Platforms and Antitrust: What *Amex* Could Learn from *Microsoft*

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Abstract—The economics of multi-sided platforms has important implications for antitrust. In its 2018 *Amex* decision, the Supreme Court held that, in cases involving "transaction platforms," the market must be defined to include both sides. Under this rule, a plaintiff cannot prove anticompetitive harm by showing a reduction in competition and welfare on one side; it must show a *net* harm across both sides combined. The *Amex* majority viewed this as necessary to account for indirect network effects, which create interdependence between the two sides of a platform.

However, 25 years ago, *Microsoft* did precisely what *Amex* said was impossible: it carefully accounted for the interdependence between the consumers and software developers on an operating system, despite defining the market around just the consumer side. It did this by considering how the challenged conduct affected developer activity (particularly multihoming) and then accounting for how this would feed back onto competition and welfare on the consumer side.

The *Amex* majority conflated three questions: (1) whether courts should "consider" both sides; (2) whether antitrust should permit benefits on one side to *excuse* anticompetitive harm on the other; and (3) how to define the market. The economics of platforms answers the first question—we must indeed consider both sides. But the other two questions are independent, reflecting distinct normative and practical issues. Depending on the answers to those questions, there are three possible frameworks courts could use to evaluate platform conduct while accounting for the interdependence between sides. The *Amex* rule is unambiguously the most flawed and impractical option of the three. The *Microsoft* court avoided this problematic outcome because it understood not only that indirect network effects are important, but also how to account for them properly under the rule of reason.

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INTRODUCTION

Digital platforms have novel economic features that distinguish them from more traditional firms.[1] This presents a challenge for antitrust, whose legal standards have been developed around more conventional businesses. As a result, many platform experts insist that antitrust must update its playbook to account for the economics of platforms.[2]

In *Amex*, the Supreme Court agreed.[3] It called on courts to account for the economics of platforms, which emphasizes the "two-sided" (or multi-sided) nature of platforms.[4] Every platform mediates some kind of commercial interactions between different user groups—the "sides" of the platform—such as the riders and drivers on Uber, or the app developers and users on an app store. A crucial aspect of platform markets is that the two sides are interdependent: each side's wellbeing depends on the number of active users on the other side.[5]

The *Amex* decision sets the blueprint for how modern courts must evaluate antitrust cases involving platforms. It held that, in cases involving "transaction platforms," the market must be defined to include both sides of the platform.[6] Importantly, a platform's conduct could harm competition on one side while benefitting users on the other side. Thus, under antitrust's consumer welfare standard, a plaintiff must balance these countervailing effects in order to show that the conduct harms competition "in the market as a whole."[7]

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[1] *See, e.g.,* Jean-Charles Rochet & Jean Tirole, *Two-Sided Markets: A Progress Report,* 37 RAND J. Econ. 645 (2006); Andrei Hagiu & Julian Wright, *Multi-Sided Platforms,* 43 INT'L J. IND. ORG. 162 (2015); BRUNO JULLIEN, ALESSANDRO PAVAN, & MARC RYSMAN, TWO-SIDED MARKETS, PRICING, AND NETWORK EFFECTS, *in* HANDBOOK OF INDUSTRIAL ORGANIZATION 485, 490-91 (2021) (Kate Ho, Ali Hortaçsu, & Alessandro Lizzeri eds., 4th ed. 2021).

[2] *See, e.g.,* David S. Evans & Richard Schmalensee, THE ANTITRUST ANALYSIS OF MULTI-SIDED PLATFORM BUSINESSES, *in* OXFORD HANDBOOK ON INTERNATIONAL ANTITRUST ECONOMICS (Roger Blair & Daniel Sokol eds., 2012); Bruno Jullien & Wilfried Sand-Zantman, *The Economics of Platforms: A Theory Guide for Competition Policy*, 54 INFO. ECON. & POL. 1 (2021).

[3] Ohio v. Am. Express Co. (*Amex*), 585 U.S. 529 (2018).

[4] Section I.A., *infra*.

[5] This is due to *indirect network effects*, which are the hallmark feature of platform industries. *See* Section I.A., infra.

[6] *Amex,* 585 U.S. at 530.

[7] *Id. See also* Section II.B., *infra* (summarizing the *Amex* decision).

However, *Amex* was far from the first antitrust case to evaluate restrictive behavior by a two-sided platform. *Microsoft* did it 25 years ago.[8] Although the economic literature on platforms was still nascent at the time, the *Microsoft* court identified the two-sided nature of the operating system market; and it recognized that the theory of harm hinged critically on *multihoming*, an important influence on platform competition.[9] The court evaluated these issues carefully within the ordinary machinery of antitrust analysis—defining the relevant market around a single side of the platform while nevertheless accounting for the interdependence between the two sides.

Amex took a different path. It was right to insist that courts reckon with the economics of platform competition; but it urged them to do so in a way that is impractical, unnecessary, and sometimes incoherent. The *Amex* majority believed its market definition rule followed from economics: because the two sides are interdependent, it reasoned, competition cannot be assessed by examining one side in isolation.

But this conflates three separate things. That courts must *consider* both sides is indeed compelled by economics. Interdependence means that the welfare effects on one side can turn on how the conduct changes behavior on the other. But whether antitrust should allow benefits on one side to *excuse* harms on the other is a policy choice, not a question of economic theory. And both of these things are distinct from the question of how the market should be defined. The role of market definition is to identify a self-contained area of competition, not to delineate which agents can be "considered" and which ones cannot.

As I explain, there are three possible frameworks that courts could apply to evaluate platform conduct while properly accounting for the interdependence between sides. The framework adopted in *Amex* is unambiguously the worst of the three. The problem is not simply that it requires complex balancing of effects across the two sides of the platform—one of the alternative options would allow that as well—but rather that it does so in a highly impractical way.

The *Amex* decision also renders some basic economic concepts incoherent. It assumes that we can treat the union of both sides as a single market, but it is well understood that the intensity of competition—and, by extension, a platform's market power—can vary

[8] United States v. Microsoft Corp., 253 F.3d. 34 (D.C. Cir. 2001).

[9] The court did not use modern terms like "multihoming," however.

arbitrarily between the two sides.[10] Speaking of competition in the two-sided market "as a whole" is thus incoherent; there are two distinct strands of competition. The solution, of course, is to recognize that there are two markets, not one, although they are highly interdependent.

Microsoft avoided these problems by accounting for the novelties of platform competition within the usual antitrust framework. Ironically, this allowed it to do exactly what *Amex* said was impossible: it properly accounted for the interdependence between the two sides of the platform despite defining the market around just one of them.

I. PLATFORM ECONOMICS AND ANTITRUST

This section begins with a brief overview of the economics of multi-sided platforms, focusing on issues that are especially relevant to antitrust and to the cases discussed elsewhere in this article.

A. Indirect Network Effects

The economics of platforms was an outgrowth of the literature on network industries.[11] A network good is something that agents use to "interact" with each other in some valuable way—for example, to call one another over a telephone network. A network good becomes more attractive when it has more users to interact with. These benefits from enlarging the user base are called *network effects*.

A platform is a kind of "two-sided" (or multi-sided) network good. Like a traditional network good, its primary function is to facilitate some kind of valuable interactions. But users fall into two groups, or "sides," and the relevant interactions involve users from opposite sides. This gives rise to *indirect* (or cross-group) network effects: the platform becomes more attractive to one side when there are more participating users on the other side. This is the hallmark feature of platforms.

For example, Uber facilitates ridesharing transactions between drivers and riders. But the platform will not attract drivers unless there are lots of riders, as drivers make money only when they give rides. And riders are not attracted to the platform unless there are enough drivers to provide timely service. Some platforms also exhibit *direct* (within-

[10] For example, in some settings, competition is intense on one side but almost entirely absent on the other. *See, e.g.,* Mark Armstrong, *Competition in Two-Sided Markets*, 37 RAND J. ECON. 668, 680 (2006). *See also* Section III.D., *infra*.

[11] Jullien, Pavan, & Rysman, *supra* note 1, at 490-91.

group) network effects, meaning that users on one side also benefit from greater participation by other users on the same side of the platform.[12] However, most platforms do not have that feature.

1. Impact on Market Structure

Strong indirect network effects are conducive to oligopoly and market power. By definition, they imply that larger platforms will tend to be more attractive to users, all else being equal.[13] That precludes a market structure in which there are many platforms and only a small number of users on each platform. Instead, platform markets tend to have a relatively small number of firms.

For the same reasons, indirect network effects give rise to entry barriers. Even the first platform to enter the market faces a "chicken-and-egg" problem: to be effective, the platform must gain a critical mass of users on both sides, but neither side wants to sign up until the other side has already done so.[14] For example, Airbnb does not appeal to hosts unless there are lots of guests looking to book in their area; nor does it appeal to guests unless there are ample hosts on the platform.

The difficulty is compounded for a firm attempting to enter a platform market that is already served by a large incumbent platform. Due to network effects, the incumbent's large installed base gives it a major advantage over all would-be competitors. Indeed, a second entrant could easily fail even if it has superior technology. By reducing competitive pressure, this contributes to the incumbent's market power. Of course, these entry barriers do not mean that entry by a second-mover is impossible, only that it is harder.[15] More generally, the idea that most platform markets are liable to "tip" into monopoly is

[12] For example, a video game console has indirect network effects between game developers and game players. But there are also direct network effects among players, because many of them like to play online games with other players on the same console.

[13] *See, e.g.,* Jullien, Pavan, & Rysman, *supra* note 1, at 488.

[14] *See, e.g.,* Bernard Caillaud & Bruno Jullien, *Chicken and Egg: Competition Among Intermediation Service Providers,* 34 RAND J. ECON. 309 (2003).

[15] The literature has identified various factors that prevent incumbency from being an insurmountable advantage. See Jullien, Pavan, & Rysman, *supra* note 1, at 509-518. Two important examples are multihoming and the ability of a new platform to differentiate itself.

overstated.[16] In platform markets, monopoly is the exception; oligopoly is the rule.

2. Interdependence and Welfare Analysis

Due to indirect network effects, the two sides are interdependent.[17] Each side's wellbeing depends in significant part on the extent of the other side's participation. As a result, things that facially affect only one side end up affecting the other side indirectly. Each side's demand for the platform thus depends not only on the price the platform charges them, but also on the number of participating users on the other side. This gives rise to complex feedback effects. For example, cutting price to side A increases that side's demand, which then makes the platform more appealing to side B, which in turn increases the platform's appeal to side A, and so on.

It is crucial for antitrust analysis to account for this interdependence when evaluating platform conduct.[18] However, this interdependence is sometimes misunderstood as implying that we cannot responsibly talk about competition or welfare effects on just one side.[19] This is false.[20]

It is perfectly possible to evaluate competition or welfare effects on one side alone while still accounting for the interdependence between the two sides.[21] Suppose that we want to know how a certain practice affects welfare on side A. Then we first determine the direct effects on side A, such as changes in price. Second, we must consider how the practice affects demand for the platform on side B, as that will contribute indirectly to welfare on side A. We then combine these different effects to determine the overall change in side A's welfare.

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[16] *See, e.g.,* Chiara Farronato, Jessica Fong, & Andrey Fradkin, *Dog Eat Dog: Balancing Network Effects and Differentiation in a Digital Platform Merger*, 70 MANAGEMENT SCIENCE 464, 464 (2024).

[17] *See, e.g.,* Joost Rietveld & Melissa A. Schilling, *Platform Competition: A Systematic and Interdisciplinary Review of the Literature*, 47 J. MANAGEMENT 1528, 1529 (2020).

[18] *See, e.g.,* Jullien & Sand-Zantman, *supra* note 2 (antitrust "should consider effects on all sides" because "actions affecting one side affect also the other side").

[19] *See* Section III.A, *infra*.

[20] In fact, the opposite is sometimes true. In some cases, competition is intense on one side but soft on the other, making it impossible to talk about the competitiveness of the two-sided market as a whole. See Armstrong, *supra* note 10, at 680.

[21] *See, e.g.,* Jullien, Pavan, & Rysman, *supra* note 1, at 499-500.

For example, consider ridesharing platforms' practice of increasing ride prices during peak hours. Does this harm riders? All else being equal, an increase in the price of rides will reduce rider welfare. But all else is not equal: the price increase leads more drivers to log on, increasing the number of rides. If this volume effect is sufficiently large, the impact on aggregate rider welfare will be positive.

B. Platform Behavior

1. Pricing

Platforms usually charge fees in one of two ways. First, many platforms charge fees on a per-interaction basis.[22] For example, a credit card platform charges merchants fees and gives rewards to cardholders (akin to a negative price) for every individual transaction. Similarly, Uber and Lyft exchange fees with drivers and riders on a per-ride basis. Alternatively, many platforms follow a subscription model in which a user pays a fixed membership fee to join the platform, after which interactions are free at the margin (until the billing cycle ends).[23] For example, this is how dating platforms (e.g. Match) work. Some platforms (e.g. video game consoles) are embedded in hardware, which similarly requires the consumer to make an upfront fixed payment to gain access.

Platforms sometimes use a combination of these pricing structures. Some platforms, such as Spotify, transact with one side on a per-interaction basis while selling subscriptions to the other side. And in some cases a platform charges a tariff comprising both an upfront membership fee and a per-interaction fee.[24]

2. Platform Restraints

Platforms often implement vertical restraints. Practices that are already familiar in antitrust may behave differently in platform markets.[25] For example, most-favored-nation (MFN) agreements are

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[22] *See, e.g.,* Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 J. EUR. ECON. ASSN. 990 (2003).

[23] *See, e.g.,* Mark Armstrong, *Competition in Two-Sided Markets*, 37 RAND J. ECON. 668 (2006).

[24] *See, e.g.,* Markus Reisinger, *Two-Part Tariff Competition Between Two-Sided Platforms,* 68 EUR. ECON. REV. 168 (2014).

[25] See also, e.g., DAVID S. EVANS & RICHARD SCHMALENSEE, THE ANTITRUST ANALYSIS OF MULTI-SIDED PLATFORM BUSINESSES, *in* OXFORD HANDBOOK ON INTERNATIONAL

relatively common in platform markets, and they can have distinctive competitive effects in this context.[26] Likewise, mergers may have certain novel effects in platform markets.[27]

Platform economics is relevant not only to the competitive effects of a practice, but also potential procompetitive justifications. For example, the difficulty of garnering a critical mass of users on both sides may justify certain restraints (e.g. exclusive dealing) that sometimes arouse antitrust scrutiny.[28] Similarly, some restraints may be reasonably necessary for a platform to operate effectively.[29]

C. Multihoming versus Singlehoming

Users are said to "multihome" if they participate on multiple competing platforms. For example, most merchants accept multiple credit cards, and many consumers carry a range of different cards. And many consumers subscribe to multiple streaming apps (e.g. both Netflix and Hulu). By contrast, users "singlehome" if they participate on just one platform.

Multihoming has a significant impact on platform competition.[30] If multihoming is relatively easy (at least on one side), this tends to foster

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ANTITRUST ECONOMICS (Roger Blair & Daniel Sokol eds., 2012); Bruno Jullien & Wilfried Sand-Zantman, *The Economics of Platforms: A Theory Guide for Competition Policy*, 54 INFO. ECON. & POL. 1 (2021); Erik Hovenkamp, *Platform Antitrust*, 44 J. CORP. L. 713 (2019).

[26] *See, e.g.,* Andre Boik & Kenneth S. Corts, *The Effects of Platform Most-Favored-Nation Clauses on Competition and Entry*, 59 J.L. & ECON. 105 (2016); Erik Hovenkamp, *Restraints on Platform Differentiation,* 25 YALE J. L. & TECH. 271 (2023).

[27] *See, e.g.,* Ambarish Chandra & Allan Collard Wexler, *Mergers in Two-Sided Markets: An Application to the Canadian Newspaper Industry,* 18 J. ECON. & MANAGEMENT STRAT. 1045 (2009).

[28] *See, e.g.,* DAVID S. EVANS & RICHARD SCHMALENSEE, THE ANTITRUST ANALYSIS OF MULTI-SIDED PLATFORM BUSINESSES, *in* OXFORD HANDBOOK ON INTERNATIONAL ANTITRUST ECONOMICS (Roger Blair & Daniel Sokol eds., 2012).

[29] For example, a hotel platform like Orbitz might bar hotels from offering lower prices on their own sites. Although this seems harmful because it prevents direct-booking discounts, the restraint prevents free-riding: consumers could otherwise use the platform to find hotels and then book directly at a slightly lower price, leaving the platform uncompensated for creating the match. If the platform could not survive under that model, both hotels and consumers might be worse off, in which case the restraint is presumably reasonable.

[30] *See, e.g.,* Yannis Bakos & Hanna Halaburda, *Platform Competition with Multihoming on Both Sides: Subsidize or Not?,* 66 Management Sci. 5599 (2020); Thomas D. Jeitschko & Mark J. Tremblay, *Platform Competition with Endogenous*

greater competition.[31] If multihoming is hard, then many users will pick the biggest platform just because it has the most users. This makes it hard for new or small platforms to be viable competitors. But if multihoming is easy, then being a smaller platform is not necessarily a death sentence.[32] As a result, a dominant platform may have an incentive to restrain multihoming, which could raise antitrust concerns.

The benefit of multihoming is that it allows one to interact with more users on the other side of the platform.[33] The downside is that it may be costly to adopt a second platform. This is the main barrier to multihoming. For example, if a platform charges subscription fees (as opposed to per-interaction fees), then a user may not want to sign up for a second platform if she does not expect to use it very much. Some digital platforms require users to purchase a costly device, and this too can discourage multihoming.[34] Some instances of singlehoming are the result of exclusive dealing contracts or vertical integration. For example, video game consoles often enter into agreements with game developers to gain exclusive rights over certain games.[35]

II. THE DIVERGENT APPROACHES OF *MICROSOFT* AND *AMEX*

Both *Microsoft* and *Amex* involved theories of harm that rely on distinctive economic aspects of platform markets, but they addressed those issues in very different ways. This section highlights their distinct approaches to evaluating platform competition.

Homing, 61 Int'l Econ. Rev. 1281 (2020); Paul Belleflamme & Martin Peitz, *Platform Competition: Who Benefits from Multihoming,* 62 Int'l J. Indust. Org. 1 (2019).

[31] *See, e.g.,* Catherine Tucker, *Network Effects and Market Power: What Have We Learned in the Last Decade?,* 32 ANTITRUST 72, 76 (2018).

[32] For example, if consumers of video streaming platforms did not multihome, a niche platform like BritBox (which carries only British shows) would find it very difficult to compete with services like Netflix that have much larger content libraries.

[33] This benefit one side gets from multihoming is greater when singlehoming is more prevalent on the other side, as that increases the number of new interaction opportunities that multihoming provides.

[34] For example, both Android smartphones and iPhones lock consumers into their respective proprietary app stores. As a result, most app users singlehome on one app store, because few people would buy a second smartphone just to access a second app store.

[35] *See, e.g.,* Robin S. Lee, *Vertical Integration and Exclusivity in Platform and Two-Sided Markets,* 103 AM. ECON. REV. 2960 (2013) (discussing the use of exclusive rights in the video game console market).

A. *U.S. v. Microsoft*

In its 2001 *Microsoft* decision, the D.C. Circuit found that Microsoft had unlawfully maintained its Windows operating system monopoly through exclusionary conduct.[36] In the platform economics literature, operating systems are among the most common examples of two-sided platforms.[37] The two sides are consumers and software developers.

At the outset, the court recognized indirect network effects as a crucial feature of the operating system market: "most consumers prefer operating systems for which a large number of applications have already been written; and … most developers prefer to write for operating systems that already have a substantial consumer base."[38] The court recognized that these network effects create entry barriers due to the aforementioned "chicken-and-egg" problem: A new operating system does not have many apps nor many users, making it difficult to attract users on either side.[39]

Another key issue in platform markets—multihoming—was equally central to the case. Most consumers in this market singlehome, because not many people will buy a second computer just to gain access to an additional operating system. Additionally, at the time the case arose, it was quite costly for a software developer to make its software available on multiple operating systems.[40] Thus, multihoming was limited on the developer side as well.

When both sides of a platform market singlehome, indirect network effects have a very strong impact on competition, as both sides tend to favor the largest platform in order to gain access to the most users on the other side.[41] As a result, the market is prone to "tipping" into monopoly. The result was that many developers would make their apps available only on Windows, since it was the most widely used by

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[36] United States v. Microsoft Corp., 253 F.3d. 34 (D.C. Cir. 2001).

[37] *See, e.g.,* Rochet & Tirole, *supra* note 22.

[38] United States v. Microsoft Corp., 253 F.3d. 34, 55 (D.C. Cir. 2001).

[39] *Id.*

[40] *Id.* at 53 ("a developer who writes an application for one operating system and wishes to sell the application to users of another must modify, or 'port,' the application to the second operating system. This process is both time consuming and expensive.")

[41] Many economic models of platform competition assume that both sides singlehome. *See, e.g.,* Guofu Tan & Junjie Zhou, *The Effects of Competition and Entry in Multi-Sided Markets,* 88 REV. ECON. STUD. 1002 (2021).

consumers; this, in turn, reinforced its dominance on the consumer side.[42] This insulated the Windows monopoly from competitive threats.[43]

However, this was changing, thanks to the rise of "middleware." As the court explained:

> Every operating system has different APIs [application programming interface]. … "Middleware" refers to software products that expose their own APIs. … [I]f developers could write applications relying exclusively on APIs exposed by middleware, their applications would run on any operating system on which the middleware was also present.[44]

In other words, middleware makes it easier for developers to multihome. The case surrounded two types of middleware products. The first was Java—a programming language and a set of associated software development tools.[45] The second involved rival web browsers like Netscape, which had been the market's "preeminent" browser before being overtaken by Microsoft's Internet Explorer.[46] Browsers are middleware because if an app is designed around a browser's APIs then consumers can access it directly through the browser.[47]

The government's main theory of harm was that Microsoft had unlawfully maintained its Windows monopoly through a campaign of anticompetitive conduct aimed at destroying middleware threats.[48] It engaged in several exclusionary practices to achieve this.[49] But the basic

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[42] *Microsoft*, 253 F.3d. at 55 (this situation "ensures that applications will continue to be written for the already dominant Windows, which in turn ensures that consumers will continue to prefer it over other operating systems.")

[43] Of course, this feature of the operating system market should not be confused for anticompetitive conduct. It is not illegal for a monopolist to benefit from entry barriers.

[44] *Id.* at 53.

[45] *Id.* at 74-75.

[46] *Id.* at 60.

[47] *Id.* at 60 ("If a consumer could have access to the applications he desired—regardless of the operating system he uses—simply by installing a particular browser on his computer, then he would no longer feel compelled to select Windows in order to have access to those applications").

[48] *Id.* at 54 ("the primary focus of the plaintiffs' §2 charge is on Microsoft's attempts to suppress middleware's threat to its operating system monopoly.")

[49] First, Microsoft relied on a combination of deception and vertical restraints to prevent developers from using Java—a programming language and associated tools used to facilitate multihoming. *Id.* at 74-77. Second, it used a combination of vertical restraints and unilateral software design choices to cut off browsers from important

scheme was to foreclose Java and rival browsers from important distribution channels, artificially stifling their adoption.[50]

In exclusion cases, the excluded rivals are almost always participants in the same relevant market where anticompetitive harm is alleged. *Microsoft* was thus unusual in that the excluded middleware firms were not themselves competitors in the "relevant market" defined by the court.[51] The court explained this by saying that the middleware threats were currently only "nascent" competitors.[52] That is, they were not yet direct competitors to Windows, but they could plausibly become direct competitors in the future.

However, this unusual aspect of the case could also be explained by the market's two-sidedness. *Consumers* do not view middleware products (especially Java) as close substitutes for a PC operating system.[53] Thus, if the market is defined around the consumer-facing side of the platform, it makes sense to exclude middleware products. In contrast, *developers* did view them as substitutes for Windows' native APIs, as the court emphasized.[54] From developers' perspective, middleware alternatives also offered the benefit of easier multihoming. That would allow developers to reach consumers across a range of operating systems, which would make it easier for rival operating systems to enter the market and compete with Windows. As a result, the exclusion of middleware would end up harming competition on the consumer side as well, as the court recognized.[55]

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distribution channels, such as by discouraging most computer manufacturers from preinstalling them on new PCs. *Id.* at 60-72.

[50] *Id.* at 78.

[51] *Id.* at 53-55. The relevant market was defined to be Intel-compatible PC operating systems.

[52] *Id.*

[53] Java is used only by software developers, not by ordinary consumers. And it is used to build applications, not to access them. Thus, there is no basis for thinking Java would ever be in the operating system market. But consumers could potentially view a browser as a partial substitute for an operating system to the extent it becomes a convenient way to access many distinct apps. Hence, the "nascent competitor" explanation arguably works for browsers, but not Java.

[54] *Id.* at 53 (noting that middleware "could take over some or all of Windows's valuable platform functions —that is, developers might begin to rely upon APIs exposed by the middleware for basic routines rather than relying upon the API set included in Windows.")

[55] *Id.* at 60 ("If a consumer could have access to the applications he desired—regardless of the operating system he uses … then he would no longer feel compelled to select

Significantly, the *Microsoft* court never considered the possibility of defining the market to include both consumers and developers. Moreover, it characterized anticompetitive effects in terms of harm to consumers,[56] not harm to the combination of consumers and developers. Thus, the court's market definition was implicitly limited to the consumer-facing side of the industry.[57] And yet the court was nevertheless able to account for the market's two-sidedness in a logical and practical way.

B. *Ohio v. American Express*

In *Amex,* the Supreme Court took a very different approach. The case centered on the payment card networks like Amex and Visa. These are two-sided platforms that intermediate payments between cardholders and merchants.[58] For every transaction, the platform charges the merchant a "discount fee" (a percentage of the transaction amount).[59] By contrast, it gives the cardholder a reward (e.g. travel credits or cash back) for every transaction. Visa is the largest payment card platform; Amex and Mastercard are roughly tied for second place, with market shares of approximately 25% each.[60]

Relative to other payment cards, Amex tends to offer greater rewards to cardholders, while also charging significantly higher fees to merchants.[61] These high fees give merchants an incentive to "steer" their customers away from Amex: to offer them a discounted purchase price in exchange for adopting a different form of payment (e.g. a Visa

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Windows in order to have access to those applications … In other words, the market for operating systems would be competitive.")

[56] *Microsoft*, 253 F.3d. at 58. ("To be condemned as exclusionary, a monopolist's act must have an 'anticompetitive effect.' That is, it must harm the competitive process and thereby harm consumers.")

[57] This is reinforced by the fact that, in defining the market, the court considered substitutability from the perspective of consumers, as noted above.

[58] For a thorough account of the economics of payment cards, *see* Marc Rysman & Julian Wright, *The Economics of Payment Cards,* 13 REV. NETWORK ECON. 303 (2015).

[59] *See, e.g., Id.* at 306-08.

[60] At the time of litigation, market shares were measured to be: Visa (45%), Amex (26.4%), MasterCard (23.3%), Discover (5.3%). Ohio v. Am. Express Co., 138 S. Ct. 2274, 2282 (2018).

[61] United States v. Am. Exp. Co., 88 F. Supp. 3d 143, 161 (E.D.N.Y. 2015), rev'd and remanded sub nom. United States v. Am. Express Co., 838 F.3d 179 (2d Cir. 2016), aff'd sub nom. Ohio v. Am. Express Co., 138 S. Ct. 2274 (2018).

credit card).[62] And Amex's rivals encouraged merchants to steer Amex cardholders toward their own payment networks. These efforts initially proved successful in steering consumers away from Amex.[63]

Amex responded by imposing "anti-steering" restrictions on its merchants.[64] This proscribed any behaviors that would tend to steer Amex cardholders toward rival credit cards, such as by offering them a discount, or by expressing a preference for a different card.[65] A merchant could still avoid Amex transactions by simply not participating on the Amex network. But this would prevent the merchant from transacting with many consumers who strongly prefer paying with Amex.[66] This would be an unacceptable sacrifice for many merchants, as Amex cardholders tend to be more affluent and to spend more than other consumers.[67] These anti-steering restraints were the subject of the *Amex* antitrust litigation.[68]

The district court found that the restraints were anticompetitive on the basis of both direct and indirect evidence.[69] In assessing the indirect evidence, a major point of controversy was how to define the relevant market. Amex urged the court to define a single two-sided market for "transactions," which would subsume Amex's dealings with both merchants and consumers.[70] But the district court rejected this.[71] Instead, it held that Amex's separate dealings with the two sides of the platform correspond to "two separate, yet deeply interrelated markets."[72] On this basis, it concluded that the relevant market for

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[62] This is equivalent to imposing a surcharge on Amex-mediated transactions.

[63] United States v. Am. Exp. Co., 88 F. Supp. 3d 143, 161 (E.D.N.Y. 2015) (these efforts "contributed to a 25-45% shift in card volume from American Express to Visa.")

[64] *Id.*

[65] Ohio v. Am. Express Co., 585 U.S. 529, 539-40 (2018). The contracts do not prohibit steering consumers toward cash or debit cards, however, which is prohibited by a federal statute. *Id.*

[66] These consumers might go to a different merchant who accepts Amex.

[67] United States v. Am. Exp. Co., 88 F. Supp. 3d 143, 200-01 (E.D.N.Y. 2015).

[68] Ohio v. Am. Express Co., 138 S. Ct. 2274, 2277 (2018).

[69] United States v. Am. Exp. Co., 88 F. Supp. 3d 143, 187 (E.D.N.Y. 2015).

[70] *Id.* at 172.

[71] *Id.* ("this takes the concept of two-sidedness too far").

[72] *Id.* at 151.

antitrust purposes was the market for "network services" sold to merchants.[73]

However, the district court also emphasized that it would be inappropriate to ignore cardholders, given the interdependence between the two sides.[74] It therefore held that "American Express is correct that the court must account for the two-sided features of the credit card industry."[75]

The Second Circuit reversed the district court's decision,[76] and this reversal was affirmed by the Supreme Court. The Court's decision did two things.[77] First, it held that the anti-steering restraints were not anticompetitive.[78] It found that they were actually procompetitive.[79] There are many reasons to criticize the *Amex* majority's analysis of the anti-steering restraint.[80] However, this paper will not focus on that aspect of the decision.

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[73] *Id.* at 175.

[74] *Id.* at 175 ("The functional reality of a multi-sided platform must be taken into account, since the antitrust significance of a restraint that nominally affects conduct on only one side of the platform cannot be assessed without considering its impact on the other side of the platform.")

[75] *Id.* at 174.

[76] United States v. Am. Express Co., 838 F.3d 179, 184 (2d Cir. 2016), aff'd sub nom. Ohio v. Am. Express Co., 138 S. Ct. 2274 (2018).

[77] The majority opinion also included some problematic dicta, such as its bizarre suggestion that market definition may be necessary even if a plaintiff gives direct evidence of anticompetitive harm. See, e.g., Steven C. Salop, Daniel Francis, Lauren Sillman, & Michaela Spero, *Rebuilding Platform Antitrust: Moving on from Ohio v. American Express,* 84 ANTITRUST L.J. 883, 895-98 (2022).

[78] Ohio v. Am. Express Co., 138 S. Ct. 2274, 2287 (2018).

[79] *Id.* at 2290 ("Amex's business model has spurred robust interbrand competition and has increased the quality and quantity of credit-card transactions.")

[80] *See, e.g.,* Erik Hovenkamp, *Platform Antitrust*, 44 J. CORP. L. 713 (2019); Salop, Francis, Sillman, & Spero, *supra* note 77; Michael L. Katz & A. Douglas Melamed, *Competition Law as Common Law: American Express and the Evolution of Antitrust*, 168 U. PA. L. REV. 2061 (2020); John B. Kirkwood, *Antitrust and Two-Sided Platforms: The Failure of American Express*, 41 CARDOZO L. REV. 1805 (2019); Michael L. Katz, *Platform Economics and Antitrust Enforcement: A Little Knowledge Is a Dangerous Thing,* 28 J. ECON. MANAGEMENT STRAT. 138 (2019); Michael Katz & Jonathan Sallet, *Multisided Platforms and Antitrust Enforcement,* 127 YALE L.J. 2142 (2017).

Second, the majority held that the market had to be defined to comprise both sides of the platform (merchants and cardholders).[81] The majority said this was necessary because "competition cannot be accurately assessed by looking at only one side of the platform in isolation."[82] In other words, it believed that we cannot account for the interdependence between the two sides unless we define the market to include both.

The Court's decision has a major effect on how anticompetitive harm is conceptualized and proven within platform markets. Under *Amex*, both sides of the platform are treated as "consumers" of the platform. But a platform's conduct could affect the two sides in different ways, potentially benefitting one side while harming the other. Thus, under antitrust's consumer welfare standard, the plaintiff must balance ("net out") those countervailing effects as a part of its prima facie case. Because the market is defined to include both sides, this is logically necessary to establish a net injury to "the market as a whole."[83] This balancing requirement is clear in the majority opinion,[84] and is how lower courts have interpreted *Amex*.[85] Supporters of the *Amex* decision likewise agree that inter-side balancing is necessary.[86]

The majority held that its market definition rule applies to "transaction platforms," which it described in terms of "simultaneous transactions."[87] It also said that the rule does not apply if indirect

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[81] Ohio v. Am. Express Co., 138 S. Ct. 2274, 2286-87 (2018). The majority qualified this by saying that a two-sided market definition is not necessary if indirect network effects are not strong in both directions. *Id.* at 2286.

[82] *Id.* at 2287.

[83] Ohio v. Am. Express Co., 585 U.S. 529, 547 (2018).

[84] *Id.* (holding that evidence of harm to merchants was insufficient because it did not account for possible countervailing benefits to cardholders).

[85] *See, e.g.,* PLS.Com, LLC v. Nat'l Ass'n of Realtors, 32 F.4th 824, 839 (9th Cir. 2022) (proving anticompetitive harm under *Amex* requires showing either harm to both sides or showing that the harm on one side "outweighs the benefits to participants on the other"); US Airways, Inc. v. Sabre Holdings Corp., 938 F.3d 43, 52 (2d Cir. 2019) ("the effects of a challenged restraint on a market are to be judged by the net impact on customers on both sides").

[86] *See, e.g.,* Brief for Amici Curiae Prof. David S. Evans and Prof. Richard Schmalensee in Support of Respondents at 21, *Ohio v. Am. Express Co.*, 585 U.S. 529 (2018) (No. 16-1454), 2018 WL 798389 (benefits on the other side are "part of the economic surplus generated by the interaction between the parties and should be accounted for in determining whether the practice reduces consumer welfare.")

[87] *Amex*, 585 U.S. at 545.

network effects are strong in only one direction.[88] As a later section explains, whether or not *Amex* applies to a given platform often depends on the particular way the platform structures its pricing, not on the platform issues that matter, such as indirect network effects.[89]

III. THE TROUBLE WITH *AMEX*

The *Amex* majority was right that the economics of platform markets requires special attention. But their decision makes significant, structural changes to the basic machinery of antitrust analysis, complicating the analysis unnecessarily and rendering some basic concepts incoherent.

A. The *Amex* Rule Is Unnecessary and Misguided

As I have emphasized, it is crucial to account for the interdependence between sides. However, some authorities assume that this logically requires the *Amex* market definition rule, or that it logically requires balancing welfare effects across sides.[90] Indeed, this was an explicit premise of the *Amex* majority's decision.[91] But both assumptions are false, as this section explains.

1. Three Possible Frameworks

Supporters of the *Amex* decision also commonly assert that those who disagree with its market definition rule prefer to "ignore" one side of the platform.[92] That is a strawman. In fact, everyone, including *Amex*'s critics, understands the need to consider both sides. Indeed, I am

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[88] *Id.* at 544.

[89] *See* Section IV, infra. For example, *Amex* probably does not apply to Spotify, but that would change with a slight alteration to its consumer-side pricing model.

[90] *See, e.g.,* Gunnar Niels, *Transaction versus Non-Transaction Platforms: A False Dichotomy in Two-Sided Market Definition*, 15 J. COMP. L. & ECON. 327, 330 (2019) (equating the consideration of both sides with the *Amex* market definition rule); Bruno Jullien & Wilfried Sand-Zantman, *The Economics of Platforms: A Theory Guide for Competition Policy*, 54 INFO. ECON. & POL. 1, 10 (2021) (similar); Brief for Amici Curiae Antitrust Law & Economics Scholars in Support of Respondents, Ohio v. Am. Express Co., 138 S. Ct. 2274 (2018) (similar).

[91] Ohio v. Am. Express Co., 585 U.S. 529, 546 (2018) (rationalizing its market definition rule on the ground that "competition cannot be accurately assessed by looking at only one side of the platform in isolation").

[92] *See, e.g.,* Brief for Amici Curiae Antitrust Law & Economics Scholars in Support of Respondents, Ohio v. Am. Express Co., 138 S. Ct. 2274 (2018).

not aware of any judge or antitrust scholar who has ever advocated for a policy of simply ignoring one side. Even the district court in *Amex*, which limited its market definition to the merchant side of the payment card industry, acknowledged the need to consider the cardholder side as well:

> The functional reality of a multi-sided platform must be taken into account, since the antitrust significance of a restraint that nominally affects conduct on only one side of the platform cannot be assessed without considering its impact on the other side of the platform.[93]

Thus, the important question is not *whether* to consider both sides, but *how*. Unfortunately, the *Amex* decision and its supporters appear to have given little thought to that question.

In fact, *Amex* is just one of several ways courts could evaluate platform conduct while accounting for the interdependence between sides. Note that, if the platform is defined to include only one side, then any procompetitive effects on the other side would be "out-of-market" benefits. As discussed further below, it is an open question whether such efficiencies are cognizable under the Sherman Act.[94] Depending on the answer to this question, and on how the market is defined, there are three possible frameworks that courts could use.

To fix ideas, suppose a plaintiff alleges anticompetitive effects on side A, while the defendant asserts countervailing benefits on side B. In such a case, the three options are:

> **Option 1:** The market is defined to include only side A, so the plaintiff can make a prima facie case by showing anticompetitive effects on side A. Potential procompetitive effects on side B are not cognizable; hence, a procompetitive justification must involve benefits arising on side A. However, because the two sides are interdependent, the effects on side A may depend in part on how the platform's conduct influences behavior on side B.
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> **Option 2:** The market is defined to include only side A, so the plaintiff can make a prima facie case by showing anticompetitive effects on side A. Procompetitive effects on side B are cognizable and can potentially provide a defense. Balancing of welfare effects might

[93] United States v. Am. Exp. Co., 88 F. Supp. 3d 143, 175 (E.D.N.Y. 2015).

[94] Section III.C.1, *infra*.

> therefore be necessary during the final step of the rule of reason burden-shifting framework.[95]
>
> **Option 3:** The market is defined to include both side A and side B. Thus, to make a prima facie case, a plaintiff must establish a net harm to the combination of both sides A and B.[96] Thus, balancing is required to carry the plaintiff's initial burden.

The *Amex* majority adopted option 3, while the dissenting justices advocated option 2.[97] Likewise, many critics of the *Amex* decision appear to view option 2 as the correct way to address conduct in two-sided markets.[98] The *Microsoft* court implicitly used either option 1 or 2, as it defined the market around the consumer-facing side of the operating system industry. The court emphasized "harm to consumers" and never suggested that developer benefits could excuse such harm,[99] which might seem to point to option 1. But ultimately the court never considered whether such out-of-market benefits would be cognizable.

In my view, reasonable minds could differ on whether option 2 or option 1 is more appropriate. That question depends largely on whether one thinks out-of-market benefits should be cognizable, which is a much more general question than how to define platform markets. My claim is that the flaws in *Amex* are independent of that question: no matter one's view on out-of-market benefits, *Amex* is still clearly inferior to at least one (and possibly both) of the alternative options.

2. Why the Amex *Rule Is Unnecessary*

Notice that options 2 and 3 both consider welfare effects on both sides, and both potentially allow for balancing across sides, even though it is only option 3 that *defines the market* to include both sides. Thus, it is simply false to suggest that cross-platform balancing logically

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[95] I summarize the rule-of-reason burden shifting framework in Section III.B, *infra*.

[96] As noted above, this is a consequence of the consumer welfare principle. If users on both sides count as "consumers," then anticompetitive harm means harm to the combination of both sides.

[97] Ohio v. Am. Express Co., 585 U.S. 529, 574 (2018).

[98] *See, e.g.,* Steven C. Salop, Daniel Francis, Lauren Sillman, & Michaela Spero, *Rebuilding Platform Antitrust: Moving on from Ohio v. American Express,* 84 ANTITRUST L.J. 883 (2022).

[99] United States v. Microsoft Corp., 253 F.3d 34, 58 (D.C. Cir. 2001).

requires the *Amex* market definition rule. Moreover, as discussed later, option 2 would be a much more practical way to accomplish this.[100]

Another misconception is that we cannot account for the interdependence between sides without balancing welfare effects between them. To this end, consider option 1. It may appear that this option would "ignore" side B, because benefits on that side are not a cognizable defense. But that is false. Because the two sides are interdependent, we must still consider how the conduct affects behavior on side B, because that could be relevant to determine its overall impact on side A.[101]

Thus, the need to consider side B is simply compelled by economics in light of the sides' interdependence. By contrast, whether we should allow benefits on one side to *excuse* harms on the other is a policy choice, not a question of economic theory. Just as antitrust does not let defendants' profit gains excuse harm to consumers, it could refuse to let benefits on one side of a platform excuse harms on the other. The *Amex* majority was thus mistaken in believing that platform economics somehow compels welfare balancing between the sides.

3. Courts Already Apply Option 1 to Analogous Problems

In fact, option 1 is precisely how antitrust already evaluates certain other restraints in settings where two groups of agents are interdependent. Consider the example of minimum resale price maintenance (RPM).[102] An upstream manufacturer imposes a floor on the price that its downstream retailers can charge for its product. This raises retail prices and might therefore appear to be anticompetitive.

While RPM was illegal per se for a long time, today we understand that it and related restraints often raise aggregate output, suggesting they are actually good for consumers.[103] This is because RPM bolsters retailers' incentives to carry and promote the good.[104] This leads to many purchases of the good by consumers who would otherwise not obtain it, either because they would not have known about it or because it would

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[100] *See* Sections III.B-C, *infra*.

[101] Section I.A.2, *supra*.

[102] *See, e.g.,* Frank Mathewson & Ralph Winter, *The Law and Economics of Resale Price Maintenance*, 13 Rev. Indus. Org. 57 (1998).

[103] Leegin Creative Leather Products, Inc. v. PSKS, Inc., 551 U.S. 877 (2007).

[104] *Id.*

not have been available where they shop. In other words, consumers depend to some extent on retailers for information and access to products. Therefore, practices that affect retailer behavior can impact consumer welfare.

This is much like the interdependence between the sides of a platform. For example, Uber riders would not necessarily benefit if ride prices were far lower, because that might lead most drivers to stop using the app, in which case the volume of rides would plummet. It is the same with retailers—if they compete all their profits away, they will have little interest in carrying and promoting the good. If that prevents many interested buyers from obtaining the good at all, it could easily be worse for consumer welfare than a modestly higher price.

Importantly, however, in RPM cases we do not define the market to include both consumers and retailers. And, while retailers surely benefit from RPM, nobody has ever suggested that those benefits could excuse a proven injury to consumer welfare. Despite all that, we still consider how RPM affects retailer behavior, because this is relevant to determine how RPM affects consumers. This is precisely what option 1 would do in platform cases.

B. How *Amex* Restructures the Rule of Reason

In most antitrust cases, the challenged conduct is evaluated under the "rule of reason." This carries a specific burden-shifting structure.[105] First, the plaintiff must make a prima facie showing of anticompetitive effects. Second, the burden shifts to the defendant to show that its conduct has countervailing procompetitive benefits. Third, the burden then shifts back to the plaintiff to prove that the defendant could achieve those benefits through some "less restrictive alternative" course of conduct.[106]

Fourth, if the plaintiff cannot show a less restrictive alternative, there is a fourth "balancing" step; the plaintiff must show that the harms outweigh the efficiencies.[107] However, the existence of this fourth

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[105] Nat'l Collegiate Athletic Ass'n v. Alston, 594 U.S. 69, 96-97 (2021); Ohio v. Am. Express Co. (*Amex*), 585 U.S. 529, 541 (2018); United States v. Microsoft Corp., 253 F.3d 34, 58-59 (D.C. Cir. 2001).

[106] *Amex*, 585 U.S. at 541.

[107] *See, e.g., Microsoft* 253 F.3d at 59 (D.C. Cir. 2001) ("if the monopolist's procompetitive justification stands unrebutted, then the plaintiff must demonstrate that the anticompetitive harm of the conduct outweighs the procompetitive benefit.").

"balancing" step is unsettled.[108] In *Amex*, the Supreme Court described a "three-step" framework.[109] But in its more recent *Alston* decision, the Court said that the three-step characterization "do[es] not represent a rote checklist," and that "what is required … can vary depending on the circumstance."[110] This recently led the Ninth Circuit to conclude that "Supreme Court precedent neither requires a fourth step nor disavows it."[111] That court went on to affirm the existence of step 4.[112]

One reason for the ambiguity is that the huge majority of cases are resolved in one of the first three steps.[113] Thus, assuming there is a balancing step, it is virtually never reached. But by lumping both sides of the platform together, *Amex* would necessitate balancing as a part of the plaintiff's initial burden. In other words, balancing would go from something that is almost always avoided to something that the plaintiff must do right out of the gates.

The allocation of burdens is also different. Normally the plaintiff has the burden to show anticompetitive effects, while the defendant must then prove any procompetitive benefits. That makes sense: if a plaintiff can show a serious threat to competition, it is reasonable to shift the burden to the defendant to furnish an explanation. But if a platform's conduct harms one side while benefitting the other, *Amex* requires that the plaintiff "net out" these countervailing effects as a part of its prima facie case.

These points show that, even if one thinks benefits on one side should excuse harms on the other, *Amex* is still clearly inferior to an alternative framework, namely option 2 from the previous subsection.[114] Option 2 would allow us to consider countervailing benefits to the other side as a defense, but it would divide the burdens in the usual way: the plaintiff could make a prima facie case by showing harm on one side,

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[108] Epic Games, Inc. v. Apple, Inc., 67 F.4th 946, 993 (9th Cir. 2023) ("Some decisions, when describing the Rule of Reason, contemplate a fourth step. Others do not.") Note that if there is no fourth step, then the defendant wins if the plaintiff cannot show a less restrictive alternative at step 3.

[109] *Amex*, 585 U.S. at 541-42.

[110] *Alston*, 594 U.S. at 96-97 (2021).

[111] *Epic Games*, 67 F.4th at 993.

[112] *Id.*

[113] *Id.* (emphasizing "the paucity of cases that survive step one (let alone require a court to exhaust the first three agreed-upon steps")).

[114] See Section III.A.1, *supra*.

shifting the burden to the defendant to show countervailing benefits on the other side. If it can, then the plaintiff will not win unless it can show a less restrictive alternative or else (if there is a fourth step) that the harms outweigh the benefits. This more equitable allocation of burdens has served antitrust well for many decades, and platform economics gives us no reason to depart from it.

C. Balancing Effects Across Groups or Markets

Most practices examined in antitrust carry the possibility of both anticompetitive and procompetitive effects. Those countervailing effects usually overlap—they fall on the same group of agents (usually "consumers").[115] Such cases thus require what I will call "within-group" balancing.[116] By contrast, *Amex* requires "cross-group" balancing: weighing harms on one side of a platform against benefits on the other. As this section explains, this kind of balancing raises additional complications and courts often forbid it in other areas of antitrust.

These points are relevant for two reasons. First, they bear on the question of whether we should permit benefits on one side to excuse harms on the other.[117] Second, even if one believes those cross-platform benefits should still be cognizable, these points further underscore that *Amex* is clearly not the right way to go about that.[118]

1. Legal Status

Outside of *Amex,* courts never require—and usually do not even permit—balancing of effects across distinct groups of agents or markets. For example, the increased profits defendants obtain by engaging in an anticompetitive practice cannot be used to justify that practice. This distinguishes antitrust's consumer welfare standard from a "total

[115] For example, a horizontal merger could reduce costs, putting downward pressure on price, but it also leads to unilateral effects that put upward pressure on price. These countervailing effects apply to the same prices, and thus consumers ultimately experience the sum of the effects.

[116] However, as noted below, antitrust cases rarely reach the stage of analysis at which balancing is potentially required.

[117] In particular, it might suggest that we should adopt option 1 rather than option 2 from the list of possible frameworks. *See* Section III.A.1, *supra*.

[118] This reinforces the superiority of option 2 over the *Amex* rule (option 3). *See Id.*

welfare" standard that would balance defendants' profit gains against consumer harm.[119]

Similarly, in a merger case, if the defendants compete in multiple distinct markets, the plaintiff need not show a net injury across all such markets.[120] Nor can a defendant attempt to excuse anticompetitive harm in one market by pointing to procompetitive benefits in another.[121] Thus, in merger cases, there is no balancing across different markets.

In nonmerger cases, a plaintiff's initial burden never requires demonstrating a net harm across distinct markets or distinct groups of agents.[122] However, it is an open question whether a defendant can rely on out-of-market benefits as a defense in such cases.[123] But in practice courts have tended to regard such defenses as non-cognizable.[124]

There are some exceptions, however. In cases where consumers participate in multiple complementary markets, courts have sometimes appeared to recognize harm in one such market and procompetitive benefits in another.[125] Note, however, that while this considers out-of-market efficiencies, it does not require cross-group balancing, because the harm and benefits fall on the same consumers.

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[119] *See, e.g.,* Steven C. Salop, *Question: What Is the Real and Proper Antitrust Welfare Standard—Answer: The True Consumer Welfare Standard*, 22 LOY. CONSUMER L. REV. 336 (2009); Barak Y. Orbach, *The Antitrust Consumer Welfare Paradox*, 7 J. COMPETITION L. & ECON. 133 (2010).

[120] The Clayton Act prohibits a merger that lessens competition "in any line of commerce … in any section of the country." 15 U.S.C. §18. Courts have interpreted this to mean that liability requires harm in just one relevant market. United States v. Philadelphia Nat'l Bank, 374 U.S. 321, 370 (1963).

[121] *Id.* (rejecting the suggestion that "anticompetitive effects in one market [can] be justified by procompetitive consequences in another").

[122] For example, as noted earlier, in an RPM case a plaintiff would have to show only harm to consumers, not harm to the combination of consumers and retailers. *See* Section III.A.3, *supra*.

[123] *See, e.g.,* ERIKA M. DOUGLAS, RECONSIDERING THE 'RULE' AGAINST CROSS-MARKET JUSTIFICATIONS IN CONDUCT CASES*, in* JUDGING BIG TECH: INSIGHTS ON APPLYING U.S. ANTITRUST LAWS TO DIGITAL MARKETS 67 (Laura Alexander ed., 2022); Louis Kaplow, *Out of Market, Out of Mind,* 87 ANTITRUST L.J. 547 (2026).

[124] Fed. Trade Comm'n v. Meta Platforms, Inc., 775 F. Supp. 3d 16, 69 (D.D.C. 2024) ("The weight of authority nonetheless appears to be broadly against recognizing out-of-market procompetitive justifications without very good justification.")

[125] Epic Games, Inc. v. Apple, Inc., 67 F.4th 946, 989 (9th Cir. 2023) (arguing that the Supreme Court did this in *Kodak*) (citing Eastman Kodak Co. v. Image Tech. Servs., Inc., 504 U.S. 451, 481 (1992)).

Additionally, in cases alleging harm to *sellers* (e.g. workers), courts sometimes appear open to considering countervailing benefits to final consumers as an affirmative defense.[126] This would require cross-group balancing. Many antitrust experts argue this is inappropriate.[127] The Supreme Court recently acknowledged this as an open question but declined to weigh in.[128]

But even this limited form of cross-group balancing is quite distinct from the *Amex* rule. *Amex* requires cross-group balancing as a part of the plaintiff's prima facie case. By contrast, in balancing seller harms against consumer benefits, a plaintiff can carry its initial burden by showing harm to sellers alone. To the extent that consumer benefits are cognizable, they must be proven by the defendant; and balancing occurs only (if at all) at the final step of the rule of reason.

2. Intractability

A key reason why courts have tended to avoid cross-group or cross-market balancing is that it is often intractable.[129] Even within-group balancing is already at the outer boundary of courts' capabilities in many cases. The effects courts are asked to balance are usually very difficult to measure and sometimes incommensurable.[130] Dueling experts may provide very different estimates for the relevant effects, with each expert's report relying on technical methods that are at least facially reasonable. And the judge, lacking any economic expertise, will typically have a hard time appraising and comparing these expert reports.

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[126] *See, e.g.,* Hiba Hafiz, *Labor Antitrust's Paradox*, 86 U. CHI. L. REV. 381, 392-98 (2019) (discussing examples).

[127] *See, e.g.,* Laura Alexander & Steven C. Salop, *Antitrust Worker Protections: The Rule of Reason Does Not Allow Counting of Out-of-Market Benefits*, 90 U. CHI. L. REV. 273 (2023); C. Scott Hemphill & Nancy L. Rose, *Mergers that Harm Sellers*, 127 YALE L.J. 2078 (2018).

[128] Nat'l Collegiate Athletic Ass'n v. Alston, 141 S. Ct. 2141, 2155 (2021).

[129] *See, e.g.,* United States v. Topco Assocs., Inc., 405 U.S. 596, 609–10 (1972) (lamenting judges' "inability to weigh, in any meaningful sense, destruction of competition in one sector of the economy against promotion of competition in another…").

[130] *See* Rebecca Haw Allensworth, *The Commensurability Myth in Antitrust,* 69 VAND. L. REV. 1 (2016).

Consequently, judges routinely emphasize the practical difficulties of balancing pro- and anticompetitive effects.[131] Courts deal with these difficulties in different ways. Some make a genuine attempt at rigorous cost-benefit analysis, but most simply find a way to avoid it. For example, in some cases the court simply declares, without explanation, that the balance comes out in one side's favor.[132] Some courts do not recognize a fourth step of the rule of reason and thus decline even to attempt balancing.[133] Others effectively maintain a presumption that the balance favors the defendant if the plaintiff cannot identify a less restrictive means of achieving the same efficiency benefits.[134]

Amex-style cross-group balancing ratchets up this difficulty significantly. In some cases it logically requires "balancing within balancing." It seeks to account for the separate welfare effects on opposite sides of the platform, but determining each of those effects will typically require within-group balancing. For example, a merger might lower the cost of serving users on side A while also increasing the platform's market power on that side. These things have countervailing effects on price. They must therefore be balanced to determine the overall effect on side A; and then the court must repeat this process on side B.

This does not necessarily mean that courts should never attempt to reconcile countervailing effects on opposite sides of a platform. However, it does suggest that plaintiffs should not be required to engage in cross-group balancing as a part of their initial burden. If a plaintiff can show anticompetitive harm to one side of a platform market—even while accounting for the interdependence between sides—that harm demands

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[131] *See, e.g.,* 42nd Parallel N. v. E St. Denim Co., 286 F.3d 401, 405 (7th Cir. 2002); Impax Lab'ys, Inc. v. Fed. Trade Comm'n, 994 F.3d 484, 497-98 (5th Cir.); Saint Alphonsus Med. Ctr.-Nampa Inc. v. St. Luke's Health Sys., Ltd., 778 F.3d 775, 790 (9th Cir. 2015).

[132] For example, in recalling one of its prior cases in which balancing had been deemed necessary, the Ninth Circuit remarked that it had "concluded, *with just one sentence of analysis*, that 'any anticompetitive harm is offset by the procompetitive effects of [defendant's conduct].'" Epic Games, Inc. v. Apple, Inc., 67 F.4th 946, 993 (9th Cir. 2023) (emphasis added).

[133] *See, e.g.,* Michael A. Carrier, *The Four-Step Rule of Reason,* 33 ANTITRUST 50, 51 (2019).

[134] *See, e.g.,* Epic Games, Inc. v. Apple, Inc., 67 F.4th 946, 993 (9th Cir. 2023) (the rule of reason includes a balancing stage, but "in most instances" courts should conclude that "a business practice without a less restrictive alternative is not, on balance, anticompetitive.").

an explanation. The defendant should thus carry the burden of proving countervailing benefits on the other side that could plausibly outweigh the harm shown by the plaintiff.[135]

Indeed, this is how antitrust has always divided burdens between litigants. That policy is underwritten by administrative and policy considerations, not by economic theory. Platform economics thus gives us no reason to deviate from it.

D. Conceptual Difficulties

Another serious problem with *Amex* is that, if courts attempt to lump both sides into a single "relevant market," some basic antitrust concepts about markets can no longer be defined coherently. This shows that *Amex* is flawed not only for practical reasons, but also on economic grounds.

When the market is defined to include both sides, it may be impossible to specify how competitive this "market" is, or to specify how much market power a firm has within it. The reason is that competition could be intense on one side but not the other; and similarly, a platform could have significant power on one side but not the other. Thus, if we are forced to consider both sides as comprising a single market, there may be no coherent way to talk about competition or market power.

The core issue is that the two sides may disagree strongly about the degree to which a platform is substitutable with another company. Substitutability is what drives competition. Thus, if the sides disagree about the number of close substitutes, then competition will be more intense on one side than the other. A corollary is that a platform can have more market power on one side than the other, given that market power is driven by an absence of competitive pressure.

The two sides can disagree about substitutability for several reasons. First, two platforms may offer similar opportunities to one side but not the other. For example, many drivers regard Uber and Uber Eats as substitutes, as they both involve driving for pay. But consumers view the two platforms as completely independent.

Second, platforms may compete with ordinary one-sided firms on one side of the platform. In such cases, only the users on that side will view those firms as substitutes. For example, travelers view Airbnb and

[135] This was option 2 from Section III.A.1, *supra*.

hotels as substitutes, but the hosts on Airbnb do not. *Microsoft* was another example. As discussed earlier, consumers did not view Java as a substitute for Windows; but developers did view Java's developer tools as a substitute for those offered by Windows.[136]

Third, even if two platforms intermediate the same type of interactions, differences in "homing" patterns may lead the two sides to disagree about their substitutability. To see this, consider the so-called "competitive bottleneck" model, wherein buyers singlehome while sellers multihome.[137] For example, consumers view the Xbox and PlayStation video game consoles as relatively close substitutes, because they have comparable technology and most games are available on both. Moreover, most consumers will singlehome, because it is expensive to buy a second game console. However, precisely because consumers mainly singlehome, game developers do *not* view the consoles as close substitutes, because they cannot be used to reach the same consumers. Rather, developers view them as largely independent, because each confers access to a distinct pool of gamers.[138]

As a result, the consoles compete intensely on the consumer side, where they are viewed as substitutes. But competition is much weaker on the developer side.[139] In such cases, if one defines the market to include both sides, then "it does not make sense to speak of the competitiveness of the market."[140] Instead, one can speak only of the degree of competitiveness on a given side of the platform. Similarly, we cannot speak coherently about a platform's market power over both sides combined; it is only meaningful to talk about its power on one side or the other.

This breakdown of basic antitrust concepts is a clear signal that the *Amex* rule is ill-conceived. Market definition is supposed to *aid* us in applying these concepts, not render them incoherent. The better approach is to recognize the two sides of a platform industry as separate

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[136] *See* notes 51-55, *supra*, and accompanying text.

[137] *See* Armstrong, *supra* note 10.

[138] *See, e.g.,* Jullien, Pavan, & Rysman, *supra* note 1, at 528 (in the competitive bottleneck, sellers "choose whether or not to join each platform as if it were a monopoly.")

[139] *Id.* ("there is no direct competition between the two platforms to attract [developers]" in the competitive bottleneck).

[140] *See, e.g.,* Armstrong, *supra* note 10, at 680.

but interdependent markets, both of which may be affected by the platform's conduct.

IV. ARE "SIMULTANEOUS TRANSACTIONS" IMPORTANT?

The *Amex* rule applies to "transaction platforms," which the majority described in terms of "simultaneous transactions."[141] By that, the court meant that whenever the platform transacts with a user on one side, it simultaneously transacts with a user on the other side.[142] This just means that the platform transacts with both sides on a per-interaction basis.[143] The court also indicated that the market need not be defined to include both sides if there are strong indirect network effects in only one direction, citing ad-supported media platforms as an example.[144] Lower courts have interpreted these things as determining when the *Amex* rule applies.[145]

Although the economics literature routinely describes operating systems as two-sided platforms,[146] the *Amex* rule arguably would not apply to PC operating systems like Windows. They would not seem to satisfy the "simultaneous transactions" requirement.[147] One might wonder if this undercuts the motivation for comparing *Microsoft* and *Amex*. In fact, it just highlights another defect of *Amex*, which is that its scope of applicability—particularly its emphasis on "simultaneous transactions"—makes little sense, even if one accepts all of the premises underlying the majority's decision.

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[141] Ohio v. Am. Express Co. (*Amex*), 585 U.S. 529, 545 (2018) ("two-sided transaction platforms, like the credit-card market … facilitate a single, simultaneous transaction between participants.")

[142] *Id.* ("whenever 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.")

[143] *See* Section I.B.1, *supra* (discussing the different ways platforms structure their pricing).

[144] *Id.* at 544.

[145] *See, e.g.,* US Airways, Inc. v. Sabre Holdings Corp., 938 F.3d 43 (2d Cir. 2019).

[146] See, e.g., David S. Evans, *The Antitrust Economics of Multi-Sided Platform Markets*, 20 YALE J. REG. 325 (2003).

[147] A software developer need only make its application available on Windows once; any number of consumers can then acquire and install it without the developer having to engage in further transactions with the platform.

Simultaneous transactions do not bear on the most important economic aspect of platform markets: indirect network effects. As the *Amex* majority acknowledged, it is the interdependence created by those network effects that requires us to consider both sides.[148] But a platform market can have strong indirect network effects even if the platforms do not transact with both sides simultaneously. Indeed, strong indirect network effects were a key aspect of *Microsoft*, as emphasized earlier. Thus, simultaneity of transactions is a poor litmus test for the economic issues that really matter in platform markets.

Perhaps simultaneous transactions are useful for some other reason? The most likely answer would be that simultaneous transactions can allow for a unified measure of output that accounts for both sides at the same time. In particular, with simultaneous transactions, the volume of transactions is the same on both sides and thus could potentially be a coherent measure of output for the platform "as a whole." The payment card industry was obviously a good fit for this, as it is natural to use credit card transactions as a relevant measure of output.

While convenient, this does not necessarily reflect any important structural distinction. More likely, it is just an artifact of the platform's pricing structure. For example, *Amex* likely does not apply to Spotify, as it transacts with one side (artists) on a per-listen basis, while selling the other side (consumers) a monthly subscription. But if Spotify charged consumers fees on a per-listen basis as well, then it would exhibit "simultaneous transactions" and hence *Amex* would apply. Similarly, if Windows charged fees to app developers in the same way as Apple's iOS operating system, then *Amex* would apply.[149]

Suffice it to say, it is hardly clear why such variations in a platform's pricing structure should completely change the way the market is defined. We define markets based on product substitutability,[150] not based on how firms structure their pricing.

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[148] Ohio v. Am. Express Co., 585 U.S. 529, 535 (2018).

[149] For example, this would be the case if Windows required all apps to be downloaded through its own proprietary app store that takes a cut of the price paid by the consumer. Courts have held that *Amex* applies to this model. *See, e.g.,* Epic Games, Inc. v. Apple, Inc., 67 F.4th 946, 985 (9th Cir. 2023).

[150] *See, e.g.,* Jonathan B. Baker, *Market definition: An Analytical Overview*, 74 ANTITRUST L.J. 129 (2007).

More importantly, even if simultaneous transactions allow for a unified measure of output, that does not imply that the market should be defined to include both sides. It implies only that, *if* one defines the market that way, then one can potentially use the volume of transactions as a coherent measure of output in that market. But one could just as well limit the market definition to one side and use the same transaction volume as a measure of output in that narrower market. For example, even if the market in *Amex* had been defined to include only one side, we could still use the volume of credit card transactions as the relevant measure of output in that narrower market.

In fact, whether there is a unified measure of output is not determined by whether the platform transacts with both sides simultaneously. Rather, what matters is whether the value both sides get from the platform is limited to the value of inter-side interactions. If so, then the total volume of interactions can serve as a good measure of platform output. But this is true regardless of whether the platform structures its pricing in a way that results in simultaneous transactions.[151]

By contrast, if one side derives significant benefits from the platform that are unrelated to inter-side interactions, then the interaction volume is not a good measure of output—either for that side alone, or for the platform "as a whole." In such cases, the interaction volume fails to capture much of the value provided by the platform. In such a case, there may not be any unified measure of output for the platform as a whole, even if the platform's pricing structure results in simultaneous transactions.

For example, Yelp caters to both businesses and consumers, and it allows the two sides to interact in various ways (e.g. booking appointments or placing delivery orders). Even if Yelp charged both sides fees for these interactions, resulting in "simultaneous transactions," the volume of such transactions obviously would not be a good measure of output for Yelp's platform as a whole, because these interactions capture only a fraction of the benefits that Yelp provides to each side. For example, consumers also use Yelp to browse reviews, and businesses also use it to advertise.

[151] For example, although Spotify transacts with only one side (artists) on a per-interaction (i.e. per-listen) basis, the total number of listens by consumers is still a perfectly reasonable measure of output in this setting.

These points also undercut the *Amex* majority's explanation for why its decision should not apply to ad-supported media platforms. These are platforms like social media, search engines, and most free media websites that are free to consumers and earn all revenue on the advertising side. The majority said that a one-sided market definition was appropriate because in these markets indirect network effects are strong in only one direction.[152] However, that is not a satisfactory rationale if, as the majority suggested, a two-sided definition is required whenever it is necessary to "consider both sides." Even if indirect network effects are strong in only one direction, that is enough to create interdependence, requiring us to consider both sides in some cases.[153]

It may be that the *Amex* majority excluded media platform markets from its market definition rule because the relevant interactions (ad impressions) could not provide a coherent unified measure of output for the platform as a whole.[154] But, again, there is no reason why the existence of such a measure should determine how we define the market, or whether it is necessary to "consider both sides."

V. DISCUSSION AND CONCLUDING REMARKS

The economics of platforms was central in both *Microsoft* and *Amex*. Both courts recognized indirect network effects as key aspects of the industry. Both recognized that the impact of the challenged conduct on one side depended on how it affected the other side's behavior. Each case also had to address novel aspects of platform competition, such as the merchant steering in *Amex* and the developer multihoming in *Microsoft*.

Yet the two courts drew very different lessons from these shared premises. *Microsoft* addressed the economics of the platform without making any major alterations to the core antitrust framework. It defined the relevant market around a single side—consumers—while taking care to trace how the exclusion of middleware would alter developer behavior in ways that fed back onto the consumer side. The

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[152] Ohio v. Am. Express Co., 585 U.S. 529, 544 (2018).

[153] For example, suppose a media platform implements some restraint that leads ad prices to rise. In a vacuum, that would seem anticompetitive. But if it also increases the number of consumers on the platform—benefitting advertisers—then the restraint could very well be reasonable.

[154] This is for the same reason emphasized above: one side (consumers) gets substantial benefits from a media platform that are unrelated to ad impressions.

interdependence between sides was thus accounted for, but it informed the court's analysis rather than distorting it.

Amex, by contrast, treated indirect network effects as a reason to overhaul the rule-of-reason framework itself: it folded both sides into a single relevant market, interpreting their interdependence to mean that both groups must be treated as "consumers," notwithstanding the clear economic differences between them. As a result, a plaintiff's prima facie case requires evidence of a net injury to the combination of both groups, thus necessitating a messy form of cross-group balancing that courts normally avoid or prohibit. In the view of the *Amex* majority, this is the only way "competition can be accurately assessed" when there are strong indirect network effects.[155] In fact, the truth is closer to the opposite. Of the three possible ways courts could evaluate platform competition while accounting for the interdependence between sides, the *Amex* rule is by far the least promising option.

Amex conflates three questions: (1) whether we should "consider both sides" of the platform; (2) whether we should permit benefits on one side to excuse anticompetitive harm on the other; and (3) whether the market should be defined to include both sides. The *Amex* majority correctly answered the first question in the affirmative; and it assumed that the same must be true of the other two. But it never stopped to consider whether that leap makes any sense. If it had, it would have recognized that these three questions are entirely independent.

The need to consider both sides does not tell us whether we should let benefits on one side excuse anticompetitive harm on the other. Economic theory cannot answer that. It is a question of how we should run the antitrust system; and it depends mainly on administrative considerations, not economics.

Nor does the importance of considering both sides determine how the market should be defined. The majority's assumption to the contrary reflects a misunderstanding of the role market definition plays in antitrust analysis. Its job is not to draw a boundary between agents we can "consider" and those we must "ignore." Effects on the behavior of market outsiders are *always* cognizable—and are routinely considered—when they are relevant to competition and welfare inside the market.[156]

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[155] Ohio v. Am. Express Co. (*Amex*), 585 U.S. 529, 546 (2018).

[156] In many antitrust cases, we "consider" two or more complementary markets, even though harm is alleged in only one of them. For example, in a typical vertical merger

Moreover, even if one thinks benefits to outsiders should be cognizable procompetitive effects, the most practical way to facilitate this is to treat them as an affirmative defense ("out-of-market efficiencies"), not to redefine the market to include the outside agents.

Rather, the role of market definition is simply to identify a reasonably self-contained area of competition to aid our analysis of market power and competitive effects. To this end, the fact that competition can be much more intense on one side of a platform than the other shows that there are in fact two distinct areas of competition, not one. The solution is to recognize that these are distinct markets, although they are highly interdependent.

Microsoft did not conflate these distinct issues. It understood not only that indirect network effects are important, but that they are much more critical to certain parts of the antitrust analysis (e.g. monopoly power, competitive effects) than to others (market definition). That nuance is missing from *Amex*.

As a result, the *Microsoft* court was able to do exactly what *Amex* said was impossible: it carefully accounted for indirect network effects and other distinctive aspects of platform competition, all while defining the market around just one side of the platform. Other courts would do well to interpret *Amex* narrowly, and to follow *Microsoft*'s lead when evaluating platform conduct.

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case, harm is alleged in just one of two vertically-related markets; but to assess that we must still consider how the merger will affect behavior in the other market.