, *supra* note 15, at 391 (arguing that personal data is a potential currency because internet platforms collect data to "extract economic value from it").

105. Scott Goodson, *If You're Not Paying for It, You Become the Product*, FORBES (Mar. 5, 2012, 12:34 PM), https://www.forbes.com/sites/marketshare/2012/03/05/if-youre-not-paying-for-it-you-become-the-product.

106. *See* Tene & Polonetsky, *supra* note 82, at 259 (discussing an FTC report that considers downstream contractual obligations).

107. *See id.* at 261 (noting that data flows against a "complex backdrop . . . involving dense networks of platforms and applications, including contractors, subcontractors, and service providers").

between intermediaries and upstream ventures prevent government agencies and consumers from having a true sense of the potential for harm resulting from the widespread transactions that extract monetary value in consumer data acquisition, analytics, and sale.[108]

While the upstream contracts may have substantial impact on consumers, government agencies understandably concentrate on short term, direct impacts, because existing policies emphasize an assessment whether market efficiency gains can be identified.[109] If such benefits appear, then the agencies can eschew further scrutiny, even if an arguably more extensive review would identify offsetting declines in consumer welfare.[110] Ventures can exploit privacy intrusions and data mining opportunities in the upstream side of an internet intermediary. This exploitation harms both consumers and competitors in core and adjacent markets.[111] In this obscured and largely ignored space, much mischief and harm can occur, as evidenced by interference with the 2016 United States presidential election[112] and the referendum on whether the United Kingdom should leave the European Union.[113]

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108. "Businesses like Facebook hold crucial information about people's social and political behavior. But they are extremely reluctant to provide that data to outsiders, unless those outsiders sign nondisclosure agreements (NDAs) that give Facebook the power to sue if the information is used in ways that the company finds objectionable." Henry Farrell, *How Facebook Stymies Social Science*, CHRON. HIGHER EDUC. (Dec. 19, 2017), https://www.chronicle.com/article/How-Facebook-Stymies-Social/242090.

109. *See* Posner, *supra* note 97, at 928 (arguing that antitrust laws should not only focus on "unilateral action"); *see also* Herbert Hovenkamp, *Antitrust Policy After Chicago*, 84 MICH. L. REV. 213, 215 (1985) ("The Chicago School model of antitrust policy dictates that allocative efficiency as defined by the market should be the only goal of the antitrust laws."). Chicago School antitrust policy interprets federal antitrust laws as emphasizing the duty to maximize economic efficiency and consumer welfare with less emphasis on the extent of current and future competition. *Id.* at 226.

110. *See id.* at 225 (explaining that scale economies pose difficulties for enforcement agencies and courts to determine whether a particular practice is competitive).

111. *See* Rory Van Loo, *Rise of the Digital Regulator*, 66 DUKE L.J. 1267, 1271–72, 1271 n.23, 1287 (2017) (explaining the threat digital intermediaries pose when gathering information, including privacy violations, guiding consumers toward harm, and blocking competitors).

112. For a comprehensive list of new accounts on Russian hacking and interference with the 2016 U.S. presidential election, see *Russian Hacking and Influence in the U.S. Election*, N.Y. TIMES, https://www.nytimes.com/news-event/russian-election-hacking (last visited Feb. 5, 2019). *See, e.g.*, MINORITY STAFF OF S. COMM. ON FOREIGN RELS., 115TH CONG., PUTIN'S ASYMMETRIC ASSAULT ON DEMOCRACY IN RUSSIA AND EUROPE: IMPLICATIONS FOR U.S. NATIONAL SECURITY 153 (Comm. Print 2018).

113. *See, e.g.*, DIGITAL, CULTURE, MEDIA AND SPORT COMMITTEE, DISINFORMATION AND 'FAKE NEWS': INTERIM REPORT, 2017–19, HC 363, at 3, 33, 43–44 (UK) (detailing Russian influence in the UK's EU referendum); David D. Kirkpatrick, *Signs of Russian Meddling*

In addition to focusing on consumers and their opportunities for short term benefits, such as subsidies and free-rider opportunities, government agencies face other disincentives to look upstream. Currently prevailing political and economic policy promote reduced government oversight.[114] Government agencies appreciate the negative public perception of appearing to expand their regulatory "wingspan."[115] The agencies risk triggering claims of mission creep by upstream stakeholders who also may assert that the government agencies lack jurisdiction to conduct any investigation.[116]

Allegations of overreach also may include arguments that the government agencies violate upstream vendors' First Amendment speaker rights, particularly for information, communications, and entertainment ventures offering audio and video content,[117] as well as advertising that qualifies for much of the speech protection accorded individuals.[118] Similarly, government agencies risk triggering claims that they have impeded the rights of upstream ventures to engage in interstate commerce with platform operators.[119]

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in Brexit Referendum, N.Y. TIMES (Nov. 15, 2017), https://www.nytimes.com/2017/11/15/world/europe/russia-brexit-twitter-facebook.html (identifying Russian use of Twitter in relation to the UK's EU referendum).

114. *See* Rob Frieden, *Assessing the Merits of Network Neutrality Obligations at Low, Medium and High Network Layers*, 115 PENN. ST. L. REV. 49, 52 (2010) ("Ample case law supports the premise that the FCC has no basis to impede and regulate Internet-mediated content and services."); Muris, *supra* note 25, at 516 ("Crucially, the enormous benefits of payment cards have developed through market competition, largely free from micromanagement by government regulators."); Van Loo, *supra* note 111, at 1271–72 (describing how regulations targeting digital intermediaries have failed).

115. *See generally* Frieden, *supra* note 114, at 51–52, 54, 61, 64 (citing examples of government agencies, such as the FCC, trying to stretch their regulatory wingspan).

116. *See* Paul Ohm & Blake Reid, *Regulating Software when Everything Has Software*, 84 GEO. WASH. L. REV. 1672, 1699 (2016) (examining the importance of clear authorization in order to counteract uncertainty in the context of agency regulation of software); *see also* Van Loo, *supra* note 111, at 1314 (explaining that although the FTC and CFPB have claimed authority over intermediaries' practices, there are no rules regulating digital intermediaries).

117. For example, in his dissent to an en banc decision to deny a rehearing and thus uphold the lawfulness of regulation by the FCC, Judge Brett Kavanaugh (now Justice of the Supreme Court) asserted that the net neutrality rule violates the First Amendment rights of internet service providers unless the FCC shows the provider possesses relevant market power. U.S. Telecom Ass'n v. FCC, 855 F.3d 381, 426, 435 (D.C. Cir. 2017) (en banc) (per curiam) (Kavanaugh, J., dissenting), *cert. denied*, 138 S. Ct. 475 (2017).

118. *See id.* at 429 n.8 (majority opinion), 435 (Kavanaugh, J., dissenting).

119. *See id.* at 427 (explaining that Congress's constitutional power over interstate commerce is limited by communication entities' First Amendment rights).

The reluctance to probe upstream activities may also stem from the increasingly questionable conclusion that upstream vendors do not operate in ways that might harm consumers. Belatedly, we have seen data mining generating significant and unexpected adverse consequences; including, direct impacts on presidential elections, manipulating public opinion through fake news,[120] and acquiring data about consumers who have not consented to any sort of mining and may not even know their data has been extracted, analyzed, and sold.[121]

Additionally, regulatory agencies may have concluded that previous enforcement actions and consent decrees provide sufficient safeguards.[122] Such confidence appears misinformed or misguided in light of recent news accounts reporting on the lack of transparency and possible violations of existing Federal Trade Commission (FTC) consent decrees by Facebook, Google, and other intermediaries.[123]

Government agencies—with clear jurisdiction to assess the potential for harm to consumers and competition—continue to use evaluative tools primarily created for and applied to bricks and mortar transactions.[124] While governments have applied these tools to information-age transactions—e.g., credit cards—until quite recently, the analysis largely has ignored the two-sided market structure and failed to appreciate that this industrial structure has significant

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120. *See* Lili Levi, *Real "Fake News" and Fake "Fake News*," 16 FIRST AMEND. L. REV. 232, 239 (2017) (describing how social media and news intermediaries use algorithms to address the problem of "fake news" circulation).

121. *See* John D. McKinnon, *FTC Probing Facebook over Data Use by Cambridge Analytica*, WALL STREET J., (Mar. 20, 2018, 6:35 PM), https://www.wsj.com/articles/ftc-probing-facebook-over-data-use-by-cambridge-analytica-1521561803 (describing a consent decree, which requires user consent to gather personal data).

122. *See Facebook Settles FTC Charges that It Deceived Consumers by Failing to Keep Privacy Promises*, FED. TRADE COMM'N (Nov. 29, 2011), https://www.ftc.gov/news-events/press-releases/2011/11/facebook-settles-ftc-charges-it-deceived-consumers-failing-keep (detailing that Facebook's settlement of a privacy dispute includes provisions for future compliance and noting that consent decrees are binding). *But see* McKinnon, *supra* note 121 (suggesting companies may violate consent decrees).

123. *See FTC Accepts Final Settlement with Twitter for Failure to Safeguard Personal Information*, FED. TRADE COMM'N (Mar. 11, 2011), https://www.ftc.gov/news-events/press-releases/2011/03/ftc-accepts-final-settlement-twitter-failure-safeguard-personal; *FTC Gives Final Approval to Settlement with Google over Buzz Rollout*, FED. TRADE COMM'N (Oct. 24, 2011), https://www.ftc.gov/news-events/press-releases/2011/10/ftc-gives-final-approval-settlement-google-over-buzz-rollout.

124. *See* Michael Katz & Jonathan Sallet, *Multisided Platforms and Antitrust Enforcement*, 127 YALE L.J. 2142, 2169 (2018) (noting that existing antitrust evaluation mechanisms can be used to evaluate multisided platforms).

potential for both benefitting and harming consumers.[125] With an emphasis on current market definition and share, government agencies may fail to see interaction between intermediaries and upstream ventures that have direct and indirect impacts on downstream consumers.[126] By emphasizing what can be identified and measured easily, government agencies fail to see more obscure offsetting costs and harms.[127]

V. *OHIO V. AMERICAN EXPRESS CO.* AND A NEW FOCUS ON BOTH MARKET SIDES

A recent Supreme Court decision involving a credit card issuer provides insight on current disputes about the proper scope of market definition and analysis of platform intermediaries. *Ohio v. American Express Co.*[128] addresses how courts should define the relevant market[129] to prevent finding anticompetitive harms where little or none exist—a false positive—and perhaps also to avoid decision making that ignores consumer harms—a false negative.[130]

In *American Express Co.*, the conservative majority of the Court, endorsing recent economic doctrine championed by academics,[131] upheld a decision by the United States Court of Appeals for the Second Circuit to reject a district court's relevant market determination in an antitrust review of an alleged vertical restraint of trade.[132] The

125. Muris, *supra* note 25, at 530–31, 537.

126. *See* Filistrucchi et al., *supra* note 9, at 294–95 (emphasizing the importance of defining the market correctly, but admitting that market definition focuses on only substitutable goods).

127. *See* Muris, *supra* note 25, at 537.

128. 138 S. Ct. 2274 (2018).

129. *See id.* at 2287. Katz & Sallet, *supra* note 124, at 2144 (explaining that in platform industries there is debate over how to incorporate relationships between the two sides of the platform into the market definition). *See generally* FTC v. Ind. Fed'n of Dentists, 476 U.S. 447, 460 (1986) ("[T]he purpose of the inquiries into market definition and market power is to determine whether an arrangement has the potential for genuine adverse effects on competition.").

130. *See Am. Express Co.*, 138 S. Ct. at 2287.

131. *See id.* at 2280–81 (citing EVANS & SCHMALENSEE, MATCHMAKERS, *supra* note 9, at 25); David S. Evans & Michael Noel, *Defining Antitrust Markets when Firms Operate Two-Sided Platforms*, 2005 COLUM. BUS. L. REV. 667, 668 (2005); David S. Evans & Richard Schmalensee, *Markets with Two-Sided Platforms*, 1 ISSUES IN COMPETITION L. & POL'Y 667, 668 (2008); Filistrucchi et al., *supra* note 9, at 296; Klein et al., *supra* note 25, at 580, 583; Muris, *supra* note 25, at 532–33; Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 J. EUR. ECON. ASS'N 990, 1013 (2003); *see also* Brief for Antitrust Law & Economics Scholars as Amici Curiae Supporting Respondents at 1, Ohio v. Am. Express Co., 138 S. Ct. 2274 (2018).

132. *Am. Express Co.*, 138 S. Ct. at 2283.

Supreme Court endorsed the finding that the district court should have assessed consumer impacts on both sides of the market served by the credit card issuing company: the downstream users of cards and the upstream vendors accepting cards for payment.[133] The alleged vertical restraint involved so-called anti-steering contractual language that prohibited vendors, agreeing to accept American Express credit cards, from trying to persuade customers to use a different card that imposed lower "swipe fee"[134] processing costs on the vendor.

The district court suggested that relevant market and impact analysis of anti-steering contractual language required consideration of how anti-steering provisions affected both merchants and consumers—ostensibly a complete two-sided market assessment. However, the district court focused on how the anti-steering contractual language helped maintain higher swipe fees that harmed both competition among credit card issuers and consumers with apparently no offsetting benefits.[135]

This court also determined that American Express had market power because it imposed twenty fee increases over a five-year period without losing market share in terms of the number of vendors accepting its cards and credit card transaction processing.[136] The district court concluded that in the absence of the anti-steering provisions, swipe fees to merchants and consumer costs would have been lower.[137] The court considered as corroborating evidence the decision by the Discover credit card company to abandon its business

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133. *Id.* at 2286.

134. Consumers may not know the cost vendors incur when accepting credit cards in lieu of cash payment. Swipe fees range from one percent to five percent of the purchase amount. Tim Parker, *The Truth About Credit Card Swipe Fees*, INVESTOPEDIA (July 14, 2011, 2:00 AM), https://www.investopedia.com/financial-edge/0711/the-truth-about-credit-card-swipe-fees.aspx.

135. The interrelationship between the two sides of the platform demands that both sides must be considered. *See* United States v. Am. Express Co., 88 F. Supp. 3d 143, 156 (E.D.N.Y. 2015). Plaintiffs have the initial burden of proof to show that the defendants have adversely affected the market. The plaintiffs successfully met this burden and proved American Express capable of affecting the market. *Id.* at 187. American Express argued that it must charge a premium to be successful. *Id.* at 199. Non-discrimination provisions take power away from merchants and reduce the incentives of credit card companies to lower rates. The court found that the Non-Discrimination Provisions have been detrimental to competition. *Id.* at 207–08.

136. *Id.* at 188 (finding that American Express possesses market power due to its "significant market share in a highly concentrated market with high barriers to entry" and the ability to increase swipe fees frequently without losing market share).

137. *Id.* at 208 (finding that the Plaintiffs demonstrated harm in the form of "inflated merchant discount rates" passed on to customers from "higher retail prices").

model of offering comparatively lower fees as an inducement for more vendors to accept the card for payment and in turn to acquire greater market share of credit card usage.[138] As the company having the smallest market share, Discover sought to differentiate its card with merchants; however, Discover could not acquire more market share because vendors could not encourage customers to use its credit card.[139]

Both the Second Circuit Court of Appeals and the Supreme Court opted to examine market impacts on both sides of the credit card platform marketplace.[140] These appellate courts both concluded that to assess the complete impact of a credit card company's anti-steering contractual language, judges should identify and consider the consequences of any positive or negative impact.[141] The Second Circuit Court of Appeals found the credit card network participants (card issuers, banks, and merchants) must consider the interdependency[142] between both merchants and cardholders, because

> price changes on one side can result in demand changes on the other side. If a merchant finds that a network's fees to accept a particular card exceed the benefit that the merchant gains by accepting that card, then the merchant likely will choose not to accept the card. On the other side, if a cardholder finds that too few merchants accept a particular card, then the cardholder likely will not want to use that card in the first place. Accordingly, in order to succeed, a credit-card network must "find an effective method for balancing the prices on the two sides of the market."[143]

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138. "American Express's merchant restraints also render it nearly impossible for a firm to enter the relevant market by offering merchants a low-cost alternative to the existing networks." *Id.* at 213 (citing the failure of Discover's lower swipe fee model).

139. *Id.* at 213–14.

140. United States v. Am. Express Co., 838 F.3d 179, 186 (2d Cir. 2016), *aff'd*, Ohio v. Am. Express Co., 138 S. Ct. 2274, 2285–87 (2018).

141. *Am. Express Co.*, 138 S. Ct. at 2285–87; *Am. Express Co.*, 838 F.3d at 186.

142. Explaining that,

> The functions provided by the credit-card industry are highly interdependent and, at the cardholder/merchant-acceptance level, result in what has been called a "two-sided market." The cardholder and the merchant both depend upon widespread acceptance of a card. That is, cardholders benefit from holding a card only if that card is accepted by a wide range of merchants, and merchants benefit from accepting a card only if a sufficient number of cardholders use it.

Am. Express Co., 838 F.3d at 185–86.

143. *Id.* at 186 (quoting Jean–Charles Rochet & Jean Tirole, *An Economic Analysis of the Determination of Interchange Fees in Payment Card Systems*, 2 REV. NETWORK ECON. 69, 72 (2003)).

Both appellate courts undertook a comparison of costs and benefits affecting both vendors and credit card users.[144] While anti-steering rules mandated by credit card issuers can constitute an illegal vertical restraint on trade by reducing competition among credit card companies, the courts considered the potential for offsetting positive financial impact on credit card users through more generous and diversified benefits, e.g., financial rebates and enhanced travel services.[145]

Analysis by the Second Circuit Court of Appeals emphasized how variance in costs incurred by both vendors and credit card users can impact both sides of the platform operated by a credit card issuer.[146] Considering the interdependency of product and service vendors and consumers using credit cards, the court identified two joint market effects not considered by the district court: (1) the impact of anti-steering rules on the level of card issuer market competition, and, (2) the impact of credit card issuer anti-steering rules on their incentives to offer usage inducements to consumers.[147] While the credit card marketplace is concentrated with only four companies and evidences substantial barriers to market entry, the Second Circuit Court of Appeals noted the ease with which consumers can shift card allegiance based on many factors including the costs incurred by using a specific card and the financial inducements offered by credit card issuers to encourage consumer loyalty.[148]

The Supreme Court's conservative majority affirmed the Second Circuit Court of Appeals' analysis and conclusion that the lower court

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144. *Id.* at 185–86.

145. For example,

> In order to remain competitive on the cardholder side of the platform, a payment-card network might need to increase cardholder rewards—or, in other words, cut prices to cardholders. This, in turn, might diminish the network's profitability from the hypothetical price increase. If the network chose in that situation not to increase cardholder rewards, then merchant attrition likely would continue increasing as a result of the reduction in cardholders. Over time, the reduction in transactions could make the hypothetical price increase unprofitable.

Id. at 202.

146. *Id.* at 186.

147. *Id.* at 197, 202.

148. *Id.* at 189–90 (explaining that "multihoming" creates substitutes, which allows cardholders and merchants to choose from an array of multiple cards according to their needs, thus making it harder for credit card companies to unilaterally increase prices). "A firm that can attract customer loyalty only by *reducing* its prices does not have the power to *increase* prices unilaterally." *Id.* at 203.

should have assessed the consumer impact of transactions occurring on both sides of the credit card issuer's platform:

> Price increases on one side of the platform likewise do not suggest anticompetitive effects without some evidence that they have increased the overall cost of the platform's services. Thus, courts must include both sides of the platform—merchants and cardholders—when defining the credit-card market.[149]

The Court determined that both sides of an intermediary platform require examination because two inter-related transactions take place, each of which affect both upstream and downstream participants.[150] By examining the marketplace impact on both sides of the American Express platform, the Court identified consumer and competitive benefits that offset the harm to consumers identified by the district court.[151] Identifying this benefit would not occur if a court examined impacts on just one side of the intermediary's transactions when identifying what constitutes the relevant market for credit card services.[152] Because credit card anti-steering contractual terms might not constitute an unlawful vertical restraint on trade, the reviewing court could avoid a false positive finding of anticompetitive harm to consumers by acquiring a complete evidentiary record, including an assessment about the potentially favorable impact of the anti-steering contractual language on both vendors and consumers.[153]

The dissenting opinion in *American Express Co.*, written by Justice Breyer and joined by the three other liberal Justices, disputed the lawfulness of the two-sided market examination.[154] Both camps agreed that an alleged vertical restraint required a "rule of reason" analysis that has three analytical steps.[155] The Court factions disagreed on whether the first step identification of the relevant market includes participants on both sides of the intermediary platform.[156] If only the downstream consumer side requires analysis, then the plaintiffs more readily could identify substantial anticompetitive effects and meet its

149. Ohio v. Am. Express Co., 138 S. Ct. 2274, 2286 (2018).

150. The link between merchants and cardholders requires equal and balanced transactions; both sides of the platform must choose the same network for a transaction to occur. *Id.* at 2286.

151. *Id.* at 2287–88.

152. *Id.* at 2287.

153. *See id.* at 2284, 2287–88.

154. *Id.* at 2290 (Breyer, J., dissenting).

155. *See id.* at 2284 (majority opinion).

156. *Id.* at 2290–91 (Breyer, J., dissenting).

evidentiary burden, thereby triggering the second step where the defendant must identify procompetitive rationales for the restraint.[157] If successful, the burden shifts back to the plaintiff to demonstrate that the procompetitive efficiencies could be reasonably achieved through less anticompetitive means.[158]

The Court majority determined that had the district court assessed the competitive and consumer impact of the anti-steering rules on both sides of the market, it would not have concluded that the plaintiffs had satisfied their initial burden of introducing evidence of substantial anticompetitive harm.[159] A persuasive case for financial harm had been made with the narrow focus on downstream consumers because higher swipe fees clearly result in higher merchant costs, at least some of which will flow through to consumers.[160] However, the district court could have identified offsetting consumer benefits when considering what "rewards" American Express provides its customers.[161]

Justice Breyer, in dissent, strongly asserted that the district court had no reason to expand its market impact analysis, noting that no antitrust case precedent supports doing so.[162] Additionally, he noted case precedent does not favor judicial netting or balancing of competitive benefits and harms occurring in different markets.[163]

The sole focus on the immediate impact of higher swipe fees on downstream credit card users ignores other factors that might reduce or eliminate a conclusion of anticompetitive harm, such as higher prices to consumers.[164] A more nuanced, calibrated, and granular analysis considers the credit card ecosystem as both two-sided and segmented by card issuer marketing strategies.[165] Swipe fee pricing strategy constitutes a key differentiator for which credit cards a vendor would accept, but other factors come into play, particularly on the consumer side.[166] Some consumers might want a credit card that offers

157. *Id.* at 2284.
158. *Id.* at 2284–85.
159. *Id.*
160. *See* United States v. Am. Express Co., 838 F.3d 179, 185, 199 n.45 (2d Cir. 2016).
161. *See id.* at 185.
162. In his dissent, Justice Breyer criticized the majority's failure to abide by precedent or explain why two-sided platforms should merge into one market. *Am. Express Co.*, 138 S. Ct. at 2302 (Breyer, J., dissenting).
163. For a company that sells complementary products, a court should not assess the products together, but rather should look only at the product at issue. *Id.* at 2298.
164. *Id.* at 2287–88; *see also* Parker, *supra* note 134.
165. *Am. Express Co.*, 138 S. Ct. at 2287–88 (majority opinion).
166. *Id.* at 2286, 2288–89.

generous financial rebates and other subsidies, such as airline miles.[167] Others might want one that offers a low short-term interest rate on balance due transfers.[168] Others might willingly pay for the privilege of tapping a benefit-rich inventory, including airline lounge access, "free" baggage allowances on specific airlines, concierge-provided travel assistance, and early opportunities to buy Broadway and concert tickets at face value.[169]

In this more segmented marketplace, a credit card company might execute a strategy of demanding comparatively higher swipe fees of vendors to generate more generous and desirable credit card user rewards.[170] Another company might use lower swipe fees as an incentive for more vendors to accept purchases using the card.[171] Arguably, such differentiation promotes a competitive marketplace both in terms of what inducements credit card companies must offer consumers and which card a consumer will use for each transaction.[172]

The Court majority noted that American Express uses a marketing strategy geared towards attracting wealthier card users likely to make more expensive purchases.[173] This strategy does not primarily rely on revenues accruing from interest payments by card users not making full payment within a short grace period.[174] It compensates for comparatively fewer transactions and monetary loans with higher swipe fees involving more expensive purchases.[175] Two major credit card issuers, MasterCard and Visa, use a different strategy that is less reliant on swipe fees than on credit card user interest payments.[176]

The *American Express Co.* case emphasizes the need for courts and, by extension, regulatory agencies, to consider the relationship between upstream and downstream market participants in terms of their

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167. *Id.* at 2280.

168. Lisa Joyce, *What Consumers Love (and Hate) About Debit and Credit Cards*, FIN. BRAND (Sept. 27, 2017), https://thefinancialbrand.com/67725/consumer-banking-debit-credit-card-preferences (illustrating consumers' consideration of interest rates as compared to other credit card features).

169. *Id.*

170. *Am. Express Co.*, 138 S. Ct. at 2288.

171. *Id.* at 2289.

172. *Id.* at 2289–90.

173. "To encourage cardholder spending, Amex provides better rewards than other networks. Due to its superior rewards, Amex tends to attract cardholders who are wealthier and spend more money." *Id.* at 2282.

174. *Id.*

175. *Id.* at 2292 (Breyer, J., dissenting).

176. *Id.* at 2282 (majority opinion).

interdependency and their relationship with the platform intermediary.[177] In the credit card ecosystem, the availability of alternative credit cards and the ease with which consumers can change allegiances evidence a competitive credit card platform marketplace with significant consumer sensitivity to comparative costs and benefits accruing from the use of specific cards.[178] Some credit card users attempt to maximize downstream subsidies and rebates by acquiring many different cards from banks offering generous inducements to apply and strategically using the one card that confers the best benefits for each transaction, e.g., Card A for gasoline, Card B for airline tickets, Card C for restaurants.[179]

The division of the Supreme Court on a liberal versus conservative fulcrum in this case may identify what constituencies and economic doctrine each faction favors. The majority persuasively demonstrates that in the credit card ecosystem, two complementary and inter-related transactions take place.[180] In his dissent, Justice Breyer suggests that "the complementary relationship between the products is irrelevant to the purpose of market definition,"[181] emphasizing that his understanding of antitrust law and economics was that market analysis should be limited to substitutes.[182] Justice Breyer objects to the majority's decision to determine a net market impact of the anti-steering contract provisions by combining the negative impact of higher merchant swipe fees and the positive impact on consumers able to tap into more and better credit card services and rewards.[183]

While not using the same term, the Court majority considers card user and card accepting vendors as jointly participating in transactions

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177. *Id.* at 2285–87.

178. *Id.* at 2289–90.

179. Daniel Bortz, *How Many Credit Cards Should You Really Have?*, FORBES (Sept. 14, 2016, 9:00 AM), https://www.forbes.com/sites/learnvest/2016/09/14/how-many-credit-cards-should-you-really-have; *see also* AnnaMaria Andriotis & Emily Glazer, *Rewards Credit Cards Gained a Fanatic Following—Now Banks Are Pulling Back*, WALL ST. J. (Jan. 1, 2019), https://www.wsj.com/articles/rewards-credit-cards-gained-a-fanatic-followingnow-banks-are-pulling-back-11546365926.

180. *Am. Express Co.*, 138 S. Ct. at 2280.

181. When defining the relevant product market, economists and courts include all goods and services that potential purchasers consider close substitutes. *Id.* at 2298 (Breyer, J., dissenting); *see also* Katz & Sallet, *supra* note 124, at 2154 & n.37.

182. "[T]he market . . . does not include what economists call complements: goods or services that are used together with the restrained product, but that cannot be substituted for that product." *Am. Express Co.*, 138 S. Ct. at 2295 (Breyer. J., dissenting).

183. *Id.* at 2294–95.

that affect each other and thereby bind them and their markets together.[184] The majority decision deems this integration as evidence that "indirect network effects"[185] apply to both parties, because "the value of the two-sided platform to one group of participants depends on how many members of a different group participate."[186] Arguably, a relevant market analysis requires impact assessment on both sides of an intermediary platform because

> [r]aising the price on side A risks losing participation on that side, which decreases the value of the platform to side B. If participants on side B leave due to this loss in value, then the platform has even less value to side A—risking a feedback loop of declining demand.[187]

The majority held that the plaintiffs did not meet their burden of proving anticompetitive effects in the relevant market, because "the product that credit-card companies sell is transactions, not services to merchants."[188] As a result, the majority argues, the plaintiff must show anticompetitive effects on "the two-sided credit-card market as a whole" by proving that "Amex's anti steering provisions increased the cost of credit-card transactions above a competitive level, reduced the number of credit-card transactions, or otherwise stifled competition in the credit-card market."[189]

A. Impact of Ohio v. American Express Co. *on Internet Intermediaries*

American Express Co. addressed credit card transactions that include a large percentage occurring in traditional bricks and mortar locations.[190] The case considered the potential for false positive findings of anticompetitive harm should a reviewing court limit its examination to the downstream impact on consumers.[191] In light of the speedy

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184. "[W]henever a credit-card network sells one transaction's worth of card-acceptance services to a merchant it also must sell one transaction's worth of card-payment services to a cardholder. It cannot sell transaction services to either cardholders or merchants individually." *Id.* at 2286 (majority opinion).

185. *Id.* at 2277. "[T]he benefits of indirect network effects can only be achieved when multiple agents are coordinated, and participation of each agent is ensured. . . . Without a multi-sided platform, the 'value-creating' interaction among multiple agencies could be extremely costly." D. Daniel Sokol & Jingyuan (Mary) Ma, *Understanding Online Markets and Antitrust Analysis*, 15 NW. J. TECH. & INTELL. PROP. 43, 51–52 (2017).

186. *Am. Express Co.*, 138 S. Ct. at 2280.

187. *Id.* at 2281.

188. *Id.* at 2287.

189. *Id.*

190. *Id.* at 2282.

191. *Id.* at 2287.

growth in electronic commerce transactions, we should consider the impact of *American Express Co.* on the two-sided market platforms that operate via the internet. Many of these transactions have the potential to trigger a false negative finding of no consumer harms if reviewing courts and regulatory agencies solely examine the downstream impact and ignore offsetting harms generated by upstream transactions between the intermediary platform operators and third parties running the gamut from data brokers and advertisers to foreign governments seeking to meddle in elections and fake news disseminators.[192]

The Court noted that its decision did not endorse universal assessment of both sides of a two-sided market.[193] However, the case offers a strong precedent for doing so to avoid making an incomplete or wrong marketplace assessment.[194] Arguably, the case provides a rationale for two-sided market examinations when the risk of either a false positive *or* a false negative exists.[195] This motivation to conduct a macro-level analysis stems from the likely consequences that limiting analysis to one side of the market, while consistent with traditional relevant market definition,[196] misses significant direct, secondary and even tertiary impacts.

Justice Breyer's dissent and the friend of court filings by antitrust law and economics scholars make a persuasive argument that the long-standing rule of reason analysis of vertical restraints, such as the anti-steering provisions, contemplates a properly calibrated relevant market definition.[197] Expanding the relevant market to include

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192. *See* Editorial Board, *After Russia's Election Interference, Pulling Back the Curtain on Online Ads*, WASH. POST (Nov. 23, 2017), https://www.washingtonpost.com/opinions/whos-paying-for-online-ads/2017/11/23/493cc11c-ce44-11e7-9d3a-bcbe2af58c3a_story.html; David Lazarus, *Who Oversees Data Brokers Selling Your Personal Information? No One*, L.A. TIMES (Oct. 28, 2016, 3:00 AM), http://www.latimes.com/business/lazarus/la-fi-lazarus-list-brokers-20161028-snap-story.html.

193. *Am. Express Co.*, 138 S. Ct. at 2286. For example, in Times-Picayune Publishing Co. v. United States, 345 U.S. 594 (1953), the Court used a one-sided, upstream assessment on advertisers in New Orleans subject to a requirement by the dominant newspaper that they pay for advertisements in both morning and evening editions. *Id.* at 610. The Court held that the requirement did not constitute a violation of the Sherman Act. *Id.*

194. *Am. Express Co.*, 138 S. Ct. at 2286.

195. *Id.* at 2285–87.

196. "[D]efining the relevant market to include all sides of the platform creates a broader space of allowable trade-offs than when the definition" encompasses just one side. *See* Patrick R. Ward, *Testing for Multisided Platform Effects in Antitrust Market Definition*, 84 U. CHI. L. REV. 2059, 2060 (2017).

197. *See Am. Express Co.*, 138 S. Ct. at 2296-97 (Breyer, J., dissenting); Brief for Amici Curiae John M. Connor et al. as Amici Curiae Supporting Petitioners at 30, Ohio v. Am.

offsetting harm does come across as a netting or cost/benefit analysis in contrast to the conventional process where a court only looks for a market of substitutes and assesses the potential for harm directly to these competitors.[198] The Supreme Court has endorsed a market definition that considers instances where Peter gets robbed—reduced competition among credit card companies—but Paul gets paid—consumers benefit from enhanced and more valuable credit card services.[199] Without examining both sides of a platform intermediary market, courts would miss both substantial offsetting activities that can contribute benefits (or costs) directly to participants on each side, and even to non-participants.[200]

In a broader context, without examining both sides of the platform, courts would not see favorable or harmful impacts that could reduce the likelihood of the court making a false positive or false negative determination of consumer harm. Secondary impacts for internet platforms include the potential for disrupting business models used by brick and mortar vendors of products and services.[201] Tertiary impacts include how internet platforms affect and change labor relations, civil society, elections, what constitutes a reasonable expectation of privacy, and the potential for loss of trust in a variety of public and private transactions.[202]

If antitrust courts interpret their statutory mission to examine how vertical restraints affect consumers, then the analysis arguably should include a relevant market definition and thorough examination including the positive and negative impact that the platform model has on consumers. For internet platforms, this process may become

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Express Co., 138 S. Ct. 2274 (2018); Brief of 28 Professors of Antitrust Law as Amici Curiae Supporting Petitioners at 16–19, Ohio v. Am. Express Co., 138 S. Ct. 2274 (2018).

198. Katz & Sallet, *supra* note 124, at 2162 (noting that certain platform conduct can benefit one group of users whole harming another, creating the choice of whether and how to balance gains experienced by one group against losses suffered by another group as a result of anti-competitive conduct).

199. *Am. Express Co.*, 138 S. Ct. at 2286–87.

200. "[D]efining the relevant market to include all sides of the platform . . . provides the opportunity to trade procompetitive effects on one side of the platform for anticompetitive effects on the other side." Ward, *supra* note 196, at 2077–78.

201. *See* Wolf Richter, *Here's Which Brick-and-Mortar Retailers are Getting Hit the Hardest*, BUS. INSIDER (May 19, 2018, 11:02 AM), https://www.businessinsider.com/brick-and-mortar-retailers-getting-hit-the-hardest-2018-5.

202. *See* Molly Wood, *Facebook Generation Rekindles Expectation of Privacy Online*, N.Y. TIMES (Sept. 7, 2017, 7:00 AM), https://bits.blogs.nytimes.com/2014/09/07/rethinking-privacy-on-the-internet; Janna Anderson & Lee Rainie, *The Future of Truth and Misinformation Online*, PEW RES. CTR. (Oct. 19, 2017), http://www.pewinternet.org/2017/10/19/the-future-of-truth-and-misinformation-online.

increasingly difficult as both positive and negative impacts may be difficult to quantify.[203] However, the difficulty and potential for imperfect calculations should not foreclose the analysis. In the *American Express Co.* case, the offsetting benefits from enhanced card user services were recognized, but not specifically quantified by the reviewing courts.[204] Nevertheless, the Supreme Court majority was confident that the enhancements to the welfare of a specific card-using group of consumers offset the costs to all vendors accepting credit cards and arguably all consumers likely to incur higher prices because of increased swipe fees.[205]

VI. IDENTIFYING ESSENTIAL ELEMENTS IN THE NECESSARY UPSTREAM ANALYSIS

The *American Express Co.* case highlights the importance of relevant market assessment as well as consideration whether consumers have competitive and functionally equivalent options.[206] While the dissent expressed concern that the majority opted to consider both sides of the credit issuer's platform, it emphasized how doing so resulted in a finding that the plaintiff had failed to meet its evidentiary production burden in the first of three steps in a rule of reason analysis regarding an alleged vertical restraint of trade.[207] Such a determination terminates the case, because the second step in a rule of reason analysis occurs only if plaintiffs meet their burden in the first step.[208]

Had the case proceeded to the second step, the defendants would have had the opportunity to introduce evidence including how credit card accepting vendors' payments to American Express generated consumer benefits.[209] The defendants also could demonstrate that even in a concentrated market of four major credit card suppliers, consumers can regularly switch and thereby face no lock-in, unlike many internet markets dominated by a single venture.[210] This evidentiary production would have introduced upstream market transactions into the record, so arguably no justice objected to such an

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203. Ryan Calo & Alex Rosenblat, *The Taking Economy: Uber, Information, and Power*, 117 COLUM. L. REV. 1623, 1649–50 (2017).
204. *Am. Express Co.*, 138 S. Ct. at 2282, 2288.
205. *Id.* at 2282, 2288–89.
206. *Id.* at 2285, 2289–90.
207. *Id.* at 2291, 2297 (Breyer, J., dissenting).
208. *Id.* at 2290 (majority opinion).
209. *Id.* at 2284.
210. *Id.* at 2284.

analysis of the merchant side of American Express's platform provided it takes place in the proper rule of reason investigative sequence.[211]

To calculate both the benefits and costs of an internet ecosystem intermediary's commercial activities, governments and consumers alike should assess what occurs both downstream and upstream. Looking at one market side risks both false positives and negatives, the former likely occurring when considering only subsidized and free rider content access opportunities downstream and the latter likely occurring when considering only the costs incurred by upstream participants.

Downstream impacts—particularly consumer welfare enhancements—appear more easily identified and quantified.[212] On the other hand, upstream impacts are easily obscured as they occur behind the scenes[213] and involve different types of participants, including many not keen on having their actions detected.[214] On this upstream side of the digital intermediary, much harm can beset participants in the internet ecosystem—and even non-participants are at risk.[215] If Russian and other provocateurs successfully interfered with the 2016 United States

211. *Id.* at 2290, 2296 (Breyer, J., dissenting).

212. *See* Calo & Rosenblat, *supra* note 203, at 1641–45 (providing examples of identifiable downstream impacts).

213. With vastly improved data mining technologies, platform operators can exploit asymmetries of information and power both upstream and downstream. For example, "Uber's ability to blur the boundaries between an accurate representation of real-time supply (drivers) and a representation of general driver supply illustrates the potential for deception to emerge in user interactions with the platform." *Id.* at 1660 (noting that because of the information asymmetry between users and Uber and the gap between expectations, promises, and reality, "[w]hen issues of deception or other types of problems emerge... it can be challenging to dissect which part of the problem is a business practice, a technical issue, or a sociotechnical misunderstanding"); *see also* Calo, *supra* note 78, at 1004–06.

214. *See, e.g.*, Matthew T. Bodie et al., *The Law and Policy of People Analytics*, 88 U. COLO. L. REV. 962, 988–90, 1038–39 (2017); Michal S. Gal & Niva Elkin-Koren, *Algorithmic Consumers*, 30 HARV. J.L. & TECH. 309, 322–25 (2017); Kenneth A. Grady, *Mining Legal Data: Collecting and Analyzing 21st Century Gold*, 20 J. INTERNET L. 1, 12, 19 (2017); Philip Hacker & Bilyana Petkova, *Reining in the Big Promise of Big Data: Transparency, Inequality, and New Regulatory Frontiers*, 15 NW. J. TECH. & INTELL. PROP. 1, 15–16 (2017); Ramsi A. Woodcock, *Big Data, Price Discrimination, and Antitrust*, 68 HASTINGS L.J. 1371, 1386–87, 1393 (2017).

215. *See* Frank Pasquale, THE BLACK BOX SOCIETY: THE SECRET ALGORITHMS THAT CONTROL MONEY AND INFORMATION 3, 20 (2015); Jonathan Taplin, MOVE FAST AND BREAK THINGS: HOW FACEBOOK, GOOGLE, AND AMAZON CORNERED CULTURE AND UNDERMINED DEMOCRACY 4 (2017).

presidential election,[216] then all citizens have a stake in upstream market analysis irrespective of whether they participated in any particular type of internet-mediated transaction such as receiving fake news and other provocations from foreign agents keen on influencing voters' presidential choice.[217]

Broadband intermediaries have new and extraordinary ways to monitor, surveil, collect, and sell subscriber data to purchasers whose identity need not be disclosed.[218] This changes the value position of what the intermediary offers because the ability to "mine" subscriber data has value that can provide a substantial and new revenue stream for platform intermediaries, but only if subscribers ignore potentially high costs they have to incur.[219] Just as a court might overestimate downstream harm to consumers absent an examination of ameliorating upstream benefits, so too might a court overestimate the level of downstream benefits of advertiser content subsidies absent adequate consideration of the offsetting costs to consumers and society from upstream data mining.[220]

Data mining can impose higher costs on consumers even considering the possible joint benefit of better calibrated advertising placements.[221]

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216. *See* Matt Apuzzo & Sharon LaFraniere, *13 Russians Indicted as Mueller Reveals Effort to Aid Trump Campaign*, N.Y. TIMES (Feb. 16, 2018), https://www.nytimes.com/2018/02/16/us/politics/russians-indicted-mueller-election-interference.html; Mark Mazzetti & Katie Benner, *12 Russian Agents Indicted in Mueller Investigation*, N.Y. TIMES (July 13, 2018), https://www.nytimes.com/2018/07/13/us/politics/mueller-indictment-russian-intelligence-hacking.html.

217. Ryan Lucas, *FBI Direction Says Russia Still Seeking to Interfere in U.S. Democracy*, NPR (July 18, 2018, 10:45 PM), https://www.npr.org/2018/07/18/630337474/fbi-director-says-russia-still-seeking-to-interfere-in-u-s-democracy.

218. Brian Fung, *What to Expect Now that Internet Providers Can Collect and Sell Your Web Browser History*, WASH. POST (Mar. 29, 2017), https://www.washingtonpost.com/news/the-switch/wp/2017/03/29/what-to-expect-now-that-internet-providers-can-collect-and-sell-your-web-browser-history.

219. *See* B. Bodo et al., *Tackling the Algorithmic Control Crisis—The Technical, Legal, and Ethical Challenges of Research into Algorithmic Agents*, 19 YALE J.L. & TECH. 133, 141 (2017) (observing that subscribers have almost no insight into the transactions and information flows on digital platform intermediaries).

220. *See* Frieden, *supra* note 22, at 320 (asserting that governments have often overstated the generosity of short-term consumer benefits by failing to factor offsetting privacy intrusions into their assessment of an intermediary's market impact).

221. *See, e.g.*, Michal S. Gal & Daniel L. Rubinfeld, *The Hidden Costs of Free Goods: Implications for Antitrust Enforcement*, 80 ANTITRUST L.J. 521, 523 (2016) (noting that while consumers may not have to pay a direct price for free goods, indirect prices and other anticompetitive effects stemming from the provision of subsidized goods and

If better targeting of advertisements constituted the only consequence of data mining, then many participants would have confirmation that the process in the aggregate constitutes a win-win proposition.[222] However, data mining can impose significant privacy-invading, sinister, and harmful costs on downstream consumers.[223] Additionally, "winner-take-all" market dominance can create incentives for most consumers to rely on a single venture unlike the incentives and ease in switching credit cards to maximize benefits from any single transaction.[224]

If the potential harm from attempts to meddle in elections via social networks appears too speculative, other more frequent and negative impacts of data mining warrant consideration. For example, measurable consumer welfare and surpluses decline or evaporate when vendors use data mining for dynamic pricing.[225] Digital intermediaries offer vastly improved opportunities for data mining to enhance vendors' understanding of the particular wants and needs of consumers as well as their immediate elasticity of demand.[226]

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services can be "overt or covert, in the same market . . . or in related markets, monetary or non-monetary, and short-term or long-term").

222. *See* Nathan Newman, *The Costs of Lost Privacy: Consumer Harm and Rising Economic Inequality in the Age of Google*, 40 WM. MITCHELL L. REV. 849, 867 (2014) [hereinafter *Costs of Lost Privacy*] (recognizing that the use of user data for targeted solicitations can be positive and mutually beneficial for vendors and users by helping companies and interested customers find each other).

223. *See, e.g.*, Natasha Singer, *Just Don't Call It Privacy*, N.Y. TIMES (Sept. 23, 2018), https://www.nytimes.com/2018/09/22/sunday-review/privacy-hearing-amazon-google.html (describing the potentially deleterious consequences of data exploitation, including "unequal consumer treatment, financial fraud, identity theft, manipulative marketing and discrimination").

224. Barnett, *supra* note 5, at 1876 (explaining that transaction cost savings derived from using a single platform incentivize subscribers to utilize the same platform, resulting in increased market dominance); *see also* Frank Pasquale, *Beyond Innovation and Competition: The Need for Qualified Transparency in Internet Intermediaries*, 104 NW. U. L. REV. 105, 153 (2010) (providing the example of a social network user who wants to join another platform but is reluctant to do so because of the "switching costs" involved in creating a new profile).

225. Ezrachi & Stucke, *supra* note 73, at 1780 (observing how online platforms employ pricing algorithms based on user data to adjust prices for particular individuals in order to optimize the profitability of each transaction); Newman, *Costs of Lost Privacy*, *supra* note 222, at 867 (contrasting the benefits of tailored advertisements resulting from data mining with the "darker version of online marketing," where prices are fixed according to each individual's "pain point"—the maximum price he or she is willing to pay).

226. *See* Newman, *Costs of Lost Privacy*, *supra* note 222, at 870 (explaining how digital intermediaries' use of data mining to facilitate dynamic pricing has transformed the model of online commerce and increased vendors' reliance on consumer behavior analytics to create a dispersion of prices aimed at extracting maximum revenue from each transaction).

Largely unregulated transportation companies, not obligated to provide service under a fixed tariff, can extract maximum revenues based on data mining of current supply and demand.[227] While economists might welcome this practice as more efficient and rational, consumers might consider the transaction unfair and exploitative.[228] Dynamic pricing violates some consumers' sense of fair play even if such price discrimination is lawful and efficient.[229]

Consumers generally expect to pay the same advertised or listed price and probably would not respond favorably if they came to understand that data mining improves the ability of merchants to "size up" the individual consumer and calculate a price aimed at eliminating any consumer surplus.[230] Consumers understand price differentials such as volume discounts and delivery costs.[231] Once informed that data mining makes dynamic pricing more prevalent and effective, they might temper their satisfaction with the subscription contract they passively accepted.

A. A Complete and Thorough Assessment of Platform Costs and Benefits

Many consumers, judges, government regulators, and legislators do not fully understand the tradeoffs occurring when digital broadband intermediaries dominate market segments, including internet search,

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227. *See, e.g.*, Arwa Mahdawi, *Is Your Friend Getting a Cheaper Uber Fare than You Are?*, GUARDIAN (Apr. 13, 2018, 12:39 PM), https://www.theguardian.com/commentisfree/2018/apr/13/uber-lyft-prices-personalized-data (reporting on the ride-share industry's widespread use of dynamic pricing based on demand patterns).

228. *See, e.g.*, Calo, *supra* note 78, at 1029–30 ("[D]igital market manipulation . . . creates objective privacy harm when a firm uses personal information to extract as much rent as possible from a consumer . . . . [T]he consumer is shedding information that . . . will be used to charge her as much as possible . . . or to convince her in a way that she would find objectionable were she aware of the practice.").

229. *See, e.g.*, James Surowiecki, *In Praise of Efficient Price Gouging*, MIT TECH. REV. (Aug. 19, 2014), https://www.technologyreview.com/s/529961/in-praise-of-efficient-price-gouging (describing how Uber's use of dynamic pricing has become a flash point for criticism despite the reality that while customers may pay more, higher demand increases supply and, as a result, more customers get a ride that otherwise would not have been available).

230. *See, e.g.*, Fei L. Weisstein et al., *Effects of Price Framing on Consumers' Perceptions of Online Dynamic Pricing Practices*, 41 J. ACAD. MKTG. SCI. 501, 501 (2013) (citing research that has identified negative effects of dynamic pricing practices on consumers' perceived fairness, trust, and repurchase intentions).

231. Ellen Garbarino & Olivia F. Lee, *Dynamic Pricing in Internet Retail: Effects on Consumer Trust*, 20 PSYCHOL. & MKTG. 495, 498 (2003) (noting that consumers accept some forms of price discrimination, including volume discounts, geographical variations, and preferred treatment for certain demographic groups such as seniors and children).

social networking, and internet-mediated, retail commerce.[232] One can readily appreciate the upside consumer benefits in having access to advertiser-supported content and internet markets subsidized by ventures willing to forego short-term profits for longer-term market share and diversification.[233] A more difficult undertaking calculates what direct and indirect costs consumers incur, presently and in the future, for the opportunity to access what a unicorn "freely" offers.[234]

Widely embraced economic doctrine favors a reluctance by government to interfere with marketplace activities, particularly when identifiable, near-term cost savings and other welfare enhancements flow to consumers.[235] However, it has become increasingly clear that consumers have to contribute more value than what they might infer from widespread promotion of "free" and subsidized access.[236] That insight occurs even with a cursory assessment of what transactions occur on the upstream side of an intermediary's market.[237] The platform must generate sufficient revenues to subsidize subscriber

232. Frieden, *supra* note 22, at 319–20 (attributing government actors' lack of understanding of such tradeoffs to their failure to keep pace with the speed of innovation and the convergence of technologies and markets, as well as to the difficulty in measuring or quantifying the full range of current and prospective market and consumer impacts).

233. *See, e.g.*, Morozov, *supra* note 64 (referring to the seemingly limitless nature of the goods and services that could be subsidized by advertising or other data-based revenue streams).

234. *See* Gal & Rubinfeld, *supra* note 221, at 523 (noting, for example, the negative effects on consumers if prices are raised once potential competition is eliminated); Newman, *Zero-Price Markets*, *supra* note 16, at 179 (underscoring the difficulty posed by comparing short-term direct consumer costs in zero-price markets where, in the absence of a "fungible baseline of comparison like currency, customers are left to make qualitative judgments about which product will cost the least amount of information").

235. *See, e.g.*, William E. Kovacic, *The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix*, 2007 COLUM. BUS. L. REV. 1, 4 (2007) (tracing limited government interference in the market to the influence of an economic school of thought known as the "Chicago School"). *See generally* ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF 7 (1978) (arguing, as a leading proponent of the Chicago School, that the only legitimate goal of antitrust is the maximization of consumer welfare).

236. *See, e.g.*, Magali Eben, *Market Definition and Free Online Services: The Prospect of Personal Data as Price*, 14 I/S: J.L. & POL'Y FOR INFO. SOC'Y 227, 230 (2018) (stressing that internet intermediaries, despite offering consumers access to seemingly free services, are not charities but for-profit companies).

237. *See, e.g.*, Maureen K. Ohlhausen & Alexander P. Okuliar, *Competition, Consumer Protection, and the Right [Approach] to Privacy*, 80 ANTITRUST L.J. 121, 132 (2015) ("Given the intrinsic value of [consumer] data, digital platforms can monetize it in several ways, including by using it internally to improve services or by selling it" to users on the other side of the platform, such as advertisers or data brokers).

access to goods and services without direct, out-of-pocket payments.[238] For example, Google constantly conducts advertisement placement auctions, the ample revenues of which subsidize its free services, such as search, email, mapping, language translation, computer and wireless handset operating systems,[239] storage, and word processing.[240]

Digital platform subscribers need to know the consequences of commodification of their consumer data, just as courts need to assess the full impact of upstream and downstream transactions.[241] In light of the potential for upside benefits and downside costs, courts should challenge the conventional wisdom that assumes intermediaries massively enhance consumer welfare, and should expand scrutiny to transactions on both sides of the platform.[242] While consumers need to exercise greater care, so too do government agencies and courts having statutory responsibilities to assess the potential for consumer harm and to establish safeguards.[243]

Regulatory agencies with jurisdiction to safeguard consumers and reviewing courts should better calibrate the tools they use to investigate the potentially harmful effects of platform intermediaries on competition and consumers, with emphasis on the potential for privacy intrusions, unfair trade practices, market concentration, subscriber

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238. *See id.* (stating that in the absence of a monetary exchange between provider and consumer, "monetized data . . . supports consumer access to an ever-expanding selection of free, high-quality services and content, . . . much of which was previously available only for a substantial fee").

239. The European Commission determined that Google anticompetitively leveraged its dominant market position in wireless handset operating systems by requiring manufacturers to pre-install the Google Search app and browser app (Chrome) as a condition for licensing Google's app store (the Play Store), paying large manufacturers and mobile network operators for exclusive pre-installation of the Google Search app, and preventing manufacturers wishing to pre-install Google apps from selling other mobile devices running on alternative versions of Android not approved by Google. *See* European Commission Press Release IP/18/4581, Antitrust: Commission Fines Google €4.34 Billion for Illegal Practices Regarding Android Mobile Devices to Strengthen Dominance of Google's Search Engine (July 18, 2018).

240. *See, e.g.*, Nicas, *supra* note 99 (reporting that Google, in addition to running millions of automated auctions to rank ads and decide how much advertisers pay, "is one of the largest single buyers of its own search ads, meaning it frequently bids against its [upstream] customers for spots atop its search results").

241. *See* Katz & Sallet, *supra* note 124, at 2170–71 (observing that competitive conditions and harms can manifest in different ways on opposite sides of a platform).

242. *See* Gal & Rubinfeld, *supra* note 221, at 554 (contending that an analysis that focuses solely on the "free" product often leads to the simplistic conclusion that the transaction creates only positive welfare effects).

243. Frieden, *supra* note 22, at 320.

lock-in, and anticompetitive tactics.[244] The goals for recalibration should focus on acquiring a better understanding of platform operator practices and their impacts rather than serve as a justification for more intrusive government oversight.[245]

Such a holistic approach can better assess the costs and benefits generated by platform intermediaries. It does not always support an analysis on both market sides, but a thorough assessment provides greater certainty in conclusions to concentrate solely on one side. For example, the Supreme Court undertook an analysis of both market sides of a dominant local newspaper and concluded that only the downstream side mattered in *Times-Picayune Publishing Co. v. United States*.[246] In this case, the Court opted to focus solely on downstream market effects, considering a newspaper platform as one-sided because the impact of an alleged vertical restraint largely affected only one side.[247] The Court determined that requiring advertisers to buy placements in both morning and evening editions of the newspaper primarily benefitted consumers by increasing financial subsidies available to them in the form of subsidized subscriptions and single edition prices with only insignificant direct or indirect effects on the local marketplace for newspaper advertisements.[248]

Regulatory agencies should bolster and enforce requirements that digital intermediaries fully and transparently disclose the nature and

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244. *Cf.* Cecilia Kang, *F.T.C. Hearings Add to Efforts that Threaten Tech Industry*, N.Y. TIMES (Sept. 14, 2018), https://www.nytimes.com/2018/09/13/technology/ftc-hearings-technology.html (reporting that in the context of the Federal Trade Commission's decision to re-assess current competition laws and consumer protections, some academics and consumer groups have called for regulators to rethink the simplistic gauge of price as a measure of consumer welfare when evaluating the effects of platform intermediaries).

245. *See* Frieden, *supra* note 22, at 314 (arguing that a better-calibrated assessment of multi-sided market impacts "promotes a thorough and fair assessment without favoring [government] intervention or forbearance").

246. 345 U.S. 594 (1953).

247. *Id.* at 610 (concluding that the case only concerns the newspaper's activity in the advertising market, not in readership).

248. *Id.* at 621; *see also* Ohio v. American Express Co., 138 S. Ct. 2274, 2286 (2018) ("To be sure, it is not always necessary to consider both sides of a two-sided platform . . . . [I]n the newspaper-advertisement market, the indirect networks effects operate in only one direction; newspaper readers are largely indifferent to the amount of advertising that a newspaper contains."). Hence, a preliminary two-sided market analysis can avoid a finding of harm in a single market-side analysis by confirming that pursuing that mode of analysis is appropriate for the specific evidentiary and legal issues in question.

scope of their data mining and sales to third parties. The European Union has sought to identify and implement best practices in data protection and transparency through its General Data Protection Regulation (GDPR).[249] While this comprehensive regulation may overreach and impose excessive and costly procedural requirements,[250] it does identify fundamental consumer rights worthy of protection and enforcement.[251] These include easier ways to know what data companies hold about individuals, clear responsibility for organizations to obtain informed consent before collecting information, timely disclosure of data breaches, the right to secure corrections to inaccurate data, opt-out opportunities, and an enforcement mechanism for violations.[252]

The GDPR offers additional consumer safeguards that might hamper the business plans of digital intermediaries and advertiser-supported access to content.[253] These include the right to be forgotten—i.e., the mandatory elimination of information about a person deemed non-representative and potentially damaging and private, for example information about prior criminal convictions, and other judicial proceedings, such as a bankruptcy filing and revenge pornography.[254] The GDPR also requires data portability that confers elements of an

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249. Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation), 2016 O.J. (L119) 1 [hereinafter GDPR]. The GDPR became effective on May 25, 2018.

250. *See, e.g.*, Matt Burgess, *What is GDPR? The Summary Guide to GDPR Compliance in the UK*, WIRED (Oct. 4, 2018), https://www.wired.co.uk/article/what-is-gdpr-uk-eu-legislation-compliance-summary-fines-2018 (detailing how the GDPR has overhauled how internet intermediaries collect, store, process, and use data, by requiring updated protection policies, consumer consent procedures, data protection impact assessments, and systematic monitoring of data handling processes); Jeremy Kahn et al., *It'll Cost Billions for Companies to Comply with Europe's New Data Law*, BLOOMBERG (Mar. 22, 2018, 1:01 AM), https://www.bloomberg.com/news/articles/2018-03-22/it-ll-cost-billions-for-companies-to-comply-with-europe-s-new-data-law (reporting that the 500 largest corporations will spend $7.8 billion to comply with GDPR).

251. GDPR, *supra* note 249, arts. 15–20, 2016 O.J. (L119) at 43–45 (establishing essential data subject rights, including rights to access, rectification, erasure, restriction of processing, and data portability).

252. *Id.* arts. 6, 12, 15–17, 33, 77–84, 2016 O.J. (L119) at 36–37, 39, 43–44, 52, 80–83.

253. *See, e.g.*, Larry Downes, *GDPR and the End of the Internet's Grand Bargain*, HARV. BUS. REV. (Apr. 9, 2018), https://hbr.org/2018/04/gdpr-and-the-end-of-the-internets-grand-bargain (signaling that GDPR implementation costs might push companies to devise new business models, meaning the end of "the internet's grand bargain: the exchange of free or subsidized content for personalized advertising").

254. GDPR, *supra* note 249, arts. 12, 15–17, 2016 O.J. (L119) at 39, 43–44.

ownership right to consumers including the power to authorize transfer of personal data from one data mining and analytics firm to another.[255] These two safeguards present significant procedural and substantive challenges and risk violating core constitutional values, such as press freedom to research and disclose facts and property ownership rights.[256]

While the European Union may have overreached with the breadth, scope, and business disruption presented by the GDPR, the United States and other nations lag in consumer protection.[257] A significant minority of the Supreme Court expressed hostility toward any judicial examination of both market sides served by a platform intermediary.[258] At the very least, a complete forensic examination of market effects from both sides makes sense given an understanding of what lurks upstream.

CONCLUSION

The value proposition presented by the diverse set of broadband platforms requires consumers and governments to consider costs and benefits generated by transactions occurring on both sides of the intermediary's market. Singular focus on just one of the two sides risks an inaccurate finding, either a false positive that no anticompetitive or consumer harm has occurred, or a false negative finding the absence of problems even as they cause direct or indirect damage.[259] Much of the potential for actual or potential harm lies in the often-obscured transactions between the digital platform and upstream data miners, analysts and brokers, content providers, and advertisers.[260] In this

255. *Id.* art. 20, 2016 O.J. (L119) at 45.

256. Data mining generates a work product controlled by the platform intermediary. Data portability changes the characterization of the data by conferring to consumers the right to control who has access to it. *See* Imanol Arrieta-Ibarra et al., *Should We Treat Data as Labor? Moving Beyond "Free,"* 108 AEA PAPERS & PROCS. 38, 39 (2018) ("We contend that the key aspect of the current political economy of data that causes these problems is treating data as capital rather than as labor."); *see also* ERIC A. POSNER & E. GLEN WEYL, RADICAL MARKETS: UPROOTING CAPITALISM AND DEMOCRACY FOR A JUST SOCIETY 208 (2018) (explaining that "[m]ost people do not realize the extent to which their labor—as data producers—powers the digital economy").

257. *See, e.g.*, Adam Satariano, *G.D.P.R., a New Privacy Law, Makes Europe World's Leading Tech Watchdog*, N.Y. TIMES (May 25, 2018), https://www.nytimes.com/2018/05/24/technology/europe-gdpr-privacy.html.

258. Ohio v. American Express Co., 138 S. Ct. 2274, 2297 (2018) (Breyer, J., dissenting).

259. *Id.* at 2286 (majority opinion).

260. *See, e.g.*, Bruce Schneier, *Data Protection Laws Are Shining a Needed Light on a Secretive Industry*, GUARDIAN (June 1, 2018, 6:00 AM), https://www.theguardian.com/commentisfree/2018/jun/01/gdpr-data-protection-laws-shine-light-industry

often-murky place, much mischief and worse behavior can occur that reduces or eliminates the benefits flowing downstream to consumers.[261]

The Supreme Court's conservative majority appears to have embraced relatively new economic doctrine supporting a netting of competitive and consumer impacts on both sides of a digital platform with an eye toward bolstering its baseline preference to support corporate flexibility free of government oversight.[262] However, doing so has generated a new precedent that in application may not always favor a libertarian outcome.

To be consistent, courts embracing a two-sided market analysis, should be equally comfortable with two outcomes:

(1) the reversal of a false positive finding of anticompetitive harm by factoring offsetting beneficial effects on consumers and competition occurring on the other side of a platform; but also

(2) the reversal of a false negative finding of no anticompetitive harm when factoring countervailing damage occurring on the other side of the platform that a one-sided market analysis would have missed.[263]

Validating an examination of platform-generated benefits and harms can help courts update increasingly suspect assumptions about how markets work, particularly via digital broadband networks. Much revered, so-called Chicago School marketplace assumptions and antitrust prescriptions[264] have become suspect,[265] including the view that rational commercial actors (such as Amazon) would never pursue below market pricing in light of the unlikely opportunity of recouping current losses in the future.[266] Likewise, a laser focus on efficiency and consumer welfare, as espoused by Robert Bork,[267] may require a longer

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(arguing that consumers cannot make informed buying choices without transparency as to how upstream actors are securing and using consumer data).

261. *See, e.g.*, *id.*

262. *See* Bert W. Rein, *Insight:* Ohio v. American Express*: A New Conservative Direction in Antitrust*, BLOOMBERG L. (July 31, 2018), https://www.bna.com/insight-ohio-american-n73014481288 ("The majority, composed of justices viewed as conservative, seems loathe to regulate specific commercial practices in markets that appear to be adequately competitive overall.").

263. *See supra* note 245.

264. *See* Posner, *supra* note 97, at 932; Daniel A. Crane, *The Tempting of Antitrust: Robert Bork and the Goals of Antitrust Policy*, 79 ANTITRUST L.J. 835, 847 (2014).

265. *See A New School in Chicago*, ECONOMIST 10, 10 (2018) (reporting that the Chicago School's "monopoly of [antitrust] thought is itself being disrupted from within").

266. *See* Jonathan B. Baker, *Predatory Pricing After* Brooke Group*: An Economic Perspective*, 62 ANTITRUST L.J. 585, 586 (1994).

267. *See* BORK, *supra* note 235, at 7.

timespan that considers whether immediate and easily measured, short-term consumer welfare enhancements are partially or completely offset in the longer-term, particularly in light of what can be discovered with an evidentiary analysis of upstream transactional effects.[268]

Consumers and governments often cannot fully assess the consequences of the growing importance of dominant platforms in the global economy.[269] Intentionally limiting the scope of forensic investigation to just one of two market sides risks increasing the likelihood of an incomplete assessment whether consumers and competition benefit or suffer from the "centripetal pull of producers and consumers, and of users and advertisers, toward dominant platforms."[270]

Even the most popular and trusted platform operators, such as Facebook, Google, Yahoo, and Twitter, have become unintentional and unacceptably passive conduits for a toxic mix of "fake news," identity theft, disinformation, propaganda, defamation, extortion, and character assignation.[271] Reluctance among government agencies and courts to examine upstream transactions and platform subscribers' unwillingness or inability to read and understand their service agreement combine to create opportunities for people and ventures with bad intent to escape detection and sanction.[272] We may soon reach a point where the failure to act may significantly reduce the value position in platform transactions and the level of trust needed to support ever-expanding use.

If stakeholders in the internet ecosystem will not self-regulate and sanction bad actors, government may have to intervene. For already authorized involvement, such as antitrust law enforcement, courts should recalibrate their relevant market definitions to include both

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268. *But see, e.g.*, Terrell McSweeney & Brian O'Dea, *Data, Innovation, and Potential Competition in Digital Markets—Looking Beyond Short-Term Price Effects in Merger Analysis*, 2 CPI ANTITRUST CHRON. 7, 10 (2018) (referencing, in the merger context, the difficulties involved in evaluating "competitive effects of a particular transaction with sufficient accuracy and across a sufficiently long time horizon to justify antitrust intervention").

269. *See* Pasquale, *Two Narratives*, *supra* note 81, at 315 ("For partisans of the sharing economy, the shift from territorial governance (by elected representatives) to functional governance (by firms) will result in a dynamic mix of corporate semi-sovereigns, all jostling to better serve producers and consumers on each side of their platforms. But that narrative is undermined by consolidation of digital platforms." (footnote omitted)).

270. *Id.*

271. *See, e.g.*, Issie Lapowsky, *Facebook and Twitter's Biggest Problems Follow Them to Congress*, WIRED (Sept. 5, 2018, 3:48 PM), https://www.wired.com/story/facebook-twitter-congress-testimony-dorsey-sandberg.

272. *See, e.g.*, Charles Arthur, *Internet Regulation: Is It Time to Rein in the Tech Giants?*, GUARDIAN (July 2, 2017, 4:30 AM), https://www.theguardian.com/technology/2017/jul/02/is-it-time-to-rein-in-the-power-of-the-internet-regulation.

sides of an intermediary platform because transactions occurring on either side have direct and indirect impacts on users both upstream and downstream. Rather than violate case precedent and law, this holistic approach updates the evidence-collection process to reflect changes in how an increasing percentage of personal and commercial transactions take place.