EXHIBIT D
Dear Tim, Phil, Craig, Matt,

Because of restrictions imposed by Apple, Epic is unable to provide consumers with certain features in our iOS apps. We would like to offer consumers the following features:

1) Competing payment processing options other than Apple payments, without Apple’s fees, in Fortnite and other Epic Games software distributed through the iOS App Store;

2) A competing Epic Games Store app available through the iOS App Store and through direct installation that has equal access to underlying operating system features for software installation and update as the iOS App Store itself has, including the ability to install and update software as seamlessly as the iOS App Store experience.

If Epic were allowed to provide these options to iOS device users, consumers would have an opportunity to pay less for digital products and developers would earn more from their sales. Epic is requesting that Apple agree in principle to permit Epic to roll out these options for the benefit of all iOS customers. We hope that Apple will also make these options equally available to all iOS developers in order to make software sales and distribution on the iOS platform as open and competitive as it is on personal computers.

As you know, Epic was required to accept your standard, non-negotiable contracts, like the Apple Developer Program License Agreement, in order to offer products on iOS devices through the iOS App Store. Epic is also required to comply with Apple’s unilateral standards documents to obtain app approval, like Apple’s App Store Review Guidelines. Apple’s contracts and standards documents contain restrictive provisions that prohibit Epic from offering a competing app store and competing payment processing options to consumers. Apple would need to provide a side letter or alter its contracts and standards documents to remove such restrictions to allow Epic to provide a competing app store and competing payment processing option to iOS customers.

Please confirm within two weeks if Apple agrees in principle to allow Epic to provide a competing app store and competing payment processing, in which case we will meet with your team to work out the details including Epic’s firm commitment to utilize any such features diligently to protect device security, customer privacy, and a high-quality user experience. If we do not receive your confirmation, we will
understand that Apple is not willing to make the changes necessary to allow us to provide Android customers with the option of choosing their app store and payment processing system.

Best Regards,

Tim Sweeney
Founder & CEO
Epic Games
EXHIBIT E
July 10, 2020

Via Email: canon.pence@epicgames.com

Canon Pence
General Counsel
Epic Games, Inc.
620 Crossroads Blvd
Cary, NC 27518

Dear Mr. Pence:

I am counsel in the Apple Legal Department and I am writing in response to Mr. Sweeney’s email to Tim Cook, Phil Schiller, Craig Federighi, and Matt Fischer on June 30, 2020. The email was disappointing and requires a formal response.

The App Store is not simply a marketplace -- it is part of a larger bundle of tools, technologies and services that Apple makes available to developers to develop and create great applications for iPhone, iPad and other Apple products. We know Epic knows this. Epic has been a major beneficiary of this investment and support. Epic has made great use of Apple-provided tools, such as TestFlight, VOIP, Stickers, iCloud document storage, ARKit, Messages Extension, ReplayKit, and Push Notifications. To highlight one example, for years now, Epic has used Apple’s groundbreaking graphics technology, Metal. When Apple launched Metal for Mac at WWDC in 2015, Mr. Sweeney’s colleague Billy Bramer stood on stage and explained how Metal “revolutionized graphic design” and “enable[d] developers like us to create richer 3D worlds.” Apple – WWDC 2015, Youtube (June 15, 2015), https://www.youtube.com/watch?v=_p8AsQhaVKI. Epic, like countless developers, continues to use Metal to make its games sharper, faster, and more responsive. Apple doesn’t charge separately for the use of Metal or any of the other tools that Epic has used to develop great games on iOS.

Not only has Apple supplied tools and technologies for Epic to build its apps, but it also provided a marketplace—the App Store—to help make them a success. Because of the App Store, Epic has been able to get Fortnite and other apps into
the hands of millions instantly and at no cost, as Apple charges nothing upfront to distribute apps that are free to download. This exposure has earned Epic hundreds of millions of dollars from sales of in-app content, and brought with it lucrative brand partnerships and paid product placement. See *Fortnite Emerges as a Social Media Platform for Gen Z*, AdAge (June 10, 2019), https://adage.com/article/digital/fortnite-emerges-social-media-platform-gen-z/2176301. Of course, Epic could not have achieved this success without great apps, but it nonetheless underscores the value Apple brings to developers like Epic.

Still, Epic has many ways to reach consumers, including through Android stores, PC-based platforms, consoles (Xbox, Nintendo, Play Station) and its very own app marketplace. Public reports indicate that Fortnite alone “generated $1.8 billion in revenue in 2019,” *Fortnite Creator Epic Games Raising $750M at $17B Valuation: Report*, The Street (June 15, 2020), https://www.thestreet.com/investing/fortnite-creator-epic-games-raising-750m-at-17b-valuation, or over seven times the $245 million yielded by App Store receipts for all Epic apps. Epic made its own decision to utilize the App Store as another one of its channels and can hardly be surprised that this entails acceptance of a license agreement and related policies since Epic’s own developers must do the same. See Epic Online Services Developer Agreement https://dev.epicgames.com/en-US/services/terms/agreements (“If you do not or cannot agree to the terms of this Agreement, do not download or use the SDK or access any Services.”).

Apple has hundreds of thousands of developers distributing apps on the App Store, and Apple is proud that it offers them all, from the student in her living room to some of the largest companies in the world, the same terms and opportunities.

That brings us to the demands in Mr. Sweeney’s email. Epic requests the right to offer a “competing Epic Games Store app” through the App Store that would seemingly allow iOS device users to install apps from Epic directly. And Epic wants to offer “competing payment processing options” in Fortnite and other Epic apps instead of using Apple’s in-app purchase (IAP) system. As you know, Apple has never allowed this. Not when we launched the App Store in 2008. Not now. We understand this might be in Epic’s financial interests, but Apple
strongly believes these rules are vital to the health of the Apple platform and carry enormous benefits for both consumers and developers. The guiding principle of the App Store is to provide a safe, secure and reliable experience for users and a great opportunity for all developers to be successful but, to be clear, when it comes to striking the balance, Apple errs on the side of the consumer.

**Epic Store Within The App Store.** As for the first request, Apple designed the App Store to be a secure and trusted place for consumers to discover and download software. Central to this is Apple’s requirement that every iOS app undergo rigorous, human-assisted review. Apple invests significant resources to ensure that apps meet high standards for privacy, security, content, and quality; we have reviewers located on three continents, representing 81 languages, and reviewing on average 100,000 submissions per week.

That investment has paid off not just for Apple, but also for app developers large and small, including Epic. Because of Apple’s rules and efforts, iOS and the App Store are widely recognized as providing the most secure consumer technology on the planet. And as a result, consumers can download and pay for an app and in-app content without worrying that it might break their device, steal their information, or rip them off. This level of security benefits developers by providing them with an active and engaged marketplace for their apps.

One way Apple helps maintain the confidence of its users is by not approving apps that create “an interface for displaying third-party apps, extensions, or plug-ins similar to the App Store or as a general-interest collection.” App Store Review Guideline § 3.2.2. Absent this guideline, Apple would have no reliable way of delivering on its commitment to consumers that every app available via the App Store meets Apple’s exacting standards for security, privacy, and content. Consumers rightly rely on that commitment in buying Apple devices and in purchasing from the App Store. They will quite properly hold Apple to account for any shortfall in performance. The health of Apple’s ecosystem and the strength of its reputation as a maker of high-quality hardware accordingly depend upon rules like Guideline § 3.2.2.

Although Mr. Sweeney represented that, if Epic offered its own iOS app store, Epic would “protect device security, consumer privacy, and a high-quality user
experience,” we cannot be confident that Epic or any developer would uphold the same rigorous standards of privacy, security, and content as Apple. Indeed, since Apple treats all developers according to the same terms, Epic is essentially asking Apple to outsource the safety and security of Apple’s users to hundreds of thousands of iOS developers. Even if such a model were feasible (and it is not), we are simply unwilling to risk our users’ trust in such a way. Incorporating third party app stores into iOS would undermine Apple’s carefully constructed privacy and security safeguards, and seriously degrade the consumer experience and put Apple’s reputation and business at risk.

**Circumventing IAP.** Epic also requests to offer payment processing options within Epic’s apps other than via IAP. IAP is the App Store’s centralized payment system. It lets users purchase digital goods and services within apps without the inconvenience and security risks of registering their payment information with each developer. As you note, Apple’s App Review Guidelines require that apps use IAP to unlock additional features and functionalities. *See App Store Review Guideline § 3.1.1.*

Again, this rule is central to the App Store’s business model and successes. IAP supports the seamless consumer experience and is the means by which Apple gets paid for the valuable services and consumer base that it provides. To take advantage of Apple’s App Store, the bargain is simple: if you charge for software purchased through the App Store, Apple takes a percentage of the charge as commission. This business model has remained unchanged since the App Store launched.

Mr. Sweeney does not take issue with that model in his email—perhaps because Epic takes full advantage of it. Apple takes no cut from Epic’s in-app advertising, nor from sales of items, like skins and currency, that iOS app users obtain outside of the App Store. And, as already discussed, Apple charges nothing for enabling millions of iOS users to play Fortnite for free. Without IAP, however, Apple would have no practical or reliable way of collecting its commission on in-app digital sales. Indeed, the IAP requirement applies equally for the very same reason to the Mac App Store, which you regard as “open and competitive.”
Mr. Sweeney recently stated that “[i]t’s up to the creator of a thing to decide whether and how to sell their creation.” Tim Sweeney (@TimSweeneyEpic), Twitter (June 16, 2020, 11:53 PM), https://twitter.com/TimSweeneyEpic/status/1273101468875329537. We agree. It seems, however, that Epic wishes to make an exception for Apple and dictate the way that Apple designs its products, uses its property and serves its customers. Indeed, it appears that Mr. Sweeney wants to transform Apple’s iOS devices and ecosystem into “an open platform… like the first Apple computers, where users had the freedom to write or install any software they wished.” https://twitter.com/TimSweeneyEpic/status/1273090414476738567.

In the first place, this ignores the fundamental reality that the iPhone operates in an entirely different environment than a laptop or desktop computer and meets wholly different user expectations. As Steve Jobs explained in 2007, “[y]ou don’t want your phone to be like a PC. The last thing you want is to have loaded three apps on your phone and then you go to make a call and it doesn’t work anymore. These are more like iPods than they are like computers.” Steve Jobs Walks the Tightrope Again, N.Y. Times (Jan. 12, 2007), https://www.nytimes.com/2007/01/12/technology/12apple.html.

The App Store is not a public utility. Epic appears to want a rent-free store within the trusted App Store that Apple has built. Epic wants “equal access” to Apple’s operating system and “seamless” interaction between your store and iOS, without recognizing that the seamlessness of the Apple experience is built on Apple’s ingenuity, innovation, and investment. Epic wants access to all of the Apple-provided tools like Metal, ARKit and other technologies and features. But you don’t want to pay. In fact you want to take those technologies and then charge others for access. Apple has invested billions of dollars to develop technologies and features that developers like Epic can use to make great apps as well as a safe and secure place for users to download these apps. Apple designs its products and services to make developers successful through the use of custom chips, cameras, operating system features, APIs, libraries, compilers, development tools, testing, interface libraries, simulators, security features, developer services, cloud
services, and payment systems. These innovations are properly protected by intellectual property laws and Epic has no right to use them without a license from Apple. As a signatory to the Apple Developer Agreement and the Apple Developer Program License Agreement, Epic has acknowledged these IP rights (just as Epic’s developers do the same with respect to Epic’s intellectual property). See Apple Developer Program License Agreement § 2.5.

Surely Epic must understand that Apple is entitled to a return on its investment and the use of its property. After all, Epic takes great pains to protect its own investments and intellectual property. Epic rightly demands royalties from games built using its development software. See Unreal Engine End User Agreement § 5, https://www.unrealengine.com/en-US/eula/publishing. And it tightly controls how its games, designs, and content may be used, because, in its own words: “we spend a lot of time, thought, and money creating our intellectual property and need to protect it.” Fan Content Policy, https://www.epicgames.com/site/en-US/fan-art-policy. Plus, Mr. Sweeney recently suggested that it’s reasonable for other industry players, such as console manufacturers, to charge for distributing software. Tim Sweeney (@TimSweeneyEpic), Twitter (June 17, 2020, 11:29 AM), https://twitter.com/TimSweeneyEpic/status/1273276548569841667. And Epic’s major investor, China’s Tencent, also charges developers to take advantage of its platform. See Tencent opens up WeChat Mini-Games Platform to External Devs, Pocket Gamer (Apr. 11, 2018), https://www.pocketgamer.biz/asia/news/67901/tencent-opens-up-wechat-mini-games-platform-to-external-devs/.

Yet somehow, you believe Apple has no right to do the same, and want all the benefits Apple and the App Store provide without having to pay a penny. Apple cannot bow to that unreasonable demand. We must therefore respectfully decline to make the changes you request.

Sincerely,

Douglas G. Vetter
Vice President & Associate General Counsel
EXHIBIT F
Hi Tim, Phil, Craig, Matt, Douglas,

It’s a sad state of affairs that Apple's senior executives would hand Epic's sincere request off to Apple's legal team to respond with such a self-righteous and self-serving screed -- only lawyers could pretend that Apple is protecting consumers by denying choice in payments and stores to owners of iOS devices. However, I do thank you for the prompt response and clear answer to my two specific requests.

If Apple someday chooses to return to its roots building open platforms in which consumers have freedom to install software from sources of their choosing, and developers can reach consumers and do business directly without intermediation, then Epic will once again be an ardent supporter of Apple. Until then, Epic is in a state of substantial disagreement with Apple’s policy and practices, and we will continue to pursue this, as we have done in the past to address other injustices in our industry.

Tim Sweeney

On Fri, Jul 10, 2020 at 5:02 PM Douglas Vetter <vetter@apple.com> wrote:

Mr. Pence, please find attached Apple’s response to Mr. Sweeney’s email to Apple of June 30, 2020.
EXHIBIT G
Dear Tim, Phil, Craig, Matt, Douglas,

I’m writing to tell you that Epic will no longer adhere to Apple’s payment processing restrictions.

Today, Epic is launching Epic direct payments in Fortnite on iOS, offering customers the choice of paying in-app through Epic direct payments or through Apple payments, and passing on the savings of Epic direct payments to customers.
in the form of lower prices.

We choose to follow this path in the firm belief that history and law are on our side. Smartphones are essential computing devices that people use to live their lives and conduct their business. Apple's position that its manufacture of a device gives it free rein to control, restrict, and tax commerce by consumers and creative expression by developers is repugnant to the principles of a free society.

Ending these restrictions will benefit consumers in the form of lower prices, increased product selection, and business model innovation.

Henceforth, all versions of Fortnite that Epic submits to the App Store will contain these two payment options, side by side, for customers to choose among.

We hope that Apple will reflect on its platform restrictions and begin to make historic changes that bring to the world’s billion iOS consumers the rights and freedoms enjoyed on the world's leading open computing platforms including Windows and macOS. In support of this path, Epic’s public explanation of our payment service will be neutral and factual to provide Apple with a chance to consider taking a supportive route and communicating it in a way of Apple's choosing.

If Apple chooses instead to take punitive action by blocking consumer access to Fortnite or forthcoming updates, then Epic will, regrettably, be in conflict with Apple on a multitude of fronts - creative, technical, business, and legal - for so long as it takes to bring about change, if necessary for many years.

Tim Sweeney
Epic Games
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Attorneys for Plaintiff Epic Games, Inc.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

EPIC GAMES, INC.,

Plaintiff,

vs.

APPLE INC.,

Defendant.

Case No. ______________________

COMPLAINT FOR
INJUNCTIVE RELIEF
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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

Case No. 4:20-cv-05640-YGR

RULE 52 ORDER AFTER TRIAL ON THE MERITS

EPIC GAMES, INC.,

Plaintiff,

v.

APPLE INC.,

Defendant.

CASE NAME: Epic Games, Inc. v. Apple Inc.

DATE: September 10, 2021

COURT: United States District Court, Northern District of California

PAGES: 185

CASE #: 4:20-cv-05640-YGR

ANTITRUST FALL 2021

PICKER

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Plaintiff Epic Games, Inc. sued Apple, Inc. alleging violations of federal and state antitrust laws and California’s unfair competition law based upon Apple’s operation of its App Store. Broadly speaking, Epic Games claimed that Apple is an antitrust monopolist over (i) Apple’s own system of distributing apps on Apple’s own devices in the App Store and (ii) Apple’s own system of collecting payments and commissions of purchases made on Apple’s own devices in the App Store. Said differently, plaintiff alleged an antitrust market of one, that is, Apple’s “monopolistic” control over its own systems relative to the App Store. Apple obviously disputed the allegations.

Antitrust law protects competition and not competitors. Competition results in innovation and consumer satisfaction and is essential to the effective operation of a free market system. Antitrust jurisprudence also evaluates both market structure and behavior to determine whether an actor is using its place in the market to artificially restrain competition.

Central to antitrust cases is the appropriate determination of the “relevant market.” Epic Games structured its lawsuit to argue that Apple does not compete with anyone; it is a monopoly of one. Apple, by contrast, argues that the effective area of competition is the market for all digital video games in which it and Epic Games compete heavily. In the digital video game market, Apple argues that it does not enjoy monopoly power, and therefore does not violate federal and state law.

The Court disagrees with both parties’ definition of the relevant market.

Ultimately, after evaluating the trial evidence, the Court finds that the relevant market here is digital mobile gaming transactions, not gaming generally and not Apple’s own internal operating systems related to the App Store. The mobile gaming market itself is a $100 billion industry. The size of this market explains Epic Games’ motive in bringing this action. Having penetrated all other video game markets, the mobile gaming market was Epic Games’ next target and it views Apple as an impediment.

Further, the evidence demonstrates that most App Store revenue is generated by mobile gaming apps, not all apps. Thus, defining the market to focus on gaming apps is appropriate. Generally speaking, on a revenue basis, gaming apps account for approximately 70% of all App Store revenues. This 70% of revenue is generated by less than 10% of all App Store consumers. These gaming-app consumers are primarily making in-app purchases which is the focus of Epic Games’ claims. By contrast, over 80% of all consumer accounts generate virtually no revenue, as 80% of all apps on the App Store are free.

Having defined the relevant market as digital mobile gaming transactions, the Court next evaluated Apple’s conduct in that market. Given the trial record, the Court cannot ultimately conclude that Apple is a monopolist under either federal or state antitrust laws. While the Court finds that Apple enjoys considerable market share of over 55% and extraordinarily high profit margins, these factors alone do not show antitrust conduct. Success is not illegal. The final trial record did not include evidence of other critical factors, such as barriers to entry and conduct decreasing output or decreasing innovation in the relevant market. The Court does not find that it is impossible; only that Epic Games failed in its burden to demonstrate Apple is an illegal monopolist.
Nonetheless, the trial did show that Apple is engaging in anticompetitive conduct under California’s competition laws. The Court concludes that Apple’s anti-steering provisions hide critical information from consumers and illegally stifle consumer choice. When coupled with Apple’s incipient antitrust violations, these anti-steering provisions are anticompetitive and a nationwide remedy to eliminate those provisions is warranted.

The Court provides its findings of facts and conclusions of law below.¹

PART I

FINDINGS OF FACT

To determine the relevant market, the Court must first understand the industry and the markets in that industry. This is a heavily factual inquiry. Thus, in this Order, the Court explains in detail, the facts underpinning each parties’ theory and other relevant facts uncovered during the trial. These details include the background of the parties, their products, the industry, and the markets in which they compete.² To assist the reader, given the length of this Order, an outline is included in an Appendix hereto.

I. THE PARTIES

A. Overview

Some basic background information may be helpful. Epic Games is a multi-billion dollar video game company. It defines the relevant market by way of Apple’s own internal operating system. Apple has maintained control of its own operating system for mobile devices, called iOS, since its inception in 2007. Apple’s creation and cultivation of the iOS device (and its ecosystem) has been described as a walled garden. Said differently, it is a closed platform whereby Apple controls and supervises access to any software which accesses the iOS devices (defined as iPhones and iPads; also referred to collectively as iOS devices). Apple justifies this control primarily in the name of consumer privacy, security, as well as monetization of its intellectual property. Evidence supports the argument that consumers value these attributes.

¹ The Court notes several pending administrative motions to seal relating to the parties’ proposed findings of facts and conclusions of law, pending motions, and submitted and docketed materials. See Dkt. Nos. 517, 650, 656, 696, 702, 707, 777, 778, 810. These motions are GRANTED to the extent that they remain sealed and are not referenced in this Order. Otherwise, to the extent the information is referenced and included in this Order, the motions are DENIED. Previously sealed documents remain sealed unless otherwise noted in this Order.

² In considering these issues, the Court conducted a sixteen-day bench trial, admitted over 900 exhibits, and, to expedite the in-court proceedings, considered pre-trial submissions including written testimony of the experts and designations of deposition transcripts. The Court in this Order refers to the findings of facts (“FOF”) and conclusions of law (“COL”) for the parties’ arguments as these documents effectively served as the parties’ post-trial briefs. See Dkt. Nos. 777-4 (Epic Games’ filing), 778-4 (Apple’s filing).
Due in part to this business model, Apple has been enormously successful and its devices are now ubiquitous.

Both Apple and third-party developers like Epic Games have symbiotically benefited from the ever-increasing innovation and growth in the iOS ecosystem. There is no dispute in the record that developers like Epic Games have benefited from Apple’s development and cultivation of the iOS ecosystem, including its devices and underlying software. Nor is there any dispute that developers like Epic Games have enhanced the experience for iOS devices and their consumers by offering a diverse assortment of applications beyond that which Apple can or has provided.

Until this lawsuit, Epic Games’ flagship video game product, Fortnite, could be played on iOS devices. The product generated an immensely profitable revenue stream for Epic Games. However, Epic Games was also required by contract to pay Apple a 30% commission on every purchase made through the App Store, whether an initial download or an in-app purchase. Consequently, Fortnite generated a profitable revenue stream for Apple as well. Epic Games tried to use Fortnite as leverage to force Apple to reduce its commission fee and to open its closed platform. When Apple refused, Epic Games breached its contract, which it concedes, and filed this lawsuit. Apple countersued for breach of contract.

Plaintiff focuses its challenge on Apple’s control over the distribution of apps to its users and the requirement that developers of apps use Apple’s in-app purchases or in-app payments (“IAP”) system if purchases are offered in the app. Under this IAP system and under its agreements with app developers, Apple collects payments made to developers, remits 70% to the developers, and keeps a 30% commission. This rate has largely remained unchanged since the inception. The trial also contained evidence of Apple’s use of anti-steering provisions to limit information flow to consumers on the payment structure related to in-app purchases.

Once acceptable, Apple’s commission rate is now questioned by some consumers and some developers, like Epic Games, as being overly burdensome and violative of competition laws. Indeed, two related lawsuits were already pending before the Court well before the commencement of this action. The first, In Re Apple iPhone Antitrust Litigation, 4:11-cv-6714-YGR (Pepper), was filed in 2011 on behalf of a class of iOS device consumers alleging harm from the commission rate. The second, filed in 2019 after Pepper returned from the Supreme Court of the United States, Donald Cameron v. Apple Inc., 4:19-cv-3074-YGR (Cameron), on behalf of a class of iOS app developers also alleging violations of antitrust and competition laws.

The Court begins the analysis with Epic Games.

3  The Court notes that it uses the term IAP in this Order to refer exclusively to Apple’s IAP systems, as described and discussed later herein. See supra Facts § II.C. The Court clarifies, however, that certain witnesses use the term IAP to refer generically to any app purchases or payments made in games and apps. The Court notes that the underlying transcripts and cited materials in which IAP is being referenced clarifies which of the two is being discussed.
B. Plaintiff Epic Games

Epic Games is a video game developer founded in 1991 by Tim Sweeney.\(^4\) It is headquartered in Cary, North Carolina, has more than 3,200 employees in offices around the world, and was recently valued at $28.7 billion. Mr. Sweeney serves as the controlling shareholder and chairman of the Board of Directors.\(^5\) Other notable shareholders include: (1) Tencent Holdings, Ltd., a Chinese video game company and one of the largest gaming companies in the world, which owns about thirty-seven percent of Epic Games, with two board seats; and (2) Sony Corporation, a major player in the console gaming market, which also owns about 1 to 2 percent of Epic Games.\(^6\)

Epic Games first began publishing games for other developers when the company started.\(^7\) Around 1998, it moved away from publishing other companies’ products to developing its own product.\(^8\) During the mid-2000’s, the company, which had been focused on personal computers (“PC”) games up to that point, shifted to developing for game consoles.\(^9\)

In addition to game development, Epic Games offers software development tools and distributes apps.\(^10\) Epic Games now touts a number of different lines of business, much of which occurred during the pendency of this lawsuit and on the eve of trial, such as distribution of non-game apps.

The Court summarizes each of the three significant areas of its business: (1) gaming software development (\textit{e.g.}, \textit{Unreal Engine}, Epic Online Services); (2) game developer (\textit{e.g.}, \textit{Fortnite} and other video games); and (3) gaming distributor (\textit{e.g.}, the Epic Games Store). The Court thereafter summarizes the prior relationship between Epic Games and Apple.

\(^4\) Trial Tr. (Sweeney) 89:19, 112:18–25.


\(^7\) \textit{Id.} 172:6–8.

\(^8\) \textit{Id.} 172:21–173:3.

\(^9\) DX-3710.005–.006.

\(^10\) Trial Tr. (Sweeney) 93:22–94:17 (“Epic is in a variety of businesses all tied to the common theme of building and supporting real-time 3D content, both through consumer products and to developers, and . . . other services that socially connect users together.”), 166:6–12.
1. Gaming Software Developer: Unreal Engine and Epic Online Services

As a gaming software developer, Epic Games licenses two notable products to other developers: Unreal Engine and Epic Online Services.11

The first, Unreal Engine, is a software suite that allows developers to create three-dimensional and immersive digital content.12 It is not used by consumers and is not an app on the App Store.13 Developers wishing to use Unreal Engine must be licensed by nonparty Epic S.A.R.L. ("Epic International"), an Epic Games Swiss subsidiary.14 Epic International licenses Unreal Engine because it sought to protect their intellectual property rights.15 Licensed developers are governed by the End User License Agreement.16

Epic Games profits from Unreal Engine by charging fees for paid content.17 Separately, Epic International charges a royalty on products that use any version of the Unreal Engine (typically 5% of gross revenue).18 In the past, developers were required to pay royalties after a product exceeded $3,000 in revenue per quarter. After a change in policy in 2020, Epic International is now owed royalties after a product earns $1,000,000 through the product’s life.19

Epic International therefore profits in perpetuity from any success a developer enjoys using the Unreal Engine.20 As Epic Games’ former chief financial officer stated, this model

11 Id. 94:5–7; Trial Tr. (Grant) 662:8–13.

12 Id. 116:17–22 ("The Unreal Engine is a development tool aimed at content creators rather than consumers. It contains content creation tools, real-time 3D graphics, capabilities, and real-time physics and simulation technology that is used by a wide variety of industries to make a variety of 3D content.").


14 Id. 162:5–12; Trial Tr. (Grant) 724:11–16.

15 Trial Tr. (Grant) 754:13–19.

16 DX-4022; Trial Tr. (Grant) 667:3–11, 753:19–754:7.

17 DX-4022.006–.007 (§ 4).

18 DX-4022.007–.008 (§ 5).

19 Trial Tr. (Grant) 681:4–7, 754:20–755:4.

20 DX-4022.008 ("The royalty will be payable under this Agreement with respect to each Product for as long as any Engine Code or Content (including as modified by you under the License) incorporated in or used to make the Product are protected under copyright or other intellectual property law."); Ex. Depo. (Penwarden) 30:7–8.
ensures that if developers succeed, Epic Games “can participate in that success.” For instance, in 2019, Unreal Engine generated about $97 million in revenue for Epic International, which enjoys a 100 percent gross margin on its “engine business.”

Although Unreal Engine itself is not available on the App Store, Epic Games develops apps that work in conjunction with Unreal Engine, including Unreal Remote and Live Link Face, and distributes on iOS. These apps “provide[] a means for people who work in the movie or TV industry to capture performances and view them on Unreal Engine.” They do not include competitive game play. Separate and apart from the App Store, Epic Games also provides Unreal Marketplace, a store for pre-created two-dimensional and three-dimensional assets for purchase by Unreal developers.

Second, in addition to Unreal Engine, Epic Games offers third-party developers a suite of back-end online gaming services through Epic Online Services. These services include matchmaking, Epic Games’ friends system, and voice system.

2. Game Developer: Fortnite

With respect to Epic Games’ primary business of development and release of its own video games including its flagship video game, Fortnite, Epic Games develops and owns through its subsidiary, other apps, such as Houseparty, which incorporates some optional gaming elements into its video chat application.

22 DX-3795.009.
23 DX-3359.003.
24 Trial Tr. (Grant) 664:21–665:17.
25 Trial Tr. (Sweeney) 304:25–305:2 (noting there is no competitive game play associated with Unreal Engine).
26 Trial Tr. (Ko) 799:18–21.
27 Trial Tr. (Sweeney) 120:7–14 (“Epic Online Services . . . provides many of the social features that we built for Fortnite and makes them available to other companies, such as Epic’s account system, Epic’s matchmaking system, to put players together into a shared game session. It includes Epic’s friends system. And we’re soon to release the Epic Games voice system for voice chat.”).
28 Id. 161:10–112 (“[W]e make Houseparty, which is a social video application, sort of like a version of Zoom that’s for friends.”), 117:8–12, 305:14–21. The record does not contain any information, financial or otherwise, with respect to these other games.
a. *Fortnite’s Game Modes*

*Fortnite* is Epic Games’ most popular game and app, with over 400 hundred million registered players worldwide. Originally a cooperative shooter game consisting of player-versus-environment (“PVE”) mechanics, *Fortnite* now has four main game modes: (i) *Save the World*, (ii) *Battle Royale*, (iii) *Creative*, and (iv) *Party Royale*. Of these four game modes, “nearly half of the players coming into [Fortnite] on a daily basis,” around 15 million users, “are playing Creative and Party Royale Modes.”

*Save the World* launched in July 2017 as the original game mode. It is a cooperative campaign consisting of PVE mechanics. Squads of up to four players team up to build forts and fight non-playable, computer monsters. *Save the World* is not available on mobile platforms, including the iOS platform, or on the Nintendo Switch.

*Battle Royale* is a player-versus-player (“PVP”) elimination and survival match involving up to 100 players. It is the most popular *Fortnite* game play mode with storylines and gameplay that evolve over time, as new chapters and seasons are released. A season typically lasts around ten weeks and is a subset of a larger chapter. This mode also offers a “sit out” feature, permitting players to observe *Battle Royale* matches instead of competing. Importantly, and as discussed below, although the *Battle Royale* game play mode is available to download and play free of charge, players can make in-app purchases for digital content, including digital avatars, costumes, dance moves, and other cosmetic items.

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29 Trial Tr. (Sweeney) 99:5–6, 100:5–7. Epic Games also owns and/or develops other games, including Rocket League, Fall Guys, Battle Breakers, Spyjinx, and the Infinity Blade series. Trial Tr. (Sweeney) 89:22–90:5, 116:8–12; Trial Tr. (Grant) 664:13–14.

30 DX-5536; Trial Tr. (Sweeney) 99:5–10, 328:4–8; Trial Tr. (Weissinger) 1354:23–24.

31 Trial Tr. (Weissinger) 1296:5–8.

32 DX-5536.004.

33 Trial Tr. (Weissinger) 1354:18, 1354:21.

34 DX-5536.001–002.

35 Trial Tr. (Sweeney) 99:5–10, 105:21.

36 Trial Tr. (Weissinger) 1393:14–19.

37 *Id.* 1296:14–1297:5.

38 Trial Tr. (Sweeney) 108:15–16.

Creative mode allows players to create their own content in Fortnite. According to Epic Games’ website: “Included free with Battle Royale, Fortnite Creative puts you in charge of your own Island . . . Creative is also a great place for just creating your own scenery . . .” Content generated in Creative mode can be more broadly shared by other Fortnite players.

With the aid of avatar Agent Peely, an anthropomorphic banana man, and Mr. Weissinger’s testimony, the Court was walked through different gaming and experiences islands within the Creative mode hub, including “Prison Breakout,” “Rockets vs. Cars,” “Cars Now With Snipers,” and “Creative Mayhem Regional Qualifier.”

The final mode, Party Royale, is described as “an experimental and evolving space that focuses on no sweat, all chill fun. Attractions include aerial obstacle courses, boat races, movies, and even live concerts from top artists.”

In 2017, Fortnite debuted on a number of platforms—including Windows, Mac, Xbox One, and PlayStation 4—with only the Save the World game mode. Later that year, Epic Games released Battle Royale—a free-to-play game mode with features available for in-app purchase. With Battle Royale’s success, Fortnite quickly “became more about Battle Royale” and, thus, a primarily “free-to-play game.” The success of Fortnite has been profitable for both Epic Games and its partners. For instance, the Epic Games-Microsoft partnership generates hundreds of millions of dollars for both parties.

b. Key Features of Fortnite

Fortnite has many distinct features. First, most of its game play is multiplayer and requires an Internet connection. Users can play Fortnite online with friends and family, with

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40 Id. 328:4–8.
41 DX-5536.003.
42 DX-5539.
43 With respect to the appropriateness of Peely’s “dress,” the Court understood Apple merely to be “dressing” Peely in a tuxedo for federal court, as jest to reflect the general solemnity of a federal court proceeding. As Mr. Weissinger later remarked, and with which the Court agrees, Peely is “just a banana man,” additional attire was not necessary but informative. Trial Tr. (Weissinger) 1443:17.
45 DX-5536.002; see also Trial Tr. (Allison) 1246:20–1247:7. The Court viewed a portion of this mode whereby Peely participated in a game called “Skydive Glide Drop,” before engaging in dance to celebrate a B rank finish. Trial Tr. (Weissinger) 1363:13–1364:12.
46 Trial Tr. (Wright) 590:5–9, 592:12–17.
teams, or with other gamers of similar skill levels with whom they are matched.\textsuperscript{47} Second, in order to play together online, users must have the same “version” of \textit{Fortnite} software installed on their device or platform.\textsuperscript{48} Third, \textit{Fortnite} releases new content and updates, including major changes to the map and game play, on a regular basis. These updates ensure that users can enjoy new and surprising in-game experiences each time they open the app. Having a purely static environment without these updates would materially degrade the player experience.\textsuperscript{49}

Fourth, \textit{Fortnite} features cross-play, allowing players on different platforms to play with one another.\textsuperscript{50} Since September 2018, cross-platform play for \textit{Fortnite} has been available on Sony’s PlayStation, Microsoft’s Xbox, the Nintendo Switch, Windows PCs, Mac computers, certain Android devices, and (until recently) certain iOS mobile devices.\textsuperscript{51} In fact, Epic Games pioneered cross-platform play for the gaming industry. It persuaded both Sony and Microsoft to erase the artificial barriers between players on their console platforms, making \textit{Fortnite} the first game to achieve full cross-play functionality across those devices, as well as PCs and mobile devices.\textsuperscript{52} Epic Games believed so strongly in cross-platform play that it threatened litigation against Sony for using policies and practices to restrict the same.\textsuperscript{53}

Other cross-platform innovations featured on \textit{Fortnite} include cross-progression and cross-purchase or cross-wallet. Cross-progression allows users to access the same account and maintain their progress, regardless of the platform on which they play. Thus, for users who play \textit{Fortnite} on multiple platforms, cross-progression is an important feature.\textsuperscript{54} Nevertheless, most \textit{Fortnite} users play on a single platform.\textsuperscript{55} Cross-purchases allows \textit{Fortnite} users to buy V-
Bucks, or virtual currency, on one platform and spend them on another platform. Cross-purchases are not available on Sony or Nintendo platforms.56

Fifth and finally, as evidenced above, Fortnite features gaming and non-gaming experiences.57 For instance, Party Royale allows players to watch movies or TV shows, attend concerts, and participate in global cultural events within the app itself.58 Fortnite’s capacity to bring people together has been particularly important during the COVID-19 pandemic.59 Notable events include:

- Travis Scott’s in-game concert in April 2020, viewed by 12.3 million concurrent users, including two million iOS users;60
- Three of Christopher Nolan’s feature-length films—The Dark Knight, Inception, and The Prestige—virtually screened in June 2020;61
- Exclusive episodes of ESPN’s The Ocho, viewed by more than two million users, and the Discovery Channel’s Tiger Shark King, viewed by more than 900,000 users;62
- We the People, a series of discussions on racial equality and voter suppression in the United States, viewed by 1.5 million users;63 and
- DJ Kaskade hosted a virtual concert in March 2021.64

Based on these in-game experiences, Epic Games considers Fortnite to compete not only with gaming companies but also with other social media companies such as Facebook and Netflix.65

57 Id. 98:6–8.
58 Id. 98:12–99:3.
59 Id. 107:14–18; Trial Tr. (Weissinger) 1295:8–16.
60 Trial Tr. (Weissinger) 1294:10–22.
61 Trial Tr. (Sweeney) 103:12–16; Trial Tr. (Weissinger) 1289:8–25.
62 Trial Tr. (Sweeney) 104:16–24; Trial Tr. (Weissinger) 1290:5–7, 1290:16–23.
63 Trial Tr. (Sweeney) 105:5–7; Trial Tr. (Weissinger) 1291:5–11.
64 Trial Tr. (Weissinger) 1293:25–1294:1.
65 Trial Tr. (Sweeney) 94:4–7, 98:16–99:3.
c. *Fortnite’s Business Model: In-App Purchases and V-Bucks*

*Fortnite* uses the “freemium” game model, under which a game is largely free to download and play but certain additional in-game features can be purchased.66 Epic Games primarily generates revenue by selling V-Bucks, which can be used to obtain items in *Fortnite*.67 V-Bucks can be purchased in-app or directly from Epic Games’ website.68 Players can use V-Bucks to purchase digital content within the app, including a “Battle Pass” (a feature that provides access to challenges and otherwise locked content) or cosmetic upgrades.69 Unlike other games employing the freemium model, in-app purchases do not buy game play advantages in *Battle Royale*.70 Instead, players can make in-app purchases of different items that function as forms of self-expression, including cosmetic enhancements or “skins” (*i.e.*, in-game costumes), dance moves known as “emotes,” and more.71 As of December 2020, players can also subscribe to *Fortnite Group*, which provides users with the Battle Pass for each new *Battle Royale* season, a monthly allotment of 1,000 V-Bucks and exclusive cosmetics.72

Epic Games sells V-Bucks to consumers in various bundles and packages at increasing prices: 1,000 V-Bucks for $9.99; 2,800 V-Bucks for $24.99 and so on—all the way to 13,500 V-Bucks for $99.99. After Epic Games implemented its hotfix on iOS (discussed at length below), Epic Games dropped V-Bucks pricing by 20% for purchases made through Epic Games’ direct payment option on iOS and Google Play, as well as for purchases on every other platform through which *Fortnite* was offered.73 Notably, there is “no cost to [Epic Games for] V-Buck . . . V-Bucks themselves don’t have a marginal cost.”74

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67 *Id.* 189:9–11.


70 Trial Tr. (Sweeney) 110:5–10.


72 Trial Tr. (Weissinger) 1301:15–21.

73 DX-3774.009; Trial Tr. (Sweeney) 190:6–9, 14–16.

74 Trial Tr. (Sweeney) 190:14–16.
Although Epic Games claims that it would not have a viable way of monetizing Fortnite without being able to sell in-app content, the record shows it monetizes Fortnite in nine other ways:

Two are internal to the game. First, since December 2020, users “can subscribe to Fortnite Crew, a subscription” service offered by Epic Games. Second, users can pay an up-front fee to gain access to one of Fortnite’s game modes, Save the World, that also has in-app content for purchase.

The remaining seven are external. One, Epic Games “generates revenue . . . typically in the form of redeemable codes sold through traditional retail and online stores.” Two, Epic Games generates revenue through in-game advertising or cross-promotions. Three, it “has received revenue for providing third-parties with promotional codes redeemable for Fortnite content.” Four, “Epic has in the past entered into hardware bundle agreements with console makers,” through which “the console makers offered for sale a bundle containing their game consoles along with exclusive Fortnite cosmetics and V-Bucks . . . .” Five, “Epic has provided other partners with redeemable codes for exclusive Fortnite cosmetics and V-Bucks, and Epic was paid by the partner on a per redemption basis.” Next, it “has entered into licensing agreements with brands through which it received the revenue from sales of in-game cosmetics featuring the licensed content as well as a small portion of the brand’s sales generated from Fortnite.” Finally, it “licenses Fortnite intellectual property to third parties to use in physical merchandise, such as toys, apparel, accessories and home goods. In some circumstances, such physical merchandise also may include a code that can be redeemed for Fortnite in-game content.”

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75 Trial Tr. (Weissinger) 1303:18–1306:7.
76 DX-3691.008–.010.
77 Trial Tr. (Weissinger) 1357:17–25; DX-3691.009.
78 DX-3691.009.
79 Id.
80 DX-3691.010; see also Trial Tr. (Weissinger) 1306:19–1307:7, 1311:7–1312:1.
81 DX-3691.010.
82 Id.
83 Id.
84 Id.
85 Id.
Based on the freemium model which relies upon in-app purchases, as well as these alternative ways of monetization, *Fortnite* is quite lucrative and integral to Epic Games’ overall business operations. Given that *Fortnite* utilizes cross-platform technology to capture a larger audience and appears on several different platforms, Epic Games faces commission rates on its in-app purchases. Generally, plaintiff must pay 30% across most platforms. Indeed, for example, Epic Games has agreed to such a rate on all *Fortnite* transactions via the Microsoft (Xbox) Store, the PlayStation Store, the Nintendo eShop, and Google Play. Epic Games has also agreed to extra payments for certain platform holders above and beyond the standard 30% commission rate. For example, for all *Fortnite* transactions via the PlayStation Store, Epic Games agreed to make additional payments to Sony above this commission rate based on the amount of time that PlayStation users play *Fortnite* cross-platform.

d. *Fortnite* on the iOS Platform

In 2018, *Fortnite* debuted on the iOS platform. Epic Games followed its prior business model and distributed *Fortnite* using a “freemium” model, in which a user can download the application for free but has the opportunity to purchase certain in-app content. Mr. Sweeney “attribute[s] a lot of [Epic Games’] success” to this business model. This kind of business model is facilitated by the App Store, including IAP.

Although Epic Games has had disputes and discussions with other platform owners as to cross-play policies (including cross-platform, cross-progression, and cross-wallet), originally it did not encounter any such difficulty with Apple. Prior to *Fortnite*’s launch on iOS devices, Epic Games sought to leverage Apple’s significant interest in “the mobile version of [*Fortnite Battle Royale*]” to obtain Apple’s support in operationalizing cross-play capabilities and to secure marketing support from Apple. Apple cooperated: before *Fortnite*’s debut on the iPhone, Apple operationalized cross-platform play. This included changing its guidelines to expressly permit cross-platform functionalities that were similar to what Epic Games sought, and Apple continued to permit such cross-functionality on *Fortnite* while the game remained on the App Store. In addition to cross-platform play, Apple also facilitated cross-progression (game progress synced across platforms), and cross-wallet functionality (allowing purchases from one platform to be used on others). Epic Games has acknowledged that Apple’s permissive cross-

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86 Trial Tr. (Sweeney) 289:21-290:25.
87 DX-3582.004–.005; DX-3464.012, .027, .031; Trial Tr. (Sweeney) 142:19–143:1, 161:13–15; Trial Tr. (Weissinger) 1349:14–23.
89 Trial Tr. (Sweeney) 187:15–188:7; Trial Tr. (Schiller) 2791:11–18; Ex. Expert 8 (Schmalensee) ¶ 134.
90 DX-3448.001; Trial Tr. (Sweeney) 232:18–25; PX-2619.010–.012 (§§ 3.1.1, 3.1.3).
platform policies contributed to Fortnite’s success as a cross-platform game and benefited Epic Games’ business.\textsuperscript{92}

Once Fortnite itself was introduced, revenues from in-app purchase on Epic Games apps through the App Store roughly doubled. Indeed, Epic Games saw iOS and other mobile platforms as key to increasing Fortnite’s player base, as plaintiff had already reached “a point of basically full penetration on console,” making acquisition of mobile customers “hugely important.”\textsuperscript{93} Before Fortnite was removed from the iOS platform, more than 115 million registered players had accessed Fortnite on an iOS device.\textsuperscript{94} Of this amount, 64\% of Fortnite for iOS players—approximately 73 million in total—had only ever played Fortnite on iOS devices.\textsuperscript{95}

That said, despite this staggering number of iOS Fortnite players, the vast majority of Epic Games’ Fortnite revenue (93\%) is generated on non-iOS platforms. Of the users who made a purchase between March 2018 and July 2020, only 13.2\% made a purchase on an iOS device—meaning that Epic Games was able to transact with 86.8\% of paying Fortnite users without paying any commissions to Apple.\textsuperscript{96} Still, in only two short years, and with access to the iOS platform and Apple’s support, Fortnite on iOS earned Epic Games more than $700 million across over 100 million iOS user accounts.\textsuperscript{97}

3. Game Publisher and Distributor: Epic Games Store

a. Characteristics of the Epic Games Store

As noted above, Epic Games is involved in both game publishing and game distribution through its online store, the Epic Games Store, which launched in December 2018.\textsuperscript{98} By way of background, a publisher “typically funds most or all of the expenses associated with [an] entire product, including development and marketing; whereas, a distributor typically only pays the cost associated with direct distribution, such as in the digital . . . bandwidth and payment with processing fees.”\textsuperscript{99} Where Epic Games serves as a publisher, its agreements provide that it first recovers all of its costs and then splits remaining revenues 60/40 with the 40\% share to the

\textsuperscript{92} Trial Tr. (Sweeney) 196:15–25.

\textsuperscript{93} DX-3233.003; Trial Tr. (Hitt) 2111:22–2112:15; Ex. Expert 6 (Hitt) ¶ 175 & Fig. 42; Trial Tr. (Weissinger) 1346:3–17.

\textsuperscript{94} Ex. Expert 6 (Hitt) ¶¶ 62, 71, & Fig. 13.

\textsuperscript{95} Id.

\textsuperscript{96} Id. ¶ 69 & Fig. 14.

\textsuperscript{97} DX-4763.

\textsuperscript{98} Trial Tr. (Sweeney) 124:2–5; Trial Tr. (Allison) 1198:19–20, 1218:22–1219:10.

\textsuperscript{99} Trial Tr. (Sweeney) 96:24–97:4.
 developer, or 50/50. In terms of distribution, the Epic Games Store serves as a platform to sell gaming apps which operated on PC and Mac computers. The store carries hundreds of games, including its own and many third-party titles.

Messrs. Sweeney and Steve Allison, Vice President and General Manager of the Epic Games Store, testified that Epic Games always had an original intent to include non-gaming apps within the Epic Games Store citing to the inclusion of Unreal Engine on the store page, and conversations with several other non-gaming app companies including Twitch and Discord in 2018. The claim is suspect. First, the Epic Games Store only made significant moves during the pendency of this litigation and on the eve of this bench trial by including non-game apps including: the Spotify music app (December 2020), the Brave web browser, the KenShape creation tool for artists, and Itch.io, a third-party store (April 22, 2021). Indeed, while Epic Games urges in this lawsuit that Apple must allow third-party app stores in the App Store, the Epic Games Store did not itself distribute any third-party app stores until a few days before trial (approximately April 22, 2021). Second, neither Discord nor Twitch have submitted their own apps for inclusion on the Epic Games Store. Finally, with respect to Unreal Engine, although the Epic Games Store links to it, the Unreal Engine has its own website with its own domain name and appears separate and apart from the Epic Games Store.

This conclusion is also supported by the design of the Epic Games Store’s website itself which markets “games” specifically. The navigation tabs on the homepage—“games on sale,” “free games,” “new and trending,” “new releases,” “top sellers,” “[t]op 20,” and “coming soon”—lead to compilations consisting entirely of games. The “top news items” tab offers only news about games. The search bar prompts the user to “search all games” (and not to “search all apps”). The “help” tab describes Epic Games Store’s consumers as “players.” Finally, the Epic Games Store’s “FAQ” describes the Epic Games Store as a “curated digital storefront for PC and

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100 Trial Tr. (Sweeney) 306:6–307:11; see also Trial Tr. (Allison) 1263:3–15; DX-3993.025.

101 Trial Tr. (Sweeney) 94:7–9, 123:10–13; Trial Tr. (Allison) 1198:19–20, 1199:17.

102 Trial Tr. 261:24–25 (Sweeney); Trial Tr. (Allison) 1210:20–23.


105 Trial Tr. (Sweeney) 263:22–265:4.

106 The Court further understands that both Twitch (an app primarily used for game streaming) and Discord (an app primarily used for voice chat in video games) operate apps that are, to use Mr. Allison’s words, “game adjacent.” Trial Tr. (Allison) 1119:24–25.

107 Id. 1239:8–13.
Mac” that is “designed with both players and creators in mind” and is “focused on providing
great games for gamers and a fair deal for game developers.”\textsuperscript{108}

Like other platforms, the Epic Games Store uses a commission model and markets an
88/12 split of all revenues to developers from the sale of their games. The evidence is also
undisputed that this 88/12 commission is a below-cost price and the store is expected to operate
at a loss for many years at this rate.\textsuperscript{109}

From Epic Games Store’s launch to December 2019, Epic Games collected its
commission through its own payment mechanism, which it required developers to use for all
game purchases and in-game purchases.\textsuperscript{110} Epic Games no longer requires any developer to use
its payment processing system, called Epic direct payment, for in-app purchases.\textsuperscript{111} Developers
who do not use Epic direct payment do not pay Epic Games anything for in-app purchases.\textsuperscript{112}

\begin{flushright}
\textsuperscript{108} Id. 1236:5–1238:10, 1238:11–19, 1238:21–1239:5, 1239:15–1240:7. The Court is
not persuaded that the Epic Games Store is anything but a game store. Indeed, the Court
emphasizes that its addition of non-gaming apps during the pendency of this litigation (Spotify)
and on the eve of trial (the remaining apps and software) do not demonstrate that Epic Games
Store is a general app store, especially for purposes of this litigation.

First, at the time of the filing of the complaint in this action, the Epic Games Store was
undisputedly a game store, and the pleadings only confirm that Epic Games sought to open Epic
Games Store in its then current iteration on the iOS platform. \textit{See} Compl. (Dkt. No. 1) ¶ 27
(“Epic also built and runs the Epic Games Store, a digital video game storefront through which
gamers can download various games, some developed by Epic, and many offered by third-party
game developers.” (emphasis supplied)), ¶ 81 (“Epic approached Apple to request that Apple
allow Epic to offer its Epic Games Store to Apple’s iOS users through the App Store and direct
installation.”), ¶ 90 (“The Epic Games Store offers personalized features such as friends list
management and game matchmaking services. Absent Apple’s anticompetitive conduct, Epic
would also create an app store for iOS.”).

Second, the Court heard no specific evidence on these newly added apps, beyond brief
descriptions of these apps and software, including on Epic Games’ monetization and revenues
from such apps, or even user statistics with respect to such apps, including total and relative
downloads as compared to other products in the Epic Games Store.

\textsuperscript{109} Trial Tr. (Sweeney) 125:9–12, 126:1–3; Trial Tr. (Cragg) 2326:25–2327:5.

\textsuperscript{110} Trial Tr. (Allison) 1221:11–1222:16.

\textsuperscript{111} Trial Tr. (Sweeney) 125:23–25; Trial Tr. (Ko) 800:4–14; Trial Tr. (Allison) 1221:21–
1222:12; \textit{see also} Trial Tr. (Sweeney) 126:1–8; 307:15–17.

\textsuperscript{112} Trial Tr. (Sweeney) 125:23–25.
Because of this open policy, several app developers have elected to use their own payment and purchase functionality for in-app purchases, such as Ubisoft and Wizards of the Coast.\textsuperscript{113}

Epic Games acknowledges that its commission is not merely a “payment processing” fee. The 12 percent fee is principally for access to Epic Games’ customers, but also is intended to cover all of Epic Games’ variable operating costs associated with selling incremental games to customers. It covers various services to game developers, including “hosting, player support, marketing of their games, and handling of refunds,” “a supporter/creator marketing program,” and “social media for game launches, video promotions[,] . . . featuring at physical events, such as E3[,] and sponsorships of the video games.” The commission is thus “tied into these broader ecosystem benefits that [Epic Games] provide[s] to [its] developers,” and is intended to cover the full “cost of operating the service,” “the actual distribution cost, the internet bandwidth cost, [and] the . . . cost of maintaining it.”\textsuperscript{114}

Today, Epic Games Store has over 180 million registered accounts and more than 50 million monthly active users.\textsuperscript{115} It supports more than 100 third-party app developers and publishes over 400 of their apps.\textsuperscript{116} Epic Games Store operates a single storefront across multiple geographies.\textsuperscript{117}

Epic Games is a would-be and self-avowed competitor of Apple in the distribution of apps.\textsuperscript{118} Absent the restrictions imposed by Apple, Epic Games would operate a mobile version of the Epic Games Store on iOS that would compete with Apple’s App Store.\textsuperscript{119}

\textbf{b. Finances of the Epic Games Store}

As referenced, the Epic Games Store is not yet profitable due to Epic Games’ strategic plan to grow the consumer base at the expense of near-term profits and revenue.

By charging 12% commission, the Epic Games Store will not be profitable for at least several years. Current estimates indicate negative overall earnings in the hundreds of millions of dollars through at least 2027. The anticipated loss is driven by hundreds of millions of minimum guarantees that Epic Games made to developers to entice them to distribute exclusively through

\begin{itemize}
  \item \textsuperscript{113} Trial Tr. (Allison) 1223:8–20.
  \item \textsuperscript{114} Trial Tr. (Allison) 1271:21–24; Trial Tr. (Sweeney) 126:9–11; Ex. Depo. (Kreiner) 242:9–243:13, 243:19–22; Ex. Depo. (Rein) 110:4–25; \textit{see also} Trial Tr. (Allison) 1224:4–1225:7, 1232:5–13.
  \item \textsuperscript{115} Trial Tr. (Allison) 1220:21–25.
  \item \textit{Id.} 1220:8–10, 18–20.
  \item \textsuperscript{117} Trial Tr. (Sweeney) 129:8–13.
  \item \textsuperscript{118} Trial Tr. (Sweeney) 95:16–20; \textit{see also} Trial Tr. (Allison) 1233:8–17.
  \item \textsuperscript{119} Trial Tr. (Sweeney) 97:24–98:4; \textit{see also} Trial Tr. (Allison) 1233:8–17.
\end{itemize}
Epic Games Store.\textsuperscript{120} In short, the Epic Games Store has front-loaded its marketing and user-acquisition costs to gain market share.\textsuperscript{121} Whether this gambit will ultimately work remains to be seen; Epic Games is currently outperforming its projected business plan by “about 15 percent,” and its first-party and third-party businesses are up 113% and 100%, respectively.\textsuperscript{122} While Epic Games now says it expects the Epic Games Store to become profitable by 2023, the store’s projected revenue from prior years has proven overly optimistic.\textsuperscript{123}

4. Prior Relationship Between Apple and Epic Games

The relationship between Apple and Epic Games dates back to at least 2010.

In 2010, Epic Games agreed to and signed a Developer Product Licensing Agreement (“DPLA”) with Apple. Epic International subsequently signed a Developer Agreement and DPLA (for the account associated with \textit{Unreal Engine}). At the time of the signing of these contracts, Mr. Sweeney understood and agreed to key contractual terms including, that Epic Games (i) was required to pay a commission on in-app purchases; (ii) was prohibited from putting a store within the App Store; (iii) was prohibited from sideloading apps on to iOS devices; and (iv) was required to use Apple’s commerce technology for any payments. Knowing the terms, Epic Games chose to enter into those contracts. According to Mr. Sweeney, Epic Games did not have a formal business dispute with Apple or raise major objections or have existential-level concerns about the App Store’s contract terms at the time. Since 2010, there has been no material change in the terms of Epic Games’ agreements with Apple, nor in Apple’s business design.\textsuperscript{124}

\textsuperscript{120} Trial Tr. (Sweeney) 126:12–127:6, 276:8–277:9; Trial Tr. (Allison) 1230:3–4, 1260:22–1262:8; Ex. Depo. (Kreiner) 244:2–5, 256:12–16; Trial Tr. (Cragg) 2327:3–5; DX-3712.017; DX-4638; PX-2469.007; \textit{see also} Trial Tr. (Allison) 1232:14–22.

\textsuperscript{121} Trial Tr. (Sweeney) 126:19–23; Trial Tr. (Allison) 1214:1–1215:6, 1230:5–10; \textit{see also} Trial Tr. (Allison) 1214:1–8 (explaining minimum guarantees), 1223:8–13 (noting that some developers have chosen not to use Epic Games’ payment processor).

\textsuperscript{122} Trial Tr. (Allison) 1233:2–7.

\textsuperscript{123} \textit{Id.} 1262:4–12 (“Q. And [this] also reflects that Epic expected to lose 330 to 440 million in unrecovered minimum guarantees is that right? A. We expect to invest 330 to 440 million in partnership deals, yes. . . . We don’t use the word ‘lose.’”); Trial Tr. (Sweeney) 266:1–19, 273:9–16, 276:17–277:4; DX-3818.001; DX-3993.004; Trial Tr. (Allison) 1217:25–1218:5, 1232:18–22, 1262:13–20; DX-4361.020; PX-2463.002; PX-2469.006; DX-3467.005; DX-4361.020; PX-2455.004.

\textsuperscript{124} Trial Tr. (Sweeney) 166:16–170:9; Trial Tr. (Grant) 723:23–725:21. “Sideloading” is “the process of putting an application on the device that bypasses the store” or bypasses the “official platform means” of installing an application. \textit{Id.} 733:17–22.
Epic Games released three iOS games before *Fortnite*, and Apple featured each of them at major events allowing Epic Games to make use of Apple’s brand.\(^{125}\) This began with Epic Games’ first iOS game, *Infinity Blade*, in 2010, which it released for iOS because of the “amazing 3D capabilities” on mobile platforms and the large number of iOS users.\(^{126}\)

These collaborations notwithstanding, Epic Games and Mr. Sweeney began voicing discontent around the mid-2010s. In June 2015, Mr. Sweeney emailed Apple chief executive office Tim Cook urging Apple to consider “separating iOS App Store curation from compliance review and app distribution,” and noting that “it doesn’t seem tenable for Apple to be the sole arbiter of expression and commerce over an app platform approaching a billion users.”\(^{127}\) A few years later, in January 2018, Mr. Sweeney sought a meeting with Apple through Mark Rein, Epic Games’ Vice President, “to talk about the potential for iOS and future Apple things to operate as open platforms” and discuss how Epic Games has “a PC and Mac software store and would love to eventually support it on iOS.” He added: “If the App Store we[re] merely the premier way for consumers to install software, and not the sole way, then Apple could curate higher quality software overall, without acting as a censor on free expression and commerce on the platform . . . .”\(^{128}\)

Despite these disagreements, Epic Games proceeded to more closely intertwine itself with the iOS platform. In early 2018, Epic Games and Apple arranged for the release of *Fortnite*. By that time, *Fortnite* was “doing incredible” and was “basically a cultural phenomenon.”\(^{129}\)

5. *Project Liberty*

At the end of 2019 Tim Sweeney conceived of a plan called “Project Liberty”\(^{130}\) which was a highly choreographed attack on Apple and Google, Inc. The record reveals two primary reasons motivating the action. First and foremost, Epic Games seeks a systematic change which would result in tremendous monetary gain and wealth. Second, Project Liberty is a mechanism to challenge the policies and practices of Apple and Google which are an impediment to Mr. Sweeney’s vision of the oncoming metaverse.

\(^{125}\) Trial Tr. (Fischer) 937:12–20; Ex. Depo. (Malik) 117:7–24.

\(^{126}\) DX-3710.006; Trial Tr. (Sweeney) 89:22–90:5, 90:24–91:3.

\(^{127}\) PX-2374.001.

\(^{128}\) PX-2421.001.

\(^{129}\) Trial Tr. (Fischer) 937:23–938:10; Trial Tr. (Weissinger) 1337:19–21.

\(^{130}\) DX-3774 (board presentation); DX-4419.001 (Mr. Sweeney requested to be “in the loop on this topic 100%”); Trial Tr. (Sweeney) 88:6–7, 170:10–171:9, 280:7–10, 283:6–15 (approving the strategic decisions for Project Liberty); DX-4072 (developing a project “War Room”); DX-4561 (outlining detailed timelines).
The Court understands that, based on the record, the concept of a metaverse is a digital virtual world where individuals can create character avatars and play them through interactive programed and created experiences. In Mr. Sweeney’s own words, a metaverse is “a realistic 3D world in which participants have both social experiences, like sitting in a bar and talking, and also game experiences . . . .”\(^{131}\) In short, a metaverse both mimics the real world by providing virtual social possibilities, while simultaneously incorporating some gaming or simulation type of experiences for players to enjoy. These experiences can be created by developers such as is the case with the Battle Royale and Save the World modes in Fortnite. In other instances, these experiences can be user-created, such as is the case with the Creative and Party Royale modes in Fortnite, or general experiences in the video game Roblox.\(^{132}\) Epic Games’ and Mr. Sweeney’s plans for Fortnite and its metaverse involved shifting the video game from primarily relying on the former modes (i.e., developer designed, traditionally gaming, and competitive modes) to the latter modes (i.e., social and creative modes), where users-becoming-creators would themselves be rewarded and enriched. The Court generally finds Mr. Sweeney’s personal beliefs about the future of the metaverse are sincerely held.

To Mr. Sweeney and Epic Games, the metaverse is the future of both gaming and entertainment, and Apple’s policies and practices are a hurdle which pose a problem. Indeed, for Mr. Sweeney, “reaching the entire base of Apple is 1 billion iPhone consumers is a paramount goal for our company, as Fortnite expands beyond being a game into this larger world of the metaverse.”\(^{133}\) Both Mr. Sweeney and Epic Games’ employees and officers generally testified that “iOS is a vital platform for a business” and that it is “the only way we can access a hundred percent of [a platform’s] users or at least have the option of accessing a hundred percent of that market.”\(^{134}\)

\(^{131}\) Trial Tr. (Sweeney) 325:14–17. Mr. Sweeney acknowledged that the film Ready Player One contains a recent portrayal of an imagined and futuristic, albeit dystopian, metaverse. \(\text{Id.}\) 325:10. Mr. Sweeney also cited the book Snow Crash as an example of the depicted metaverse, which he remarked “describes this emerging social entertainment medium that transcends gaming.” \(\text{Id.}\) 325:24–326:1.

\(^{132}\) For instance, Mr. Sweeney described an experience in one of these latter modes in Fortnite, involving utilizing player character avatars watching a Netflix show:

All in the virtual 3D world. You can stand there and watch Netflix with your friends, and it’s different than watching it in front of the TV. You can talk to your friends and you can emote and throw tomatoes at the screen. And so it is a very different experience than either a game or Netflix.

\(\text{Id.}\) 326:6–11.

\(^{133}\) \(\text{Id.}\) 112:13–17.

\(^{134}\) \(\text{Id.}\) 112:3; Trial Tr. (Grant) 671:13–20.
Project Liberty planning began in earnest in the first quarter of 2020.\textsuperscript{135} The plan was to attack Apple’s (and Google’s) software distribution and payment apparatuses\textsuperscript{136} which Epic Games described as “an attempt to provide developer choices for payment solutions and bring that benefit to the customers in a platform where [that] choice is not available.”\textsuperscript{137} Said differently, the “platform fees” posed “an existential issue” to both the company’s business plans and Mr. Sweeney’s personal ambitions for \emph{Fortnite}, its digital gaming and retail store, and the evolving metaverse.\textsuperscript{138} Internally, Epic Games also hoped to revive and reinvigorate \emph{Fortnite} by pivoting its business whereby player-developers could create new content and plaintiff could “shar[e] [a] majority of profit with [those] creators.”\textsuperscript{139}

Key to Project Liberty’s deployment, Epic Games engineered a “hotfix” to covertly introduce code that would enable additional payment methods for the iOS and Android versions of \emph{Fortnite}.\textsuperscript{140} Hotfixes function by coding an app to check for new content that is available on the developer’s server or by introducing new instructions on how to configure settings in the app.\textsuperscript{141} In general, a developer can use hotfixes to activate content or features in an app that are in the code but are not initially available to users. The content or feature is accessible only after the app checks the developer’s server and is “notified” by the server to display the new content or feature.\textsuperscript{142} Across all platforms where \emph{Fortnite} is available, including iOS, Epic Games has used hotfixes to enable hundreds of new features and content elements and to correct configuration issues since \emph{Fortnite} was first added to the App Store.\textsuperscript{143} By contrast, the Project Liberty hotfix has no analogue as it clandestinely enabled substantive features in willful violation of the contractual obligations and guidelines.

By May 11, 2020, the key components of Epic Games’ strategy were in place: “We submit a build to Google and Apple with the ability to hotfix on our payment method . . . . We

\textsuperscript{135} Trial Tr. (Sweeney) 152:24–153:4. Notably, Epic Games decided to target only Apple and Google in its crusade even though it generally faced similar 30% rates on every platform where it sold products, except a computer platform.

\textsuperscript{136} Trial Tr. (Sweeney) 152:9–53:4; DX-3774.002.

\textsuperscript{137} Trial Tr. (Ko) 804:12–17.

\textsuperscript{138} DX-3774.004.

\textsuperscript{139} DX-3774.002–.004.

\textsuperscript{140} Trial Tr. (Sweeney) 153:14–15, 154:25; Trial Tr. (Grant) 736:11–15.

\textsuperscript{141} Trial Tr. (Grant) 734:10–13.

\textsuperscript{142} \textit{Id.} 734:22–735:9.

\textsuperscript{143} \textit{Id.} 735:15–19 (“It would be like a weekly occasion. We would rotate different types of game notes in and out. If there was a big event . . . taking place during the season, that would be hotfixed on at the appropriate time so users could experience it.”).
flip the switch when we know we can get by without having to update the client for 3 weeks or so. Our messaging is about passing on price savings to players.”144 In parallel, Epic Games developed “Epic Mega Drop,” its simultaneous plan to lower the price of *Fortnite* items by an average of 20 percent on certain platforms.145 “Epic Mega Drop” would reduce pricing on platforms other than Apple’s and Google’s, even though Epic Games was still paying 30% commissions to the console makers.146 Epic Games also planned to assure its console partners that the reduction in price for V-Bucks could be recouped through the sales of more expensive bundles or items with “mythic” rarity.147

Project Liberty included a public narrative and marketing plan. Epic Games recognized that it was “not sympathetic”148 and that if Apple and Google blocked consumers from accessing the app, “[s]entiment will trend negative towards Epic.”149 “[T]he critical dependency on going live with our VBUCKS price reduction efforts is finding the most effective way to get Apple and Google to reconsider without us looking like the baddies.”150

To these ends, Epic Games wanted to “[g]et players, media, and industry on ‘Epic’s side,’” by “[c]reating a narrative that we are benevolent,” and at the same time make Apple out to be the “bad guys.”151 Epic Games retained a public relations firm and devised, in effect, a two-phase communications plan.152 The first phase consisted of actions before the activation of the plan such as creating an affiliated advocacy group, and a second phase that would galvanize public sentiment through social media outreach and videos.153

With regard to the first phase, Epic Games implemented its plan throughout the summer of 2020 by creating the Coalition for App Fairness, and “charged [it] with generating continuous media and campaign tactic pressure” on Apple and Google. Epic Games hired a consultant to

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144 DX-4419.002; Trial Tr. (Grant) 767:15–18.
145 Trial Tr. (Sweeney) 156:3–16.
146 DX-4561.006; Trial Tr. (Weissinger) 1431:1–5.
147 Trial Tr. (Weissinger) 1436:9–19; DX-4652.003.
148 DX-4177.001; Trial Tr. (Weissinger) 1414:2–15.
149 DX-4018.054.
150 DX-4419.002.
151 DX-4561.020; DX-3641.001.
152 DX-4561.020; DX-3641.001; DX-3681.012; DX-4185.001; DX-4561.037–.038; Trial Tr. (Weissinger) 1413:9–12, 1417:19–1418:7. Epic Games paid it $300,000 in connection with Project Liberty.
153 DX-4561.037–.038.
“help to establish a reason for [the Coalition] to exist (either organic or manufactured).” Epic Games then concealed the Coalition’s existence until after the hotfix was triggered on August 13, 2020.154

Epic Games assumed its breach would result in the removal of *Fortnite* from the iOS and Android platforms. In fact, Mark Rein, Epic Games’ co-founder, predicted “there’s a better than 50% chance Apple and Google will immediately remove the games from their stores the minute we do this” and Daniel Vogel, the Chief Operating Officer, predicted Google and Apple will immediately pull the build for new players.” “They may also sue us to make an example,” he added.155

While Epic Games was willing to wage war against Apple and Google, it was not so inclined to crusade against the console platform owners: namely, Nintendo (Switch), Microsoft (Xbox), and Sony (PlayStation). Epic Games therefore planned to warn these console partners in advance about an upcoming pricing change for V-Bucks and to reassure them that they were not “next on [Epic Games’] list.” As explained in an email to Microsoft on August 5, 2020, Mr. Sweeney alluded to Project Liberty which he boasted would “highlight the value proposition of consoles and PCs, in contrast to mobile platforms.” Two days later he wrote, “you’ll enjoy the upcoming fireworks show.”156

Project Liberty required extensive planning and testing. Specialized engineers and an in-house information security team attempted to hack the code to ensure that Apple could not “reveal the intent” of the hotfix when it was submitted.157 Epic Games also used analytics to determine the number of players that would receive the hotfix once triggered.158

By the end of June 2020, Epic Games had no interest in the parallel litigation which was pursuing similar ends. Nor did it intend to wait for the resolution of the ongoing Pepper and Cameron cases. Epic Games merely “ignored” them and “went forward on [its] own.”159

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154 DX-3774.003; DX-3297.002; Trial Tr. (Weissinger) 1418:17–1420:5–8. One of the members of the Coalition for App Fairness is Eristica, a company that developed an app rejected by App Review that “paid folks to participate in a dare challenge” and when it was rejected “one of the dares was daring someone to jump off a bridge and video it” and other challenges “could also risk some pretty serious harm.” Trial Tr. (Kosmynka) 1087:9–1088:18.

155 DX-4419.001–.002; see also Ex. Depo. (Shobin) 59:24–60:5 (Epic Games understood that Project Liberty “jeopardize[d] *Fortnite*’s availability on the App Store”).

156 DX-4561.005, .024; DX-4652.001, .010; Trial Tr. (Weissinger) 1431:6–15; DX-4579.001; DX-3478.001; Trial Tr. (Sweeney) 292:14–293:8, 294:2–10.

157 Trial Tr. (Grant) 765:11–766:2.

158 Apple Ex. Depo. (Shobin) 239:9–25; DX-3083; see also Trial Tr. (Schmid) 3241:20–24 (explaining that Epic Games used TestFlight and App Analytics).

159 Trial Tr. (Sweeney) 155:13–25.
other words, Epic Games decided it would rush to court with its own plan to protect its self-avowed interests in the “metaverse” and had established a rough timeline, to which it generally adhered: first communicating with Apple in June/July and then implementing the hotfix and marketing blitz in August. 160

Thus, on June 30, 2020, Epic Games renewed the DPLAs for its account, the Epic International account, and a related entity (KA-RA S.a.r.l.) account by the payment of separate consideration.161 With this backdrop, Epic Games sought a “side letter” or other special deal from Apple that would provide plaintiff with unique, preferable terms.162 Mr. Sweeney sent an email to Apple executives, including Mr. Cook, requesting the ability to offer iOS consumers with: (i) competing payment processing options, “other than Apple payments, without Apple’s fees, in *Fortnite* and other Epic Games software distributed through the iOS App Store”; and (ii) a competing Epic Games Store app “available through the iOS App Store and through direct installation that has equal access to underlying operating system features for software installation and update as the iOS App Store itself has, including the ability to install and update software as seamlessly as the iOS App Store experience.”163 Mr. Sweeney highlights that these two offerings would allow consumers to pay less for digital products and allow developers to earn more money. Although Mr. Sweeney wrote that he “hope[d] that Apple w[ould] also make these options equally available to all iOS developers in order to make software sales and distribution on the iOS platform as open and competitive as it is on personal computers,”164 Mr. Sweeney admitted while testifying under oath that he “would have” accepted a deal “for [Epic Games] and no other developers.”165 In his email, Mr. Sweeney did not offer to pay Apple any portion of the 30 percent it charges on either app distribution or for in-app purchases.

On July 10, 2020, Apple Vice President and Associate General Counsel Douglas G. Vetter responded to Mr. Sweeney’s email with a formal letter communicating, in essence: No. As relevant here, Mr. Vetter wrote:

> Apple has never allowed this. Not when we launched the App Store in 2008. Not now. We understand this might be in Epic’s financial interests, but Apple strongly believes these rules are vital to the health of the App Store and carry enormous benefits for both consumers and developers. The guiding principle of the App Store is to provide a safe, secure and reliable experience for users and a great opportunity for all developers to be successful but, to be clear,

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160 DX-4561.005.

161 Trial Tr. (Sweeney) 283:16–284:1.


163 DX-4477.

164 *Id.*

165 Trial Tr. (Sweeney) 337:13–338.2.
when it comes to striking the balance, Apple errs on the side of the consumer.

Mr. Vetter also reiterated that Epic Games’ request to establish a separate payment processor would interfere with Apple’s own IAP system, which has been used in the App Store since its inception.166

On July 17, 2020, Mr. Sweeney responded to what he described as a “self-righteous and self-serving screed,” writing that he hoped “Apple someday chooses to return to its roots building open platforms in which consumers have freedom to install software from sources of their choosing, and developers can reach consumers and do business directly without intermediation.” He stated that Epic Games “is in a state of substantial disagreement with Apple’s policy and practices,” and promised that it would “continue to pursue this, as [it] ha[s] done in the past to address other injustices in [the] industry.” Epic Games did not reveal its plans to enable an alternate payment system through a hotfix.167

Next, in fulfilling Mr. Sweeney’s promise, Epic Games covertly introduced a “hotfix” into the Fortnite version 13.40 update on August 3, 2020. Epic Games did not disclose that this hotfix would enable a significant and substantive feature to Fortnite permitting a direct pay option to Epic Games that would be activated when signaled by Epic Games’ servers. Until this signal was sent out, this direct pay option would remain dormant. When activated, however, this direct pay option would allow iOS Fortnite players to choose a direct pay option that would circumvent Apple’s IAP system. Relying on the representations that intentionally omitted the full extent and disclosure of this hotfix, Apple approved Fortnite version 13.40 to the App Store.168

The hotfix remained inactive until the early morning of August 13, 2020, when Epic Games activated the undisclosed code in Fortnite, allowing Epic Games to collect in-app purchases directly.169 Fortnite remained on the App Store until later that morning, when Apple removed Fortnite from the App Store and it remains unavailable to this day. Epic Games timed the hotfix to go live two weeks before the launch of Fortnite’s Season 14.

Later that same day, the second phase came into full effect. Epic Games had prepared several videos, communications, and other media to blitz Apple. Epic Games filed this action and unleashed a pre-planned, and blistering, marketing campaign against Apple both on Twitter and with the release of a parody video of the iconic Apple 1984 commercial. The video called “1980 Fortnite” used the game-mode style of Fortnite and presented an in-brand explanation of

166 DX-4140.

167 DX-4480.001.

168 Trial Tr. (Grant) 736:1–15, 763:10–15; Trial Tr. (Sweeney) 170:16–171:9; DX-4138.002; Trial Tr. (Kosmynka) 1089:3–9.

what Epic Games had done, namely a *Fortnite* character destroying an “Apple overlord.” On its website, the Coalition proclaimed that: “For most purchases made within the App Store, Apple takes 30% off the purchase price. No other transaction fee—in any industry—comes close.” The Coalition did not announce that Epic Games faced similar 30% rates from console platform owners. Epic Games also announced a *Fortnite* tournament in support of its lawsuit with in-game prizes and it released a limited time skin in *Fortnite* called the Tart Tycoon, among other actions.

The following day, on August 14, 2020, Apple responded sternly. It informed Epic Games that, based on its breaches of the App Store guidelines, and the DPLA, it would be revoking all developer tools, which would preclude updates for its programs and software. Apple gave Epic Games two weeks to cure its breaches and to comply with the App Store guidelines and the agreements. Apple also identified general consequences for any failure to comply, but specifically cited *Unreal Engine* as potentially being subject to its decision should Epic Games fail to comply within the two-week period.

Thereafter, on August 17, 2020, Epic Games filed the request for a temporary restraining order, requesting the reinstatement of *Fortnite* with its activated hotfix onto the App Store, and enjoining Apple from revoking the developer tools belonging to the Epic Games and its affiliates. The Court declined to reinstate *Fortnite* onto the App Store, but temporarily restrained Apple from taking any action with respect to the plaintiff’s affiliates’ developer tools and accounts.

On August 28, 2020, on the expiration of the two-week deadline, Apple terminated Epic Games’ developer program account, referenced as Team ID ‘84. Apple subsequently, and repeatedly, offered to allow Epic Games to return *Fortnite* to the App Store, so long as Epic Games agreed to comply with its contractual commitments. Epic Games has consistently declined.

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170 Trial Tr. (Sweeney) 295:14–17; DX-4167.002.

171 Modeled presumably on Mr. Cook’s likeness.

172 DX-3724.001–.002; Trial Tr. (Sweeney) 295:2–17, 297:2–24.

173 DX-3460.

174 See generally Dkt. No. 48 (Order Granting in Part and Denying in Part Motion for Temporary Restraining Order). Meanwhile, discovery in the parallel cases was contentious, yet ongoing.

175 Trial Tr. (Sweeney) 171:10–172:2; Dkt. 428 ¶ 34.

176 Trial Tr. (Cook) 3918:18–3919:6.
On October 9, 2020, the Court issued an Order Granting in Part and Denying in Part the motion for preliminary injunction.\textsuperscript{177} Given the issuance of the injunction, and that discovery from the other two class action lawsuits could be leveraged in this action, the Court granted Epic Games’ request to conduct a bench trial on an expedited basis. Apple objected requesting, at a minimum, three additional months.

C. Apple: Relevant History of the iOS and iOS Devices

1. The Early Years

In 2007, Apple developed the iPhone creating a new and innovative ecosystem to break into the cellular device market with established competitors such as Samsung, Nokia, LG, Sony, Blackberry, Motorola, Windows Mobile, and Palm. No one disputes that the iPhone was revolutionary and fundamentally changed the cellular device market. Given the years that have passed, one may forget how fundamentally different the iPhone was to the alternatives. After 30 months of development, Apple offered consumers a new design, with a multi-touch interface powered by advanced hardware and software architecture. The device offered users the ability to access email, browse the web, and perform certain software applications by simply tapping a square-ish icon on the screen called an “app,” short for a software application. These apps operate from a foundational layer of software called an operating system which, in the iPhone ecosystem, is called the iOS.

Initially, when the iPhone was first launched, Apple developed and preinstalled the device with a few “native” apps. “Native” apps are those apps which are developed for a particular mobile device as opposed to “web” apps which are Internet-based and allow applications to be accessed and enabled on a mobile device by using a web browser on the device. Initially, Apple prohibited downloads of native apps from any third party.

Shortly after launch, Apple executives hotly debated whether to open development of native apps to third-party developers. As history knows, those in favor succeeded. The gamble literally paid off. Since 2007, the industry has continued to evolve and transform rapidly.

2. Role of App Developers Generally and Epic Games

The 2007 iPhone pales in comparison to today’s version. With 20-20 hindsight, we can conclude that Apple’s gamble to save a languishing company paid off.\textsuperscript{178} The lens with which to evaluate those early seminal years matters. Apple was not the monolith it is today. It is easy, but not fair, to twist words today for self-serving reasons and forget the landscape in which they were made.

As innovators in the early days, Apple executives were navigating trying to determine what would work and what would not. A few key principles guided decision-making, at least initially. First and foremost, the iPhone was a cellphone. If the cellphone did not work or

\begin{itemize}
\item \textsuperscript{177} See generally Dkt. No. 118.
\item \textsuperscript{178} Trial Tr. (Schiller) 2715:17–25.
\end{itemize}
crashed, the product would not be successful regardless of all the bells and whistles. Second, given the introduction of apps, securing the device from malicious software was paramount.

Many developers responded to the iPhone launch by “jailbreaking phones and writing native applications.” Jailbreaking occurs when a developer modifies Apple’s iOS to enable the installation of unauthorized software, including applications from other interfaces. Jailbreaking can create severe security risks regarding installation of malicious apps and data exposure. Despite warnings regarding the risks, developers continued the practice which precipitated renewed discussions within Apple to permit authorized native apps to be developed by third-party developers.¹⁷⁹

As the discussions ensued, the core principles remained: reliability of the device as a cellphone and device security. With these objectives in mind, on October 17, 2007, Apple announced that it would allow third-party developers to create iOS apps by licensing them with the interfaces and technology to do so. Apple then dedicated resources to create, and then release on March 6, 2008, a software development kit or SDK as well as information for a series of application programming interfaces or APIs to allow developers to create apps which would work on Apple’s proprietary operating system. The APIs unlocked features such as location awareness functionality, media applications, video playback, and numerous other tools to enhance the developer’s ultimate product.

The creation, constant update, and modernization of the SDKs and APIs was not insignificant. To protect its system, Apple built tools, kits, and interfaces that would allow other developers to build native apps. Epic Games did not introduce any evidence to rebut Apple’s claim that in those initial years, the engineering work was novel, sophisticated, time-consuming and expensive. These tools simplified and accelerated the development process of native apps. Today, years later, as with many industries, it is not surprising that the more sophisticated, better financed, and larger-scale developers, such as Epic Games, may find less value in today’s SDKs and APIs. That does not necessarily apply across the board to all developers, nor does it eliminate value in its entirety.

3. Apple’s Contractual Agreements with Developers

Apple distributes its basic developer tools for free but charges an annual fee for membership in its developer program to distribute apps and which allows access to, for instance, more advanced APIs (many of which are protected by patents, copyrights, and trademarks) and beta software.¹⁸⁰ Through the DPLA, Apple licenses, wholesale, its intellectual property.

¹⁷⁹ Ex. Depo. (Forstall) 86:1–5; Ex. Expert 11 (Rubin) ¶ 76; Trial Tr. (Schiller) 2729:11–2730:17.

¹⁸⁰ Trial Tr. (Schiller) 2758:3–8, 2758:17–24.
To join the “Developer Program,” one must execute the DPLA, pay a fee of $99.00 181 and provide some basic information such as a valid debit/credit card; a valid name, address and telephone number; and sometimes, a government-issued photo identification. In the case of an entity, Apple also requires the entity’s legal name, D-U-N-S number, as well as other information.

In the beginning, the App Store’s U.S. storefront offered 452 third-party apps (including 131 game apps) by 312 distinct developers. In fiscal year 2019, there were over 300,000 game apps available on the App Store.182 With over 30 million registered iOS developers,183 it is not particularly surprising, or necessarily nefarious, that Apple does not negotiate terms generally. With few exceptions, Apple maintains the same relationships with developers whether big or small. This decision, too, is controversial as the impact varies between small and large developers.

a. Key Terms of the DPLA and App Guidelines

Relevant here, the DPLA details programming requirements, which the Court outlines first, and establishes payment terms, which the Court discusses second. While reduced here to bullet points and footnotes, the DPLA is a portfolio licensing agreement with complex and comprehensive provisions addressing not only intellectual property rights, but those relating to marketing, agency, indemnity, and myriad other considerations. Moreover, the DPLA changed over the last decade. Unless otherwise stated, the Court focuses on the 79-page version (excluding schedules) governing Apple’s relationship with Epic Games in August 2020.184

Thus, with respect to programming, developers are required to:

- Certify that they will comply with the terms of the agreement (Section 3.1)185;
- Use the software in a manner consistent with Apple’s legal rights (Section 3.2)186;

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181 This fee also includes the ability to consult twice with the Apple technical services team. Each additional incident requires paying a $99 “per incident” payment.

182 Ex. Expert 6 (Hitt) ¶ 169.

183 Trial Tr. (Schiller) 2759:9–17.


185 Developers “certify to Apple and agree that,” among other things, they “will comply with the terms of and fulfill [their] obligations under this Agreement, including obtaining any required consents for [their] Authorized Developers’ use of the Apple Software and Services, and [developers] agree to monitor and be fully responsible for all such use by [their] Authorized Developers and their compliance with the terms of this Agreement.” PX-2619.015.

186 “Applications for iOS Products, AppleWatch, or Apple TV developed using the Apple Software may be distributed only if selected by Apple (in its sole discretion) for
• Create apps for Apple products which could only be distributed through the App Store (Section 3.2)\textsuperscript{187};
• Submit proposed apps for review to ensure they were properly documented and did not contravene the program requirements (Section 3.3.2\textsuperscript{188} and 3.3.3\textsuperscript{189});
• Configure apps to use IAP when the purchases are subject to the commission (Section 3.2.(f)\textsuperscript{190}); and
• Agree not to “attempt to hide, misrepresent or obscure any features, content, services or functionality” (Section 6.1)\textsuperscript{191}.

distribution via the App Store, Custom App Distribution, for beta distribution through TestFlight, or through Ad Hoc distribution as contemplated in this Agreement.” PX-2619.016.

\textsuperscript{187} Id.

\textsuperscript{188} “Except as set forth in the next paragraph, an Application may not download or install executable code. Interpreted code may be downloaded to an Application but only so long as such code: (a) does not change the primary purpose of the Application by providing features or functionality that are inconsistent with the intended and advertised purpose of the Application as submitted to the App Store, (b) does not create a store or storefront for other code or applications, and (c) does not bypass signing, sandbox, or other security features of the OS.

An Application that is a programming environment intended for use in learning how to program may download and run executable code so long as the following requirements are met: (i) no more than 80 percent of the Application’s viewing area or screen may be taken over with executable code, except as otherwise permitted in the Documentation, (ii) the Application must present a reasonably conspicuous indicator to the user within the Application to indicate that the user is in a programming environment, (iii) the Application must not create a store or storefront for other code or applications, and (iv) the source code provided by the Application must be completely viewable and editable by the user (e.g., no pre-compiled libraries or frameworks may be included with the code downloaded).” (Emphasis supplied.)

\textsuperscript{189} “Without Apple’s prior written approval or as permitted under Section 3.3.25 (In-App Purchase API), an Application may not provide, unlock or enable additional features or functionality through distribution mechanisms other than the App Store, Custom App Distribution or TestFlight.”

\textsuperscript{190} “You will not, directly or indirectly, commit any act intended to interfere with . . . Apple’s business practices including, but not limited to, taking actions that may hinder the performance or intended use of the App Store, . . . . Further, You will not engage, or encourage others to engage, in any unlawful, unfair, misleading, fraudulent, improper, or dishonest acts or business practices relating to Your Covered Products (e.g., engaging in bait and-switch pricing, consumer misrepresentation, deceptive business practices, or unfair competition against other developers).”

\textsuperscript{191} “You may submit Your Application for consideration by Apple for distribution via
In 2010, Apple also created the App Guidelines which are more fully discussed below.\footnote{All developers agree to abide by the App Guidelines, among others. PX-2619.070.} As a corollary to Section 3.3.3 of the DPLA, Section 3.1.1 of the App Guidelines was the clearest articulation of the anti-steering provision with respect to in-app purchases. It reads:

If you want to unlock features or functionality within your app, (by way of example: subscriptions, in-game currencies, game levels, access to premium content, or unlocking a full version), you must use in-app purchase. Apps may not use their own mechanisms to unlock content or functionality, such as license keys, augmented reality markers, QR codes, etc. Apps and their metadata may not include buttons, external links, or other calls to action that direct customers to purchasing mechanisms other than in-app purchase.\footnote{PX-2790 (emphasis supplied).}

Section 2.3.10 of the Guidelines reads: “. . . don’t include names, icons, or imagery of other mobile platforms in your app or metadata, unless there is a specific, approved interactive functionality” and Section 3.1.3 Other Purchase Methods states: “The following apps may use purchase methods other than in-app purchase. Apps in this section cannot, either within the app or through communications sent to points of contact obtained from account registration within

\footnote{\textsuperscript{\textsuperscript{192}} PX-2619.070.}
the app (like email or text) encourage users to use a purchasing method other than in-app purchase.”

In terms of payment, Apple knew from the outset that developers would either distribute their apps for “free” or by selling them. The DPLA contained Schedules 1 and 2 to address each category, respectively.

“Free” as used here specifically means an app for which a consumer does not pay to download, and which does not sell any digital goods or subscriptions. Thus, free apps do not generate any revenue for Apple. However, some developers monetize their free app with advertising. In fiscal year 2019, 83% of apps with at least one download on the App Store were free to consumers, including 76% of game apps of which there are over 300,000.

On the other hand, the “freemium model” (used by Fortnite) is one where the initial download is “free”, but revenue comes from in-app purchases or payments for upgrades. Apps which do charge for downloads or digital goods bought within an app fall under the purview of Schedule 2.

Section 3.4 of Schedule 2 provides the basic 30 percent rate and reads:

Apple shall be entitled to the following commissions in consideration for its services as Your agent and/or commissionaire under this Schedule 2:

(a) For sales of Licensed Applications to End-Users located in those countries listed in Exhibit B, Section 1 of this Schedule 2 as updated from time to time via the App Store Connect site, Apple shall be entitled to a commission equal to thirty

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194 Apple’s anti-steering provision as it relates to subscriptions is found in Section 3.11 of the DPLA. However, as shown herein, subscriptions are not part of the action. Other related provisions in the Guidelines include 3.1.3(a) and 3.1.3(b).

195 Ex. Expert 6 (Hitt) ¶¶ 134, 206.

196 Trial Tr. (Hitt) 2094:13–23; Ex. Expert 6 (Hitt) ¶¶ 156, 169.

197 PX-2621. Section 3.4 is preceded by sections outlining the marketing and hosting agreements between Apple and the developers, albeit Apple did not guarantee any quantifiable services.
percent (30%) of all prices payable by each End-User.\textsuperscript{198}

Under the terms of the DPLA, “the Licensed Applications” cannot be activated until approved by Apple. For all digital purchases, Apple charges a 30% commission and only recently instituted some exceptions. Purchases which are not digitally confirmed, such as those related to physical goods, such as take-out food or Amazon purchases, do not result in a commission to Apple.

Apple does not dictate to developers how or what to price an app or how to monetize their product. However, it did impose certain parameters, namely the prices of apps need to end in $0.99 and must appear within predesignated bands. There is no evidence that this has impacted Epic Games at all or that it has created any widespread problems. Rather, plaintiff cites only to testimony of Matthew Fischer, Apple’s Vice President of App Review, that developers have asked “from time to time” for more flexibility. With respect to international pricing, Apple has a single “tier” but evidence was not admitted to show any problems with the tiered system.\textsuperscript{199}

At best, the evidence on this issue is scant and not fully developed. Mr. Fischer testified that developers have at times asked for “more flexibility to charge different prices for in-app purchases,” and Apple has consistently declined.\textsuperscript{200} Whether this is a significant issue is unknown. Certainly, Epic Games, the plaintiff here, never asked to change the pricing. The Court suspects that it is because of the common marketing view that ending a price in $0.99 conveys a bargain price to the consumer. That said, Apple did little to justify the restriction.\textsuperscript{201} On balance, the Court finds nothing anticompetitive with these two requirements based on this record.

\textsuperscript{198} PX-2621. Subsection 3.4(a) proscribes a 15% rate for subscriptions which are not part of this case.

\textsuperscript{199} Ex. Depo. 9 (Fischer) 266:16–24. Thus, Schedule 2 to the DPLA states that Apple markets third-party apps “at prices identified by [the developer] . . . from the pricing schedule attached . . . as Exhibit C.” Any price changes must be “in accordance with the pricing schedule.” The tiers generally require the same price across all countries; for example, a $ 0.99 tier requires the equivalent of $ 0.99 in local currency in India. PX-2621 § 3.1, Ex. C; PX-2202; Ex. Depo 12 (Gray) 26:3–5, 195:15–196:14, 206:13–207:18, 208:6–9.

\textsuperscript{200} Ex. Depo. 9 (Fischer) 266:12–19.

\textsuperscript{201} Apple does not directly respond but argues that currency conversion is a benefit of IAP. \textit{See} Apple FOF ¶ 692. To the extent this true, Apple has not explained why it cannot afford more flexibility in unique circumstances. Mr. Gray testified that Apple selected 99 cent tiers based on its prior experience without apparently consulting developers. Ex. Depo. 12 (Gray) 195:24–196:14.
b. **Apple’s App Store as an App Transaction Platform**

Having made the decision to allow third-party developers to license the tools to make “apps” for the iPhone, Apple also needed to develop a place or manner in which the developers and the users could connect. Apple wrote a series of applications, combined them all, and called it the App Store. Apple designed the App Store not only to allow third-party developers to reach consumers with their apps, but to notify customers when updates were available: “tap the Update button and [the] app will be replaced by the updated version . . . over the air, all automatically.” The App Store functionality and access thereto is at the heart of the action.

Apple’s late Chief Executive Order (“CEO”), Mr. Steve Jobs, recognized that the “purpose in the App Store is to add value to the iPhone” and ultimately “sell more iPhones.” Apple’s current Vice President of Developer Relations, Mr. Ron Okamoto, similarly acknowledged that well-known developers make Apple’s platforms more attractive to users and lead them to buy Apple devices. Therefore, the symbiotic relationship was created.

Apple’s intellectual property as it relates to the iOS ecosystem generally are significant. The record is undisputed that Apple holds approximately 1,237 U.S. patents with 559 patent applications pending. With respect to the App Store itself, Apple holds an additional 165 U.S. patents with 91 more U.S. patent applications pending. Other than these patents, Apple does not identify specifically how the rest of its intellectual property portfolio impacts the technology at issue in this case nor does it specifically justify its 30% commission based on the value of the intellectual property. It only assumes it justifies the rate.

Over recent years, the evidence established that a significant portion of the App Store revenue is built upon long-term relationships between developers and consumers independent of Apple. Indeed, during a 2019-2020 presentation, Apple recognized this transition, noting that the “top monetizing game are services that entertain customers for years.” Specifically, “[i]n any given month, 41% of [Apple’s] monthly billings are generated from apps that were downloaded more than 180 days prior,” as contrasted to 31% for apps downloaded between 30 and 180 days prior and to 28% for apps downloaded less than 30 days prior. “As a result, a significant share of our billings are generated not from apps that were just downloaded, but from apps that customers re-engage with long after the first download.” Even Apple concedes that “this engagement is almost completely driven by [App Store] developers, and the App Store does not participate in a meaningful way.”

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202 PX-2060.018–.019; Ex. Depo. (Okamoto) 324:04–325:10; Ex. Expert 1 (Evans) ¶ 19; Ex. Expert 8 (Schmalensee) ¶ 44.

203 See generally Ex. Expert 12 (Malackowski) (noting that the intellectual property has value, but not providing any numerical value).

204 PX-608.028.
c. Apple’s Commissions Rates: 30 percent; 15 percent; recent changes

Apple’s establishment of a 30% commission rate has remained static since the onset. Mr. Philip Schiller, who was there at the beginning, testified that the App Store charged the same percentage as other gaming stores, like Steam and Handango. Mr. Eddy Cue, another Apple executive, who made the pricing decision with Mr. Jobs, recognized that “[t]here wasn’t really any kind of App Store” when it first launched, so Apple looked at distribution of hard goods and software instead. Because distributing hard versions of software cost 40% to 50%, lowering the commission to 30% was considered a “huge decrease” intended to “get developer really excited about participating in the platform.” Importantly, and undisputed, Apple chose the 30% commission without regard to or analysis of the costs to run the App Store.205

Prior to 2011, users could read content from subscriptions made outside iOS, but were limited to a one-time subscription, not recurring subscriptions. In 2011, Apple expanded its functionality to allow for the sales of recurring subscriptions when purchased in the app store but required a 30 percent commission.206 Finally, in late 2020, Apple introduced the Small Business Program. That program reduced Apple’s commission to 15% for developers making less than one million dollars.207

Apple’s implementation of the Small Business Program was spurred, in part, by the COVID-19 pandemic. However, Mr. Cook also admitted that “lawsuits and all the rest of the stuff” was “in the back of [his] head.” Mr. Schiller similarly testified that the Small Developer Program began with a lot of “commentary” about “App Store’s commission level,” but was pushed over the edge by the pandemic. He too expressly acknowledged that the current lawsuit helped “get it done” along with “scrutiny and criticism . . . from around the world.”208

Over time, and given Apple’s success, some developers have actively complained about the 30% commission. The Court recognizes that developers have sued Apple on behalf of a class arguing that the rate is too high. Unlike those developers, Epic Games challenges the levy of any commission and did not offer a survey showing developers agreed with this position; only the anecdotal evidence of a couple.209 It is logical that no developer would want to pay prices higher than is competitive or necessary. However, it is also true that, with few exceptions, not every


206 Trial Tr. (Schiller) 3183:9–3184:25.

207 Id. 2810:16–2811:5.

208 Trial Tr. (Cook) 3992:4–3993:1; Trial Tr. (Schiller) 2812:1–2813:10, 3070:13–25.

209 The Court also makes a distinction with respect to the testimony of Ms. Wright who explicitly was not testifying on behalf of Microsoft. Had Microsoft wanted to weigh in; it could have.
business is entitled to have access to what is effectively shelf space if they cannot afford to pay a commission to the platform host.

While Apple’s 30 percent commission began as a corollary to the 30 percent rate being charged in the gaming industry, the evidence is substantial that the economic factors driving that rate do not apply equally to Apple. Other gaming industry participants operate under a distinctly different economic model, facing different levels of competitive pressure. See infra Facts § II.D.2–4. For example, unlike those in the computer gaming market, nothing other than legal action seems to motivate Apple to reconsider pricing and reduce rates.


Initially, Apple envisioned the App Store as a highly curated selection of apps. With only 500, then 25,000, apps in its initial collection, the vision was achievable. As the number of apps skyrockets, Apple strains in its claim that the current version of the App Store promises the same curated product. Though Apple has removed over 2 million outdated apps, and rejected those not meeting the Guidelines, the App Store still another contains 2 million apps of which over 300,000 are games.

Curation in the current era merely means that an app must comply with the App Guidelines, first published in 2010. Some of the Guidelines are not reasonably controversial. For instance, Apple will not authorize certain apps such as porn, malicious apps, ‘unforeseen’ apps, apps that invaded one’s privacy, illegal apps, and even bandwidth hog[s]. Epic Games claims that Apple’s efforts in this regard are substandard, raising concerns regarding the effectiveness and quality of the current review process. Unfortunately, Epic Games only scratched the surface and did not provide particularly compelling evidence of its perspective.

Missing from the record is any normative measure of what standard guidelines should be. Perfection is not practical nor the business norm. Internal documents show that Apple responded to developers who were complaining of the time for reviewing of apps and updates. Apple

210 The Court is aware of the additional, and unchallenged, concerns relating to money laundering, fraud, and other risks that Apple debated in terms of changing the commission. Trial Tr. (Schiller) 2813:11–2814:7; PX-2390.200. While valid, at least with respect to money laundering, the reference point was 15% which is half the static 30% commission rate.

211 PX-0880.020; Trial Tr. (Schiller) 2754:7–8; 2785:15–25.

212 Trial Tr. (Schiller) 2833:25–2834:2; 2846:11–2847:24.

213 PX-0056A; Trial Tr. (Schiller) 2833:25–2834:2.

214 PX-2619, § 3.3.20, 3.3.21, 3.3.26, 3.3.29.

215 For instance, Epic Games spent considerable time arguing that numerous apps were, in fact, porn. Upon further review, while salacious, the proffer was devoid of merit and merely emphasized the lack of evidence on this point.
promises in its Service Level Agreement to complete a review of an app quickly: 50 percent within 24 hours and 90 percent within 48 hours. Apple claims that it is completing 96 percent of the reviews within 24 hours.\textsuperscript{216} Anecdotal evidence from Mr. Benjamin Simon, President and CEO of Down Dog, suggests that those statistics are skewed but there was no further exploration on the topic.

The App Guidelines address issues of safety, privacy, performance, and reliability. The fact that the Guidelines are not static does not raise per se concerns because the issues are similarly non-static.\textsuperscript{217} Evidence exists to show that the Guidelines are used in appropriate ways for appropriate purposes. \textit{See infra} Facts § V.A.2.a.ii. For instance, Apple proactively requires, much to some developers’ chagrin, measures to protect data security,\textsuperscript{218} privacy, data collection and storage.\textsuperscript{219} The data collection and disclosure requirements are not insignificant. They

\begin{itemize}
\item \textsuperscript{216} Trial Tr. (Kosmynka) 1110:10–1111:2; Trial Tr. (Federighi) 3467:11–24, 3502:23–3504:15.
\item \textsuperscript{217} PX-0056A.100 (“This is a living document, and . . . may result in new rules at any time.”); PX-0056; PX-2790; Trial Tr. (Fischer) 947:6–14 (“We do change the guidelines.”); Trial Tr. (Kosmynka) 984:14–16; Trial Tr. (Schiller) 2833:15–21 (“They are modified at least yearly, sometimes more than once in a year.”).
\item \textsuperscript{218} Section 1.6 states that “[a]pps should implement appropriate security measures to ensure proper handling of user information collected pursuant to the Apple [DPLA] and these Guidelines (see Guideline 5.1 for more information) and prevent its unauthorized use, disclosure, or access by third parties.” PX-2790.005.
\item \textsuperscript{219} 5.1.1 Data Collection and Storage:
\begin{itemize}
\item (i) Privacy Policies: All apps must include a link to their privacy policy in the App Store Connect metadata field and within the app in an easily accessible manner. The privacy policy must clearly and explicitly:
\begin{itemize}
\item Identify what data, if any, the app/service collects, how it collects that data, and all uses of that data.
\item Confirm that any third party with whom an app shares user data (in compliance with these Guidelines) — such as analytics tools, advertising networks and third-party SDKs, as well as any parent, subsidiary or other related entities that will have access to user data — will provide the same or equal protection of user data as stated in the app’s privacy policy and required by these Guidelines.
\item Explain its data retention/deletion policies and describe how a user can revoke consent and/or request deletion of the user’s data.
\end{itemize}
\item (ii) Permission Apps that collect user or usage data must secure user consent for the collection, even if such data is considered to be anonymous at the time of or immediately following collection. Paid functionality must not be dependent on or require a user to grant access to this data. Apps must also provide the customer with an easily accessible and understandable way to withdraw consent. Ensure your purpose strings clearly and completely describe your use of the data. Apps that collect data for a legitimate interest without consent by relying on the terms of the European Union’s General Data Protection Regulation (“GDPR”) or
similar statute must comply with all terms of that law. Learn more about Requesting Permission.

(iii) Data Minimization: Apps should only request access to data relevant to the core functionality of the app and should only collect and use data that is required to accomplish the relevant task. Where possible, use the out-of-process picker or a share sheet rather than requesting full access to protected resources like Photos or Contacts.

(iv) Access: Apps must respect the user’s permission settings and not attempt to manipulate, trick, or force people to consent to unnecessary data access. For example, apps that include the ability to post photos to a social network must not also require microphone access before allowing the user to upload photos. Where possible, provide alternative solutions for users who don’t grant consent. For example, if a user declines to share Location, offer the ability to manually enter an address.

(v) Account Sign-In: If your app doesn’t include significant account-based features, let people use it without a log-in. Apps may not require users to enter personal information to function, except when directly relevant to the core functionality of the app or required by law. If your core app functionality is not related to a specific social network (e.g., Facebook, via another mechanism. Pulling basic profile information, sharing to the social network, or inviting friends to use the app are not considered core app functionality. The app must also include a mechanism to revoke social network credentials and disable data access between the app and social network from within the app. An app may not store credentials or tokens to social networks off of the device and may only use such credentials or tokens to directly connect to the social network from the app itself while the app is in use.

(vi) Developers that use their apps to surreptitiously discover passwords or other private data will be removed from the Developer Program.

(vii) SafariViewController must be used to visibly present information to users; the controller may not be hidden or obscured by other views or layers. Additionally, an app may not use SafariViewController to track users without their knowledge and consent.

(viii) Apps that compile personal information from any source that is not directly from the user or without the user’s explicit consent, even public databases, are not permitted on the App Store.

(ix) Apps that provide services in highly-regulated fields (such as banking and financial services, healthcare, gambling, and air travel) or that require sensitive user information should be submitted by a legal entity that provides the services, and not by an individual developer.

5.1.2 Data Use and Sharing

(i) Unless otherwise permitted by law, you may not use, transmit, or share someone’s personal data without first obtaining their permission. You must provide access to information about how and where the data will be used. Data collected from apps may only be shared with third parties to improve the app or serve advertising (in compliance with the Apple Developer
require user consent, minimization, and affirmative permissions. These specifications place the customer’s concerns ahead of the developers and are on the forefront of protecting user data; measures not all developers embrace, especially where they want to monetize that data. Epic Games claims that these restrictions inhibit their ability to service customer needs. Both perspectives contain a measure of truth. However, the latter is less persuasive because the servicing is an option after the customer consents, while the alternative would mean that data is collected and used without the customer knowing.

Tangentially related is the App Guidelines’ approach to cloud-based game streaming which is discussed below with respect to market definition. See infra Facts § II.D.3.d. The evidence on this front post-dated the filing of this lawsuit. Thus: in September 2020, Apple modified the Guidelines to allow for the inclusion of game streaming apps, but only if each streamed app is made available as a separate app on the App Store.\(^220\) Nvidia, Microsoft, and Google sought to launch their game streaming services as native iOS apps before Apple modified its Guidelines, but all three were rejected by Apple.\(^221\) None of these services chose to subsequently launch separate iOS apps—one per streamed game—as required by the new App Guidelines.\(^222\) Craig Federighi, Apple’s Senior Vice President of Software Engineering, testified that there are currently no streaming apps for game apps on the App Store.\(^223\) Apple allows entertainment apps such as video and music apps to stream. The restriction only applies to gaming.

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Program License Agreement.). Apps that share user data without user consent or otherwise complying with data privacy laws may be removed from sale and may result in your removal from the Apple Developer Program.

(ii) Data collected for one purpose may not be repurposed without further consent unless otherwise explicitly permitted by law.

(iii) Apps should not attempt to surreptitiously build a user profile based on collected data and may not attempt, facilitate, or encourage others to identify anonymous users or reconstruct user profiles based on data collected from Apple-provided APIs or any data that you say has been collected in an “anonymized,” “aggregated,” or otherwise non-identifiable way.

\(^{220}\) PX-0056.180 (“Each streaming game must be submitted to the App Store as an individual app so that it has an App Store product page, appears in charts and search, has user rating and review, can be managed with ScreenTime and other parental control apps, appears on the user’s device, etc.”).

\(^{221}\) Trial Tr. (Patel) 438:24–439:15; Trial Tr. (Wright) 534:18–535:8; PX-2048.100 (“Stadia by Google has been rejected by ERB”); PX-2109.100 (“NVIDIA GeForce NOW has been rejected by ERB”).

\(^{222}\) Trial Tr. (Patel) 440:25–441:4; Trial Tr. (Wright) 650:15–651:6.

\(^{223}\) Trial Tr. (Federighi) 3490:4–6.
Epic Games raises legitimate concerns regarding some of the consequences of Apple’s App Guidelines and its refusal to share control of data absent customer agreement.

First, Apple does a poor job of mediating disputes between a developer and its customer. Consumers do not understand that developers have effectively no control over payment issues and or even access to consumers’ information. Consequently, it can be frustrating for both sides when issues arise relating to the inability to issue and manage the legitimacy of requests for refunds.224

With respect to refunds, the DPLA gives Apple “sole discretion” to refund a full or partial amount of user purchases. When developers want to refund a customer purchase, they must contact Apple or tell the customer to contact Apple, which independently “evaluate[s] that situation.”225 Thus, developers lack the ability to provide refunds and have worse customer service as the result. For example, Match Group’s Operations Vice-President testified that Apple prevents Match Group from implementing its preferred refund policy or tailoring refunds to users’ history, which leads to poor experiences with its products and hurts its brand.226

Moreover, because Apple lacks visibility into the transaction, it has created overly simplistic rules to issue refunds which can also increase fraud.227 For example, apps have suffered from return fraud, where the customer enjoys or resells content and then obtains a refund by providing false information. Prior to 2020, Apple did not even provide developers with information that a refund had been issued, and they had no ability to remove the refunded feature to prevent its further use. Mr. Schiller explains that Apple has this requirement because customers “want to reach out to us when they have a problem with the developer and want a refund.”228 That explanation is plausible if the developer caused the issue that requires a refund. However, if the refund arises from a general customer service issue, the developer is likely better

224 Trial Tr. (Simon) 369:23–373:3.


226 Ex. Depo. (Ong) 34:10–36:23, 48:17–51:06, 162:03–22; Trial Tr. (Sweeney) 91:24–92:7; Trial Tr. (Simon) 372:9–373:3; Ex. Depo. 12 (Gray) 128:8–25. Mr. Simon provides another example: Down Dog has a generally lenient refund policy that provides frequent exceptions, such as for health workers and users who liked a feature that was deprecated. Apple’s approach is stricter and more uniform, which prevents Down Dog from implementing its preferred policy. Trial Tr. (Simon) 370:2–373:17.

227 Apple employees have acknowledged that this “causes some customers to be treated unfairly while also allowing for fraudulent claims to be refunded.” PX-2189.100.

228 Trial Tr. (Schiller) 2798:24–2799:11.
suited to address the issue. Although Apple introduced new tools to address this issue in 2020, it
did so only after years of complaints.229

Apple argues that its policies protect consumers against fraudulent attacks. The data is far
from clear. What is certain is Apple’s decision prohibits information from flowing directly to the
customer so that customers can make these choices themselves.

Second, Epic Games argues that the lack of direct connection to consumers impacts a
developer’s ability to obtain key analytics, such as “real-time reporting about its customers’
spending behavior.” While Epic Games may profit from having “real-time reporting” about an
individual spending behavior, ample evidence shows that Epic Games already reaps immense
profits from impulse purchasing. Little societal value exists in allowing plaintiff to capitalize on
more customer data to exploit customer habits.

Other examples, however, seem more legitimate such as Match Group’s desire to obtain
the information to run registered sex offender checks and age verification. Mr. Ong attributes
this fact to a “one-size-fits-all” approach that prevents it from building safety features “that are
relevant to [its] users.” In truth, the evidence is more mixed with a split among developers
regarding the amount and usefulness of certain information with respect to analytics.230 As
noted, the issue is double-edged as it impacts user privacy.

5. App Store Operating Margins

Plaintiff’s expert, Ned Barnes, through both reverse engineering and review of
documents from Tim Cook’s files, calculated operating margins to be over 75% for both fiscal
years 2018 and 2019.231 Mr. Barnes explained:

Operating margin measures the profitability of a business or
business segment by calculating the excess of revenue over costs. It
is defined as net revenue (or sales) minus both (i) costs of goods sold
(“COGS”) and (ii) operating expenses (“OPEX”) such as selling,
general and administrative expenses, and research and development
(“R&D”) expenses. Operating margin percentage is calculated by
dividing the nominal amount of operating margin dollars by the
nominal amount of net revenue.232

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229 Ex. Depo. 12 (Gray) 146:8–147:20, 150:15–151:05; Trial Tr. (Schiller) 2799:17–
2800:11; PX-2062 (complaints in 2018).

230 Ex. Depo. (Ong) 169:24–173:19; Trial Tr. (Sweeney) 128:22–24; PX-2362.300; Ex.
Expert 8 (Schmalensee) ¶ 150; Ex. Expert 11 (Rubin) ¶ 127; DX-3922.106.

231 Ex. Expert 2 (Barnes) ¶¶ 2, 4, 5.

232 Id.
In addition, Mr. Barnes reviewed internal documents reflecting profit and loss (“P&L”) statements specific to the App Store and presented to Apple executives. These documents support Mr. Barnes’ independent conclusions. Other documents indicate that at least by fiscal year 2013, the margin percentages exceeded 72%. 

Apple counters that it does not maintain profit and loss statements for individual divisions and that Mr. Barnes’ analysis is inaccurate. The Court disagrees with the latter. Mr. Barnes made appropriate adjustments based on sound economic principles to reach his conclusions. Apple’s protestations to the contrary, notwithstanding the evidence, shows that Apple has calculated a fully burdened operating margin for the App Store as part of their normal business operations. Apple’s financial planning and analysis team are tracking revenues, fixed and variable operating costs, and allocation of IT, Research & Development, and corporate overheads to an App Store P&L statement. The team’s calculation was largely consistent with that of Mr. Barnes. Although there are multiple ways to account for shared costs in a business unit, the consistency between Mr. Barnes’ analysis and Apple’s own internal documents suggest that Mr. Barnes’ analysis is a reasonable assessment of the App Store’s operating margin.

However, when Mr. Barnes extended the analysis to compare his findings to other online stores, he chose poorly. Mr. Barnes analyzed the operating margins for the following online stores for the years spanning 2013 to 2019, finding operating margin percentages ranging approximately as follows: eBay (20-30 percent), Etsy (-3.2 to 12 percent), Alibaba (29-50 percent), MercardoLibre (-6.7 to 32 percent), and Rakuten (8-17 percent). All of these pale in comparison to Apple, but none are driven by the same digital transactions as exist here.

While Mr. Barnes’ choice is understandable, he did not compare Apple with the Google Play app store, Sony PlayStation Store, Microsoft Store, Samsung Galaxy Store, and Nintendo eShop. Mr. Barnes notes that these entities claim, like Apple, that they do not report sufficiently separate financial results for their app store activities. It is not clear whether sufficient public information exists to reverse engineer for these companies in the same way he reverse-engineered for Apple.

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233 Id.

234 Id. ¶ 9.

235 Id. ¶ 22.

236 Mr. Barnes used the following “criteria” to choose the comparators: “online marketplace firms” that “(i) primarily generate online marketplace revenues from commissions and fees earned from transactions involving third-party merchants rather than as a direct seller of goods; (ii) publicly reported financial statements; (iii) at least five years of available financial statements; (iv) marketplace activities sufficiently distinguishable in operating results; and (v) profitable marketplace operations in at least one year of the last five years.” Id. ¶ 23.

237 Id. ¶ 24.
Notwithstanding Mr. Barnes’ choice to compare the App Store’s operating margins to those other online stores, under any normative measure, the record supports a finding that Apple’s operating margins tied to the App Store are extraordinarily high. Apple did nothing to suggest operating margins over 70% would not be viewed as such. As discussed below, the record also shows that the bulk of the revenues generating those margins come from in-app purchases in gaming apps.

6. App Store Revenues From Mobile Gaming

As highlighted at the outset of this Order, pivotal evidence in this case reveals that gaming transactions are driving the App Store. Given the critical nature of this evidence, the Court unseals the following evidence from 2017 and sufficient evidence from the following years to make key findings. The specifics are referenced in the footnotes below and sealed to the general public. Suffice it to say, the trends increase in an upwards trajectory.

Games have played an integral part of the App Store since at least 2016. In 2016 for instance, despite game apps only accounting for approximately 33% of all app downloads, game apps nonetheless accounted for 81% of all app store billings that year.238 Further, based on Apple’s internal records, 2017 gaming revenues overall accounted for 76% of Apple’s App Store revenues. These commissions are substantially higher than average due to the prevalent and lucrative business model employed by most game developers. Specifically, game apps are disproportionately likely to use in-app purchases for monetization.239

Importantly, spending on the consumer side is also primarily concentrated on a narrow subset of consumers: namely, exorbitantly high spending gamers.240 In the third quarter of 2017, high spenders, accounting for less than half a percent of all Apple accounts, spent a “vast majority of their spend[ ] in games via IAP” and generated 53.7% of all App Store billings for the quarter, paying in excess of $450 each. In that same quarter, medium spenders ($15-$450/quarter) and low spenders (<$15/quarter), constituting 7.4% and 10.8% of all Apple accounts, accounted for 41.5% and 4.9% of all App Store billing, respectively. The remaining

238 DX-4399.008.

239 Ex. Expert 6 (Hitt) ¶¶ 117, 120–124; DX-4178.006; PX-0059.007; DX-0608.012 (2019); Trial Tr. (Schmid) 3226:8. The actual numbers can be found in the sealed exhibits and need not be repeated in this Order.

240 From what little evidence there is in the record, these consumers frankly appear to be engaging in impulse purchasing and both parties’ profits from this sector are significant. This specific conduct is outside the scope of this antitrust action, but the Court nonetheless notes it as an area worthy of attention.
81.4% of all Apple accounts spent nothing and account for zero percent of the App Store billings for the quarter.241 The trend has largely continued to the present.242

This trend is also mirrored within the App Store’s games billings. Indeed, Apple has recognized that “[g]ame spend is highly concentrated” among certain gaming consumers. Similar to the above statistics, 6% of App Store gaming customers in 2017 accounted for 88% of all App Store game billings and were gamers who spent in excess of $750 annually. Breaking down this 6% population:

- High spenders, accounting for 1% of iOS gamers, generated 64% of game billings in the App Store, spending on average $2,694 annually;
- Medium-high spenders, accounting for 3% of iOS gamers, generated 20% of game billings in the App Store, spending on average $373 annually; and
- Medium spenders, accounting for 2% of iOS gamers, generated 4% of game billings in the App Store, spending on average $104 annually.

Indeed, in strategizing on the development of the App Store and Apple’s gaming business, Apple noted that it “need[s] to primarily consider how [its] service[s] would impact engagement and spend of this 6%.”243 Thus, in most economic ways, and in particular with respect to the challenged conduct, the App Store is primarily a game store and secondarily an “every other” app store.

II. REVIEW OF PARTIES’ PROPOSED PRODUCT MARKET AND FINDING

The Court reviews the factual basis for each of the three proffered product markets. Epic Games offers two aftermarkets, namely (i) an aftermarket for the distribution of iOS apps and (ii) an aftermarket for payment processing for iOS apps. The foremarket for each hinges on the existence of a market for operating systems for smartphones.244 Apple proposes a market for digital games transactions. The Court outlines the evidence for each in turn.

241 See DX-4399.019–.020. Even within this general spend data, Apple’s presentation suggests slides later that the high level of spend derives primarily from gaming apps. Indeed, a few pages later, Apple notes the top grossing apps for 2016, and states: “Not only are these all games, but they’re freemium games, meaning they’re free to download, and you spend money using In-App Purchases to get more features or levels.” DX-4399.024.

242 See PX-2302.046–.047. Coincidentally, the percentage of consumers that pay nothing almost mirrors the same percentage of free apps available in the App Store.

243 See PX-2176.176. The Court notes that the limited evidence in the record as to Google Play show that it too is similarly built on gaming transactions and a narrow subset of high spending gaming consumers and game developers. See DX-3913.004–.013.

244 A “foremarket” is “a market in which there is competition for a long-lasting product” from which “demand for a second product” derives. An “aftermarket” is the “market for the
A. Epic Games: Facts Relevant to Foremarket for Apple’s Own iOS

Before reviewing each of the proposed markets, the Court considers whether Apple’s operating system should be viewed as a foremarket. The Court finds that it should not.

As a threshold matter, Apple urges the Court to disregard Epic Games’ market definition on pleading grounds. Said differently, Epic Games did not explicitly use the terms “foremarket” and “aftermarket” in its complaint to outline its market theories. The Court agrees that Epic Games could have been more clear. Ultimately though, Apple’s argument elevates form over substance. Apple was on notice and litigated the matter.245 Courts prefer to rule on the merits of claims rather than disregard on procedural grounds.

In terms of substance, the Court agrees with Dr. Schmalensee that plaintiff’s identification of a “foremarket” for Apple’s own operating system is “artificial.” The proposed foremarket is entirely litigation driven, misconceived, and bears little relationship to the reality of the marketplace.246 Quite simply, it is illogical to argue that there is a market for something that is not licensed or sold to anyone.247 Competition exists for smartphones which are more than just the operating system.248 Features such as battery life, durability, ease of use, cameras, and performance factor into the market.249 Consumers should be able to choose between the type of ecosystems and antitrust law should not artificially eliminate them.250 In essence, Epic Games ignores these marketplace realities because, as it presumably knows, Apple does not have market


246 Ex. Expert 8 (Schmalensee) ¶¶ 6, 61.

247 Trial Tr. (Schiller) 2723:18–2725:2.

248 Id. 2725:9–21.

249 DX-4089.010, .035, .037.

250 See, e.g., Trial Tr. (Cook) 3932:21–3933:6, 3937:12–20, 3987:18–25; Trial Tr. (Federighi) 3363:17–20, 3392:12–20. Mr. Sweeney, an iPhone user himself, admitted that he found Apple’s approach to privacy and customer data security superior to Google’s approach to customer privacy and customer data. Trial Tr. (Sweeney) 302:22–303:4. Mr. Sweeney further agreed that “if Apple were to compromise those fundamental differentiators,”—which the Court notes are more than the operating system—Apple may lose a competitive advantage over Android, depending on those changes. Id. 303:11–16; Trial Tr. (Athey) 1823:2–9 (agreeing that “privacy and security are competitive differentiators for Apple”).
power in the smartphone market. Rather Apple only has 15 percent of global market share in 2020.251

B. Epic Games: iOS App Distribution Aftermarket

Given the Court’s rejection of the foremarket theory, the aftermarket theory fails as it is tethered to the foremarket. Although the Court rejects plaintiff’s foremarket construct, it nonetheless discusses additional factual problems with the aftermarket theory given plaintiff’s focus on those issues. In effect, plaintiff really urges a single-brand analysis because Apple’s exclusionary conduct impacts Epic Games’ ability to compete in that space, both with respect to gaming and non-gaming apps.

Plaintiff claims that an aftermarket exists for four reasons. Each reason is tied to the known legal framework in which antitrust cases are litigated and which is discussed in the legal section below. That said, the four reasons are: One, the foremarket and aftermarket are related but two separate markets. Two, there are restraints in the aftermarket which are not in the foremarket. Three, the source of Apple’s market power stems from its walled garden; not because of separate contractual agreements with consumers. Four, competition in the initial market does not discipline Apple’s market in the proposed aftermarket.252

In terms of the trial record, the factual disputes reside in plaintiff’s fourth reason which the Court addresses in this part of the Order. More specifically, the Court addresses Epic Games’ evidence of (1) switching costs and alleged lock-in and (2) substitution.253 The Court also considers Epic Games’ argument as to whether the Court should consider all apps or only gaming apps.

1. Evidence of Switching Costs and Alleged “Lock-in”

Beginning with the switching costs254 and alleged “lock-in,” the Court considers Epic Games’ proffer based on Apple’s internal documents, expert testimony, and consumer knowledge, as well as Apple’s rebuttal evidence.255

251 Ex. Expert 8 (Schmalensee) ¶ 64.
252 Epic Games COL ¶¶ 84–93.
253 Epic Games FOF ¶ 218; Trial Tr. (Evans) 1507:10–1510–11, 1512:3–22.
254 Switching costs are “obstacles of moving from one product to another product.” Trial Tr. (Evans) 1494:23–24. In other words, it is the costs born by leaving one platform to go to a different platform.
255 Apple FOF ¶ 399; see Trial Tr. (Schmalensee) 1930:3–14; Ex. Expert 6 (Hitt) ¶ 211.
a. **Apple Documents**

Starting with Apple documents, Epic Games cites emails showing that Apple executives were aware of the impact of switching costs from iOS to Android. For instance, a 2013 email from Eddy Cue to Tim Cook and Phil Schiller recommends using iTunes discounts (as opposed to device discounts) because “[g]etting customers using our stores . . . is one of the best things we can do to get people hooked to the ecosystem.” The email asks: “Who’s going to buy a Samsung phone if they have apps movies, etc. already purchased? They now need to spend hundreds more to get where they are today.”

Next, is an email chain from March 2016 illustrating the debate around iMessage. In the email, a customer describes his experience between Google and Apple devices and provides a laundry list to both Google and Apple of the pros and the cons of each device. In advising Google of his decision to remain with Apple, he concluded with the note that “the #1 most difficult [reason] to leave the Apple universe app is iMessage” which led him to use a combination of Facebook, WeChat, WhatsApp and Slack. For him, “iMessage amounts to serious lock-in.” In forwarding the email to Apple executives, they were internally advised “FYI – we hear this a lot.” Phil Schiller then advised Tim Cook that “moving iMessage to Android will hurt us more than help us . . . .” Later, in October 2016, Mr. Schiller circulated to other Apple executives a Verge article entitled “iMessage is the glue that keeps me stuck to the

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256 PX-0404.

257 iMessage is Apple’s text messaging service that shows a blue bubble for texts sent from iOS devices (and allows for additional functionality) while displaying a green bubble for non-iOS devices without the same functionality.

258 PX-0416.
iPhone.”259 Despite hours on the stand, plaintiff never explored this topic with Mr. Schiller other than to confirm receipt of the third-party emails.260

On balance, the Court reads the emails to suggest that Apple sought to compete by distinguishing their product, and in the process, making its platforms “stickier.” That, however, is not necessarily nefarious. Every business seeks to decrease switching away from its products. Epic Games’ executives, for instance, used the word “lock-in” to refer to price cuts that make it easier for users to play Fortnite in a hard economy. Here, the features that create lock-in also make Apple’s products more attractive. Whether the conduct is procompetitive depends on other factors, including timing and whether the stickiness is at least partly tied to product attractiveness which can then decrease if the products become less attractive (for instance, through higher game prices).261 This evidence is not persuasive of switching costs on its own.

b. Dr. Susan Athey

Next, Epic Games relies on expert testimony by Dr. Susan Athey who provides high-level, and largely theoretical, testimony about various costs incurred during switching from iOS to Android devices.262 Unfortunately, Dr. Athey makes no effort to determine from consumers themselves whether they are motivated by loyalty and product satisfaction or because of switching costs. She conducted no original surveys. Nor does she attempt to measure the switching costs and analyze literature about their magnitude. Indeed, Dr. Athey does not cite any evidence beyond a news article, a European journal, and a biography of Steve Jobs. Nor did she

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259 Again, the statements themselves are hearsay and are considered for a limited purpose of state of mind and not for whether iMessage actually creates lock-in for the customer base as text messages can be shared between iOS devices and Android. See PX-0079 (third-party Goldman Sachs Group, Inc. analysis); PX-2356; Trial Tr. (Schiller) 2981:6–2982:25.

260 PX-0416; Trial Tr. (Schiller) 3173:11–16, 3174:4–16.

261 Trial Tr. (Weissinger) 1433:19–1434:16; see, e.g., Trial Tr. (Cook) 3870:16–21; Trial Tr. (Schiller) 2864:16–19. Evidence shows that switching costs have decreased since the early 2010’s through increased cross-platform functionality and “middleware,” a term which does not exist in economic literature and which Dr. Athey created. Trial Tr. (Athey) 1782:7–1783:1, 1805:5–1806:22, 1809:17–1810:11.

262 See generally Ex. Expert 4 (Athey); Ex. Expert 1 (Evans).
analyze additional evidence or perform original analysis when forming her opinion. As such, the Court is left entirely in the dark about the magnitude of the switching costs and whether they present a meaningful barrier to switching in practice. There is simply no independent data to show that switching costs create meaningful lock-in.\textsuperscript{263}


Apple moves to strike Dr. Athey’s opinions under Federal Rule of Evidence 702(b). Dkt. No. 721. Epic Games responds that Apple waived its objections by stipulating to the admission of expert “written direct testimony” (Dkt. No. 510) and “unadmitted materials within the scope of Rule 703” relied on by the experts (Dkt. No. 635). Epic Games further contends that Dr. Athey disclosed her opinions in her report and that she may testify “solely or primarily on experience” if she “explain[s] how that experience leads to the conclusions reached, why that experience is a sufficient basis for the opinion, and how that experience is reliable applied to the facts.” Fed. R. Evid. 702 advisory committee note to 2000 Amendments (“Adv. Committee Note”).

While the Court does not strike the opinion, the Court agrees with Apple that the opinion’s basis is weak. Epic Games conflates the requirements of Rule 703, Rule 702, and discovery. Rule 702(b) asks “whether the expert considered enough information to make the proffered opinion reliable,” while Rule 703 asks whether the data considered itself is “of a type that is reliable.” See 29 Charles Alan Wright & Arthur R. Miller, \textit{Federal Practice & Procedure} § 6268 (2d ed.). Federal Rule of Civil Procedure 26(a)(2)(B)(ii) further requires that an expert set forth “the facts or data considered by the [expert] in forming” the opinions in her report.

Here, Dr. Athey does not explain how her experience provides a \textit{sufficient} basis for her sweeping conclusions. This is not a handwriting case where an expert opines that two writings are the same based on experience. It is a complex antitrust case that requires consideration of economic data. Unexplained academic and industry experience simply does not provide sufficient basis to draw reliable conclusions. Moreover, to the extent that Epic Games asks the Court to rely on Dr. Athey’s general research, such research should have been disclosed in the report so that the Court and opposing party could evaluate it.

Nevertheless, the Court recognizes that the procedural posture of this case was unique. The Court ordered that no \textit{Daubert} motions be made in advance of the bench trial given the expedited schedule and the fact that the Court had to read and review the submission in any event. Context was helpful. That said, many issues were litigated during the course of the bench trial and Apple did stipulate to the admission of Dr. Athey’s testimony. Dr. Athey apparently relied on additional sources in her expert report (which she did not cite in her written direct testimony). The Court considers her opinions, but as discussed, given the lack of data, the Court does not give those opinions much weight.
While the Court finds Dr. Athey well-intentioned, the lack of data upon which she bases her opinion leaves the Court with little objective reason to accept her theory.\footnote{264} Moreover, the market is responding, \textit{i.e.}, both Google and Apple are creating easier paths to convert customers from the other and deal with the switching costs.\footnote{265} The Court can agree that it takes time to find and reinstall apps or find substitute apps; to learn a new operating system; and to reconfigure app settings. It is further apparent that one may need to repurchase phone accessories. That said, by ignoring the issue of customer satisfaction, Epic Games has failed to convince. The Court warned the parties in advance that actual data was an important consideration.

Accordingly, the expert testimony from Dr. Athey is wholly lacking in an evidentiary basis and does not show \textit{substantial} switching costs enough to create user lock-in for iOS devices.

c. Consumer Knowledge and Post Purchase Policy Changes

From a broad perspective, Epic Games did not conduct any analysis of whether consumers know that they are buying into a walled garden. Apple argues that its business is successful precisely because of the reliability and security creating the walled garden on the iOS devices and on which it competes (discussed below). Without a consumer survey, there is no evidence that consumers are \textit{un}aware of walled garden before purchasing the smartphone. Thus, there is no “bait-and-switch.”

Plaintiff strains on the policy-change argument. Here Epic Games argues that Apple has changed its stated policy with respect to the commissions and thereby “lock-in” consumers and developers. The assertion is based upon two comments. The first occurred in 2008 by Steve Jobs when the App Store was launched by stating that the 30% commission was intended to “pay for running the App Store” and that Apple would be “giving all the money to the developers.” The second occurred in 2011 when Phil Schiller noted in an internal email that “once we are making over $1B a year in profit from the App Store, is that enough to then think about a model where we ratchet down from 70/30 to 75/25 or even 80/20 if we can maintain a $1B a year run rate?”\footnote{266} Plaintiff claims the 30% commission rate constitutes a change in policy as compared against those two comments.

Plaintiff’s argument is not grounded in legal principles. The two noted informal statements do not create a policy, especially in light of a written contract, much less one which shows the 30% is a change. However, the Court does agree that the comments confirm that the 30% is not tied to anything in particular and can be changed. Moreover, it shows that Apple used other provisions to hide information on those commission rates from the consumers,

\footnote{264} Last, Dr. Athey describes “mixing-and-matching” costs that users incur when trying to use devices from different ecosystems together. Dr. Evans reiterates some of this analysis in his testimony, but again, the data is weak. Ex. Expert 4 (Athey) ¶¶ 20–23; Ex. Expert 1 (Evans) ¶¶ 83–88; Trial Tr. (Evans) 1495:5–1497:3; Trial Tr. (Athey) 1755:6–1763:24.

\footnote{265} DX-3084A.022; Trial Tr. (Cook) 3867:12–3870:1, 3886:19–3887:5; DX-5573.

\footnote{266} PX-0880.021, .027; PX-0417.001.
presumably to hide the profitability of the transactions, namely the use of anti-steering provisions. Without information, consumers cannot have a full understanding of costs.267

d. Apple’s Rebuttal Evidence

Apple introduces rebuttal evidence that low switching stems from satisfaction with Apple devices and services.

First, Apple emphasizes that consumers do switch from iOS to Android. Although the timeline for switching smartphones is longer than a few years, as many as 26% of smartphone users, including 7% of iPhone users, purchase a cellphone with a different operating system each cycle. Industry surveys suggest that iOS users are not per se “closed off” to considering Android when making decisions.268

Second, Apple cites consumer surveys that the lack of switching is due to consumer satisfaction with iOS. A Google survey shows that 64% of iOS users would not switch to Android simply because they “prefer iOS,” which is the number one reason for not switching. Another survey shows that users who do switch from Android to iOS do so because they liked the speed and reliability provided by iPhones. Other surveys show high rates of satisfaction with iOS devices.269 This evidence is significant not only because it was not litigation driven, but because Epic Games does not provide its own consumers surveys to show that users fail to switch even when they are dissatisfied with app price, quality, or availability. Thus, Apple’s evidence strongly suggests that low switching between operating systems stems from overall satisfaction with existing devices, rather any “lock-in.”

Comparing and weighing the parties’ proffers, the Court finds that Epic Games failed to prove that users are “locked-in” or would not switch to Android devices in response to a significant change in game app prices, availability, or quality.270

267 Trial. Tr. (Evans) 1509:11–17; Ex. Expert 1 (Evans) ¶ 118.iv. The Court rejects the notion that Apple must affirmatively give consumers an estimate of the “amount of money a consumer spends on apps over the lifecycle of an iPhone,” especially given that consumers appear to be in different categories of spending. See Epic Games FOF ¶ 221.a. That is different from enforcing silence regarding commission costs.

268 DX-4310.012; Ex. Expert 6 (Hitt) ¶ 209; DX-3598.027.

269 DX-3598.027; DX-3441.006–.007. Of course, the Apple survey cuts both ways. Consumers who switched from Android to iOS did so for hardware reasons, such “speed,” “quality device construction,” and “battery”—not app quality, price, or availability. This reinforces Dr. Evans’ point that apps are a secondary consideration when purchasing a smartphone and would not lead to switching by themselves. See also DX-4312.043; DX-4495.044.

270 As a corollary, without proof of customers lock-in, the notion that developers would not switch to maintain that customer base is by definition also not proved.
2. Substitutes

In terms of substitutes given the business realities of the market, the parties’ arguments hinge on their own respective definitions of the market. Epic Games spends little time on this issue with respect to its definition. For Epic Games, there is an aftermarket for iOS app distribution for which there is no substitute as it occupies the entire field.271

Given Apple’s proposed market of all digital game transactions, Apple argues that all the other game transaction platforms are substitute platforms for the App Store. Those platforms include ones accessed through all devices: mobile, tablets, consoles, and PCs. Epic Games rebuts this claim. It makes two arguments. One, because developers create apps for more than one platform, they do not view them as substitutes to reach the same consumers. Two, economic and survey evidence show a lack of substitution. The Court begins with Epic Games’ arguments.

a. Single Homing and Fortnite Data

No one disputes that when developers create an app for Android versus iOS, they use a different SDK but much of the code can be ported across platforms. Using technical language, users may “single home” at a single platform while developers “multi home” across platforms. As a result, developers compete for single-homing users in a winner-take-all market and cannot afford to forego particular platforms without losing those other customers. The Court agrees that in the smartphone context, consumers typically “single home.”272

In terms of user options on smartphones, gaming transactions on Android appear similar if not identical to gaming transactions on iOS. Most popular mobile games are available on both Android and iOS, with similar functionality. Developer support services are also similar.273 Further, a significant difference in game transaction price or availability does not exist between iOS and Android. The evidence shows that very few consumers own both Android and iOS devices, and that currently, very low switching rates exist, with only about 2% of iPhone users switching to Android each year.274 These results are not particularly surprising if those devices provide essentially the same experience.

Whether that extends beyond the smartphone context is debatable. Thus, to establish this extension, Epic Games relies on the “natural experiment” provided by Fortnite’s removal in the wake of the Project Liberty.

271 Epic Games FOF ¶¶ 179–180.
272 Ex. Expert 1 (Evans) ¶¶ 48, 89.
273 Id. ¶¶ 74; Ex. Expert 6 (Hitt) ¶ 28; DX-4759.001; Trial Tr. (Simon) 390:5–19; Trial Tr. (Grant) 669:22–24, 733:7–13; Trial Tr. (Fischer) 873:3–8.
274 Dr. Hitt testified that up to 26% of iOS users switch to Android at the end of each upgrade cycle. Ex. Expert 6 (Hitt) ¶ 209. He agreed, however, that this creates no more than three to four percent change in the installed base each year. Trial Tr. (Hitt) 2162:12–2163:15.
The experts do not appear to disagree that the removal of *Fortnite* is a “degradation in quality” of the App Store and iOS devices in general. Dr. Evans thus opines that *Fortnite*’s removal provides an empirical study of user substitution in response to changes in quality in iOS and analyzed the data for ten weeks after its removal. Given the loyal *Fortnite* following, Dr. Evans evaluated iOS-only users. For this group, he found they only shifted 16.7% of game play minutes to other platforms and 30.7% of spending to other platforms. Applying this substitution rate to Epic Games’ profit margins, Dr. Evans concludes that similar developers would not find it profitable to abandon the iOS platform because they could not make up the spending on other platforms, even if Apple raised its commission.

First, Dr. Evans’ decision to limit his analysis to iOS-only *Fortnite* players is questionable because it ignores other market evidence that iOS players engaged in substitution before and after the hotfix. Dr. Evans cites evidence that 90.9% of iOS *Fortnite* players play only on iOS. This is consistent with general statistics that 82.7% of *Fortnite* players play on a single platform. That said, Dr. Hitt’s data shows that 35.9% of iOS *Fortnite* players multi-home. This is consistent with evidence that between 32% and 52% of all *Fortnite* players multi-home. Moreover, Dr. Hitt cites evidence that the iOS multi-homers account for 85% of *Fortnite* revenue from iOS in the first half of 2020, which makes them particularly important.

Dr. Evans’ focus, however, ignores this important group which reveals important insight: players who access *Fortnite* on iOS still spend the overwhelming majority of their *Fortnite* time and money on non-iOS platforms. By limiting his analysis to players who use iOS as the primary *Fortnite* platform (i.e., the platform where they spend most of their playtime and spending), the Court finds Dr. Evans likely underestimates overall substitution.

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275 Ex. Expert 1 (Evans) ¶ 127. As such, Dr. Evans opines that it supports use of a “SSNIP” test commonly used to test monopoly power. *Id.* ¶ 133; Trial Tr. (Evans) 1528:12–1530:1, 1533:1–1534:8. The Court discusses the SSNIP test and its applicability below.

276 See Ex. Expert 1(Evans) ¶¶ 124–134; PX-1080; Trial Tr. (Evans) 1521:2–1535:7. Dr. Evans opines that this is an “upper bound” of substitution because most other mobile games, unlike *Fortnite*, lack cross-wallet, cross-play, and other features that make it easy for *Fortnite* players to switch devices. Dr. Evans further lowers the substitution estimate after accounting for the “natural cross-progression” from iOS to “more serious” gaming on PCs and consoles. However, as Dr. Hitt correctly notes, this constitutes substitution even if it is not directly responsive to the quality decrease. Ex. Expert 1 (Evans) ¶ 129; Trial Tr. (Evans) 1527:10–14; Ex. Expert 6 (Hitt) ¶ 252.

277 Specifically, *Fortnite* players with iOS accounts spend almost 90% of their play time and 87% of their spending outside of iOS. Ex. Expert 6 (Hitt) ¶ 73. Another explanation for the different conclusions rests on Dr. Evans’ use of sampling: Dr. Hitt testified that Dr. Evans’ confidence intervals are well in line with his own estimates. Trial Tr. (Hitt) 2145:10–22.

278 Ex. Expert 1 (Evans) ¶ 126; PX-1054; Ex. Expert 6 (Hitt) ¶¶ 68–75, 94, 249–50; DX-4767. Of course, the existence of iOS-only players who do not substitute may suggest a subset.
Second, and ironically, the *Fortnite* data does show substitution. Dr. Hitt, analyzing the same data, found that 22% to 38% of strict iOS-only—users who never accessed *Fortnite* on a non-iOS platform before—shifted their game time and spending to other platforms after the iOS hotfix. Significantly, after accounting for iOS users who already played on other platforms (of whom up to half increased their spending on other platforms), Dr. Hitt shows that Epic Games retained 81% to 88% of its iOS player revenue after Project Liberty. Dr. Evans criticizes this conclusion, arguing that it does not show substitution but rather shows that non-iOS spenders continue to spend outside iOS. The experts agree that Epic Games retained up to half of its iOS-only user revenue.279

In conclusion, the *Fortnite* data is basically mixed. Up to a third of iOS *Fortnite* users already play on other devices, which makes their ability to substitute a given. Another 20% undertook at least some substitution after *Fortnite* removal, including by accessing devices on which they previously played *Fortnite*. Although this was not enough to make up Epic Games’ losses, the Court finds the time period of substitution significant: Dr. Evans analyzed substitution for only the ten weeks following *Fortnite*’s removal. The Court finds it likely that a longer analysis would show greater substitution both because of the typical upgrade cycle for expensive devices (longer than ten weeks) and because of the timing of this Court’s preliminary injunction order (immediately after the ten-week period). In particular, users may have waited to see whether this Court would reinstate *Fortnite* to the App Store before making a different purchasing decision or waited for Season 15 for which we have no data. Moreover, because *Fortnite* was removed simultaneously from Google Play and the iOS App Store, the experiment does not account for substitution between iOS and Android.

For all of these reasons, the *Fortnite* data does not reliably show lack of user substitution among game transactions on different devices.

b. Dr. Rossi and Dr. Evans

Last, Epic Games proffers a survey performed by Dr. Rossi and Dr. Evans’ use thereof.

Beginning with the survey, Dr. Rossi asked iPhone and iPad users whether they would change their spending if iOS in-app purchases were slightly more expensive. Specifically, Dr. Rossi asked respondents to think about their in-app purchases from the App Store in the last thirty days and imagine that the spending was five percent higher. 81% of the respondents giving definite answers indicated that they would not have changed their purchases. The remainder indicated opposite with only 1.3% switching to non-iOS phones or tablets. Dr. Rossi

of the market for whom iOS *Fortnite* play is key. Trial Tr. (Evans) 2371:1–14. However, Epic Games did not define a market with respect to these users but for all iOS game transaction users.279 Trial Tr. (Hitt) 2142:24–2145:5; Ex. Expert 6 (Hitt) ¶¶ 97, 251; DX-4824; Trial Tr. (Evans) 2371:22–2376:6; Ex. Expert 16 (Evans) ¶¶ 26, 29–31.
and Dr. Evans use this data to conclude that consumer demand for iOS app transactions is relatively inelastic.\(^{280}\)

Dr. Rossi’s survey suffers from several methodological flaws, including the language and timing of the survey. First, the formulation of the questions was confusing. The questions did not convey that the price changes were intended to be both in future and permanent (or nontransient). Instead, his approach was explicitly backward looking. He failed to use simple phrases like “in the future” which had been considered. He claims his final, and untested language, was intended to be more clear.\(^{281}\) A comparison of the language demonstrates otherwise. By failing to make the distinction with the future, Dr. Rossi also injected the notion of customer satisfaction into the survey which likely impacted the result.\(^{282}\) His justification that he conducted “structured pretests” is manufactured and not recognized in the industry.\(^{283}\)

Further, given that the survey was conducted on January 20, 2021 and asked about spending in the “last 30 days,” Dr. Rossi failed to account for holiday spending which is likely to be idiosyncratic. Holiday spending includes sales and price changes before, during, and after the holidays, and Dr. Rossi admitted that the results may vary for “for some products.”

Next, the survey concerned all app purchases, not just game transactions, and ignored plaintiff’s key demographic. Dr. Evans expressly testified that in-app transactions are not part of his proposed product markets. Yet those are the only purchases which Dr. Rossi tested.\(^{284}\) Dr. Rossi also claims he did not want to include minors because he would have to obtain parental approval, but that proved not to be a problem for Dr. Hanssens, Apple’s expert, who did survey minors.\(^{285}\) Given the magnitude of the issues before the Court, Dr. Rossi choices did not

\(^{280}\) “Relatively inelastic” is not formally inelastic (which requires an elasticity less than -1), but it is less elastic than comparable markets. Trial Tr. (Evans) 1650:8–1651:15; Ex. Expert 3 (Rossi) ¶¶ 4–14; PX-1089; Ex. Expert 1 (Evans) ¶¶ 136–138.

\(^{281}\) Compare versions in PX-1920; Trial Tr. (Rossi) 2512:15–2513:13, 2526:5–10, 2532:13–21, 2528:12–2529:2; Ex. Expert 7 (Lafontaine) ¶¶ 76–79; Trial Tr. (Evans) 1649:9–23. Dr. Rossi conducted pre-testing and interviews on the initial survey design, which asked about spending in a “similar 30-day period in the future.” It is not clear whether the pre-test adequately asked about the transience issue for either past or future spending. See PX-1920.3; Trial Tr. (Rossi) 2521:23–2544:11.

\(^{282}\) Trial Tr. (Hanssens) 3541:23–3543:3.

\(^{283}\) Trial Tr. (Rossi) 2523:8–2, 2525:23–2527:16, 2529:20–23; see also Trial Tr. (Hanssens) 3539:10–13 (explaining that the terminology of “structured and “unstructured pretests” is not standard).

\(^{284}\) Of course, these first two issues may cancel each other out: since games are disproportionately likely to use in-app purchases, an increase in in-app purchases is effectively an increase in iOS game (and subscription) prices.

\(^{285}\) Trial Tr. (Rossi) 2534:24–2536:19, 2545:9–22.
ultimately assist in determining how a key demographic would make substitution decisions in the relevant market.

Dr. Rossi’s trial testimony revealed that he was more interested in a result which would assist his client’s case than in providing any objective ground to assist the Court in its decision making. Given Dr. Rossi’s lack of credibility, the Court strains to adopt his findings. Although the survey is far from perfect for the reasons stated above, the Court finds it weakly probative, at most, that increases in in-app purchase content prices would not lead to significant substitution to other devices.286

Dr. Evans uses Dr. Rossi’s survey to conduct a “SSNIP” test to confirm that iOS app distribution is a relevant aftermarket.287 The Department of Justice developed the test in 1982 to analyze mergers and determine what is the smallest market in which a hypothetical monopolist could impose a “Small but Significant and Non-transitory Increase in Price,” usually 5 percent over the course of 12 months. Not only is this not a merger context, but as noted, the survey did not test anywhere close to an appropriate period.288 Despite the Court’s misgiving of the accuracy of any opinion stemming from this survey, it reviews Dr. Evans’ reliance thereon to perform a SSNIP analysis.

As an overview, Dr. Evans first calculates an “effective” commission rate of 27.7%, and then determines that a 5% increase to consumers would correspond to a 30% increase in developer commissions. Because even this large increase in commissions would be profitable for Apple due to the lack of consumer switching, Dr. Evans concludes that iOS distribution is its own market.289 Dr. Evans confirmed that consumer response to long-run price changes may be substantially different than for short-run ones.290 This feature is important to Dr. Evans’ analysis. As discussed above, Dr. Rossi’s failure to survey properly and confirm respondents’ understanding of a non-transient price increases leaves the adequacy of the survey for a SSNIP analysis in question.

Economists lack consensus about how to design hypothetical monopoly tests properly to account for indirect network effects. While Dr. Evans has proposed one approach, another preeminent economist, Dr. Schmalensee, believes it is conceptually flawed. Even Dr. Evans himself has previously written that “even if it is technically possible to extend the hypothetical

286 See id. 2509:16–2510:25. Apple also faults Dr. Rossi for the low levels of respondent spending on in-app content. However, those rates appear to be in line with the App Store median. See Ex. Expert 3 (Rossi) ¶ 49.
287 Ex. Expert 1 (Evans) ¶ 139.
288 Id. ¶¶ 35, 136, 254.
289 Id. ¶¶ 136–144; PX-1050; Ex. Expert 6 (Hitt) ¶ 179.
290 Trial Tr. (Evans) 1652:23–1653:02.
monopoly test to two-sided platforms, the challenges of implementing the SSNIP test empirically in two-sided markets are likely to be overwhelming in practice.”

Despite this self-acknowledged difficulty, Dr. Evans uses the SSNIP test anyway. The Court finds Dr. Evans’ SSNIP analysis fatally flawed by several standards, including his own. Dr. Evans has acknowledged that a double-sided SSNIP test should include simultaneous testing of both sides of the market using at least 14 inputs. He has not followed that methodology here. Nor did Dr. Evans take into account indirect network effects in his SSNIP analysis.

Indeed, Dr. Evans conducts his foremarket and aftermarket SSNIP tests on the consumer side and on the developer side separately. Then, he effectively dismisses indirect network effects by claiming that SSNIP on both developers and consumers would be profitable, because neither side would respond to the one-sided price increases he tested. As Professor Schmalensee explained, this is implausible: a price increase would reduce consumer demand for apps, which in turn would make app sales less profitable for developers, and developers may in turn react by reallocating engineering or marketing resources even if they do not leave the platform entirely. Notably, Dr. Evans does not perform any actual SSNIP calculations testing both sides of the market simultaneously, as required by his own research.

Dr. Evans’ SSNIP analysis is further based on flawed survey data from Dr. Rossi, which affects the validity of any conclusions derived therefrom. Dr. Rossi’s survey and the resulting data suffer from several critical flaws. The Court will not rehash the entirety of these flaws here. Suffice it to say, three errors are particularly notable:

First, the survey focuses entirely on the price of in-app purchases—which, as noted above, are not even within the alleged relevant market advanced by Dr. Evans—while ignoring other transactions, like initial downloads and updates, that are in the alleged relevant market advanced by Dr. Evans. As a result, Dr. Evans’s analysis is unreliable and provides no insight into substitution in any alleged iOS app distribution market.

Second, the price increases discussed in the survey—when confined to just 30 days—also were far from significant, ranging from less than $0.25 to $1.50. And the significance of the

291 Trial Tr. (Evans) 1668:5–1669:2, 1667:16–23; Trial Tr. (Cragg) 2302:7–16; Ex. Expert 8 (Schmalensee) ¶¶ 63, 81–82.

292 Ex. Expert 8 (Schmalensee) ¶¶ 84, 88; Trial Tr. (Schmalensee) 1897:5–1899:8.

293 Ex. Expert 1 (Evans) ¶¶ 133, 138–139, 141, 262, 68; Trial Tr. (Schmalensee) 1898:10–14.

294 Trial Tr. (Schmalensee) 1897:20–23 (Dr. Evans relies on Professor Rossi’s survey, which is “far from perfect”); Ex. Expert 7 (Lafontaine) ¶ 74.

295 Trial Tr. (Rossi) 2549:13–2550:1; Trial Tr. (Evans) 1646:16–1647:5; Ex. Expert 7 (Lafontaine) ¶ 75.
price increases were dampened even further by the survey’s discussion of switching costs. This is despite the fact that the App Store is highly dependent on a narrow subset of high earning gaming apps and an equally narrow subset of high and medium consumer spenders. In other words, these consumers and developers were not adequately captured by Dr. Rossi’s survey, which reflected only small increases in price.

Finally, the survey was limited to the United States, not the global market that Dr. Evans posits.

Given the flaws in both the underlying survey and Dr. Evans’ calculations thereon, the Court finds this evidence wholly unpersuasive of substitution.

c. **Mobile Devices (Tablets and the Switch)**

As outlined above, Apple’s product market is all digital gaming transactions. It therefore focuses on platform substitutes for those transactions. Apple suggests two categories of platforms: (1) mobile devices (tablets and the Switch) and (2) non-mobile devices.

iPads are indisputably part of the Apple ecosystem. Evidence shows that 60% of iPhone users also use an iPad (tablet), so they have access to both devices. Documents also show that Apple seeks to decrease switching costs from iPhones and iPads to “lock customers into [its] ecosystem.” Thus, tablet transactions are substitutes for those on smartphones because they are part of the same ecosystem and users have access and easy switching ability between the devices.

In evaluating Apple’s market definition, Dr. Evans excludes tablets on the sole ground that they lack certain hardware features, like a cellular connection. This is not persuasive: as Dr. Rossi’s survey appears have been inappropriately based on an increase in the total cost of the in-app purchases and subscriptions, instead of based on an increase in the amount of Apple’s commission rate. The Department of Justice website, which Dr. Evans approvingly cites in his report, notes that in cases involving an analogous transaction in oil pipelines, the appropriate SSNIP analysis is based on the cost of transporting the oil (amount from the commission rate), not on the cost of the oil at the terminal end point (total cost of the in-app-purchases). See Ex. Expert 1 (Evans) ¶ 253, n. 113; see also U.S. Department of Justice and the Federal Trade Commission, “Horizontal Merger Guidelines,” August 19, 2010, at § 4.1.2, https://www.justice.gov/atr/horizontal-merger-guidelines-08192010.

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296 Trial Tr. (Rossi) 2539:13–2540:16, 2543:12–2544:25. The Court further notes that Dr. Rossi’s survey appears have been inappropriately based on an increase in the total cost of the in-app purchases and subscriptions, instead of based on an increase in the amount of Apple’s commission rate. The Department of Justice website, which Dr. Evans approvingly cites in his report, notes that in cases involving an analogous transaction in oil pipelines, the appropriate SSNIP analysis is based on the cost of transporting the oil (amount from the commission rate), not on the cost of the oil at the terminal end point (total cost of the in-app-purchases). See Ex. Expert 1 (Evans) ¶ 253, n. 113; see also U.S. Department of Justice and the Federal Trade Commission, “Horizontal Merger Guidelines,” August 19, 2010, at § 4.1.2, https://www.justice.gov/atr/horizontal-merger-guidelines-08192010.

297 Trial Tr. (Evans) 1653:3–16.

298 Ex. Expert 1 (Evans) ¶¶ 43–44, 75; Ex. Expert 6 (Hitt) ¶ 189; Trial Tr. (Federighi) 3357:15–18; Trial Tr. (Fischer) 874:24–875:11; PX-0416; DX-3174.003; PX-0892. Moreover, Epic Games’ arguments to the contrary contradict its own theory that users and developers select “ecosystems” rather than devices. As Dr. Evans explains, “Apple and Google have created highly differentiated ecosystems around their respective operating systems,” and developers and consumers select devices based on the ecosystem.
Hitt notes, tablets possess most of the unique hardware features Dr. Evans assigns to smartphones. Epic Games has not demonstrated that the slight remaining hardware differences are sufficient to prevent substitution for smartphone and tablet game transactions. Accordingly, tablet game transactions are substitutes for smartphone game transactions and part of the same market.  

**d. Non-Mobile Devices (Consoles and PCs)**

Consumers frequently own multiple devices and could in theory substitute across them for game transactions. Surveys conducted by Apple show that gamers are especially likely to use several devices, with 56% playing on both mobile and non-mobile platforms.  

However, there are two issues with this data. First, it inappropriately uses statistics about gamers as a whole to draw conclusions about iOS gamers. Apple has not shown that gamers as a whole are representative of iOS gamers. It may well be that 55-60% of U.S. gamers play on more than one device, but that iOS gamers switch considerably less often. This outcome is plausible: Apple’s evidence shows that large portions of the population—including young children, older adults, and most teenage girls—play predominantly on mobile. Multi-platform play, on the other hand, is driven by different segments. Thus, Apple’s own evidence shows that mobile gamers are *not necessarily* like other gamers.  

Recognizing this issue, Apple offers evidence by Dr. Hanssens, who conducted two surveys on iOS App Store users and *Fortnite* players, respectively. The first survey shows that 99% of App Store consumers use or could use at least one other non-iOS device. The second survey shows that 99% of iOS *Fortnite* players use or could use non-iOS devices. Moreover, 94% of iOS *Fortnite* players played games on non-iOS devices in the last 12 months.  

While Dr. Hanssens is considerably more credible and independent that Dr. Rossi, Dr. Hanssen’s survey is also severely flawed and ultimately unreliable. First, he reports that 30-43% of respondents “regularly” use a Microsoft Windows phone even though Microsoft had 0% market share in smartphones in 2018 and no longer sells phones. This data point alone calls into question the credibility and independence of Dr. Hanssens' work.

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299 Ex. Expert 6 (Hitt) ¶¶ 230–233; Ex. Expert 1 (Evans) ¶ 43 n.3.

300 Ex. Expert 6 (Hitt) ¶¶ 57, 61; DX-3174; Trial Tr. (Wright) 550:3–10, 631:19–22.

301 As explained below, Apple also uses statistics about *Fortnite* to draw conclusions about the gaming industry. That suffers from a similar problem: no evidence in the record shows that *Fortnite* is representative of other games.

302 DX-4170.008, .024.

303 DX-4663.001; DX-4754.001; Ex. Expert 6 (Hitt) ¶ 58.

304 Notably, Dr. Hanssens was the only expert to explain that his work was not directed by attorneys; nor was he aware of how his work fit into Apple’s strategy thus, demonstrating independence. For this reason, the Court finds Dr. Hanssens quite credible.
question the reliability of the survey overall. Second, Dr. Hanssen’s surveys do not address substitution because he only measures access. Dr. Hanssen acknowledges this: the surveys “did not address substitution at all” because doing so would require questions about willingness and ability to switch, as well as actual behavior in different circumstances. Thus, the ultimate value of Dr. Hanssen’s survey is limited.

With respect to actual substitution, Apple relies solely on three “natural experiments” examined by Dr. Hitt.

First, Dr. Hitt considers users who downloaded a console or PC game “companion” app, such as the Xbox companion app as a proxy for those who own or play games on a console or a PC. Dr. Hitt finds that users who download the console or PC companion app increase their iOS game spending at a slightly lower rate—19% as opposed to 24% growth in iOS game spending as compared to a control group who did not have the companion app. Because V-Bucks are the same on both platforms, Dr. Hitt concludes that the use of both devices shows substitution. That said, the group that downloaded the companion app spent more on iOS games than the group that did not. This is consistent with complementary gaming if spending increases. Both conclusions are logical.

Second, Dr. Hitt considers the natural experiment provided by the entry of Fortnite on the Nintendo Switch. Dr. Hitt finds that when Fortnite launched on Switch, iOS Fortnite spending and playtime decreased. Dr. Hitt acknowledges that Fortnite spending across all platforms decreased during that time by 33%. Thus, to control for the general decrease, he compares iOS spending for users who played and did not play Fortnite on Switch. Dr. Hitt then concludes that iOS Fortnite players who played on Switch played and spent relatively less time on iOS. Again, the evidence is consistent with substitution but does not establish it.

Next, Dr. Hitt’s data also shows that players who used both iOS and Switch increased their overall spending and playtime in Fortnite. The absolute numbers for iOS Fortnite revenue actually increased after the introduction of Switch. Dr. Cragg converts this data to plausibly opine that this shows complementary playing—users who acquired a second device became

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305 To Dr. Hanssen’s credit, he readily acknowledges these issues and eventually removed the respondents who reported Windows phone use. However, this amounts to 30-43% of an already small survey pool rendering the exercise unreliable. Trial Tr. (Hanssen) 3580:15–3581:14; 3568:12–17, 3570:3–14, 3574:2–8, 3576:11–3578:17, 3551:18–3552:18; DX-4312.178; Ex. Report 6 (Hitt) ¶ 71.


307 Ex. Expert 6 (Hitt) ¶¶ 69–72, 82–87; DX-4792; Ex. Expert 13 (Cragg) ¶ 56.

308 Ex. Expert 6 (Hitt) ¶¶ 73–86; DX-4822; DX-4823; Trial Tr. (Schmalensee) 1935:22–1936:4.
more engaged in the game—rather than substitution. Using this lens, the evidence is as consistent with complementary playing as with substitution.309

Third, Dr. Hitt analyzes *Fortnite* data following its removal from iOS. As described above for Dr. Evans, this evidence is mixed at best: while some iOS-only *Fortnite* players switched, that number was not significant enough to recoup losses and represented only 16% of playtime minutes and at most half of Epic Games’ revenue from these users. Thus, the Court does not consider it persuasive either way.310

Accordingly, Dr. Hitt’s and Dr. Cragg’s analyses show evidence of both substitution and complementary playing without a definitive answer either way.311 Ultimately, the Court proceeds without resolving the issue on this record.

3. *Gaming v. Non-Gaming and Apple’s App Store*

As explained above, Epic Games argues that its aftermarket should be defined to include all apps not just gaming apps as the distribution on the App Store is not limited.

The evidence demonstrates that the App Store, in its current form, generates virtually all its revenue upon a business model now rooted in the gaming market: both on game developers and gaming consumers. This is proved by both financial considerations and other notable distinctions between gaming and non-gaming apps. The Court notes eight other significant differences which exist between game apps and non-game apps as the Court considers the relevant product market.

First, in recent years, game app revenues constitute between 60-75 percent of all app transactions for Apple’s App Store. Indeed, game app transactions are responsible for a significant majority of the revenue generated in the App Store.312

Second, there is industry and public recognition of a distinct market for digital game app transactions as opposed to non-gaming apps. Indeed, many general app stores on mobile and tablet devices, including the App Store, Google Play app store, and the Amazon App Store,

309 Ex. Expert 13 (Cragg) ¶¶ 50–64; PX-1023; PX-1022; Trial Tr. (Schmalensee) 1935:22–1936:16; Trial Tr. (Cragg) 2280:15–23.

310 Dr. Hitt also relies on evidence from Spotify and Netflix subscription option removals from iOS apps. As this evidence concerns subscriptions, not games, the Court does not consider it for the reasons stated above.


312 The precise numbers are found in sealed documents. See Ex. Expert 6 (Hitt) ¶ 117 (62.9% in 2018); Trial Tr. (Hitt) 2126:16–19 (same); DX-4178.006 (76% in 2017); PX-0059.007 (68% in 2019). As previously discussed, supra n.243, the Google Play app store appears to be similarly built and reliant upon revenues generated from gaming apps and transactions. See also DX-3913.004–013.
distinguish between game transactions and non-game transaction by categorizing game apps into a separate tab of apps entirely. This distinction reflects the recognition by the platforms that consumers distinguish between these types of apps, and that both consumers and platform owners would benefit from having games apps separately gathered in one place.\footnote{313}

Both Apple’s App Store and internal business structure support and reflect this division. On the App Store, editors consider a different set of factors when curating games for spotlight marketing (\textit{i.e.} the “Today” page) than they do when curating other non-gaming apps. Moreover, Apple internally tracks the categories differently, as Apple routinely tracked “Games” billings separately from other parts of the App Store business. Further, there are two heads of business development for the division spearheading the App Store: one division head specifically for games and another division head for all non-gaming categories.\footnote{314}

Third, game app transactions are a distinct product because they exhibit peculiar characteristics and uses. Game apps and their transactions are not substitutes for non-game apps, which include a diversity of categories and purposes. Indeed, Dr. Evans conceded and confirmed in a lengthy exchange that game transactions are not substitutes for non-game transactions on the App Store. Epic Games’ other expert witness, Dr. Cragg, contradicted Dr. Evans on this point by asserting the opposite—that non-game transactions are substitutes for game transactions.\footnote{315} The Court finds Dr. Evans more credible on this point.\footnote{316}

Fourth, game developers often use specialized technology to create their game apps. For example, specialized middleware tools like the Unity engine and Epic Games’ \textit{Unreal Engine} are primarily used by game developers. Using these specialized tools and graphics engines, game developers tend to “really push the limits of what graphics processing can do” to the extent that they are “in a different category” from other developers as a result.\footnote{317}

Fifth, game apps have distinct consumers and producers: gamers and game developers. Gamers are recognized as a discrete, albeit diverse, subset of app consumers. Moreover, game

\footnote{313}{Trial Tr. (Schmid) 3205:4–11; Ex. Expert 6 (Hitt) ¶ 126, Fig. 35; Ex. Expert 7 (Lafontaine) ¶ 26; DX-5552.}

\footnote{314}{Trial Tr. (Fischer) 933:12–20; Trial Tr. (Schmid) 3205:4–11, 3226:8–12; Ex. Expert 6 (Hitt) ¶ 127; Ex. Expert 7 (Lafontaine) ¶ 26; DX-4178.006; DX-4399.008.}

\footnote{315}{Ex. Expert 6 (Hitt) ¶ 117, Fig. 30; Ex. Expert 7 (Lafontaine) ¶ 26; Trial Tr. (Evans) 1641:7–1642:24; Trial Tr. (Cragg) 2301:19–2302:1.}

\footnote{316}{Apple demonstrated on cross examination that Mr. Cragg was willing to stretch the truth in support of desired outcome for his client. By contrast, Dr. Evans was willing to concede points contrary to the position of his client. The Court finds this difference significant in weighing the credibility of each.}

\footnote{317}{Trial Tr. (Schmid) 3226:23–3227:13; Ex. Expert 6 (Hitt) ¶ 265. The Court notes, however, that, at least with respect to \textit{Unreal Engine}, there is also evidence that it has some application beyond the game creation. \textit{See supra} Facts § 1.B.1.}
developers, including Epic Games, tend to specialize in the development of game apps and related gaming software. For instance, among the set of developers who had sold at least one game or item of in-app content in 2019, 88% of their App Store revenue was derived from game apps. Indeed, as Michael Schmid, Head of Game Business Development at Apple, remarked:

So game developers are quite separate from app developers in many circumstances. There are exceptions like big organizations like Microsoft that, you know, have Microsoft Office as well as, you know, Minecraft and other – other games.

But generally speaking, game developers are focused on just developing games, and app developers are often focused on a single app or a suite of apps.  

Sixth, game app transactions differ in pricing structure, including in monetization models and effective prices, from non-gaming app transactions. In general, games monetize in different ways than do non-gaming apps. For example, game apps make nearly all of their revenue from in-app purchases (non-subscriptions). This differs from other major categories of apps, where music, fitness, and other apps make virtually all of their revenue from subscriptions. Indeed, there were no game apps among the top subscription apps for fiscal year 2019.

Moreover, the pricing and effective commission paid on each transaction differs significantly between game apps and non-game apps. Specifically, there is considerable variation in the average transaction price between app genres, including game apps and other apps. For example, the average transaction price for game apps is $9.65, while the averages for other app genres range between $7.11 for photo and video apps and $14.10 for health and fitness apps. Similar variation between game apps and non-game apps is found in the average download price for apps and the effective commission paid on each transaction.

Seventh, game apps are distributed by specialized vendors. The availability of game apps versus non-game apps in the wider market different significantly. Indeed, game apps have multiple avenues for distribution through various transaction platforms and devices, which differs in both kind and degree from those available to non-gaming apps. Some of these devices and platforms available to gaming apps are specifically designed for such games—and not non-gaming apps. For example, game consoles (PlayStation, Xbox, Switch) are designed with gaming as their primary purpose with other limited related entertainment functionality (e.g., film, music, and television streaming). Similarly, the game transaction platforms available on these

318 Trial Tr. (Schmid) 3226:13–22, 3350:5–3352:3; Ex. Expert 6 (Hitt) ¶ 125, Fig. 34; DX-3248.019–.020.

319 Trial Tr. (Lafontaine) 2045:3–9; Trial Tr. (Hitt) 2188:18–2189:8; Trial Tr. (Schmid) 3227:14–24 (“[M]any app developers now are really focused on subscription revenue and growing a subscription business, whereas game developers not as much.”), 3230:1–20; Ex. Expert 6 (Hitt) ¶¶ 121–23, Figs. 30–32; PX-0608.016.

320 Ex. Expert 6 (Hitt) ¶¶ 123, 124, Figs. 32–33.
devices focus almost exclusively on game transactions, including the PlayStation Store, Xbox Game Store, and Nintendo eShop.321

Eighth and finally, platforms providing game app transactions are subject to unique and emerging competitive pressures. The rise of hybrid console platforms along with cross-platform games and cross-platform gaming services (e.g., cloud-based streaming services) reflect the ongoing dynamic nature of the wider gaming market. For instance, Nvidia’s GeForce Now game streaming platform (available via web browsers or the GeForce Now client) only became available in February 2020 and has a library of 850 games (including Fortnite, though planned to be released in October 2021 on GeForce’s iOS game streaming service), with 2,500 games to be added. Microsoft similarly is in development of its own cloud gaming service, internally named xCloud, that will be added to its Game Pass Ultimate Subscription.322 With these numerous alternative distribution options, developers are having to determine in the initial planning which platforms to utilize in creating game apps. This compares to non-game app developers who generally distribute on more limited devices and platforms. As an example: Mr. Schmid credibly remarked on the state of the market for developers:

On the game side it’s very common. Some of our biggest game developers will have games on many different platforms. Sometimes those games are cross-platformed. Sometimes they are specific to mobile or even exclusive to a console in certain cases.

On the app side, same thing except it’s more typical that an app, for instance, like Yelp would be -- the entity itself, the company, and the app would only be, you know, one app as opposed to a game developer that would have many games.323

Accordingly, in light of the foregoing, the Court finds that there is a substantial distinction between the transactions for gaming apps and non-gaming apps.

321 Ex. Expert 6 (Hitt) ¶ 117; Ex. Expert 7 (Lafontaine) ¶ 34; Ex. Expert 8 (Schmalensee) ¶ 104; Trial Tr. (Wright) 555:13–556:5, 583:8–18; Trial Tr. (Grant) 697:14–20.

322 Ex. Expert 8 (Schmalensee) ¶¶ 104, 107; Trial Tr. (Wright) 565:20–566:1; Trial Tr. (Patel) 422:12–15, 427:4–17, 429:11–14, 461:13–462:5, 477:7–15, 526:15–18; Trial Tr. (Sweeney) 176:22–177:12. See also infra Facts § II.D.3.d. Indeed, the Court notes that the only third-party app stores that Epic Games identified during the course of the bench trial as having sought to be offered through the App Store are “gaming app stores,” and not “any other kind of store.” See Trial Tr. (Evans) 1552:22–1553:8. This suggests that there are indeed competitive pressures and consumer demands for games apps that are incentivizing and encouraging game developers to reach consumers through multiple platforms.

323 Trial Tr. (Schmid) 3207:10–18.
C. Epic Games: Facts Relevant to iOS In-App Payment Processing Aftermarket

Epic Games’ assertion that the iOS in-app payment processing aftermarket is a relevant antitrust market relies on the assumption that Apple maintains a “lawful monopoly in the iOS app distribution market.”\(^{324}\) Because Epic Games cannot show such a market even exists, the argument fails at the outset.

Nevertheless, the Court addresses the argument because another fundamental problem exists. As discussed below, one must define an antitrust market in terms of the relevant product. If there is no product, such as with the mobile operating systems discussed above, there can be no market based thereon. Plaintiff’s proposal begs the question of whether IAP is a product.

Apple’s IAP or “in-app purchasing” system is a collection of software programs working together to perform several functions at once in the specific context of a transaction on a digital device. Apple uses the system to manage transactions, payments, and commissions within the App Store, but it also uses the system in other “stores” on iOS devices, such as “the iTunes Store on iOS, Apple Music, iCloud or Cloud services” and “physical retail stores.”\(^{325}\) The system is not something that is bought or sold.

IAP is not integrated into the App Store itself, even though it is integrated into an iOS device.\(^{326}\) By “integrated,” the Court only means that the application has been engineered specifically to work seamlessly on the device. Neither side focused on the engineering to find otherwise.

More specifically, Apple’s IAP, as used here, is a secured system which tracks and verifies digital purchases, then determines and collects the appropriate commission on those transactions. In this regard, the system records all digital sales by identifying the customer and their payment methods, tracking and accumulating transactions; and conducts fraud-related checks. IAP simultaneously provides information to consumers so that they can view their purchase history, share subscriptions with family members and across devices, manage spending by implementing parental controls, and challenge and restore purchases.

Apple also intends the system to provide the customer with a single interface which can be used, and trusted, with respect to all purchases regardless of the developer. Importantly, the system has become more sophisticated over time, but the record does not detail the various

\(^{324}\) Ex. Expert 1 (Evans) ¶ 220.


\(^{326}\) See, e.g., PX-0526.
versions. Notably the IAP system requires developers to independently verify delivery of in-app purchasing content; it cannot verify that kind of delivery itself.

With respect to the commission and the transfer of money between a developer and both Apple and the consumer, Apple engages third-party payment processors. Given the volume of transactions at issue, Apple pays those processors somewhere in the range of one to two percent.

The Court agrees that simple payment processing can occur outside of IAP and plaintiff points to examples of this happening in 2009. However, those examples only concern simple payment processing, not all the functionality outlined in the preceding paragraph, including the functionality to ensure Apple received its commission. Nor do the examples show that Apple was waiving its commission for those developers. Rather, in December 2008, the product was new, so, by definition, in flux.

Epic Games ignores this other functionality to argue that Apple merely “matches” developers to consumers; a “matching” service. This statement is partially true, but Apple has never argued that it levies a commission merely because it matches the developers with the customers. Apple argues that it uses this model to monetize its intellectual property against the entire suite of functions as well as to pay for the 80% of all apps which are free and generate no direct revenue stream from the developers other than the annual $99.00 developer fee.

Creating a seamless system to manage all its e-commerce was not an insignificant feat. Further, expanding it to address the scale of the growth required a substantial investment, not to

327 PX-0526; Ex. Depo. (Forstall) 252:06–252:13, 252:16–254:10; Trial Tr. (Schiller) 2796:4–2799:11.
329 Trial Tr. (Schiller) 2796:4–2799:11; Ex. Expert 8 (Schmalensee) ¶¶ 136, 161–62; Trial Tr. (Evans) 1565:3–6; 1664:16–18 (Q: “. . . I’m asking you if in your relevant market, Apple is a competing payment processor? A. Largely no.”).
330 Ex. Depo. 12 (Gray) 78:10–79:8.
331 See Ex. Depo. (Forstall) 230:05–231:02; PX-0888; PX-1701.002; PX-1813; PX-1818.001; PX-1703.001–.002; PX-1709.001. Mr. Forstall testified that he generally remembered that developers were trying to collect payment directly through apps prior to 2009, but Epic Games introduced only stray emails to show this took place. Regardless, Epic Games does not claim that Apple had market power in 2009, so this theory of purported price increase has little relevance. Ex. Depo. (Forstall) 230:05, 230:16–230:18, 230:20–230:22; Trial Tr. (Evans) 1670:24–1671:2; e.g., PX-1709. Moreover, it merely shows that the nascent business was in flux.
332 As noted above, this aftermarket relies on the distribution market where the “match” is made. Payment is necessarily rendered thereafter. See Trial Tr. (Evans) 1596:8–1597:1.
mention the constant upgrading of the cellphones to allow for more sophisticated apps.\textsuperscript{333} Under current e-commerce models, even plaintiff’s expert conceded that similar functionalities for other digital companies were not separate products.\textsuperscript{334} Under all models, Apple would be entitled to a commission or licensing fee, even if IAP was optional.\textsuperscript{335} Payment processors have the ability to provide only one piece of the functionality. There is no evidence that they can provide the balance. Thus, the Court finds Epic Games has not shown that IAP is a separate and distinct product.\textsuperscript{336}

D. Apple: Digital Video Game Market

Apple proposes that the wider global digital video gaming market is the relevant product market. Epic Games opposes this product market. The Court summarizes the evidence with respect to global digital video gaming. Given how the cases was litigated, much of the evidence relates to plaintiff specifically.

1. Defining a Video Game

The Court begins with a definition of “video game.” Unfortunately, no one agrees and neither side introduced evidence of any commonly accepted industry definition. The evidence included one witness, Mr. Weissinger, who acknowledged that, even with his deep background in the gaming industry, he was not familiar with any industry standard definition of a video game.\textsuperscript{337} Mr. Sweeney, for instance, defined a game as follows:

I think game involves some sort of win or loss or a score progression, on whether it is an individual or social group of competitors. With a game you’re trying to build up to some outcome that you achieve, as opposed to an open-ended experience like building a *Fortnite Creative* island or writing a Microsoft Word

\textsuperscript{333} Trial Tr. (Malackowski) 3619:2–14; Trial Tr. (Fischer) 933:20–934:16 (describing Apple’s investment in the 2017 redesign); Trial Tr. (Schiller) 2877:2–20.

\textsuperscript{334} Trial Tr. (Evans) 1654:17–1655:22, 1657:8–22, 1659:25–1660:16 (agreeing that similar functionalities at Uber, Lyft, Grubhub, Wish, StubHub, DoorDash, Instcart, Postmates, Amazon Shopping, Wal-Mart, and eBay are not separate products).

\textsuperscript{335} Ex. Expert 8 (Schmalensee) ¶ 157.

\textsuperscript{336} Epic Games also relies on Section II.F. of its Findings of Fact which relates to iOS App Store Profitability. In evaluating IAP, the Court has focused on functionality.

\textsuperscript{337} Trial Tr. (Weissinger) 1297:25–1298:2 (“Q. In your view, is there an industry standard definition of what could be called a game? A. I don’t think so, no.”).
document. There is no score keeping mechanic and you are never done or you never win.\footnote{338}{Trial Tr. (Sweeney) 328:13–19.}

Mr. Trystan Kosmynka, Apple’s current Head of App Review, admittedly “not an expert in gaming,”\footnote{339}{Id. 1190:10.} noted that “games are incredibly dynamic,” that “[g]ames have a beginning, [and] an end,” and that “[t]here’s challenges in place.”\footnote{340}{Trial Tr. (Kosmynka) 1015:23–25.}

At a bare minimum, video games appear to require some level of interactivity or involvement between the player and the medium. In other words, a game requires that a player be able to input some level of a command or choice which is then reflected in the game itself.\footnote{341}{For instance, the Court is generally aware that one of the first commercially successful games, \textit{Pong}, consisted of minimal input from the player of moving a paddle up or down. Of course, modern console, computer, and mobile gaming now permit dynamic inputs beyond just one input. For instance, modern controllers for gaming consoles now include at least two analog sticks, a directional pad (d-pad), and several buttons found on both the front face and side edges of each controller. \textit{See generally} PX-2776 (Nintendo Switch); PX-2777 (Sony PlayStation 5); PX-2778 (Microsoft Xbox Series X).}

This gaming definition contrasts to other forms of entertainment, which are often passive forms enjoyed by consumers (\textit{e.g.}, films, television, music). Video games are also generally graphically rendered or animated, as opposed to being recorded live or via motion capture as in films and television.\footnote{342}{Though, the Court understands that some games, such as older \textit{Mortal Kombat} games, have utilized motion capture technology in rendering graphics and animations in the game.}

Beyond this minimum, the video gaming market appears highly eclectic and diverse. Indeed, neither Mr. Sweeney’s nor Mr. Kosmynka’s descriptions, which focus on linear narratives and competitive modes, captures the diversity of gaming that appears to exist in the gaming industry today. Mr. Allison acknowledges that while some games are competitive, and are appropriately labeled as such on the Epic Games Store’s website, other games are not necessarily competitive.\footnote{343}{For instance, the Court is generally aware that: (1) \textit{The Oregon Trail} is a game that simulates crossing the United States of America via the historic Oregon Trail in the nineteenth (19th) century; and (2) that \textit{The Sims} is a life simulation game that simulates general modern life (\textit{i.e.}, socializing, employment, romance, family, skills, etc.) through player characters known as sims.}

Given the genre of simulation games like \textit{The Sims} or \textit{SimCity}, or open-ended sandbox games like \textit{Minecraft}, the Court cannot conclude that any linear narrative is

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\begin{itemize}
\item \textbf{338} Trial Tr. (Sweeney) 328:13–19.
\item \textbf{339} Id. 1190:10.
\item \textbf{340} Trial Tr. (Kosmynka) 1015:23–25.
\item \textbf{341} For instance, the Court is generally aware that one of the first commercially successful games, \textit{Pong}, consisted of minimal input from the player of moving a paddle up or down. Of course, modern console, computer, and mobile gaming now permit dynamic inputs beyond just one input. For instance, modern controllers for gaming consoles now include at least two analog sticks, a directional pad (d-pad), and several buttons found on both the front face and side edges of each controller. \textit{See generally} PX-2776 (Nintendo Switch); PX-2777 (Sony PlayStation 5); PX-2778 (Microsoft Xbox Series X).
\item \textbf{342} Though, the Court understands that some games, such as older \textit{Mortal Kombat} games, have utilized motion capture technology in rendering graphics and animations in the game.
\item \textbf{343} Trial Tr. (Allison) 1241:16–1242:18. Although not in the record, the Court generally understands that: (1) \textit{The Oregon Trail} is a game that simulates crossing the United States of America via the historic Oregon Trail in the nineteenth (19th) century; and (2) that \textit{The Sims} is a life simulation game that simulates general modern life (\textit{i.e.}, socializing, employment, romance, family, skills, etc.) through player characters known as sims.
\end{itemize}
required to qualify as a video game. Thus, the Court concludes that video games include a
diverse and eclectic genre of games, that are tied together at minimum through varying degrees
of interactivity and involvement from a game player.

Some of Epic Games’ fact witnesses suggested in their testimony that *Fortnite* was much
more than a video game: it is a metaverse. The Court previously discussed Mr. Sweeney’s
sincere beliefs as to *Fortnite* and the metaverse. A metaverse is a virtual world in which a user
can experience many different things—consume content, transact, interact with friends and
family, as well as play. According to Mr. Sweeney, game play need not be a part of a user’s
metaverse experience, which is more to mimic the reality of life than to present game play.

As discussed, to Messrs. Sweeney and Weissinger “*Fortnite* is a phenomena that
transcends gaming.” Because of the inclusion of these social and creative experiences, Mr.
Weissinger testified that he would not consider the *Party Royale* and *Creative* modes as
qualifying as a game.

Plaintiff’s characterization of *Fortnite* notwithstanding, the Court need not reach a
conclusive definition of a video game or game because by all accounts, *Fortnite* itself is both
externally and internally considered a video game. Epic Games markets *Fortnite* to the public

344 Of course, many games are also narrative driven as recognized by Mr. Kosmynka.
Microsoft’s internal review of *The Last of Us Part II*, a Sony PlayStation exclusive video game,
confirms that at least some games are focused more on the narrative of the game as opposed to
the game play itself. See PX-2476.002.

345 Indeed, the genre of gaming seems to include a diversity of genres and styles, with no
strict consensus on what a game must include in order to be defined as a game.

346 Trial Tr. (Sweeney) 99:17–22; Trial Tr. (Weissinger) 1295:10–11 (describing a
metaverse as a “social place where people can experience events together and hang out
together”); Trial Tr. (Kosmynka) 1127:18–23 (“So my own understanding of the Metaverse is
a . . . virtual world where you go with your particular character and are with players that you
know, players you may not know, and you navigate around that Metaverse, which could include
additional worlds in various experiences.”).

347 Trial Tr. (Sweeney) 99:23–25.

348 *Id.* 98:6–8; Trial Tr. (Weissinger) 1295:8–21.

349 Trial Tr. (Weissinger) 1439:8–11 (“There are experiences beyond that, and there are
some experiences that are separate and excluded from that as well. So there are some that I don’t
think I would qualify it as a game.”).

(Wright) 647:24–25; DX-5552; Trial Tr. (Allison) 1246:7–1247:18; Trial Tr. (Weissinger)
1354:1–1376:15 (explaining the various game modes within *Fortnite*, all of which are and/or
contain games).
as a video game, and further promotes events within Fortnite at video game related events. Although Fortnite contains creative and social content beyond that of its competitive shooting game modes, there is no evidence or opinion in the record that a video game like Fortnite is considered by its parts (i.e., the modes within the game) instead of in its totality. By both Mr. Sweeney and Mr. Weissinger’s own descriptions, the metaverse, as an actual product, is very new and remains in its infancy. At this time, the general market does not appear to recognize the metaverse and its corresponding game modes in Fortnite as anything separate and apart from the video game market. The Court need not further define the outer boundaries of the definition of video games for purposes of this dispute.

See, e.g., DX-5536.001; Trial Tr. (Allison) 1245:9–1247:18 (discussing DX-5536.001); DX-5541 (YouTube video demonstrating game play mechanics of Fortnite); Trial Tr. (Schmid) 3205:1–3 (“Q. And do you know, for example, what category of app Epic chose for Fortnite? A. They chose games.”).

See Trial Tr. (Weissinger) 1336:11–15 (describing then upcoming collaborated events at the “Video Game Awards”).

See Trial Tr. (Weissinger) 1295:9–10; Trial Tr. (Sweeney) 99:14–15; Trial Tr. (Schiller) 2834:24–2835:5.

There was also much discussion about a similar metaverse game, Roblox, which contains creative experiences that are similar to those offered in the creative and party modes in Fortnite, and whether it too qualified as a video game. The discussion was not initially helped by Mr. Kosmynka, whose self-acknowledged unfamiliarity with the video game market and lack of knowledge on Roblox’s game classification caused him to use imprecise terminology in his testimony. See Trial Tr. (Kosmynka) 1015:18–1016:7, 1190:9–1191:6. Indeed, Mr. Schmid noted that while Roblox may have renamed the internal games offered within Roblox as “experiences,” it is “not saying that Roblox has decided they are no longer a game.” Trial Tr. (Schmid) 3295:15–17.

The Court leaves the thornier further questions of what is properly included and excluded in the definition of a video game to the academics and commentators. For instance, one example that arose beyond the issue of Roblox was the recent genre of films and shows on Netflix that allow users to make a choice akin to a “choose your own adventure,” including in Black Mirror: Bandersnatch, and Unbreakable Kimmy Schmidt: Kimmy vs the Reverend. See Trial Tr. (Wright) 576:24–577:2. The Court need not determine whether this interactivity is sufficient to convert these forms of media into a video game. Suffice it to say, these examples as well as the ongoing efforts in the metaverse, appear to be an ongoing trend of converging entertainment mediums where the lines between each medium are beginning to mesh and overlap.
2. General Video Game Market

The wider video game market appears dynamic, innovative, and competitive. This wider market includes at least four distinct submarkets for digital game app distribution:

1. online mobile app transaction platforms (i.e., the App Store, the Google Play app store, and the Samsung Galaxy Store);
2. online gaming stores found on desktop and personal computers (“PCs”), including online transaction platforms focused on game distribution (e.g., Valve Steam), and developers’ own stores that directly distribute their games (e.g., Epic Games Store);
3. digital stores on consoles (i.e., Sony PlayStation, Microsoft Xbox, and Nintendo Switch); and,
4. more recently, streaming game services (e.g., Nvidia GeForce Now, Microsoft Xbox Cloud Gaming, Google Stadia).356

The gaming market today is the result of actions taken by competitors in the last two decades. The first successful online platform focused on game distribution was Steam, which launched in 2003. Steam By pioneering digital distribution on the PC, Steam enjoyed “a real boom in both Steam’s business and just PC gaming and digital gaming in general.” Steam “is a dominant player in the space and was in 2018 with 70 to 85 percent market share depending on how you define the space.”357

Steam’s success resulted in the rise of other PC-focused digital distribution platforms. In addition, the console platform owners created their own digital marketplaces: Microsoft launched Xbox Live Marketplace in 2005 (now Xbox Games Store on Xbox Series X and S), Sony launched the PlayStation Store in 2006, and Nintendo launched the Wii Shop Channel that same year (now the Nintendo eShop on the Switch). Most of these platforms, including Steam, charged a 30% commission.358

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356 Trial Tr. (Sweeney) 95:23–96:1, 135:21–24, 138:23–25, 177:23–178:14; Trial Tr. (Wright) 637:18–24, 642:19–643:5 (stating that mobile is part of the gaming industry); DX-5532.011 (Microsoft 10-K); Trial Tr. (Schiller) 2748:7–13, 2867:9–20; Trial Tr. (Schmid) 3240:1–7 (“We [Apple] compete with Google Play and the other many Android marketplaces. We compete with the consoles, so Switch, PlayStation, Xbox. We certainly compete with PC and the – the PC stores like Epic Games Store or Steam. And now more and more we’re competing with the cloud gaming and – and the many companies that are getting involved in cloud gaming.”).

357 Trial Tr. (Allison) 1201:23–1204:24, 1248:12–22; Trial Tr. (Sweeney) 173:13–74:25.

358 Ex. Expert 8 (Schmalensee) ¶ 41, Ex. 1; PX-2476.006 (discussing competing gaming stores); Trial Tr. (Wright) 546:7–15; see also Trial Tr. (Sweeney) 191:910.
Since the App Store launched in 2008, the marketplace participants for game app distribution increased. For example, Google announced the Android Market in 2008 (which later became Google Play in 2012), Nokia and Samsung launched their Ovi Store and Galaxy Apps Store in 2009, and Nintendo launched its eShop for its 3DS device in 2011.

Today, “[t]here are many ways to monetize [an] app on the App Store,” and Apple, like other industry participants, facilitates a variety of business models for developers. At least with respect to the App Store, there are at least five business models developers can use to make money on their apps: the free, freemium, subscription, paid, and paymium models. The record shows that under the “paid model,” (also called the “download and install” model), for instance, a developer may charge a price for the user to download the app. As discussed, a developer may instead choose the “freemium model,” allowing users to download an app for free but permitting in-app purchases. Alternatively a developer can offer subscriptions to users (for sale in the app, through a different platform, or online), can sell users digital currencies that can be used in the app (for sale in the app, through a different platform, or online), can sell advertisements in the app, or can charge for in-app promotions and events.

3. Four Submarkets

The Court summarizes the evidence with respect to each of the four distinct submarkets as it impacts the market definition:

a. Mobile Gaming

With respect to mobile gaming, the two dominant players are Apple (App Store) and Google (Google Play app store), with several other Android OS players including the Samsung (Samsung Galaxy Store). Importantly, both third-party and internal market reports recognize mobile gaming as a distinct market within the wider video gaming market. Indeed, mobile gaming is “a vast part of the overall gaming industry,” so market participants, such as Microsoft, look “at mobile as a segment of the game industry as a whole,” and “[i]n any industry analysis, mobile would have to be part of the consideration.” Subsumed in mobile gaming are related

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359 Trial Tr. (Schiller) 2748:1–13; see also id. 2772:13–17; PX-0888 (describing competitor commerce models on Xbox, Nintendo, and PlayStation).

360 Ex. Expert 8 (Schmalensee) ¶ 41, Ex. 1.

361 PX-2790.009; Trial Tr. (Fischer) 925:24–926:1; DX-4614; Trial Tr. (Schiller) 2768:1–8, 2773:23–2774:5, 2779:12–21, 2791:11–18, 2858:11–22, 3094:11–22, 3100:9–22.

362 See generally DX-3248 (identifying mobile gaming as one segment in the video game industry); PX-2477/DX-5523 (same).

363 Trial Tr. (Wright) 638:9–11, 639:1–2, 643:1–2.
Android and iOS tablets offered by Apple, Google, Amazon, and Samsung.\textsuperscript{364} Notably, whereas Apple iOS devices are closed platform or walled garden devices, Google Android devices are open platform devices.

Apple has always viewed Google Play as a significant competitor, including with respect to games transactions. There is further evidence of platform competition with the Samsung Galaxy store, as well.\textsuperscript{365} Apple also understood that other Android marketplace platforms were competitive forces. For example, when Amazon launched its Android app marketplace, Mr. Schiller wrote internally: “[T]he ‘threat level’ is not ‘medium’, it is ‘very high.’” Later, at the Fourth Annual App Store Global Management Team Summit, Apple spent considerable time discussing competition from Google, Samsung, and Amazon.\textsuperscript{366}

Several other platform distributors own and maintain apps that offer some functionality and limited game streaming in connection with their original platforms. Steam also offers a variety of iOS applications through the App Store that allow Steam customers to manage their account and even stream games from their Steam library to their iOS device. PlayStation and Xbox have similar apps in the App Store that allow customers of those consoles to stream games from their consoles in order to play on their iOS device.\textsuperscript{367}

Although relatively newer than both PC gaming and console gaming, mobile gaming constitutes a significant portion of the video gaming market. Indeed, as of 2017, it was forecasted that mobile gaming would generate more than half of all game revenue globally, and that the market would top more than $100 billion by 2021.\textsuperscript{368} Similarly, Microsoft’s internal report reflects that mobile gaming accounted for “more than half of the industry revenue in CY2019.”\textsuperscript{369}

Notably, the overwhelming majority of gaming revenue in mobile gaming derives from free-to-play games, or freemium model games.\textsuperscript{370} As contrasted to other platforms, women gamers of all ages (e.g., millennials, gen-x, and boomers) and gen-x male gamers are

\textsuperscript{364} Trial Tr. (Grant) 697:10–13; see also DX-3248.004 (defining mobile gaming as tablets and smartphones); PX-2477/DX-5523.002 (defining mobile as “[g]ames executing locally on a phone/tablet form factor (e.g., Clash of Clans); primarily iOS and Android”).

\textsuperscript{365} Trial Tr. (Schmid) 3239:23–3240:2; Ex. Expert 6 (Hitt) ¶ 142.

\textsuperscript{366} Trial Tr. (Schiller) 2866:1–20; DX-4447.001; DX-3734.041–.053.

\textsuperscript{367} Trial Tr. (Athey) 1843:7–19, 1844:10–14, 1851:1–23.

\textsuperscript{368} DX-3248.008.

\textsuperscript{369} PX-2477/DX-5523.008.

\textsuperscript{370} PX-2477/DX-5523.053; Trial Tr. (Schiller) 2791:11–18; Ex. Expert 8 (Schmalensee) ¶ 134; DX-3734.030.
predominately more likely to play and game on mobile devices, with an overwhelming focus and interest on casual games.\footnote{See generally DX-4217. The Court notes that it uses the same terminology employed in the cited third-party report to describe the age ranges of certain groups.}

The mobile gaming market is slightly more nuanced domestically in the United States than it is globally. At least as of 2017, console gaming accounted for 43\% of gaming revenue, whereas smartphone and tablets together accounted for approximately 40\% of gaming revenue, with the remaining 17\% of gaming revenue in browser and PC gaming.\footnote{DX-3248.028.} Console gaming still accounted for a larger share in the United States and Western European countries, whereas mobile gaming generally made up a larger share of gaming revenue in the remaining parts of the world, but especially in Asia and in developing countries, where mobile gaming was already by 2017 the majority in gaming revenue.\footnote{See generally DX-3248.}

In general, the rate charged by platform owners such as Apple and Google, and those third-party app stores on Android such as Samsung, remain at 30\%, notwithstanding both Apple and Google’s recent moves to lower this rate for developers earning less than one million dollars annually to 15\%. The Court notes however that some third-party mobile device marketplaces have decreased their rate after negotiations between it and developers.\footnote{See Trial Tr. (Schiller) 2810:16–2811:5, 2815:17–23; DX-4168; DX-4096.001; Trial Tr. (Hitt) 2088:10–14; Trial Tr. (Cook) 3860:4–10; Ex. Expert 8 (Schmalensee) ¶ 41, Ex. 1.}

b. PC Gaming

PC gaming is characterized by an open market which includes several digital gaming marketplaces, such as Valve Corporation’s Steam Store and more recently Epic Games’ Epic Games Store, and several direct distribution platforms operated by larger game developers. As noted above, Steam retains a significant market share in the PC gaming area.

In the United States, as of 2017 PC gaming only accounted for approximately 15\% of all gaming revenue. Globally, PC gaming does not account for a majority of gaming revenue in any country, though it has a significant market around or at least one-third (1/3) share in several Eastern European countries and in both China and South Korea.\footnote{See generally DX-3248.} Of the demographics, “male boomer” aged gamed in the United States are more often playing games on the PC, with an interest in casual games.\footnote{See generally DX-4217; supra n.371 (using report terminology to describe age ranges).}
Similar to mobile gaming, PC gaming generated a majority of its gaming revenue from free-to-play or freemium games. Though, unlike mobile gaming, there is a sizable portion of PC gaming’s revenue that is derived from pay-to-play games (i.e., games purchased up-front).  

A platform’s commission rate in the PC gaming area, historically 30%, now varies among the competing platforms. Steam’s 30% cut, adopted since its inception in the early 2000s, was reduced in 2018 shortly before the launch of the Epic Games Store. Steam currently uses a tiered commission rate, whereby larger game sales and revenues decrease the commission rate, as low as to 20% for the highest tier of sales and revenues. Meanwhile the Epic Games Store charges a 12% commission for app distribution, as well as a 12% commission for in-app purchases when the app developer chooses to use Epic Games’ direct payment for in-app purchases. Given that the 12% commission rate results in an operating loss, the move could be viewed as merely a litigation tactic. However, on the eve of trial, Microsoft recently announced, that it will be reducing its commission from 30% to 12% in the Windows Store. In terms of digital game sales on PCs and Macs, the Epic Games Store is “[a] clear and strong number two” behind Steam. See supra Facts § I.B.3. With respect to its expansion to non-gaming apps, the move was likely litigation related. See Trial Tr. (Allison) 1199:15–1200:1, 1243:3–11. Among those mentioned was Itchio.io. With respect to this app, Apple’s counsel alluded to certain sexually explicit video games (i.e., “Sisterly Lust”) offered by Itch.io. Given that the corresponding materials (e.g., storefront game pages) were not submitted to the Court, the Court cannot conclude one way or another whether this particular game, or other games offered on Itch.io, are as problematic as so alluded or suggested by Apple’s counsel. Nonetheless, the Court finds that Apple’s questioning and Mr. Allison’s answers thereto illustrate some problems that may occur when permitting “stores within stores”: namely, disparate guidelines and policies, and the difficulty of reviewing materials hosted by third parties. See Trial Tr. (Allison) 1257:5–1258:8, 1258:21–1259:22, 1280:20–1281:22.

See supra DX-5523.053 (23.3 billion attributed to free-to-play games versus 7.4 billion attributed to pay-to-play).

377 See DX-5523.053 (23.3 billion attributed to free-to-play games versus 7.4 billion attributed to pay-to-play).

378 Trial Tr. (Allison) 1209:13–1210:1.

379 Trial Tr. (Sweeney) 126:1–7.

380 Trial Tr. (Wright) 553:17–554:6; Trial Tr. (Allison) 1221:4–7, 1275:20–1276:5 (“Microsoft has switched to an 88/12 share on the Windows 10 Store.”).

381 See Trial Tr. (Sweeney) 123:15–124:5, 262:19–263:11, 263:22–265:4, 265:7–11; Trial Tr. (Allison) 1199:15–1200:1, 1243:3–11. Among those mentioned was Itch.io. With respect to this app, Apple’s counsel alluded to certain sexually explicit video games (i.e., “Sisterly Lust”) offered by Itch.io. Given that the corresponding materials (e.g., storefront game pages) were not submitted to the Court, the Court cannot conclude one way or another whether this particular game, or other games offered on Itch.io, are as problematic as so alluded or suggested by Apple’s counsel. Nonetheless, the Court finds that Apple’s questioning and Mr. Allison’s answers thereto illustrate some problems that may occur when permitting “stores within stores”: namely, disparate guidelines and policies, and the difficulty of reviewing materials hosted by third parties. See Trial Tr. (Allison) 1257:5–1258:8, 1258:21–1259:22, 1280:20–1281:22.

382 See Ex. Expert 8 (Schmalensee) ¶ 41, Ex. 1.
c. Console Gaming

There are three recognized market participants in the console gaming arena: Microsoft Corporation Xbox Series X and S (formerly Microsoft Xbox One), Sony Corporation PlayStation 5 (formerly PlayStation 4), and Nintendo Co. Ltd. Switch. The evidence reflects that the market is split between two similar products (i.e., the Xbox and the PlayStation) fiercely competing on both power, graphics, processing, and speed, and one product (i.e., the Switch) that has innovated to compete on mobility.

These three devices are generally considered “single purpose” or “special purpose” devices—as compared to mobile and PC devices, which are more general-purpose devices. In other words, these gaming consoles are generally made for the narrower purposes of gaming or entertainment (e.g., video or music streaming). These platforms “are designed to give you a gaming experience. [For example, p]eople buy an Xbox because they want to play games.” In contrast, mobile and computer devices are general-purpose devices because there is a “wide, wide variety” of “different ideas and applications that can come through it.” As a special purpose device, for instance, Microsoft’s Xbox console is designed and marketed “to optimize the game experience,” and it cannot perform many of the functions that mobile devices can, such as requesting a rideshare, taking a photo, or obtaining driving directions.

Both the Xbox Series X and S and the PlayStation 5 were released in 2020, with their prior models (the Xbox One and PlayStation 4) released in the 2010s. With respect to these two devices, both have substantially similar hardware that renders cutting edge graphics similar to those on certain PCs and desktops, and can render and run more realistic simulations than would be possible on mobile or other devices. Indeed, the PlayStation and Xbox have the same reliance on additional peripherals and equipment: namely, a television or screen, speakers, and a

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383 See DX-5523.002 (defining console gaming as “[g]ames and services [offered] on home consoles (e.g. Xbox and PlayStation) and handheld/hybrid consoles (e.g. Nintendo Switch”).

384 See generally PX-2776 (Nintendo Switch); PX-2777 (Sony PlayStation 5); PX-2778 (Microsoft Xbox Series X).

385 See Trial Tr. (Sweeney) 138:23–25; Ex. Expert 1 (Evans) ¶¶ 50, 53–54; Trial Tr. (Evans) 1459:5–1461:20; see also Ex. Expert 6 (Hitt) ¶ 117; Ex. Expert 7 (Lafontaine) ¶ 34; Trial Tr. (Wright) 556:4–5, 583:8–13; Trial Tr. (Grant) 697:19–20.


Both devices further require a constant connection to a power outlet, as well as, for some games, access to the Internet via WiFi or ethernet cable.

Games developed for the Xbox and PlayStation leverage the competitive advantages inherent in these systems. For example, with respect to Xbox console games, “developers have taken a design choice to build an experience that they want to have rendered . . . with all the compute power, graphic fidelity, that this box provides.” This contrasts to mobile games, which are generally designed for a “more casual” gaming experience and the “vast majority are free to play and then have in-app purchase mechanisms as part of them.” In some instances, console game titles that are rewritten to run on iOS devices can be “different games” in that “[t]hey feel different,” “operate different[ly],” and could be “leveraging the marketing brand of that,” while being a “different version of the game that is written to run on [mobile devices].”

The remaining player in the console gaming market, the Nintendo Switch uniquely competes on a separate ground: mobility. Nintendo introduced the Switch, a quasi-mobile device, in 2017, and the eShop became the Switch’s online store. Unlike the PlayStation and the Xbox, the distinguishing feature of the Switch is that it can be played in either a conventional console manner (i.e., with a separate screen and controller) or a mobile handheld fashion (i.e., in a modified tablet form, whereby the separating controllers attach to the sides of the tablet). Because of this mobility, there is substantial overlap in the design, form, and function with

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388 See id. 138:18–21 (“A console is a fixed function device as [it is] typically plugged into a television and controlled using a game controller or a joystick.”); Trial Tr. (Wright) 537:10–13.

389 See Trial Tr. (Wright) 536:13–537:13.


391 The Court notes a glaring lack of evidence on the Nintendo Switch, and its previously related but distinct products, in the record. Indeed, the Court is aware that both Sony and Nintendo, at one point, sold separate handheld gaming devices (e.g., Nintendo Gameboy, Nintendo DS, Sony PlayStation Vita). No evidence or explanation was provided on what occurred with these products or the handheld device market, though, the Court surmises that the rise of the mobile gaming market likely subsumed the handheld gaming market and perhaps led to Nintendo’s decision to switch to mobility as a competitive edge for the Switch. Regardless, the Court notes the lack of evidence on this point, as well, as the Nintendo Switch generally, where evidence is limited to third-party testimony and certain Nintendo documents. Indeed, neither party called a Nintendo affiliated witness in this action to inquire on issues of competition in the general or console gaming market. Instead, the Court is left with a limited record on these matters.

392 See Trial Tr. (Grant) 696:8–11; Ex. Expert 6 (Hitt) ¶ 190 & Fig. 1.

393 See generally PX-2776 (Nintendo Switch). Although not reflected in the record, the Court notes that one version of the Switch, the Switch Lite, can only be played in a mobile and handheld manner.
mobile devices with respect to gaming. Moreover, Mr. Sweeney twice stated in a matter of minutes that the performance of *Fortnite* on the Switch and smartphones are, in fact, “similar.” The only identified difference between the Switch and certain mobile devices is that, like the PlayStation and Xbox, a Switch must also rely on a WiFi connection. However, not all tablets, including some iPads, have or permit cellular connection, and must similarly rely on WiFi.

Based on the business models and choices undertaken by the players in the console gaming market, both Microsoft and Sony are in more direct competition with each other, while the Nintendo Switch remains more distantly in the competitive orbit of these two devices. Microsoft considers Sony’s PlayStation a “direct competitor” to the Xbox because of the similarities in the hardware of these devices. In contrast, Microsoft considers the Switch as competition to the Xbox but “to a much lesser extent.” In relation to other devices, Ms. Lori Wright, Microsoft’s Vice President of Xbox Business Development, noted that Microsoft does not consider cellular or tablet devices such as the iPhone or iPad as competitors to the Xbox.

Moreover, on the limited record before the Court, Microsoft and Sony appear to have a different business model whereby digital downloads, including games, in-app purchases, and

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394 See Trial Tr. (Grant) 696:6–11 (describing similarities in screen size, portability, and other features between smartphones and the Switch); Ex. Expert 6 (Hitt) ¶¶ 87–91.

395 See Trial Tr. (Sweeney) 139:17–18 (“The performance of *Fortnite* and Nintendo Switch is similar to many smartphones.”); id. 140:8–9 (“The performance of *Fortnite* on smartphones and Switch is similar.”).

396 See Trial Tr. (Evans) 1459:5–1461:20; Trial Tr. (Sweeney) 140:9–11.

397 The Court notes that Epic Games’ proposed product market includes both iPhone and iPad devices, without regard to whether these iPad devices are limited to those relying on cellular connections or not. Indeed, notwithstanding the distinction raised by some Epic Games witnesses, Epic Games states in its final proposed findings of facts and conclusions of law that “[t]here are no differences between iOS and iPadOS that are relevant to the facts herein.” Epic Games FOF ¶ 25 n.1.

398 Trial Tr. (Wright) 537:14–21 (emphasis supplied). Indeed, Ms. Wright only identified the Switch as a competitor after having been asked the substantively same question for a second time, wherein she identified the Switch as competition but qualified her answer by noting that the Switch competes “much less” than the PlayStation against the Xbox. *Id.* This appears to be in keeping with internal Microsoft documents reviewing its competitors, where numerous PlayStation games are identified over two-thirds of the page, in contrast to Switch games, which are limited primarily to just Nintendo published games and are relegated to the remaining third of the page along with games launched on PC. See PX-2476.006.

399 Trial Tr. (Wright) 537:22–538:2. There is no evidence one way or the other in the record to confirm whether Sony would have a different view than Microsoft on this question of competition.
downloadable content, and physical game purchases effectively subsidize the initial cost of the gaming device. There is some evidence that console manufacturers, especially Microsoft and Sony, sell hardware at a loss and recoup those losses through the subsequent sale of software. 400 This is in contrast to the limited documents and testimony that are in the record which reflect that Nintendo makes a profit on the sale of hardware, i.e., the Switch. 401

Despite these differences, there are similarities amongst the players in the console gaming market. Like iOS devices, the Switch, PlayStation, and Xbox have also adopted “closed platforms” or “walled gardens” as Nintendo, Sony, and Microsoft do not allow users to install software on their consoles outside of the platform’s official store. 402 Moreover, unlike mobile gaming devices, console gaming platforms use similar controllers consisting of analog sticks, d-pads, and buttons located on the face and edges of the controller. 403

The standard commission rate across these console platforms is, like both the App Store and Google Play app store, 30%. 404 Although Epic Games witnesses and other third-party witnesses testified that console makers regularly engage in negotiations with developers and secure terms that factor into the overall value that the app developer receives. 405

Compared to mobile gaming and PC gaming, the gaming revenue generated by console games in 2019 derived overwhelmingly from pay-to-play or buy-to-play games, as opposed to

400 See Trial Tr. (Wright) 551:24–13; Trial Tr. (Weissinger) 1350:18–1351:7; Trial Tr. (Evans) 1476:2–8. Apple contests this assertion where Epic Games did not seek admission of any documents supporting that testimony, and no such documents are otherwise in the record. See Trial Tr. (Evans) 1736:3–20. The Court however finds Ms. Wright credible in her statements, especially wherein they are not particularly flattering revelations for her employer, Microsoft (i.e., that Microsoft does not make a profit on the sale of the Xbox hardware).

401 DX-5322; see also Trial Tr. (Evans) 1736:21–24.

402 See Trial Tr. (Sweeney) 180:17–184:9; Trial Tr. (Wright) 554:10–16. The Court notes that Mr. Sweeney testified that he understood that Nintendo permitted “Switch games to be sold by at least one third-party retailer digitally.” See Trial Tr. (Sweeney) 239:18–240:3. Mr. Sweeney did not identify this third-party retailer, nor is there any further evidence in the record reflecting any arrangement between Nintendo and a third-party with respect to a third-party digital store.

403 Trial Tr. (Grant) 695:4–9; see also PX-2274.001.

404 See Ex. Expert 6 (Hitt) ¶¶ 161–162, 256; Ex. Expert 8 (Schmalensee) ¶ 41, Ex. 1; DX-3955.003; see also DX-3582.004–.005; DX-3464.012, .027, .031; Trial Tr. (Sweeney) 142:19–143:1, 161:13–15; Trial Tr. (Weissinger) 1349:14–23.

405 Trial Tr. (Sweeney) 310:1–17; Trial Tr. (Schmalensee) 1958:1–3; Trial Tr. (Wright) 586:11–21.
free-to-play or freemium games. Demographics show that millennial male gamers are most often playing on a gaming console, with an interest in playing action games.

d. Cloud-Based Game Streaming

A newer and ongoing innovation in the gaming industry includes cloud-based game streaming platforms. The companies involved in cloud-based game streaming include: Google Stadia, Nvidia’s GeForce Now, Microsoft Xbox Cloud Gaming, and Amazon’s Luna. Cloud-based game streaming services provide the experience of playing a game on a device that is being streamed from a remote data or server center. Unlike the other video game submarkets, cloud-based game streaming is not tied to a single device, and is instead a multi-platform service. Indeed, Microsoft has recognized in its 10-K that its Xbox Live services face competition from Amazon, Apple, Facebook, Google, Tencent, and these new “game streaming services.”

In light of the unique and innovative nature of cloud-based game streaming, certain issues arise that do not otherwise arise as compared to other gaming submarkets. Game streaming operates similarly to audio and television/film streaming, but further requires the transmission of user input in the game to a remote data center which then processes and renders the user’s inputs and choices in the game back to a user’s device through an audio and visual stream. The service at minimum requires some wireless or cellular connection to maintain connectivity to these remote data centers. Given this technological framework, the most significant of these issues is the issue of latency. As Mr. Aashish Patel, the Director of Product Management for Nvidia’s GeForce Now, describes it, latency “[a]t a high level, [i]s from when you trigger an action to when you see the effect of an action.” In other words, latency is the time it takes between when an action is input into a controller or device and when the change is reflected in game. Methods reducing latency ensure there is no lag or delay in displaying the changes on screen or in game. Higher latency can impact game play, especially in certain competitive games.

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406 See DX-5523.002, .053.

407 See generally DX-4217.

408 Trial Tr. (Sweeney) 135:21–136:5, 177:18–178:14, 256:16–25; Trial Tr. (Cook) 3866:14–22; Trial Tr. (Hitt) 2119:20–2120:14; Trial Tr. (Patel) 422:1, 442:5–12, 471:10–472:21; Ex. Expert 6 (Hitt) ¶ 144; Ex. Expert 6 (Schmalensee) ¶ 120; Trial Tr. (Wright) 647:5–13. The Court notes that Mr. Patel’s allegiances became quite apparent when he reluctantly, and hesitantly, equivocated in answering basic questions on cross examination with respect to cross-platform playing of games. Trial Tr. (Patel) 463:18–464:16. The Court accepts his testimony with some discounting based on his bias for controversial issues.

409 Trial Tr. (Patel) 433:13–17.

410 Id. 422:2–7, 434:18–23 (“Depending on the user and the game, the user may feel uncomfortable with the latency, doing an action and seeing the action performed later, it could result in if they are in a racing game, turning too late, for example.”), 435:5–11 (“Depending on
The Court summarizes the game streaming services from the record:

Google Stadia is a game streaming service launched in November 2019 and is available on iOS through web streaming. Stadia offers a subscription model that provides access to a library of games.411

Nvidia GeForce Now launched in February 2020 and is also accessible through iOS as well as through the GeForce Now client. Nvidia GeForce Now allows users to stream games previously acquired or purchased from digital game distribution platforms (such as Steam or Epic Games Store). The GeForce service played on iOS as a web-based service has received mostly positive reviews and has performed excellently even on older devices, notably for which Apple receives no commission or payment. By the third quarter 2020, GeForce had 5 million users with a goal of doubling that within a year. GeForce also has doubled its price for new users. Mr. Patel also raised the issue of the need for an Internet connection and capacity issues for streaming, but those issues arise regardless of whether GForce is offered as a native app or a web app. With expanding bandwidth over the past five years, the overall streaming experience is now vastly better.412

Microsoft Xbox Cloud Gaming with Xbox Game Pass Ultimate (formerly known as Project xCloud) is another subscription-based streaming service that allows users to stream games to their Android devices. Xbox Cloud Gaming became available for selected Android devices and was recently launched on iOS, after some support from Apple engineers, in beta version. Press reviews say that the Xbox Cloud Gaming experience is very strong on PC and iOS. Ms. Wright states that it is a “great sign” for the prospects of Xbox Cloud Gaming that the beta is expanding. Epic Games does not support Xbox Cloud Gaming because it views “Microsoft’s efforts with xCloud to be competitive with Epic Games’ own PC offerings.413 The Court understands that Epic Games therefore views certain multiplatform game streaming services as a threat to its currently single platform game store.

The Court notes that with respect to the iOS platform, both Nvidia and Microsoft maintain web apps instead of native apps. This is due to Apple’s guidelines and rules prohibiting stores within applications and requiring the submission of each individual game to the App

the game, yes, there can be competitive disadvantages for a user with higher latency.”); Trial Tr. (Sweeney) 135:18–136:9; Trial Tr. (Grant) 712:17–714:10.

411 Trial Tr. (Sweeney) 256:16–25; Trial Tr. (Fischer) 901:19–21, 902:8–11; Ex. Expert 6 (Hitt) ¶ 144.


Store. Both companies would prefer to provide their services as native apps instead of web apps due to the ease of both optimizing the experience for game streaming users on devices and reducing latency. Neither company, however, provided evidence or testimony on the relative differences in latency between web apps and native apps, even as to the iOS platform’s Safari web browser. The Court cannot otherwise discern based on the limited record whether being limited to web apps has otherwise affected these services—especially considering the foregoing evidence showing positive reception among consumers and the industry to both services on the iOS platform.414

4. Competition Among Platforms and Findings of Relevant Product Market

Given the multitude and diversity of platforms available to consumers, it is not surprising that there is, at a base and general level, some competition amongst them in the overall video game market. As Mr. Sweeney remarked publicly in 2012:

[W]e have a lot of platforms coming together. There are the tablet platforms, there are the smartphone platforms, and computers, you know, PC and Macintosh, and then there are consoles, Xbox 360, PlayStation, Wii, and some new handheld dedicated gaming devices, and God knows what else.

This is too many platforms. And we’re seeing now, iPad sales have surpassed the sales of desktop PCs. That’s a real revelation to me. This is a product that wasn’t invented until a few years ago, and it’s basically supplanting the personal computer industry as we know it.

Over time, these platforms will be winnowed down into a much smaller set of competing platforms. You know, there might be one or two or maybe three winners worldwide across everything—computers, game platforms, smartphones.

414 Trial Tr. (Patel) 427:9–428:6, 429:11–430:2, 433:13–434:17, 438:11–14; 530:24–531:22; Trial Tr. (Wright) 577:3–579:10. Mr. Patel only characterized the additional latency as a result of using web apps as “a bit higher” than native apps, but otherwise provided no relative or quantitative comparison. Trial Tr. (Patel) 434:16–17. Indeed, Mr. Patel’s later testimony hedged as to the actual latency problems with web apps, and he further did not identify any specific latency issues with the iOS platform’s Safari web browser. Id. 530:1–16 (responding that with web apps, “you could argue that in some instances, it’s worse than native application decoding,” and web apps “could” increase latency (emphasis supplied)). Mr. Patel later conceded that regardless of whatever app model they used (e.g., web app or native app), “[t]he majority of the process is the same.” Id. 532:2–9.
So we should expect a lot of consolidation here, and winners and losers according to who picks the right directions and executes successfully on them.\textsuperscript{415}

According to Apple, it faces intense pressure as it competes for developers and users across these platforms.

In a general sense, consumers have a choice of devices and transaction platforms through which to acquire, modify, and play games. Apple’s mode of competing resorts to its historic model: user-friendly, reliable, safe, private, and secure. Mr. Sweeney does not dispute that “what is on a particular store is part of the competitive landscape among different stores in which customers make decisions between stores based on the quality, selection, and other policies of stores.” Similarly, developers also have a choice among the distribution channels, including various transaction platforms, through which to distribute their apps to consumers. In some measure, Apple must likewise make its platform attractive to developers.\textsuperscript{416} Given that Apple built and modeled the App Store in part on its gaming competitors (e.g., Nintendo, Sony, and Microsoft), harnessing these competitors’ in-app purchasing systems from the gaming context,\textsuperscript{417} it is not surprising that Apple now faces competition amongst these very same players.\textsuperscript{418}

Of course, the Court must determine where the actual competition lies between these platforms based on the current state of play in the overall market. This is a close question where the general video game market appears to be evolving and dynamic. While there is some competition amongst the players in the general video game market, the Court cannot say that this overall competition is sufficient for purposes of defining a relevant product market—at least not at this time.

What makes this determination difficult is that the market appears to be somewhat in flux. With the recent success of truly cross-platform games like Microsoft’s Minecraft and Epic Games’ own Fortnite,\textsuperscript{419} these disparate platforms, each with their own unique and competitive advantages, are truly competing for consumers who wish to consume these increasingly popular games.

\textsuperscript{415} DX-3768 at 26:1–23; Trial Tr. (Sweeney) 243:10–244:9.

\textsuperscript{416} Trial Tr. (Schiller) 2748:6–24; id. 2867:9–20 (describing the App Store’s competition with Steam); Ex. Expert 8 (Schmalensee) ¶¶ 122–126; Trial Tr. (Sweeney) 261:19–23; Trial Tr. (Hitt) 2130:5–7; see also Trial Tr. (Schmid) 3240:1–7; DX-4399.046–.054 (Apple has also benchmarked the App Store against Android Market, Google Play, and other competitors in a 2017 presentation, where it listed Google Play in the “Competition” section, along with Facebook Messenger games, publishers, platform marketplaces, and social platforms).

\textsuperscript{417} See generally PX-0888.

\textsuperscript{418} DX-4178.008.

\textsuperscript{419} The record demonstrates that the App Store is one of several competing platforms, such as the PlayStation and Xbox, with respect to cross-platform play for Fortnite. Trial Tr. (Sweeney) 236:19–237:2; DX-3125.005.
cross-platform games and any transactions made therein. Indeed, video games can and are able to be ported across multiple devices.\footnote{See generally Trial Tr. (Grant) 671:2–673:20.} However, not all games are like Minecraft or Fortnite; the market still reflects that video games are, for the most part, cabined to certain platforms that take advantage of certain features of that platform, such as graphics and processing, or mobility.\footnote{See generally supra Facts §§ II.B.1–2, II.D.3.} The record reflects that the industry players are only slowly and recently reacting to compete against the wider gaming platforms.

With cross-platform games like Fortnite available on multiple devices, these platforms are truly competing against one another for these in-app transactions. For instance, an internal Epic Games email from September 2018 notes that “purchase behavior may have changed with the addition of mobile, especially Apple and more recently Android, where users are just logging onto their mobile app to purchase.” In other words, “most players are still playing on PC/Epic platform[s] as they did before, but purchasing on other platforms like mobile because it may be easier and more convenient [i.e.] when the store updates.”\footnote{DX-3867.} This is despite the fact that iOS Fortnite players consisted of only approximately 10% of daily active users, and Fortnite players generally prefer playing on alternative platforms.\footnote{See Trial Tr. (Weissinger) 1346:18–1347:1; DX-3233.009.}

In response to this exact scenario, where gamers play on one platform but spend on another, some other platform owners have enacted substantive policies regarding cross-wallet and cross-play restrictions. Sony, for instance, enacts a cross-play policy that compensates Sony where players spend on other platforms but primarily game on Sony’s PlayStation platform.\footnote{DX-3094.006.} Meanwhile, Sony and Switch have enacted policies that limit the cross-wallet functionality across platforms.\footnote{See Trial Tr. (Sweeney) 197:1–18, 238:9–239:17; Trial Tr. (Schmid) 3208:8–16; Ex. Depo. (Kreiner) 83:12–16.} Also unlike certain consoles, Apple does not require price parity; that is, developers are free to price their in-app content on apps downloaded from the App Store higher than the same content sold through other platforms.\footnote{See Trial Tr. (Schiller) 2819:18–2820:2; DX-3582.003.}

While these policies and cross-platform games might evidence some convergence of competition amongst them at some point in the future, the relevant product market does not appear to be so wide as to include all platforms at this time. This is especially so given the distinct submarkets discussed above: namely, mobile gaming, computer gaming, and console gaming.
The question remains however on where (i) the Nintendo Switch, which is distinctly both a hybrid console and mobile gaming device, and (ii) game streaming services, a multiplatform game service also available on iOS platforms, fall in the general market and the above submarkets. Facialy, the inclusion of the Switch and game streaming services in a relevant product market defined as mobile gaming transactions has logical appeal. The Switch is essentially a game specific tablet with detachable controllers on its sides. Its inclusion would make logical sense where tablets are also included in the relevant product market. Witnesses also confirmed that games (including *Fortnite*) for both the Switch and mobile devices operate substantially the same on both devices. Moreover, what evidence exists in the record shows that the Switch generally competes significantly differently as compared to the other two console players—the PlayStation and Xbox.

The inclusion of game streaming services has similar logical considerations. Because such services are multiplatform, they can reach the same audience of consumers on the iOS platform as the App Store can by virtue of their design. Specifically, whether by native app or web app, game streaming services are just as available to consumers on the iOS platform as the games are on the App Store. These services essentially compete with the wider market given the lack of a need for any corresponding device. Indeed, due to the multiplatform nature of such services, even players in other submarkets, including Epic Games, have come to view such services as a competitor in their established market spaces.

Despite the foregoing, neither the Switch nor game streaming services are appropriately part of the mobile gaming market—at least not at this time. First, as previously noted, the record is limited as to both Nintendo and the Switch. Nonetheless, the Court notes that there is in evidence one real world example that shows that the Switch’s mobility competes against iOS devices for gaming: the introduction of *Fortnite* on the Switch. As the experts’ analyses show, the introduction of the Switch shows both substitution and complementary play without a definitive answer. *See supra* Facts § II.B.2.

Second, both products are too new for a determination of whether they should or should not be included in the relevant product market. The Switch and especially game streaming services are relatively new products in the market. Indeed, Nvidia’s GeForce Now service only launched months before the filing of this action, and Microsoft’s service remained in beta testing at the time of the bench trial. It is unclear at this time whether consumers will or do consider these products reasonably interchangeable and substitute in sufficient numbers between the competing products already in the mobile gaming market.

In sum, in light of the lack of evidence in the record, and the recent introduction of the Switch and game streaming services to the market, the Court declines to include either device or service in the relevant product market for mobile gaming transactions. While the record does not reflect that these products are appropriately included in the relevant product market at this time, the Court does find that these products evidence, at a minimum, market entrants into this mobile gaming space. Whether these entrants will occupy the same space as Apple and Google remain, however, to be seen by both consumers and developers.

Thus, the Court concludes that the competition lies within the smaller recognized mobile gaming transactions submarket, however, this submarket does not include the Switch or game streaming services.
E. Apple’s Market Share

For the reasons set forth above, the Court concludes that the competition lies within the smaller recognized mobile gaming transactions submarket, however, this submarket does not include the Switch or game streaming services. The Court next calculates Apple’s market share.

The only evidence of market share in the proposed market concerning video gaming comes primarily from Apple’s expert witness, Dr. Hitt.\textsuperscript{427} As discussed, Apple’s proposed definition of the market includes all video game platforms, which the Court rejects as the relevant market. Consistent with Apple’s proposal, but inconsistent with the Court’s finding that mobile gaming is the relevant product market, Dr. Hitt’s analysis relies upon the assumption that the App Store has many competitors, including other game transaction platforms, for mobile, PC, and console, as well as game streaming services, and limits the scope to the United States.\textsuperscript{428}

Since data on the number of game transactions is not readily available, Dr. Hitt’s analysis uses the dollar value of game transactions facilitated as a proxy for the most appropriate measure for estimating market share. To reach his opinion he analyzes: (i) the total revenue for digital game transactions on the App Store in the United States; and (ii) the total revenue for digital game transactions across all digital game transaction platforms in the United States.\textsuperscript{429} Again, Dr. Hitt’s analysis does not narrow in on the mobile gaming market and Apple’s market position therein. Based on his analysis and his review of the relevant evidence, Dr. Hitt finds and concludes that Apple’s video game market share based on total revenue from digital game transactions is 37.5\%.\textsuperscript{430} Based on his calculations, Dr. Hitt concludes: (i) that this video game market share is inconsistent with Apple’s ability to exercise market power; and (ii) that this lack of concentration in the video game market suggests Apple does not possess monopoly power in the relevant product market.\textsuperscript{431} While Dr. Hitt’s report and analysis aids the Court, it is overbroad for purposes of the Court’s finding that the market is limited to mobile gaming.

Despite the limitations of Dr. Hitt’s analysis, a similar calculation based on evidence in the record reveals a much more significant mobile gaming market share. Apple’s internal business records\textsuperscript{432} show a consistent belief that Apple’s market share of the global video gaming market increased over time beginning in 2015 with 18\%; 2016 with either 21.8\% or 23\%; 2017

\textsuperscript{427} Ex. Expert 6 (Hitt) ¶ 117.

\textsuperscript{428} See supra Facts § II.D.; Trial Tr. (Schiller) 2867:1–20; Trial Tr. (Cook) 3865:23–3867:5.

\textsuperscript{429} See Ex. Expert 6 (Hitt) ¶¶ 137–138.

\textsuperscript{430} Id. ¶¶ 8, 117, 123–128.

\textsuperscript{431} Id. ¶¶ 138, 140–141.

\textsuperscript{432} The Court relies on Apple’s business records as admissions.
with either 24% or 27%; 2018 with 23.8%; 2019 with 23.9% or 25%; and 2020 forecasted at a range between 24.7% and 31%. 433

The Court has the most evidence for the year 2017. Using Apple’s internal documents the Court is able to calculate Apple’s market share at 57.1% in the global mobile gaming industry. The Court reaches that value by taking Apple’s own internal records for 2017 which show Apple’s internal calculation that it controls 24%434 of the global video gaming market and dividing the number by 42%435 which reflects Apple’s belief of the portion of the mobile gaming market relative to the global video gaming market (24% divided by 42% equals 57.1%).

Using this same methodology, the Court can calculate Apple’s market share in the mobile industry before 2017, as 52.9% in 2015 and 54.5% in 2016. This computation is consistent with a view that the market share was less than 57.1% in 2017.436

Similarly, for 2020, Apple estimates that its own global market share in the wider video gaming industry is 28.2%, and cites on its internal business record to an external Newzoo report that states that mobile gaming (including mobile and tablets) accounted for 49% of global


434 See PX-2302.022 (reporting 24% market share). The Court notes a discrepancy between two sets of presentations calculating market share from 2015 to 2020 in the wider video gaming industry. The Court notes that the figures found in the most recent Apple presentation, along with figures found in the 2019 review (PX-0608), appear to match and correspond with third-party data found elsewhere in the record. See DX-3248. For that reason, the Court concludes that these figures in the most recent presentation are the more correct and updated versions. The market share rates found in the other (generally older) presentations appear to use estimates instead of the actual total revenue in the video game industry for certain years resulting in a lower total annual amount, which appears to inflate Apple’s market share in these other presentations. Compare DX-4178.007 (2017 presentation, stating 109 billion in total game revenue in the entire industry in 2017) with DX-3248.008 (2018 market report, stating 121.7 billion in total game revenue in the entire industry in 2017).

435 Compare DX-4178.007 with DX-3248.008. The comparison shows a discrepancy in the portion of the mobile gaming market for the year 2017: namely Apple reports it as 42% in its presentation and third-party Newzoo reports it as 46% in its 2018 Global Games Market Report. The delta between these two figures is a few percentage points: using the third-party Newzoo figure in the Court’s methodology, Apple’s global market share is computed at 52.1% for 2017.

436 Relying on the same documents, for 2015, the Court takes Apple’s 18% market share divided by 34% of the mobile share of the global market. For 2016, the Court takes Apple’s 21.8% market share divided by 40% of the mobile share of the global market.
gaming revenue in 2020.\textsuperscript{437} Using these figures and the same methodology as above, Apple would have 57.6\% market share in the global mobile gaming industry in 2020.\textsuperscript{438}

The Court understands that the market share would likely be less if the Switch were included in the relevant product market.\textsuperscript{439} However, the record is bare of evidence and, in any event, the new market entry would not have had such a compelling entrance as to discount the market share to under 30\%.\textsuperscript{440} Nonetheless, even assuming the market were limited to both mobile gaming and console gaming (including the Switch, PlayStation, and Xbox), Apple would still have, at a minimum, market power.\textsuperscript{441} For the years in the record, the Court’s methodology based upon the records shows that Apple would have a market share of such a defined global market share.

\textsuperscript{437} The Court notes that the 2020 Newzoo report is not in evidence, however, it is found as a “Reference” citation at the bottom of Apple’s presentation. See PX-2302.022. These third-party references are often noted in presentations but only a few source documents are in evidence. The Court relies upon the reference because Newzoo is a credible third-party report that others in the industry rely upon.

\textsuperscript{438} The same level of precision does not exist for 2018 and 2019 given the trial record. While the Court has evidence of Apple’s market share in the wider gaming market and for certain years for the mobile gaming market, there is no discrete information or evidence for which it could calculate or find Apple’s market share within mobile gaming for the years 2018 and 2019.

\textsuperscript{439} For instance, the Court lacks any revenue specific information regarding the Switch with which to include in any market share determination. As to game streaming services, given the only recent introduction of such products to market, the Court would expect any inclusion of such services to have a minimal impact, if any, on the overall market share calculations in this section.

\textsuperscript{440} See Trial Tr. (Bornstein) 4091:4–4092:3. Given the Court did not adopt the parties’ market definitions, Epic Games’ counsel would not commit to whether tablets would be included in that hypothetical market. Assuming a mobile and handheld device market as the relevant market, there are numerous tablet platforms and at least one mobile gaming console platform (Nintendo Switch) that would have to be included in such a market.

\textsuperscript{441} The Court also assumes for purposes of this analysis that the video game revenue cited in the corresponding Newzoo report is all attributable to digital game transactions. The Court notes that this overinclusion of non-digital game transactions and of the PlayStation and Xbox would depress Apple’s market share if the Court were to only include digital game transactions attributed to the Switch. Nonetheless, the purpose of this analysis is to demonstrate that Apple retains market power above 30\% even with the overinclusion of these additional platforms and non-digital transactions.
video gaming market (e.g. mobile and console) of 32.9% in 2017, and of 31.1% in 2016. For the most recent year 2020, based on estimated and projected revenue and on the cited 2020 Newzoo report, Apple’s market share would be 36.6% of such a defined video gaming market.

III. PROPOSED GEOGRAPHIC MARKET AND FINDING

The parties offer differing perspectives on the geographic market. Epic Games argues for a global market, excluding China, and Apple asserts a domestic market.

With respect to its theory, Epic Games argues for a global market because smartphones, and thereby, the smartphones’ operating system, are sold globally. Moreover, smartphones generally work regardless of the location with the exception of China where the operating systems are, in fact, different because they are installed by original equipment manufacturers in China. Apple does not challenge the geographic market for smartphones, although for the reasons set forth above, it heavily contests the notion that a separate market exists for operating systems.

By contrast, Apple focuses on app gaming transactions arguing that the geographic market is domestic. Apple highlights that consumers access the App Store with country-specific digital storefronts which means that consumers enter into transactions through a digital storefront based on their home country. Generally, Apple customers do not have access to foreign storefronts, and cannot readily switch between storefronts outside of their home country. The same is true for customers in foreign countries. The Court understands that many console and other game transaction platforms similarly organize their stores with geographic overlays. Providers have created impediments to switching geographic registration, such as prohibiting it as part of the terms of service, requiring country specific credit cards, and installing software which may make the app inoperable.

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442 The Court notes that the Switch was released in March 2017, and thus, the inclusion would only affect the years 2017 and later. The Court discloses that Apple’s market share for 2015 would be 27%.

443 Ex. Expert 1 (Evans) ¶¶ 70–71; Trial Tr. (Cook) 3970:10–16; see also Trial Tr. (Cook) 3942:18–19, 22 (agreeing that “in China, the iCloud service is operated by a Chinese company”).

444 Trial Tr. (Schiller) 2754:20–2755:9 (“It’s how we’ve been told we need to structure the stores.”).

445 Id. 2754:14–2755:15; Ex. Expert 7 (Lafontaine) ¶ 9; Trial Tr. (Lafontaine) 2066:24–2067:6; see also Trial Tr. (Evans) 1565:12–14.

446 Ex. Expert 7 (Lafontaine) ¶ 91; DX-4931.001; DX-4920.001 (noting for Microsoft that “[i]f you change your country or region in Microsoft Store, the stuff you got in one region might not work in another. This includes: Xbox Live Gold, Xbox Game Pass, Apps, games, music purchases, and movie and TV purchases and rentals”).

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Geographic constraints are less pronounced for developers. Foreign and domestic developers can publish on both foreign and domestic platforms. However, they can only access the consumer on the consumer’s own domestic storefront. Apple principally relies on Dr. Lafontaine to argue that the “competitive conditions each platform faces varies from country to country. The set of apps available across the world is not uniform. So one accessing the App Store’s U.S. storefront would not have an identical selection of game apps to a consumer accessing a foreign storefront. Moreover, different countries feature different slates of competing platforms, with differing relative market shares. All of the above factors affect demand and substitution, creating different market conditions in each country.” However, the factual basis for her opinion is weak.

The Court finds Apple’s factual basis for its assertion to be weak. At least for purposes of this case, Apple’s restrictions appear to be imposed by Apple, rather than by market forces. Importantly, the Court finds more persuasive that Apple actually treats app distribution as a global enterprise. Its rules and guidelines apply globally to all storefronts, the business development team engages with developers globally, the DPLA applies globally, and the complexity and justification for the complexity of the IAP system is due in large part because of the global nature of the business. The parties agree that China is different.

Thus, the Court finds the relevant geographic market to be global.

IV. MARKET POWER IN RELEVANT MARKET

In addition to Apple’s market share in the relevant market of mobile gaming, the Court examines other evidence of Apple’s market power in the mobile game transactions market and considers pricing, nature of restrictions, operating margins, and barriers to entry.

A. Pricing

The experts agree that the ability to set and maintain supracompetitive prices is evidence of market power. Dr. Schmalensee emphasizes, however, that two-sided platforms often have skewed pricing so supracompetitive prices on one side may not be indicative. He also opines

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447 Apple FOF ¶¶ 444–446 (citations omitted); see Ex. Expert 7 (Lafontaine) ¶ 91.

448 Apple FOF ¶¶ 447–450; Ex. Expert 7 (Lafontaine) ¶¶ 90–91, 93.

449 Further, Dr. Lafontaine acknowledged that, when reaching her geographic market limited to United States consumers, she did not consider developers’ ability to directly distribute apps to consumers. Indeed, she did not know whether direct distribution is limited by national boundaries. Trial Tr. (Lafontaine) 2067:7–2068:3.

450 Ex. Expert 1 (Evans) ¶¶ 145, 266; Trial Tr. (Kosmynka) 985:21–986:24; Trial Tr. (Schmid) 3221:21–3222:2; Trial Tr. (Grant) 723:25–724:4.

that only price changes over time are relevant to determining market power. The parties thus dispute whether Apple’s commission is (i) supracompetitive and (ii) has increased or decreased over time.

As an initial matter, as detailed above, the 30% commission was not set by competition or the costs of running the App Store, but as a corollary to other gaming commission rates. Next, the evidence showed four pricing considerations after the initial rate. First, in 2009, Apple introduced IAP using the same 30% commission. Second, in 2011, Apple enabled recurring subscriptions purchases on the iPhone. Third, in 2016, Apple introduced paid search ads on the App Store. Finally, in late 2020, Apple introduced the Small Business Program. That program reduced Apple’s commission to 15% for developers making less than one million dollars. See supra Facts § 1.C.3.c.

Both parties cite these pricing changes as evidence that Apple has or lacks market power. Epic Games cites the introduction of IAP, recurring subscription payments, and search ads as evidence of price increases. This evidence is not persuasive because both IAP and recurring subscriptions correspond to new features, not price increases on existing features. With respect to search ads, one would reasonably expect that a fundamental purpose of an app store is to provide search capability or “discoverability.” Thus, by offering developers the option to pay for search ads, one could argue that this is not a new feature and therefore more probative of a price increase. On the other hand, developers do not have to use search ads which suggests this is could be viewed as a new feature. The record was undeveloped on this point.

Apple, on the other hand, cites the reduction on second year subscriptions and the Small Business Program as evidence of price decreases. The subscription reduction is highly probative; the evidence shows that Apple’s decision coincided with several large developers ending in-app subscriptions through iOS apps (and therefore exercising power to leave Apple’s platform). However, as described above, subscription apps face different market conditions than games, and there is no evidence of game developers leaving for other platforms to force a price decrease. Further, the Court has explained above why the evidence on Apple’s motivations regarding the Small Business Program is mixed. Regardless of whether altruism or regulatory pressure caused Apple to lower its commission, competition does not appear to have played a role.

Given the lack of clear evidence about price increases or decreases due to competition, Dr. Hitt focuses on Apple’s average commission, which he argued decreased over time from the growing presence of free apps on which Apple receives no commission. He argues this decrease


453 See Ex. Expert 6 (Hitt) ¶¶ 102, 105.

454 The Court does note that after Apple introduced the Small Business Program, Google quickly followed suit on Android. However, Mr. Cook was not aware of any other store that did so. This reinforces that Apple and Google compete with one another. Trial Tr. (Cook) 3860:4–10.
is inconsistent with market power. However, the evidence is less probative because of the unique nature of Apple’s business as both the device maker and app store operator. Namely, Apple has repeatedly acknowledged that free apps make its platform more attractive, which helps it sell more devices. As such, under a two-sided transaction platform analysis, the cost to users from purchasing devices to access free apps likely offsets the reduced price offered to developers of those apps. Given Epic Games’ theory that no commission should be levied, where the tipping point is in terms of that offset has not been explored.

Thus, ultimately, the pricing evidence does not show either market power or its absence. Apple’s initial rate of 30%, although set by historic gamble, has apparently allowed it to reap supra-competitive operating margins. See infra Facts § IV.C. The choice to not raise that price further is consistent with market power if that price already reflects monopoly levels. Only rarely has Apple reduced its commission in response to competitive pressure, such as with the second-year subscriptions. However, because subscription apps are a separate market from game apps, that does not show lack of market power in the mobile game transaction market.

B. Nature of Restrictions

Epic Games also cites the nature of the restrictions as evidence of Apple’s market power. Apple uses both technical and contractual means to restrict app distribution. Technically, Apple prevents unauthorized apps from downloading on the iPhone. It does so by granting certificates

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455 Ex. Expert 6 (Hitt) ¶¶ 169–176, 184.

456 Notably, the price of game in-app commissions has only grown over time. This again suggests that game developers may be subsidizing the rest of the App Store. Id. ¶¶ 174–175.

457 See, e.g., Trial Tr. (Cook) 3988:14–3989:5; PX-2060.005.


459 As noted previously, Apple executives initially questioned whether they can maintain a 30% commission in response to competition. PX-0417. Apple still does not track costs or pricing on different platforms to determine its rate. Trial Tr. (Fischer) 904:18–905:6; Ex. Depo. 8 (Cue) 141:13–142:09.

460 Apple makes two additional arguments for lack of market power. First, it claims that it has not restricted output. Apple FOF ¶¶ 467–468. Again, in light of the unique business model, game output here makes Apple’s platform more attractive and increases rather than decreases its profits. Second, it claims that the 30% commission is consistent with other online platforms. Apple FOF ¶¶ 469–478. This argument is discussed above and below in relation to anticompetitive conduct. In short, the use of a 30% commission by other platforms is not dispositive because those platforms have a different business model than Apple and frequently negotiate their headline rates, so their effective rates are below 30%.
to developers; no certificate means the code will not run. Contractually, Apple imposes the DPLA, which prohibits developers from distributing apps outside the App Store.

These contractual terms are standardized and nonnegotiable—a contract of adhesion. Only a few developers have succeeded in modifying these terms by threatening to go to other platforms. Specifically, Spotify and Netflix have removed in-app purchasing functionality from iOS apps. On the other hand, both Down Dog and Match Group have testified that they have been unable to entice users to other platforms with lower prices. Match Group has employed marketing campaigns and promotions for web purchases, but the app sales have continued to “dominate.” Down Dog has had better success at offering cheaper subscriptions on the web, but Apple’s anti-steering provision has prevented it from directing users to the cheaper price. Thus, while 90% of Down Dog’s Android users make purchases on the web, only 50% of its iOS users do so, even though about half of its total revenues still come from iOS users.

Accordingly, evidence shows Apple’s anti-steering restrictions artificially increase Apple’s market power by preventing developers from communicating about lower prices on other platforms.

C. Operating Margins

The experts agree that “persistently high economic profit is suggestive of market power.” Dr. Schmalensee opines that operating margins and accounting profit are less probative because they fail to take into account intellectual property and similar investments that lower operating costs. Dr. Barnes criticizes this opinion as an accounting matter, and Dr. Evans opines that in this specific case, accounting profits are an appropriate measure of market power. From this issue, we see a classic battle of the experts. See supra Facts §§ II.C.5, II.B.

Here, in light of all of the evidence, the circumstances of Apple’s P&L statements, and Apple’s low apparent investment in App Store-specific intellectual property, the Court finds that operating margins are probative of market power. As described above, the App Store operating

461 Trial Tr. (Kosmynka) 986:9–22; Trial Tr. (Federighi) 3373:17–25, 3388:11–3389:12.

462 PX-2619 §§ 3.2(g), 7.6. Recall that developers may license and use Apple’s tools for free to create iOS apps under the Developer Agreement, but actually distributing them requires signing the DPLA. Trial Tr. (Schiller) 2757:1–2760:9.


464 Trial Tr. (Schmalensee) 1899:19–21, 1984:2–12; Trial Tr. (Evans) 1545:3–14, 1723:20–1724:19; Trial Tr. (Barnes) 2456:6–2458:11.
margins are “extraordinarily high.” Thus, even without comparison to other stores, the operating margins strongly show market power.\footnote{See Trial Tr. (Evans) 1545:3–14 (explaining that in a competitive market, high profits decline because companies would reduce prices and invest in quality to stave off competition).}

Further, Apple cannot hide behind its lack of clarity on the value of its intellectual property. Not all functionality benefits all developers. Further, as discussed, Apple has actually never correlated the value of its intellectual property to the commission it charges. Apple is responsible for the lack of transparency and whole-cloth arguments untethered to its rates do not ultimately persuade.

\section{D. Barriers to Entry}

With respect to barriers to entry, the evidence is mixed. On the one hand, Dr. Athey plausibly opines that entry into the platform business is difficult due to the need to attract both users and developers. Said differently, developers do not develop for new platforms unless they have a healthy user base, but users only go to platforms that already have a developed ecosystem. Thus, indirect network effects often dominate and create a “winner-take-all” system that allows only a few large platforms to survive.\footnote{Ex. Expert 4 (Athey) ¶¶ 16–19, 35–46.} See also supra Facts § II.B.1.

On the other hand, the mobile game market is changing, including with the introduction of cross-platform policies, cross-platform services (\emph{e.g.} cloud-based game streaming), and new hybrid platforms such as the Nintendo Switch. First, the introduction of cross-platform middleware like cross-wallet and cross-play has plausibly decreased barriers to new entrants. The rise of game streaming may allow for competition among platforms on iOS in the near future, even if Apple maintains its app distribution restrictions. The role of game streaming and whether it will constrain market power remains to be seen.\footnote{Trial Tr. (Athey) 1787:14–18; Trial Tr. (Patel) 424:8–9 (number of games currently on GeForce is small), 449:8–450:2 (strict limitations on usage), 481:16–484:24 (same), 483:25–484:4 (game streaming not profitable).} See supra Facts § II.D. In light of these uncertainties, the Court finds that barriers to entry are currently relatively high but are plausibly decreasing and may be lower in the future.\footnote{Of course, game streaming typically requires an up-front subscription fee, which makes it unlikely to replicate the “freemium” model that gains users by an initial free download. Trial Tr. (Patel) 483:13–485:14; Trial Tr. (Sweeney) 187:24–188:3 (attributing “a lot of [Epic Games’] success” to the freemium model).}

\section{V. FACTS REGARDING ALLEGED ANTICOMPETITIVE EFFECT}

Epic Games contends that Apple’s restrictions on iOS app distribution and in-app payment processing create anticompetitive effects. As explained above, the App Store is a two-sided transaction market, which may make competitive effects difficult to evaluate. In two-sided

\footnote{See Trial Tr. (Evans) 1545:3–14 (explaining that in a competitive market, high profits decline because companies would reduce prices and invest in quality to stave off competition).}

\footnote{Ex. Expert 4 (Athey) ¶¶ 16–19, 35–46.}

\footnote{Trial Tr. (Athey) 1787:14–18; Trial Tr. (Patel) 424:8–9 (number of games currently on GeForce is small), 449:8–450:2 (strict limitations on usage), 481:16–484:24 (same), 483:25–484:4 (game streaming not profitable).}

\footnote{Of course, game streaming typically requires an up-front subscription fee, which makes it unlikely to replicate the “freemium” model that gains users by an initial free download. Trial Tr. (Patel) 483:13–485:14; Trial Tr. (Sweeney) 187:24–188:3 (attributing “a lot of [Epic Games’] success” to the freemium model).}
transaction markets, an anticompetitive price or restriction on one side may well reflect a competitive equilibrium on the other side.\cite{469} Thus, the experts agree that competitive effects can only be determined after carefully considering both sides of the transaction (developers and users), including any indirect network effects.\cite{470}

With this in mind, the Court reviews evidence of the competitive effect of Apple’s challenged conduct.

**A. Anticompetitive Effects: App Distribution Restrictions**

1. **Effects**

   With respect to Apple’s app distribution restrictions, Epic Games focuses on the following alleged anticompetitive effects: (a) foreclosed competition; (b) increased consumer app prices; (c) decreased output; (d) decreased innovation; and (e) effect on other markets through the restrictions on app stores. Apple, in turn, argues that the restrictions provide a safe and secure place to conduct game transactions and compensate Apple for its procompetitive investments in iOS. The Court first addresses Epic Games’ evidence and then Apple’s procompetitive justifications in the next section.

   a. **Foreclosure of Competition**

      With respect to the issue of foreclosing competition, the contention is not in dispute. Quite simply, Epic Games wanted to open a competing app store and could not. The evidence is mixed as to the demand to do so. Epic Games relies on the experience of Microsoft and Nvidia, which tried to offer native iOS game streaming apps (xCloud and GeForce NOW) but were blocked by Apple’s restrictions.\cite{471} Both companies, however, ultimately succeeded in making

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\cite{469} For instance, Dr. Schmalensee offers the example of OpenTable that suspends a user’s account after a certain number of no-shows. Although this may seem like an arbitrary exercise of power to the user—particularly if there are few other reservation apps in that market—the restriction helps keep the platform attractive for restaurants and thus serves a procompetitive end by increasing participation. Ex. Expert 8 (Schmalensee) ¶ 30.

\cite{470} Ex. Expert 1 (Evans) ¶ 216; Ex. Expert 8 (Schmalensee) ¶ 127.

\cite{471} As explained elsewhere, GeForce allows streaming of games users purchased through other platforms, such as Steam. xCloud is limited to Microsoft games. Thus, they are each a type of game store, though idiosyncratic in not needing to access device hardware (which is what allows them to work through the web). Indeed, four of the five stores blocked by Apple’s challenged rule concern game streaming. Trial Tr. (Patel) 425:1–11, 432:17–433:12; Ex. Expert 1 (Evans) ¶ 166.
their apps available through the web. Although neither party was fully satisfied with the results, their experiences do not show complete foreclosure of competition.472

Instead, Epic Games relies on comparative evidence with other markets. On devices without app distribution restrictions, many app and game stores exist. For instance, Windows and Mac computers host game publishers like Steam, Electronic Arts, and Activision Blizzard who directly distribute through their own stores. Apple executives have acknowledged that the Mac App Store matters primarily for Apple software and smaller developers, while developers with market power are not on the Mac store “because they don’t have to be.”473 According to Dr. Evans, there are at least ten third-party stores on Mac and Windows, and most top apps are distributed directly from the developer website. Indeed, several large game developers, like Google and Facebook, have tried to distribute games on iOS in recent years.474

The evidence also shows that smaller developers might choose direct distribution while remaining in the App Store. For instance, the CEO of Down Dog, the fitness app, testified that he would support users installing directly from a website.475 Notably, however, these developers did not testify that they would leave the App Store altogether. That is because, as Apple shows, the App Store provides many benefits to developers, including developer tools, promotional support, and a ready audience, that enables small developers to compete with large ones. For instance, 72% of small developers lack a marketing budget, and Apple provides significant free advertising and “spotlighting” to help users discover new apps as part of its DPLA.476

While plaintiff did not survey developers, taken together, this evidence suggests that Apple’s restrictions foreclose competition for large game developers who have well-known games. These developers would likely, and have the resources to, open their own stores to forego Apple’s “fees, rules, and review.”477 Smaller developers, on the other hand, would likely

472 Trial Tr. (Wright) 568:13–571:8, 579:1–10; Trial Tr. (Patel) 429:11–25. Apple has also blocked Big Fish, a “game store within an app,” and web stores. PX-0115; PX-0111.

473 PX-2386.

474 Ex. Expert 1 (Evans) ¶¶ 163–168; Trial Tr. (Allison) 1200:14–1201:14. Dr. Evans also provides comparison to the over 60 Android app stores in China and numerous third-party stores on early smartphones. However, Epic Games has not shown that those markets are sufficiently comparable to the market here. Ex. Expert 1 (Evans) ¶ 165.


476 Ex. Expert 8 (Schmalensee) ¶ 51; Trial Tr. (Fischer) 931:23–933:20, 935:15–936:23; DX-3800.038; Trial Tr. (Schiller) 2737:9–24.

477 PX-2386.
stay on the App Store (or a comparable store) for product discovery reasons. Indeed, that is exactly what happened earlier on PCs, which bolsters the likely evaluation and outcome.478

b. Increased Consumer App Prices

Next, Epic Games argues that Apple’s app distribution restraints increase prices for consumers. Epic Games’ argument is plausible. As Dr. Evans testified, “[w]e know from economics, both theory but also practical experience, in situations where there are barriers to competition and they’re removed that what typically happens [is] . . . that prices tend to fall [and] quality tends to improve."479

In the context of gaming, Dr. Evans’s observation has vivid illustration in the PC market. The incumbent Steam store charged a 30% commission for decades before Epic Games’ store entered with a 12% commission. Immediately before that time, Steam lowering its commission to 20%, and its average commission rate declined to 10.7%. Microsoft followed suit shortly after, with other stores offering pay-what-you-want. This competition has affected platform margins, which are considerably smaller on PCs than on other devices—5% compared to 45%.480

Dr. Evans opines that the same would happen if Apple allowed third-party app stores on iOS. He posits that numerous third-party app stores would enter iOS in the absence of restraints and that these stores would compete for developers. The competition would exert pressure on Apple, which would have to lower prices or improve services. To calculate the resulting prices, Dr. Evans relies on several sources. First, he cites Mr. Schiller’s 2011 statement that a 20% or 25% commission is “competitive.”481 Second, he uses Mr. Barnes comparisons of online marketplaces to calculate Apple’s commission if its operating margins were only as high as the highest in a competitive market (Alibaba with 45.8% margins). Under that calculation, and assuming that developers would pass on half of the commission, Apple would only charge 15.6% while still being very profitable.482

Apple vigorously disputes this evidence. First, it points out that the 30% commission is standard for other stores, including on competitive platforms.483 For instance, Apple charges

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478 See Trial Tr. (Allison) 1206:1–1209:8; Trial Tr. (Evans) 1510:24–1511:7.

479 Trial Tr. (Evans) 1551:15–1552:2.


481 See PX-0417.

482 Ex. Expert 1 (Evans) ¶¶ 180–184; Ex. Expert 2 (Barnes) ¶ 3.

483 Apple also argues that it charged 30% from the very beginning when it was not a monopolist. However, there is evidence that Apple did not consider the rate to be sustainable at that time and questioned whether “enough challenge from another platform or web based solutions” will cause it to adjust. PX-0417. Moreover, Apple recognized that the App Store was “brand-new,” with no true comparisons in the market, and set the rate set without considering
30% on Macs, which Dr. Evans agrees is competitive. However, Apple’s argument is suspect. One, Apple relies on “headline” rates that Dr. Evans and Dr. Schmalensee agree are frequently negotiated down. For example, the Amazon App Store has a headline rate of 30%, but its effective commission is only 18.1%. Both Ms. Wright and Mr. Sweeney testified that consoles frequently negotiate special deals for large developers. Sealed evidence in this case confirms the same. Two, just because it is the competitive rate for games in the console market, does not mean that the rate translates to the mobile games market. As described above, the App Store has very different operating margins than consoles, so even if the commission is the same, the economics and the nature of the products are very different. Thus, ultimately, these comparisons are not useful because the other stores do not operate in the same market.\footnote{Ex. Expert 6 (Hitt) ¶¶ 166–167; Trial Tr. (Evans) 1686:6–12, 2439:1–2441:23; Trial Tr. (Schmalensee) 1958:1–5; Trial Tr. (Wright) 586:11–21; Trial Tr. (Sweeney) 310:1–17; PX-2392.003. Google, of course, operates in the same market.}

Neither party grapples with the overarching issue of Apple’s choice of model and how it subsidizes certain developers. Rather, each side manipulates the “zero” commission rates on free or freemium apps to their advantage. Apple relies on analysis by Dr. Hitt who argues that the average commission rate in FY2019 was 8.1% for game apps and 4.7% for all apps while Dr. Evans and Dr. Cragg ignore the category all together. Ultimately, neither analysis is helpful.\footnote{Ex. Expert 6 (Hitt) ¶ 180; Ex. Expert 13 (Cragg) ¶ 98; Ex. Expert 16 (Evans) ¶ 50; Trial Tr. (Hitt) 2198:24–2200:6. Similarly unhelpful is Dr. Cragg’s analysis of average dollar amounts of Apple’s commission. Ex. Expert 13 (Cragg) ¶¶ 99–101. These numbers are coextensive with developers charging higher prices; absent some evidence that Apple caused them to do that, the analysis simply reflects broader growth in the industry. Ex. Expert 6 (Hitt) ¶ 174; Trial Tr. (Hitt) 2110:9–2111:21.} Developers and Apple have learned that the freemium model is significantly more lucrative than the alternatives given the ability for impulse purchases. For those, the commission rate remains at 30% notwithstanding the choice of other developers.

Last, Apple argues that the 30% rate is commensurate with the value developers get from the App Store. This claim is unjustified. One, as noted in the prior section, developers \textit{could} decide to stay on the App Store to benefit from the services that Apple provides. Absent competition, however, it is impossible to say that Apple’s 30% commission reflects the fair market value of its services. Indeed, at least a few developers testified that they considered Apple’s rate to be too high for the services provided.\footnote{Trial Tr. (Simon) 377:3–10; Trial Tr. (Fisher) 911:4–11 (Apple received developer complaints that the rate is too high).} Two, Apple has provided no evidence that the rate it charges bears any quantifiable relation to the services provided. To the contrary, Apple started with a proposition, that proposition revealed itself to be incredibly profitable and there appears to be no market forces to test the proposition or motivate a change.

\footnote{Ex. Depo. 8 (Cue) 135:8–136:14, 137:23–138:14. Thus, the initial rate was at least partly protected by the iPhone’s “newness” and may not reflect a competitive rate.}
Accordingly, the Court finds that Apple’s restrictions on iOS game distribution have increased prices for developers. In light of Apple’s high profit margins on the App Store, a third-party store could likely provide game distribution at a lower commission and thereby either drive down prices or increase developer profits. The Court must reserve on whether Apple’s restrictions have increased prices for consumers as the evidence is mixed. See, e.g., Trial Tr. (Simon) 355:17–356:17; Trial Tr. (Sweeney) 97:7–14; Ex. Depo. (Ong) 74:8–12; see also Ex. Depo. 12 (Gray) 176:23–178:2; PX-0533.010 (even within the Apple ecosystem, app prices are higher on platforms where Apple charges 30% rather than 15%).

Here, Epic Games’ role as a consumer is not in the traditional sense but only in the sense of a consumer of transactions with traditional consumers. This issue was not the focus of this trial.

c. Decreased Output

The parties dispute impact on output. Apple argues that the amount of iOS game output has increased over time. On this, the Court agrees. The evidence shows that iOS game transactions exploded by 1,200% since 2008, with double that growth in developer game revenue. However, that does not mean that Apple’s conduct is procompetitive. As Dr. Evans explained, “high-technology industries [often] grow extraordinarily rapidly” even where “a dominant firm emerges very quickly,” so “tremendous growth” in these markets is “commonplace.” Using growth as a competitiveness metric would “be essentially a free pass for high-tech companies.”

Unfortunately, what is needed is a comparison of output in a “but-for” world without the challenged restrictions. Such comparison is not in the record. Dr. Hitt provides some evidence that iOS game revenue grew faster than the game market as a whole and, importantly, that game revenue on iOS grew faster than on Android. Growth rates, however, are difficult to compare because of different initial starting points. Moreover, even assuming that iOS gaming revenue grew faster than the market, it is difficult to attribute that growth to the App Store (as opposed to, for instance, superior iPhone hardware or user experience). Thus, the high output may have been even higher without Apple’s restrictions.

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487 See, e.g., Trial Tr. (Simon) 355:17–356:17; Trial Tr. (Sweeney) 97:7–14; Ex. Depo. (Ong) 74:8–12; see also Ex. Depo. 12 (Gray) 176:23–178:2; PX-0533.010 (even within the Apple ecosystem, app prices are higher on platforms where Apple charges 30% rather than 15%).

488 The growth in iOS game transactions corresponds to both strong growth in the gaming industry and strong growth in iPhone and iPad sales. Ex. Expert (Hitt) ¶¶ 183–189. These factors could cause mobile game transactions to grow even if Apple’s restrictions are anticompetitive.

489 Trial Tr. (Evans) 2366:22–2367:8; Ex. Expert (Hitt) ¶ 183.

490 Game revenue grew by 2,600% between 2010 and 2018 on iOS but only 367% between 2013 and 2018 on Android. Ex. Expert 6 (Hitt) ¶¶ 183–184.

491 Ex. Expert (Hitt) ¶¶ 183–185; Ex. Expert 7 (Lafontaine) ¶ 100; Trial Tr. (Hitt) 2083:8–18; Trial Tr. (Evans) 1721:11–18; Ex. Expert 16 (Evans) ¶ 75.
Dr. Evans, on the other hand, opines that a high commission reduces output because it leads to higher prices that cause consumers to purchase less, which reduces the number of viable games. Some evidence supports that view. For instance, Apple has recognized that some developers have taken the position that they do not have the margin to support the 30% commission, which is “prohibitive [of] many things.” The magnitude of the effect, however, is unclear.492 Thus, there is no evidence that a substantial number of developers actually forego making games because of Apple’s commission.493

Thus, the analysis is insufficient to determine that Apple’s restrictions had either a negative or a positive impact on game transaction volume.

d. Decreased Innovation

Next, Epic Games argues that Apple’s app distribution restrictions harm innovation. Epic Games makes two arguments. First, it argues that Apple’s 30% commission imposes a burden on developers, who either reduce their game investment or forego making games altogether as a result. Part of this argument is related to output and fails for the same reason: Epic Games has not shown that any developer actually stopped making games because of Apple’s commission, albeit they may reduce investment.494 This, however, is a natural corollary of having to pay app store commissions and does not present a separate argument for anticompetitive effects, particularly since third-party stores would likely continue charging commissions.

Second, Epic Games argues that Apple’s restrictions have reduced innovation in game distribution itself. The parties agree that the App Store provides features besides distribution, including search and discoverability to help users discover games, in-app payment processing, developer tools, and security.495 Competition could improve each of these features: a third-party

492 Epic Games cites testimony that Apple is aware of “some developers” who said that they would not launch native iOS apps because of Apple’s 30% commission. Ex. Depo. 8 (Cue) 150:5–12.

493 Ex. Expert 1 (Evans) ¶ 275; Trial Tr. (Schiller) 3111:7–14; PX-0438.

494 Trial Tr. (Sweeney) 92:8–13.

495 As explained in this Order, in-app payment processing is an integrated part of the App Store. That does not, however, mean that it would not benefit from competition. Third-party app stores could provide substantial innovation in payment processing by incorporating more developer-friendly tools (such as, for example, easy refunds). Thus, all of the anticompetitive effects listed in the next section for in-app payment processing apply to Apple’s restrictions on distribution.
app store could provide better “matchmaking” between users and developers, could have simpler in-app payments, and could impose a higher standard for app review to create more security.496

Notably, Apple conducted developer surveys in 2010 and 2017. Comparing the two indicates that Apple is not moving quickly to address developer concerns or dedicating sufficient resources to their issues. Innovators do not rest on laurels. While more developers may be “satisfied” or “very satisfied” than not, a significant portion are not.497 For example, a top reason for dissatisfaction with the App Store is lack of functions which other platforms have, such as personalized recommendations.498 An email summarizing 2018 write-in answers suggests that developers perceive the App Store as lacking features common to other platforms. For instance:

- “Apple store needs to have ‘smart search’ ability. Having to require customers to spell names exactly correct in this age is ridiculous for a multi-billion dollar company.”
- “[T]he search algorithm is terrible. It is a rating based algorithm rather than a name search. I can search for my apps and type their EXACT name and they still won’t come up. I may even need to scroll down 100s of pages before my app shows up.”
- “Discoverability is still a significant challenge on the App Store (even after last year’s update). Our organic downloads for games on Steam are much higher than our games on the App Store, even though the App Store has more active users. This doesn’t make sense.”
- “The App Store desperately needs A/B testing. On Google Play, I’ve been able to optimize my store listing and because of that, I’ve been able to see unbelievable growth. If Apple added A/B testing for App Store listings, everyone would see a lift in downloads and ultimately more revenue for developers as well as Apple.”

496 See Trial Tr. (Evans) 1560:12–25 (search and discovery is the “core element of what any store does”); Trial Tr. (Schmalensee) 1954:3–9 (App Store provides “matchmaking”). But see Trial Tr. (Evans) 1502:15–1503:18 (excluding in-app payment processing).

497 The Court acknowledges that the survey data includes five categories (Very Satisfied, Somewhat Satisfied, Neutral, Somewhat Dissatisfied and Very Dissatisfied) and that if combining the two “satisfied” categories, more developer fall within that zone than the two “dissatisfied” categories. That said, by adding in those who are “Neutral,” Apple rating is more in the range of 60-40. See generally DX-3922.

498 Ex. Expert 1 (Evans) ¶¶ 191–192, 196; DX-3922.066, .072, .074; DX-3877.019; see also DX-3800 (2015 survey). Apple responds by pointing to search ads, which it enabled in 2016 in response to these complaints. Trial Tr. (Cook) 3889:16–3890:2; PX-2284.006. That said, developers must pay for these search ads and competitors may use them to artificially drive traffic, which decreases overall app discoverability. See Ex. Depo. (Ong) 59:14–60:14. Thus, the search ads are, at best, a mixed blessing for poor overall matchmaking.
Indeed, Apple’s own former Head of App Review, Philip Shoemaker, has described the App Store as “antiquated,” with “no radical innovation, only evolution” for the last ten years.\footnote{PX-0098.001; see Ex. Depo. (Shoemaker) 31:03–05, 64:13–64:20.}

In addition, developers complain that app review guidelines lack clarity and are inconsistently applied.\footnote{E.g., Ex. Depo. (Ong) 62:15–64:16; Ex. Depo. (Shoemaker) 126:20–23; Trial Tr. (Simon) 384:7–385:8.} Part of this issue stems from the sheer number of apps submitted with only 500 human reviewers. Apple has been slow either to adopt automated tools that could improve speed and accuracy or to hire more reviewers.\footnote{Trial Tr. (Kosmynka) 1083:12–15, 996:7–12; PX-0137.001 (Google had automated review before Apple). \textit{But see} DX–3642 (describing App Store redesign in response to developer complaints). \textit{See also} Ex. Expert 11 (Rubin) ¶ 57.} As discussed further below, Apple’s in-app payment processing tool also lacks features.

Apple’s slow innovation stems in part from its low investment in the App Store. As Mr. Barnes described, “[o]nly a small amount of direct and allocated R&D . . . [flows] . . . to the Apple App Store.” Apple argues that Epic Games fails to account for R&D that affects multiple lines of the business, which counts as joint costs. Even Dr. Schmalensee admitted that the estimates, which were put together specifically for Apple’s CEO, show very little R&D allocated to the App Store. Thus, even if the Court accepts that some App Store revenue goes to features that indirectly benefit developers, like hardware, the evidence remains that “core” matchmaking features of the store see little investment.\footnote{Ex. Expert 1 (Evans) ¶¶ 187–189; Ex. Expert 2 (Barnes) ¶¶ 19–22; Trial Tr. (Schmalensee) 1902:2–4, 1981:16–1982:5; PX-2385.024.}

Ultimately, the point is not that the Apple provides bad services. It does not: most developers are satisfied with the App Store, particularly with its developer tools.\footnote{E.g., DX-3922.063. Apple also cites surveys showing very high user satisfaction with the iPhone. DX-4275.205; DX-4089.056. The surveys, however, concern the device as a whole and, if anything, reinforce the lesser role played by third-party apps. Thus, the most important features driving purchasing decisions all relate to hardware—battery life, performance, durability, and ease of use—which also form the top reasons for considering other devices. DX-4089.010, .035, .037. By contrast, only 28% of users consider third-party apps an important “other” aspect of their iPhone purchase decision. DX-4089.012.} Rather, the point is that a third-party app store could put pressure on Apple to innovate by providing features that Apple has neglected. Because this competition is currently precluded, Apple’s restrictions reduce innovation in “core” game distribution services.
e. **Other Effects**

Epic Games raises two other potential anticompetitive effects. First, Epic Games argues that Apple self-preferences its own apps.\(^{504}\) Using partial testimony from Mr. Shoemaker, plaintiff claims that Apple used the app review process “as a weapon against competitors” and placed “barriers” between competitor apps, while using the data obtained through app review to create its own apps. For example, Apple Arcade has been allowed on the store, despite being a store within a store. Google Voice, on the other hand, was rejected on “pretextual grounds” because of Apple’s concern that the iPhone will “disappear . . . in guise of a Google phone.”\(^{505}\)

Upon review, the proffer is weak. Mr. Shoemaker clearly believes that Apple misuses its app review process. Aside from his limited deposition excerpts, however, there is little objective evidence of self-preferencing. For instance, Apple Arcade apparently complies with App Store requirements that each game be individually downloaded.\(^{506}\) There is thus at least a factual dispute about whether it accords with the guidelines. As to Google Voice and Rhapsody, even Mr. Shoemaker acknowledges that they were “the first of their kind” and that “Apple just didn’t know how to respond” during app review.\(^{507}\)

Second, Epic Games argues Apple’s restrictions reduce “middleware” that could decrease switching costs and increase competition. Dr. Athey testifies broadly to this effect, opining that new platforms face a “chicken-and-egg” problem where they have to attract users through apps but have to attract developers through users. Middleware could help reduce these costs by allowing for app porting from one platform to another.\(^{508}\) As noted above, Dr. Athey’s analysis is plausible but wholly lacking in supporting evidence. She does not show that even her preferred examples of middleware, such as the multi-platform store Steam, have meaningfully

\(^{504}\) Epic Games argues that Apple self-preferences its apps in search, but provides little evidence in support. In one email, an Apple employee states that Mr. Fischer, “feels extremely strongly about not featuring our competitors on the App Store,” but Mr. Fischer says she was misinformed. PX-0058.001; Trial Tr. (Fischer) 954:12–955:12. Another email describes “boosting” certain apps over Dropbox, but Mr. Fischer immediately reversed the decision. PX-0052. As to search, Mr. Schiller testified that Apple does not use search ads for its own products, and Epic Games has not shown otherwise. Trial Tr. (Schiller) 2819:13–14.

\(^{505}\) Ex. Depo. (Shoemaker) 75:14–77:02, 78:13–78:24, 84:16–85:08, 88:02–88:08; PX-0099.006. Epic Games also cites evidence of developers’ complaints that Apple’s “apps are permitted to do things they are not.” PX-0858.002; Trial Tr. (Kosmynka) 1028:11–1030:4. The proffered evidence has no context so it cannot be evaluated.

\(^{506}\) Trial Tr. (Athey) 1854:6–16.

\(^{507}\) PX-0099.005.

increased new entrants, particularly since each platform still requires its own APIs. Thus, the
evidence does not support anticompetitive effects in this area.

2. Business Justifications

Apple asserts two business justifications for its app distribution restrictions. First, it
argues that prohibitions on third-party app stores helps ensure a safe and secure ecosystem. This
benefits both users, who enjoy stronger security and privacy, and developers, who benefit from a
larger audience drawn by these features. It also benefits Apple, which uses privacy and security
as a competitive differentiator for its devices and operating system.

Second, Apple claims that the distribution restrictions are part of its intellectual property
licensing arrangement for which it is entitled to be paid. As the owner of the devices and
operating system, Apple could choose not to license its IP and remain the exclusive developer of
iOS apps. Instead, Apple has actively licensed, developed, and improved its IP for others, but
only on the condition of iOS remaining a “walled garden.” Thus, Apple argues that its
contractual restrictions are necessary to protect its IP investments and prevent free riding.

Epic Games responds that each of these justifications is pretextual. Apple’s commission
is wholly disconnected from—and not motivated by—its intellectual property investments. Epic
Games also contends that an exclusive app store is not necessary to maintain security, which can
be achieved through less restrictive means, such as notarization.

The Court examines the evidence for each.

509 See id. ¶ 67; Ex. Expert 6 (Hitt) ¶¶ 261–262 (while Steam decreases costs to offer
games across platforms, it does nothing for costs to develop them).

510 In its Findings of Fact, Apple focuses heavily on the procompetitive nature of app
stores in general. Thus, Apple argues that before it introduced the App Store, distribution was
limited to the web, and that the App Store launched a new wave of innovation that benefited
consumers and developers alike. Apple FOF ¶¶ 545–548. Since Epic Games does not challenge
Apple’s right to maintain the App Store but only its restrictions on other distribution—which
may provide similar or equivalent benefits—these procompetitive effects are not directly tied to
the challenged conduct.

511 Apple FOF ¶¶ 581–595; Trial Tr. (Schiller) 2734.21–2735:2, 2830:25–2831:3; Ex.
Expert 11 (Rubin) ¶¶ 23, 56–59; Trial Tr. (Sweeney) 93:8–11; Trial Tr. (Evans) 1689:16–
1690:8; Ex. Expert 8 (Schmalensee) ¶¶ 52–54.

512 Apple FOF ¶¶ 596–602; Ex. Expert 12 (Malackowski) ¶¶ 15–19, 26, 42, 51, 54.

513 Epic Games FOF ¶¶ 564–700; see also Trial. Tr. (Malackowski) 3662:13–17,
a. Security, Privacy, and Reliability

Beginning with the security justification, the Court notes at the outset that the parties adopt different definitions of security. Epic Games takes a narrow view of security as preventing an app from performing unauthorized actions or stealing user data. Thus, Epic Games’ security expert, Dr. Mickens, defines a “security property” as one that “make[s] an app easier to subvert” or allows it to “improperly interact with other apps” or “expose sensitive user data to potential theft or corruption.” 514

Apple, on the other hand, takes a broader view of security that includes user privacy, reliability, and “trustworthiness.” Its security expert, Dr. Rubin, opines that security concerns arise when an app targeted to children asks for a home address; when a simple Tic-Tac-Toe game requests microphone and camera access; when an app developer falsely represents their application; or when an app is so unreliable that its constant crashing endangers offline safety. Dr. Rubin also includes “objectionable content,” such as pornography and pirated apps, in his definition. 515 Because these apps perform no expressly unauthorized actions—and may be affirmatively authorized by the user—they raise different concerns than traditional malware.

The Court finds it useful to disaggregate these forms of security, as well as the two types of challenged restrictions (sideloading and “store-within-a-store”).

i. “Narrow” Security: Malware

Under a narrow conception of security, Apple protects from malware on iOS in at least four ways. First, Apple uses malware scanning programs to detect whether a piece of software corresponds to known malware. Second, it requires developers to register with a certificate and sign their code with that certificate so that malware can be traced back to a developer and code from unknown entities can be excluded. Third, it uses “sandboxing” to prevent an app from doing anything that the user has not authorized. 516 Fourth, it includes “reliability checks” on the App Store, which include automated app scanning, as well as human review. Together, these techniques create “layered” security that creates multiple barriers to malware. 517

All but the last of these malware protections are performed by the operating system or middleware independent of app distribution. Dr. Mickens thus opines that restrictions on app

514 Ex. Expert 5 (Mickens) ¶ 49.

515 Ex. Expert 11 (Rubin) ¶¶ 18–21. Mr. Federighi testified that security means “protecting users’ data and protecting their control over the device, making sure that what happens on their device is what the user intended and isn’t being manipulated by a bad actor.” Trial Tr. (Federighi) 3358:5–8. This definition encompasses Dr. Rubin’s examples.

516 “Sandboxing” may encompass other techniques, such as memory isolation and address space layout randomization. Trial Tr. (Federighi) 3376:4–3378:14; Ex. Expert 5 (Mickens) ¶¶ 24–37.

distribution are not necessary because the operating system implements all of the key security
features. App review, by contrast, provides only secondary checks on sandbox compliance,
exploit resistance, and malware exclusion, as well as “non-security” factors like privacy and
legal compliance.518

Importantly, however, Dr. Mickens focuses only on preventing unauthorized app
functions. He opines that his preferred techniques work by removing “decision-making” power
from applications and vesting them in the operating system. The OS then resolves the decision
by prompting users for consent. Thus, even though the OS is formally making decisions, the
user ultimately determines access.519 The evidence shows, however, that this may not be enough
to protect security because users often grant permissions by mistake. Mr. Federighi credibly
testified that malware may use “social engineering” techniques to trick the user into granting
access and evade operating system defenses. For example, malware may represent itself as a
dating app to ask for photo access—which it can then encrypt and hold for ransom against the
user. Epic Games did not explain how, if at all, the operating system can protect against this
type of behavior.520

Moreover, system-level protections do not fully prevent downloading malware in the first
place. As Dr. Rubin plausibly opines, “[i]t is unwise to first trust users to download malicious
apps, and then try to subsequently detect malicious apps and deny giving malicious apps the
permissions they might request.”521 The evidence shows that social engineering attacks act as a
dominant vector of malware distribution. A 2020 Nokia report indicates that “[i]n the
smartphone sector, the main venue for distributing malware is represented by Trojanized
applications,” which trick users into downloading by posing as a popular app. For example, a
malicious app may represent itself as free Microsoft Word to obtain downloads. A 2020
PurpleSec report confirms that “98% of cyberattacks rely on social engineering.”522

For these types of attacks, human app review plays a meaningful role. During app
review, a human reviewer confirms that an app corresponds to its marketing description. This
prevents the “trojan” attacks described above, where malware tricks users into download by
posing as another popular app. The human reviewer also checks that the app’s entitlements are
reasonable for the task it purports to accomplish. Thus, a Tic-Tac-Toe game may be rejected if it
asks for camera access or health data. Last, although not directly related, app review checks for

518 Ex. Expert 5 (Mickens) ¶¶ 6–9, 66–70; Trial Tr. (Mickens) 2559:5–12, 2571:24–
2572:5.

519 Ex. Expert 5 (Mickens) ¶ 23, 72.

520 Trial Tr. (Federighi) 3371:3–3372:1, 3379:10–3380:13; Ex. Expert 11 (Rubin) ¶ 27.

521 Ex. Expert 11 (Rubin) ¶ 30 (emphasis in original).

522 DX-4975.008; DX-4956.006; Ex. Expert 11 (Rubin) ¶ 96; Trial Tr. (Federighi)
3370:2–12; Trial Tr. (Rubin) 2763:1–9.
offline safety issues. Although these tasks are straightforward, they require human review and cannot be implemented by a computer or operating system.523

The Court agrees with Epic Games that this process is imperfect. Apple has limited ability to prevent “Jekyll and Hyde” apps that change their behavior after review, and allows some malware to slip through.524 However, the overall error rate appears to be relatively small, with Apple’s former head of app review testifying that it was around 15% in 2015. Mr. Federighi confirmed that the error rate is generally small.525

Removing app distribution restrictions could reduce this effectiveness. First, app stores often differ in the quality of app review. On Android, which allows some third-party app stores, the main Google Play app store is secure, but a variety of third-party stores allow blacklisted apps to operate.526 A Nokia report attributes higher malware rates on Android to Trojan apps on third-party app stores. This creates a problem because, as Dr. Rubin opined, “security is only as strong as the weakest link.”527 Decentralized distribution thus increases the risk of infection by giving malware more opportunities to break through. Namely, if even one app store permits

523 Trial Tr. (Federighi) 3384:22–3388:7; Trial Tr. (Kosmynka) 1087:9–21, 1090:22–1094:1; Ex. Expert (Rubin) ¶¶ 31, 36–37. Human review may also provide some benefit against novel and well-hidden malware attacks. Dr. Rubin explains that automated tools investigate based on past threats to flag content, which makes them less able to detect novel attacks. Mr. Kosmynka acknowledged that his team has found new types of threats not picked up by automated tools. He also testified that his team finds well-hidden features not picked up by automated tools, including bait and switch. Trial Tr. (Kosmynka) 1108:1–1109:11, 1095:23–1103:8; Ex. Expert (Rubin) ¶ 40.

524 These issues appear to have preceded Apple’s use of dynamic analyzers, which may partly address the problem. See PX-0465; Trial Tr. (Kosmynka) 996:7–19, 1098:17–25.

525 PX-0465; PX-0335.006; Ex. Depo. (Shoemaker) 133:20–134:9; Trial Tr. (Federighi) 3486:15–23. Both parties also cite statistics about the overall rejection rate of app review. That says nothing about the error rate. Apps may be approved or rejected for proper and improper reasons. Trial evidence did not focus on this later issue.

526 The parties debate whether Android is less secure than iOS. Although some industry publications show greater malware on Android, Dr. Mickens testified that they are in the same “rough equivalence class.” The Court need not resolve this dispute because Android differs in other ways, such as lack of app certification and weaker sandboxing, that could affect malware rates independent of app distribution. E.g., DX-4975.008; DX-4956.004; DX-4959; see Trial Tr. (Mickens) 2558:16–2260:8, 2630:12–2631:11; Trial Tr. (Rubin) 3774:3–2777:16.

527 Ex. Expert 11 (Rubin) ¶ 87. Of course, third-party app stores could also have increased security than Apple. For example, a Disney app store would plausibly screen apps more rigorously than Apple. Trial Tr. (Mickens) 2697:12–21.
malware to operate (either accidentally or as a “rogue” app store), a social engineering attack has a chance to work.528

Second, with respect to sideloading, app review is likely impossible and thus could not prevent social engineering attacks. Apple currently prevents direct distribution from the web using technical measures. If those measures were lifted, users could download—and thus could be tricked into downloading—directly from the open web. Although Epic Games presents some alternative methods that could be used to prevent malicious direct distribution (which are discussed below), there is little dispute that completely unrestricted sideloading would increase malware infections.529

Thus, the Court finds that centralized distribution through the App Store increases security in the “narrow” sense, primarily by thwarting social engineering attacks.

ii. “Broad” Security: Privacy, Quality, Trustworthiness

With respect to a “broader” definition of security, there is less dispute that app distribution restrictions help ensure privacy, quality, and trustworthiness. This again, stems primarily from human app review.

Privacy: Dr. Mickens agrees that computers “lack a generic way to detect which instances of user-submitted touchscreen data contain private information.” While the OS can detect app access to computer-generated private data (camera roll), it lacks the capacity to distinguish private from nonprivate user entries. Dr. Mickens agrees that human app review can aid in this process, but opines that Apple does a poor job in practice. His only evidence for this is a Wall Street Journal that reports user tracking on popular iOS apps; he did not analyze any internal Apple data for this opinion.530

Apple, by contrast, proffers some evidence that the App Store imposes heightened privacy requirements. For instance, Apple requires developers to publish “privacy labels” that disclose data collection as a condition of being listed on the App Store. It also adopts the stricter privacy policies required by the European Union worldwide, including user opt-out. Not all developers like these requirements; presumably because it impacts their own bottom line. Thus, privacy concerns may be more at risk with loosened app distribution restrictions. Under the

528 DX-4401.005; DX-4975.008; Ex. Expert 11 (Rubin) ¶¶ 47–49, 87–89. The parties also debate whether centralization of app review increases or decreases its effectiveness. Dr. Mickens opines that having many stores perform app review puts more “eyeballs” on the problem and decreases the burden on any one store. Dr. Rubin opines that it fragments learning and makes each store less knowledge. The Court finds both effects plausible, but lacks evidence on their comparative magnitude. Trial Tr. (Mickens) 2702:7–21; Ex. Expert 11 (Rubin) ¶ 93.

529 Trial Tr. (Federighi) 3388:24–3389:12, 3416:6–16; Trial. Tr. (Cook) 3884:22–3885:11; Ex. Expert 11 (Rubin) ¶ 54; see also Trial Tr. (Mickens) 2709:23–2710:2 (describing this model as “absolute mayhem”).

530 Ex. Expert 5 (Mickens) ¶¶ 71–75; Trial Tr. (Mickens) 2631:16–21.
current model, large developers who rely on advertising for monetization must comply or leave the App Store to avoid these requirements. Accordingly, privacy, more than other issues, likely benefits from some app distribution restrictions.

**Quality:** A variety of content may be safe but objectionable, including pornography, gambling, and inappropriate marketing to children. Mr. Kosmynka testified that human app review is necessary to detect such content because computers cannot do it alone. Importantly, offensiveness is highly context dependent, which makes it difficult to automate. For example, nudity may be appropriate in a medical app but inappropriate in other contexts.

Epic Games responds that Apple’s app review still allows objectionable apps. For example, it points that school shooting games have appeared on the App Store. However, this data is largely anecdotal and fails to provide a comparison to the “but-for” world where app review did not take place. Thus, app distribution restrictions likely reduce offensive content available on Apple’s devices.

**Trustworthiness:** App review also protects against scams and other fraud, such as pirated or copycat apps. Dr. Mickens did not consider this aspect in his security analysis and admitted that his opinion about the value of human app review may change if these issues are

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531 As explained above, the evidence suggests that decentralized distribution benefits primarily large developers, who do not need to rely on a centralized app store to be discovered. While these developers are unlikely to sell outright malware, they are quite likely to monetize user data, which makes privacy a particularly sensitive issue.

532 DX-5335.015; Trial Tr. (Cook) 3847:15–3848:21; Trial Tr. (Federighi) 3408:2–3410:4, 3422:17–2423:15; Trial Tr. (Schiller) 3166:6–15; Ex. Expert 11 (Rubin) ¶ 84. Apple also cites “app tracking transparency” as a feature that protects user privacy. The record is not clear, however, whether this feature is implemented by the App Store or by the OS. To the extent that it is implemented by the OS, app review may play a more limited role in ensuring that apps do not incentivize relinquishing privacy. Trial Tr. (Schiller) 3166:22–3167:7; Trial Tr. (Federighi) 3407:73–408:1, 3410:5–9.

533 PX-0131; PX-1938; PX-1939; Trial Tr. (Kosmynka) 1085:19–1087:8, 1108:20–1109:11; Trial Tr. (Schiller) 3154:7-24; see also Trial Tr. (Mickens) 3673:16–23 (agreeing that system-level protections do not protect against inappropriate content).

534 The alleged “BDSM” apps proved hollow and demonstrates the problem with highly provocative and sexual photos as an enticement to download apps geared towards dating that ultimately does not contain pornographic material. This merely reinforces the subjective and context-dependent nature of “objectionable” content. See PX-0131; PX-1938; PX-1939. Trial Tr. (Kosmynka) 1085:19–1087:8, 1108:20–1109:11; Trial Tr. (Schiller) 3154:7–24.
included. He also agreed that system-level protections do not protect users against this type of content, which confirms that human review is necessary.535

As with objectionable content, Epic Games responds by showing that scams still slip through app review.536 For the same reasons, this anecdotal evidence does not show that scams and other fraud would not be higher without app review. Thus, the Court finds that app distribution restrictions increase security in the “broad” sense by allowing Apple to filter fraud, objectionable content, and piracy during app review while imposing heightened requirements for privacy.

iii. Impact on Market

These protections have an impact on users, developers, and Apple. First, app review provides Apple with a competitive differentiator. When Apple first launched the App Store, it sought to “strike a really good path” between the dependability of a closed device and the ability to run third-party apps of a PC. As Mr. Jobs explained:

It is a dangerous world out there. There are mobile viruses of all sorts that people have to put up with and so we’ve tried to strike a really good path here. On one side you’ve got a closed device like the iPod, which always works. You pick it up, it always works because you don’t have to worry about third party apps mucking it up. And on the other side you’ve got a Windows PC where people spend a lot of time every day just getting it back up to where it’s usable and we want to take the best of both. We want to take the reliability and the dependability of that iPod and we want to take the ability to run third party apps from the PC world but without the malicious applications.537

Since then, security and privacy have remained a competitive differentiator for Apple. Mr. Cook testified that privacy is “a very key factor, one of the top factors who people choose Apple.” The documents bear this out: internal surveys show that security and privacy was an important aspect of an iPhone purchasing decision for 50% to 62% of users in most countries—and over 70% in India and Brazil—and an important part of an iPad purchasing decision for 76% to 89% of users. Indeed, Mr. Sweeney himself owns an iPhone in part because of its better security and privacy than Android.538

535 Trial Tr. (Kosmynka)1088:18–1090:16; Trial Tr. (Mickens) 2673:2–7, 2673:24–2675:17, 2679:21–2680:1, 2685:8–18.0

536 See, e.g., PX-0060; PX-0371.

537 PX-0880.025.

538 Trial Tr. (Cook) 3848:22–3849:7; Trial Tr. (Sweeney) 302:19–303:4; DX-4089.012; DX-3465.024.
Second, there is evidence that Apple’s restrictions benefit users. As noted above, many users value their iOS devices for their privacy and security. As the result of having a trusted app environment, users make greater use of their devices, including by storing sensitive data and downloading new apps. The witnesses are unanimous that user security and privacy are valid procompetitive justifications.539

Third, the evidence on developers is mixed. On the one hand, developers experience delays and mistaken rejections that would not occur with sideloading or distribution through stores without app review. On the other hand, developers benefit from the safe environment created by the App Store. Based on a trusted environment, users download apps freely and without care, which benefits small and new developers whose apps might not be downloaded if users felt concern about safety. This is consistent with the indirect network effects identified by Dr. Schmalensee: the small burden on developers maintains a healthy ecosystem that ultimately benefits both sides. Thus, the evidence shows that developers both benefit and suffer from app distribution restrictions.540

iv. Alternatives

Epic Games argues that the security and privacy benefits described above can be achieved without app distribution restrictions. As explained, most of the benefits derive from app review, which screens for social engineering attacks, filters fraud and offensive content, and impose heightened privacy requirements. Epic Games argues that the same benefits can be achieved in other ways. It focuses on two alternative models.

First, under an “enterprise program” model, Apple could focus on certifying app stores instead of apps. The Enterprise Program is an existing model for distributing apps on iOS where companies apply to distribute apps within its organization. Apple reviews the company and, if conditions are met, gives it a certificate that allows it to sign apps for distribution. Although the program has occasionally been abused, it shows that Apple could shift its review from apps to app stores, while continuing to impose standards for privacy and security.541

539 See Trial Tr. (Evans) 1689:22–24 (“[p]rotecting iPhone users from security threats is a procompetitive benefit”), 2415:10–13 (same for protecting users from offensive content); Trial Tr. (Sweeney) 193:3–9 (recognizing importance of privacy and security); Trial Tr. (Federighi) 3421:19–3422:7 (describing importance of security to ecosystem).

540 Trial Tr. (Simon) 384:7–385:8; Trial Tr. (Grant) 727:22–730:4; Ex. Depo. (Ong) 62:15–65:25; Trial Tr. (Federighi) 3421:16–3422:7; Ex. Expert 8 (Schmalensee) ¶ 52.

541 Ex. Expert 5 (Mickens) ¶¶ 56–58; Trial Tr. (Mickens) 2585:24–2586:19, 2667:12–2670:1; Trial Tr. (Federighi) 3412:23–3415:17; Trial Tr. (Schiller) 3145:22–3146:8. For example, Apple could demand that third-party app stores require “privacy labels” and fraud prevention as a condition of certification. Indeed, Apple already implements this model for social media apps, which can (and do) host objectionable content but which implement their own content moderation. Trial Tr. (Evans) 2418:14–2419:1; Trial Tr. (Federighi) 3469:9–25 (noting that Parler was removed from the App Store based on inadequate content moderation).
Second, under a “notarization” model, Apple could continue to review apps without limiting distribution. The notarization model is currently used on macOS. There, Apple scans apps using automatic tools and “notarizes” them as safe before they can be distributed without a warning. Apps can still be distributed through the Mac store (with complete app review) or with a warning if not notarized, but notarization provides a “third path” between full app review and unrestricted distribution. In theory, notarization review could be expanded to include some of the checks Apple currently performs in the App Store, such as human review.542

The notarization model is particularly compelling because Apple contemplated a similar model when developing iOS. iOS is based on macOS and share the same kernel. Documents show that Apple initially considered using app signing for security while allowing developers to distribute freely on iOS. As one document explains, “[a]pp [s]igning does not imply a specific distribution method, and it’s left as a policy decision as to whether signed applications are posted to the online store, or we allow developers to distribute on their own.” This shows that Apple could continue performing app review even if distribution restrictions were loosened.543

Apple responds to Epic Games’ proposed alternatives in several ways. First, it disputes that the Enterprise Program provides a comparable model because it is used primarily for employers, who rarely want to hack their own employees. That is factually true, but provides little insight as to why a modified model could not work. Apple points to unspecified evidence that the Enterprise Program has been used to distribute malware. As with Epic Games’ evidence of fraud on the App Store, this does not show that the program is unsecure as a general matter.544

Second, it claims that Mac faces a different threat model and has more malware than iOS. Mr. Federighi testified that users download apps more casually on mobile devices than on computers and frequently use them to store more valuable data. The Mac model was also adopted at a time when users expected to freely download from the Internet, which limited Apple’s ability to impose greater restrictions given customer expectations. In any case, Mr.

542 Ex. Expert 5 (Mickens) ¶¶ 85–87; Trial Tr. (Federighi) 3380:19–3381:11, 3463:9–3467:16; see DX-5492.103–.104.

543 PX-2756; Trial Tr. (Federighi) 3358:9–21; Trial Tr. (Mickens) 2593:13–2594:15; Ex. Expert 5 (Mickens) ¶¶ 13, 46, 89–96; PX-0877.100–.300; PX-0875.002. Under the notarization model, Apple also retains the ability to revoke notarization and turn off developer accounts associated with malware. Depending on the scope of the option, this could address Mr. Federighi’s concern that decentralized distribution creates a “whack-a-mole” problem. Trial Tr. (Rubin) 3794:14–3795:8; Trial Tr. (Federighi) 3392:4–20, 3451:14–2452:6.

544 For instance, it is difficult to imagine that Microsoft would be a source of malware for iOS users. See Trial Tr. (Mickens) 2668:16–2671:15 (explaining that the Enterprise Program is just a “point in the design space”); Trial Tr. (Schiller) 3146:13–25.
Federighi testified that Mac has a “malware problem” compared to iOS. Even with notarization, 110 instances of malware broke through on the Mac in 2020.\textsuperscript{545}

While Mr. Federighi’s Mac malware opinions may appear plausible, they appear to have emerged for the first time at trial which suggests he is stretching the truth for the sake of the argument. During deposition, he testified that he did not have any data on the relative rates of malware on notarized Mac apps compared to iOS apps. At trial, he acknowledged that Apple only has malware data collection tools for Mac, not for iOS, which raises the question of how he knows the relative rates. Prior to this lawsuit, Apple has consistently represented Mac as secure and safe from malware.\textsuperscript{546} Thus, the Court affords Mr. Federighi’s testimony on this topic little weight.

In any case, even if notarization is less secure on Mac, that only shows the limits of malware scanning. If Apple implemented a more fulsome review, similar to the type done on the App Store, there is no reason why the results would be different. Apple’s only response is that app review may not scale given developers’ expectation over timing. Given that app review is already required for all apps in the App Store, the scale itself does not appear to be a problem. The question is the amount of resources Apple allocates to the issue and supply of human reviewers. \textit{See supra} Facts § I.C.4.

Ultimately, the Court finds persuasive that app review can be relatively independent of app distribution. As Mr. Federighi confirmed at trial, once an app has been reviewed, Apple can send it back to the developer to be distributed directly or in another store. Thus, even though unrestricted app distribution likely decreases security, alternative models are readily achievable to attain the same ends even if not currently employed.\textsuperscript{547}

\textbf{b. Intellectual Property}

Turning to the intellectual property justification, the Court agrees with the general proposition that Apple is entitled to be paid for its intellectual property. The inquiry though does not end with the bald conclusion. Apple provides evidence that it invests enormous sums into developing new tools and features for iOS. Apple’s R&D spending in FY 2020 was $18.8 billion.\textsuperscript{548} This spending runs the gamut from hardware features like an Accelerometer

\textsuperscript{545} Trial Tr. (Federighi) 3362:2–3365:3, 3389:14–3390:8, 3393:4–25, 3394:1–19, 3401:3–24. Mr. Federighi also expressed confusion about how an enterprise model would work, including how a trustworthy store would be determined. Trial Tr. (Federighi) 3416:17–3417:7. These problems appear comparable determining app trustworthiness, which Apple has managed with adequate success, as described above.

\textsuperscript{546} \textit{Id.} 3432:19–3434:4, 3394:4–22; \textit{see, e.g.,} PX-0741.100, .500.

\textsuperscript{547} Trial Tr. (Federighi) 3510:5–15.

\textsuperscript{548} This number, which is taken from Apple’s SEC filings, covers Apple’s entire business. Internal financial documents suggest that only a small portion of this spending goes to
developed in 2007, to a gyroscope in 2010, stereo speakers in 2016, to LiDAR in 2020, all of which expand the device functions to software features that improve processing speed to combinations of the two, such as FaceTime. It also includes thousands of developer tools, SDKs, and APIs (150,000 today), many of which are directed specifically at game developers. For example, Metal is a tool that allows developers to create powerful computer graphics. Additionally, Apple has invested in longer battery file, and over the last decade, core processing units (CPU) have increased one hundredfold and relative graphic performance, one thousandfold. Mr. Schiller testified that each of these features enables game developers to create new and innovative games.549

Epic Games does not venture to argue that Apple is not entitled to be paid for its intellectual property, but rather claims that these investments have nothing to do with the App Store specifically. Apple disagrees. As with other issues in this trial, the answer is somewhere in between the two extremes but the evidence was not presented in a way to make a decision with precision. That said, the record is devoid of evidence that Apple set its 30% commission rate as a calculation related to the value of its intellectual property rights. Nor is there any evidence that Apple could not create a tiered licensing scheme which would better correlate the value of its intellectual property to the various levels of use by developers.550 More specifically, the evidentiary record is silent as to whether the $99 fee paid by developers whose entire app is “free,” like banks or other commercial entities, is correlated to the intellectual property as compared to the gaming developers who are paying 30% on each IAP transaction and who appear to be subsidizing most of the other app developers.

Thus, the Court finds that with respect to the 30% commission rate specifically, Apple’s arguments are pretextual, but not to the exclusion of some measure of compensation.

B. Anticompetitive Effects: In-App Payment Restrictions

1. Effects

Turning to the evidence regarding in-app payment restrictions, Epic Games focuses on the effects on price and quality. Although in-app payment processing is an integrated part of the App Store, the Court reviews its effects because third-party app stores could compete on in-app payment processing—and thus rectify some of the effects—if app distribution restrictions were loosened. The Court also considers procompetitive justifications unique to payment restrictions services like the iTunes store. Compare DX-4581.026 (total R&D) with PX-2385.024 (R&D breakdown).

549 DX-4581.026; Ex. Expert 12 (Malackowski) ¶¶ 22, 29–33; Trial Tr. (Schiller) 2878:2–2902:10. Other examples included a retina display in 2010, Taptic Engine in 2014, and Neural Engine in 2017. None of these developments are allocated to the App Store but all support games and other applications. Trial Tr. (Schiller) 2878:6–2885:6, 2893:3–2895:15.

550 See Trial Tr. (Malackowski) 3662:13–17.
as those relative to app distribution restrictions apply here as well. Lastly, the Court considers
the anti-steering provision, which presents a separate subissue.551

Starting with Epic Games’ two arguments, the Court notes that it has already discussed
them, which shows both pro- and anti- competitive benefits.552 See supra Facts § V.A.
Moreover, the analysis included the tradeoffs within privacy considerations. Id.

Apple’s experts opine on other benefits, in addition to fraud prevention. With respect
to the user side, Dr. Schmalensee opines that “IAP supports the ability of users to redownload apps
and in-app purchase on new devices, share subscriptions and in-app features with family
members, view their entire purchase history, and manage subscriptions from one place on their
phone,” all of which benefits users. While true, these benefits are also a reflection of the
dominating ecosystem. Dr. Athey counters that multi-platform payment processors would benefit users more
by enabling the same migration, control, and sharing across platforms.553 On the gaming side,
much of this is being done through cross-wallet and cross-platform play.

On the developer side, Apple argues IAP helps streamline in-app payment functions. By
providing a consistent and trusted user experience, IAP encourages users to spend freely, which
benefits developers through indirect network effects and has resulted in millions of dollars of
revenue. Again, as noted above, the ability to profit from impulse purchasing can be viewed as
both a sword and a shield in this context. For those developers who rely more heavily on Apple,
the benefit is greater than those like Epic Games who would prefer for the revenue stream to be
direct.

Beyond this significant feature, it is unclear what else IAP provides to developers. Apple
agrees that it is not a payment processor; Apple delegates actual payment processing to third-
parties, such as Visa. Mr. Fischer testified that IAP provides features as part of the “commerce
engine,” but all of those features relate to users or Apple. Indeed, Dr. Evans shows that IAP does

551 As with the app distribution restrictions, the Court uses “app” interchangeably with
“game” and does not distinguish game and non-game developers here. There is no evidence that
gamers experience the effects differently, and they are more likely to be affected by the
restrictions because of iOS games’ disproportionate use of IAP. See supra Facts §§ II.B.3, V.A.

552 Ex. Depo. (Ong) 169:24–173:06; see also Trial Tr. (Sweeney) 128:22–24; PX-
2362.300; Ex. Expert 8 (Schmalensee) ¶ 150; Ex. Expert 11 (Rubin) ¶ 127.

553 Ex. Expert 8 (Schmalensee) ¶ 150; Trial Tr. (Schmalensee) 1894:11–1895:12; Trial
Tr. (Schiller) 3187:1–6; Ex. Expert 4 (Athey) ¶¶ 76–78; cf. PX-2235.004 (email noting difficulty
of multi-platform in-app payments). Epic Games also argues that innovative features are
precluded, such as carrier billing, but the evidence on this point is scant. See PX-2302.013; Trial
Tr. (Evans) 1608:20–1609:12.

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nothing technically aside from returning payment information.\textsuperscript{554} Thus, there is no evidence that IAP provides developers with any unique features.\textsuperscript{555}

Apple cites three additional procompetitive business justifications for its payment processing restrictions. As with app distribution, Apple cites (i) security, including privacy and fraud prevention, (ii) collection of its commission, and (iii) compensation for its intellectual property. The Court addresses each justification only to the extent not already discussed above.

2. Business Justifications

   a. Security

   Dr. Rubin opines that by maintaining all transaction data in one place, \textit{i.e.}, centralization, Apple is better able to detect new patterns in fraudulent transactions using algorithms. Dr. Rubin also claims that Apple benefits from its visibility into the entire transaction, which allows it to verify certain transactions.\textsuperscript{556}

   As explained above, the Court agrees that decentralization may decrease security in some instances. The other arguments cut both ways. For instance, with respect to scale and fraud mining, Dr. Rubin suggests that having more “data points” will always lead to better fraud detection. Apple admits, however, that IAP is not the largest in-app payment service because it processes at most 3\% of in-app purchases.\textsuperscript{557} Thus, to the extent that scale allows Apple to better detect fraud, other companies could do it better because they process more transactions.

\textsuperscript{554} In its proposed findings of fact, Apple claims that IAP helps developers with currency conversion and tax collection, but its record citations do not support that claim. \textit{See} Apple FOF ¶ 692 (citing Ex. Expert 8 (Schmalensee) ¶¶ 153–154, which does not discuss these features).

\textsuperscript{555} Ex. Depo. (Forstall) 252:21–254:4; Trial Tr. (Schiller) 2798:14–19; Ex. Expert 8 (Schmalensee) ¶¶ 152, 154; Ex. Expert 1 (Evans) ¶ 229. Apple raises three additional arguments for IAP. First, it claims that the introduction of IAP “unlocked” the freemium model of monetization. Ex. Expert 8 (Schmalensee) ¶ 134. The parties dispute whether developers used this model on iOS before IAP. Either way, Apple does not claim that freemium requires IAP at present time (as opposed to some other in-app payment processor), so this does not present a current procompetitive benefit. Second, Dr. Schmalensee opines that IAP is “essentially free” to developers, who would need to build their own systems or obtain third-party services for payment processing otherwise. \textit{Id.} ¶ 152. In light of Apple’s 30\% commission, the Court is not persuaded that developers could not obtain these features more cheaply from other companies. Last, Apple claims that IAP helps prevent fraud and ensure privacy. This feature is addressed in the next section as a procompetitive justification.

\textsuperscript{556} Ex. Expert 11 (Rubin) ¶¶ 126–128.

\textsuperscript{557} Apple FOF ¶ 669; Ex. Expert 8 (Schmalensee) ¶ 170.
Similarly, with respect to data breaches, although a breach of a payment handler could expose some user data, a breach of Apple itself could expose all Apple users who use IAP.

One of Apple’s strongest arguments for IAP security was that it can verify digital good transactions. Unlike for physical goods, Apple uses IAP after confirming that the developer has actually delivered a digital good to the user and is entitled to the corresponding payment. The evidence shows, however, that Apple itself does not perform the confirmation. Apple’s Head of Pricing, Mr. Grey, testified that Apple simply asks the developer to confirm that delivery occurred and then issues a receipt. Apple has not shown how the process is any different than other payment processors, and any potential for fraud prevention is not put into practice.558

b. Commission Collection

Next, Apple claims that IAP provides the most efficient method for collecting its commission. Dr. Schmalensee opines that without IAP, Apple would have to rely on sellers to remit its 30% commission, with little recourse other than a lawsuit if the money was withheld. Due to the sheer volume of transactions on the App Store, this process could quickly become unwieldy.559

Epic Games does not directly dispute these claims. Instead, Epic Games challenges Apple’s entitlement to a 30% commission in the first place.560 Evidence exists to support both views as discussed above. See supra Facts §§ I.C.3., II.C., IV.A. The fact of commission is separate from the actual amount of the collection, which the Court addresses next.

A corollary point to this topic concerns Apple’s restrictions on developers’ ability to provide consumers with information about their transactions. Guideline Section 3.1.1 states that apps “may not include buttons, external links, or other calls to action that direct customers to purchasing mechanism other than in-app purchase.”561 This guideline does not prohibit steering toward purchasing mechanisms outside the App Store or its apps, such as on social media, as long as it does not target iOS users but other provisions imply as much.562

The competitive effects and justifications for the anti-steering provision are coextensive with those described for Apple’s commission previously. See supra Facts § V.A.

558 Ex. Expert 11 (Rubin) ¶ 128; Trial Tr. (Fischer) 958:12–959:2; Ex. Depo. 12 (Gray) 112:18–114:10.

559 Ex. Expert 8 (Schmalensee) ¶¶ 138–139, 145–146.

560 Trial Tr. (Schiller) 2826:6–7; Ex. Depo. (Ong) 58:20–59:13, 152:4–152:23; see also Trial Tr. (Weissinger) 1314:11–22.

561 PX-2790.010.

562 See PX-0257; PX-2790.011; Trial Tr. (Lafontaine) 2055:12–2056:20; Trial Tr. (Schmalensee) 1911:1–12.
c. Value of the Intellectual Property

As described above, Apple has not adequately justified its 30% rate. Merely contending that its commission pays for the developer’s use of the App Store platform, license to Apple’s intellectual property, and access to Apple’s user base only justifies a commission, not the rate itself. Nor is the rate issue addressed when Apple claims that it would be entitled to its commission even for games distributed outside the App Store because it provides the device and OS that brings users and developers together.563

As noted, no one credibly disputes that Apple and third-party developers act symbiotically. Apple gives developers an audience and developers make Apple’s platform more attractive. Thus, Apple earns revenue each time a developer earns revenue creating a feedback loop. However, as revenues show, the ultimate effect appears to vary within developer groups depending on how a developer chooses to monetize its app.

Further, there is substantial evidence that Epic Games, and perhaps other larger developers, bring their own audience to iOS. Fortnite was already popular when it arrived on iOS and Apple sought exclusive Fortnite content to attract new users. See supra Facts §§ I.B.2.d, I.B.4. That said, Epic Games wanted Apple’s user base, to which it did not have access, as it had already saturated its other options. Also, Match Group found that the majority of new users from the App Store organically searched for its apps (e.g., by typing in “Tinder”), while Apple contributed only 6% of discovery. For these developers, Apple’s role in generating in-app purchases was “nothing” but it continued to receive a 30% commission on in-app purchases.564

C. Combined Effects

Because Apple has created an ecosystem with interlocking rules and regulations, it is difficult to evaluate any specific restriction in isolation or in a vacuum. Thus, looking at the combination of the challenged restrictions and Apple’s justifications, and lack thereof, the Court finds that common threads run through Apple’s practices which unreasonably restrains competition and harm consumers, namely the lack of information and transparency about policies which effect consumers’ ability to find cheaper prices, increased customer service, and options regarding their purchases. Apple employs these policies so that it can extract supracompetitive commissions from this highly lucrative gaming industry. While the evidence remains thin as to other developers, the conclusion can likely be extended.

More specifically, by employing anti-steering provisions, consumers do not know what developers may be offering on their websites, including lower prices. Apple argues that consumers can provide emails to developers. However, there is no indication that consumers know that the developer does not already have the email or what the benefits are if the email was provided. For instance, Apple does not disclose that it serves as the sole source of communication for topics like refunds and other product-related issues and that direct

563 Apple FOF ¶ 572; Trial Tr. (Cook) 3863:6–3864:8.

registration through the web would also mean direct communication. Consumers do not know that if they subscribe to their favorite newspaper on the web, all the proceeds go to the newspaper, rather than the reduced amount by subscribing on the iOS device.

While some consumers may want the benefits Apple offers (e.g., one-stop shopping, centralization of and easy access to all purchases, increased security due to centralized billing), Apple actively denies them the choice. These restrictions are also distinctly different from the brick-and-mortar situations. Apple created an innovative platform but it did not disclose its rules to the average consumer. Apple has used this lack of knowledge to exploit its position. Thus, loosening the restrictions will increase competition as it will force Apple to compete on the benefits of its centralized model or it will have to change its monetization model in a way that is actually tied to the value of its intellectual property.

PART II

APPLICATION OF FACTS TO THE LAW AND CONCLUSIONS THEREON

I. RELEVANT PRODUCT AND GEOGRAPHIC MARKET

A. Legal Framework

“A threshold step in any antitrust case is to accurately define the relevant market, which refers to ‘the area of effective competition.’” FTC v. Qualcomm Inc., 969 F.3d 974, 992 (9th Cir. 2020) (“Qualcomm”) (quoting Ohio v. Am. Express Co. (“Amex”), 138 S. Ct. 2274, 2285 (2018)); see also Image Tech. Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195, 1202 (9th Cir. 1997) (“Image Tech Services II”) (“The relevant market is the field in which meaningful competition is said to exist.”) (citation omitted). Monopoly power under the first element can be defined as “the power to control prices or exclude competition” and may be inferred from the defendant’s predominant market share in the relevant market. United States v. Grinnell Corp., 384 U.S. 563, 571 (1966). In addition, “courts usually cannot properly apply the rule of reason without an accurate definition of the relevant market.” Amex, 138 S. Ct. at 2285. Without a relevant market definition, “there is no way to measure the defendant’s ability to lessen or destroy competition.” Id. (simplified).

“The relevant market must include both a geographic market and a product market.” Hicks v. PGA Tour, Inc., 897 F.3d 1109, 1120 (9th Cir. 2018) (citation omitted). The latter “must encompass the product at issue as well as all economic substitutes for the product.” Newcal Indus., Inc. v. Ikon Office Sol., 513 F.3d 1038, 1045 (9th Cir. 2008); see also id. (“The consumers do not define the boundaries of the market; the products or producers do [and] the market must encompass the product at issue as well as all economic substitutes for the product.”); P. Areeda & H. Hovenkamp, Antitrust Law: An Analysis of Antitrust Principles and Their Application § 530a (4th and 5th eds., 2021 Supp.) (“To define a market is to identify those producers providing customers of a defendant firm (or firms) with alternative sources for the defendant’s product or service.”). “Economic substitutes have a ‘reasonable interchangeability of use’ or sufficient ‘cross-elasticity of demand’ with the relevant product.” Hicks, 897 F.3d at 1120 (quoting Newcal, 513 F.3d at 1045); see also United States v. E.I. DuPont de Nemours &
Co., 351 U.S. 377, 404 (1956). “Including economic substitutes ensures that the relevant product market encompasses ‘the group or groups of sellers or producers who have actual or potential ability to deprive each other of significant levels of business.’” Hicks, 897 F.3d at 1120 (quoting Thurman Indus., Inc. v. Pay ‘N Pak Stores, Inc., 875 F.2d 1369, 1374 (9th Cir. 1989)); see also DuPont, 351 U.S. at 393 (“Illegal power must be appraised in terms of the competitive market for the product.”).

A plaintiff cannot ignore economic reality and “arbitrarily choose the product market relevant to its claims”; rather, the plaintiff must “justify any proposed market by defining it with reference to the rule of reasonable interchangeability and cross-elasticity of demand.” Buccaneer Energy (USA) v. Gunnison Energy Corp., 846 F.3d 1297, 1313 (10th Cir. 2017) (internal quotation marks and citation omitted). The proper market definition “can be determined only after a factual inquiry into the commercial realities faced by consumers.” High Tech. Careers v. San Jose Mercury News, 996 F.2d 987, 990 (9th Cir. 1993) (internal quotation marks and citation omitted).

It is the plaintiff’s burden to establish the relevant product and geographic markets. See Thurman Indus., 875 F.2d at 1373; Fount-Wip, Inc. v. Reddi-Wip, Inc., 568 F.2d 1296, 1302 (9th Cir. 1978) (noting that plaintiffs bear the “burden of proof” to establish a relevant market). To meet that burden, a plaintiff must produce specific evidence supporting the proposed market definition that is “relevant to the particular legal issue being litigated.” Areeda & Herbert Hovenkamp § 533c; see also Moore v. James H. Matthews & Co., 550 F.2d 1207, 1218–19 (9th Cir. 1977) (plaintiff failed to establish “the relevant product market” where it failed to introduce adequate evidence regarding “the products involved as to price, use, quality, and characteristics”); United States v. H & R Block, Inc., 833 F. Supp. 2d 36, 64 (D.D.C. 2011) (“Courts correctly search for a relevant market—that is a market relevant to the particular legal issue being litigated.”) (simplified)).

B. Analysis

1. Relevant Product Market

Epic Games constructs a framework to argue that there are three separate product markets at issue. In the foremarket, Epic Games identifies the product market as one for “Smartphone Operating Systems.” Epic Games contends in turn that there are two derivative and relevant aftermarket that flow from this initial foremarket, including the “iOS App Distribution” market and “iOS In-App Payment Solutions.” Epic Games logic flows as follows: the iOS in-app

565 “Interchangeability implies that one product is roughly equivalent to another for the use to which it is put: while there may be some degree of preference for the one over the other, either would work effectively.” Queen City Pizza, Inc. v. Domino’s Pizza, Inc., 124 F.3d 430, 437 (3d Cir. 1997) (internal quotation marks and citation omitted). For example, “[a] person needing transportation to work could buy a Ford or Chevrolet automobile, or could elect to ride a horse or bicycle, assuming those options were feasible.” Id. (internal quotation marks and citation omitted).
payment solutions market is an aftermarket of the iOS app distribution market which is further
an aftermarket of the smartphone operating systems foremarket.

Apple, on the other hand, contends that there is only one relevant product: digital game
transactions. This includes any and all digital gaming transactions made on any gaming
platform. The Court has discussed the factual profiles of each of the proffer, see supra Facts
§ II, and turns to the determination here.

The parties agree that the Court must determine which products or services are in “the
area of effective competition” to define the product market. Amex, 138 S. Ct. at 2285; Thurman
Indus., 875 F.2d at 1374 (“For antitrust purposes, defining the product market involves
identification of the field of competition: the group or groups of sellers or producers who have
actual or potential ability to deprive each other of significant levels of business.” (citation
omitted)). The relevant product market “must encompass the product at issue as well as all
economic substitutes for the product.” Newcal, 513 F.3d at 1045. “Economic substitutes have a
‘reasonable interchangeability of use’ or sufficient ‘cross-elasticity of demand’ with the relevant
product.” Hicks, 897 F.3d at 1120 (quoting Brown Shoe v. United States, 370 U.S. 294, 325
(1962)); DuPont, 351 U.S. at 404.

The Court begins with Apple’s product market definition as it more closely aligns with
the Court’s conclusion. Then the Court discusses the reasons why Epic Games has not properly
defined the relevant product market.

a. Apple’s Product Market Theory

As a threshold issue, the Court considers whether the App Store provides two-sided
transaction services or as Epic Games argues “distribution services.”566 The Supreme Court has
seemingly resolved the question: two-sided transaction platforms sell transactions. In two-sided
markets, a seller “offers different products or services to two different groups who both depend
on the platform to intermediate between them.” Amex, 138 S. Ct. at 2280. Here, try as it might,
Epic Games cannot avoid the obvious. Plaintiff only sells to iOS users through the App Store on
Apple’s platform. No other channel exists for the transaction to characterize the market as one
involving “distribution services.”

Plaintiff’s reliance on Dr. Evans’ testimony to the contrary does not persuade. First, Dr.
Evans’ testimony was internally inconsistent. He agrees that the App Store is a “two-sided
transaction platform” and includes the features characteristic of two-sided transaction platforms.
Although he testified that Apple also provides services to facilitate those transactions, those
services are coextensive with “transactions” under his definition.567 Thus, there is no
substantive difference between “transactions” and “services” to facilitate those transactions. The

566 Trial Tr. (Evans) 1454:11–16, 1457:10–1458:25, 1707:7–17; Trial Tr. (Schmalensee)

567 See, e.g., Trial Tr. (Evans) 1612:7–9, 1634:2–1635:25; Trial Tr. (Schmalensee)
1882:24–1883:2; Trial Tr. (Lafontaine) 2031:25–2032:3, 2037:15–16; Ex. Expert 8
(Schmalensee) ¶ 55.
semantic difference does not warrant departure from Supreme Court precedent. Second, distribution services may improperly imply that only developers consume Apple’s products. The evidence is to the contrary. By contrast, all of the experts agree that both users and developers consume App Store transactions.

Accordingly, the Court finds that the relevant App Store product is transactions, not services, but that providing transactions may include facilitating services (matchmaking, developer support, etc.).

i. Apps or Digital Game Transactions?

Next, the Court considers whether to narrow the scope of the transactions in terms of defining the product market. “In limited settings . . . the relevant product market may be narrowed beyond the boundaries of physical interchangeability and cross-price elasticity to account for identifiable submarkets or product clusters.” Thurman Indus., 875 F.2d at 1374. A submarket is “a small part of the general market of substitutable products” and “is economically distinct from the general product market.” Newcal, 513 F.3d at 1045. Although there are “several ‘practical indicia’ of an economically distinct submarket,” including “industry or public recognition of the submarket as a separate economic entity, the product’s peculiar characteristics and uses, unique production facilities, distinct customers, distinct prices, sensitivity to price changes, and specialized vendors,” id. (quoting Brown Shoe, 370 U.S. at 325), they are “practical aids for identifying the areas of actual or potential competition” and “their presence or absence does not decide automatically the submarket issue.” Thurman Indus., 875 F.2d at 1375 (citations omitted). The Court considers these factors in its evaluation.

Having considered and reviewed the evidence, the Court concludes based on its earlier findings of facts that the appropriate submarket to consider is digital game transactions as compared to general non-gaming apps. See supra Facts § II.B.3. Indeed, the Court concluded that there were nine indicia indicating a submarket for gaming apps as opposed to non-gaming apps: (i) the App Store’s business model is fundamentally built upon lucrative gaming transactions; (ii) gaming apps constitute a significant majority of the App Store’s revenues; (iii) both the gaming, mobile, and software industry as well as the general public recognize a distinction between gaming apps and non-gaming apps; (iv) gaming apps and their transactions exhibit peculiar characteristics and users; (v) game app developers often employ specialized technology inherent and unique to that industry in the development of their product; (vi) game apps further have distinct producers—game developers—that generally specialize in the production of only gaming apps; (vii) game apps are subject to distinct pricing structures as compared to other categories of apps; (viii) games and gaming transactions are sold by specialized vendors; and (ix) game apps are subject to unique and emerging competitive pressures, that differs in both kind and degree from the competition in the market for non-gaming

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568 See Trial Tr. (Evans) 1612:7–9, 1634:2–1635:25; accord Trial Tr. (Schmalensee) 1954:3–9 (equating transactions with “matchmaking” services), 1940:23–25 (agreeing that Dr. Evans analyzed the App Store as a two-sided platform).

569 See, e.g., Ex. Expert 8 (Schmalensee) ¶¶ 55–56; Trial Tr. (Evans) 1707:2–17.
apps. The Court does not reiterate here the detail except to note the following significant points.\textsuperscript{570}

The evidence was undisputed that over 80\% of apps in the App Store are free. For those apps, the user pays nothing either inside the app or at the initial download. The developer also pays nothing aside from an up-front $99 developer fee. Apple thus does not collect commissions on those transactions. Moreover, many of those apps are subject to special treatment, such as the “reader” rule, that allows them to bypass Apple’s restrictions and commissions altogether. These differences create economic distinctions between the two categories. Finally, there is insufficient evidence that most apps are impacted by Apple’s alleged anticompetitive conduct.\textsuperscript{571}

\textsuperscript{570} Dr. Lafontaine suggests that combining game and non-game transactions would require a “clustering” analysis to show that they are subject to the same competitive pressures. Ex. Expert 7 (Lafontaine) ¶¶ 33–35. The Court does not address the issue here because clustering is not necessary to determine that game transactions are the proper focus.

\textsuperscript{571} Ex. Expert 6 (Hitt) ¶¶ 118, 121; DX-4178.006; PX-0059.007. Besides games, the other category of apps disproportionately affected by Apple’s conduct are subscription services. DX-4178.006; DX-4526.021. There are good reasons not to include those apps in the current litigation. First, Epic Games did not sell subscription services when Fortnite was on the iOS platform; their representation in the case is limited to third parties. Only one of those third parties testified at trial, so the Court lacks a full picture of the true opinions of these companies. Games and subscription apps in general are distinct, with little overlap among the popular examples. \textit{Compare} PX-0608.015 \textit{with id. at .016.}

Second, many subscription services are subject to special rules, such as the “reader rule” that permits users to access app content purchased outside iOS on their Apple devices. Indeed, several large subscription providers (\textit{e.g.}, Spotify and Netflix) have stopped offering subscriptions through the App Store. Although games are subject to a similar “multiplatform rule,” the rule has only been in place since 2018 and the record is mixed whether game developers may be more or less able to similarly steer consumers to web transactions. Ex. Expert 6 (Hitt) ¶¶ 101–105; Trial Tr. (Schiller) 2808:6–2809:3; Trial Tr. (Sweeney) 110:12–111:1.

Third, and finally, subscription providers may present different security challenges than game stores. Mr. Kosmynka testified that games are different than passive content because they add to or require the functionality of the smartphone. Mr. Schiller confirmed that Apple allows “stores within a store” that contain purely passive content, such as books and music. Thus, Apple’s procompetitive justifications may be significantly different for game and non-game stores and apps. Trial Tr. (Kosmynka) 1073:7–1074:18; Trial Tr. (Schiller) 3115:11–3117:7; Trial Tr. (Federighi) 3429:12–3430:8.

Accordingly, the Court declines to consider subscriptions in this lawsuit because they are a separate submarket for which there is insufficient evidence.
By contrast, game apps are disproportionately likely to use in-app purchases for monetization. Over 98% of Apple’s in-app purchase revenue came from games in 2018 to 2019. Moreover, game transactions overall accounted for 76% of Apple’s App Store revenues in 2017, 62.9% in 2018, and 68% in 2020. Game commissions are also substantially higher than average. Thus, in most economic ways, and in particular with respect to the challenged conduct, the App Store is primarily a game store and secondarily an “every other” app store.572

Game transactions are also widely recognized as belonging to a separate market. The App Store, Google Play, and Amazon Appstore all include separate “tabs” for apps and games which reflects that consumers view them differently. Apple analyzes them separately with different heads of business for games and non-game apps. The developers for game apps also tend to be distinct, specializing in games with little revenue from non-game apps.573

Finally, the App Store is also built upon specialized consumers—those iOS consumers who play video games on iOS devices. As summarized above, it is iOS consumers who make frequent in-app purchases within gaming apps who account for the large majority of Apple’s revenues in the App Store. See supra Facts § 1.C.6.574 In other words, there is a specialized subset of iOS gaming consumers who are generating and accounting for a significantly disproportionate number of App Store billings and revenue.

Accordingly, between digital game transactions and all app transactions, the relevant product is game transactions. Contrary to Epic Games’ suggestion, that is not because plaintiff sells games. Rather, it is because game transactions are disproportionately affected by Apple’s challenged conduct, overwhelmingly subsidize other apps, and are recognized as a distinct submarket. Obviously, Epic Games and Apple compete in that market space. That Epic Games is in the market was the impetus for the analysis, not the reason for the conclusion.

572 Ex. Expert 6 (Hitt) ¶¶ 117, 120–24; DX-4178.006; PX-0059.007; Trial Tr. (Schmid) 3226:7–12.

573 Ex. Expert 6 (Hitt) ¶¶ 125–27; DX-5552; Trial Tr. (Schmid) 3205:4–11, 3226:1–22, 3349:24–3352:3. As the Court noted, the limited record also shows that the Google Play app store similarly is constructed upon the same game transactions as the App Store. See DX-3913.007. Apple also argues that games are subject to unique competitive pressures, with specialized vendors and emerging dynamic competition. Ex. Expert 8 (Schmalensee) ¶ 104. The Court addresses this evidence below.

574 That said, the evidence for a single distinct “gamer” demographic is inconclusive. For instance, Michael Schmid, testified that “gamers” as he defined them are a “very large percentage of users” including “all the people you speak with,” suggesting a generally diverse gaming consumer base. Trial Tr. (Schmid) 3350:5–3352:3; see also id. 3351:15–17 (“The Court: Well, are you saying that all app users are also gamers? The Witness: Certainly not.”). But even without distinct customer demographics, the fact that only certain set of iOS consumers (i.e., those users who play games on iOS), as well as the separate set of developers and industry recognition as a distinct submarket make extrapolation from games to the whole market inappropriate.
ii. All Gaming Transactions or Mobile Gaming Transactions?

The last metric the Court considers is whether to limit the product market to all gaming transactions or only mobile gaming transactions. Apple argues for the former; Epic Games argues (as an alternative) for the latter. The Court is again guided by the “practical indicia” framework articulated in Newcal and Brown Shoe. The Court considers these factors in its evaluation.

Having considered and reviewed the evidence, the Court concludes based on its earlier findings of facts that the appropriate submarket to consider is the mobile gaming transactions market. *See supra* Facts § II.D. This relevant product market would include mobile game transactions on both mobile phone and tablet devices, which have the competitive advantage of mobility or portability as compared to other platforms and devices. *Id.* Indeed, as the Court summarized and found there, mobile gaming exhibits several of the practical indicia discussed in Newcal and Brown Shoe including industry and public recognition of the submarket as a separate economic entity, peculiar characteristics and uses, distinct customers and producers, and specialized vendors. The Court again does not repeat the entirety of the findings previously made, but discusses the more significant and relevant findings here:

Substantial evidence was presented showing that mobile gaming is a distinct submarket. As an initial matter, Apple’s own documents recognize mobile gaming as a submarket. One industry report describes mobile gaming as a “$100 billion industry by itself” that accounts for 59% of global gaming revenue. While PC and console gaming has grown more slowly, mobile gaming has experienced double-digit growth driven by “the free-to-play model” with in-app purchases. “Remarkably,” this rapid growth “has not significantly cannibalized revenues from the PC or console gaming markets,” which suggests that consumers are not necessarily substituting among them.575 Another industry report describes distinct user bases for mobile gaming: young children, teenage girls, and older adults are disproportionally likely to be mobile gamers only. Multiplatform gaming, by contrast, is driven by teenage boys and young adults under 25.576

Even without Apple documents, the experts largely agree that mobile and non-mobile platforms provide different types of games. Dr. Hitt—whom Apple commissioned to show that game transactions are substitutable—ended up showing the opposite. In his original written direct testimony (which Apple withdrew after cross-examination), Dr. Hitt showed that only 12% and 16% of the most popular App Store games are available on consoles. Both Dr. Hitt’s and Dr. Cragg’s trial testimony remain in the record, and each shows that console games are largely separate from mobile games. Moreover, while Dr. Hitt originally opined that mobile games are available on PCs, his work could not be entirely reproduced during trial, as some of the games he

575 Although this might be due to the fact that mobile gaming first cannibalized the handheld and portable gaming market, which it may have supplanted and now surpassed. *See supra* n.391.

576 DX-3248.005, .008; DX-4170.008; see also id. at .024 (showing “segments” of gamers with multiple segments “primarily on mobile”).
listed as available on both platforms (PC and mobile platforms) could not be found. The fact that Apple tried and failed to show cross-availability of mobile games with PC indicates that they are distinct.\footnote{Ex. Expert 6 (Hitt) ¶ 31 & Fig. 3; Trial Tr. (Hitt) 2200:13–2201:18, 2207:6–2216:11; Ex. Expert 13 (Cragg) ¶¶ 34–39, 43–52.}

This conclusion is bolstered in part by evidence from Dr. Cragg. Dr. Cragg finds that the most popular games on mobile are \textit{only} available on mobile, with a few games also available on PCs. The types of games are also different, with many more casual games on mobile and core games on PC and console platforms. For those games that are available on multiple platforms, such as \textit{Fortnite}, Dr. Cragg finds that the playing and spending on different platforms is complementary, rather than substitution-focused, because playing on another device \textit{increases} the playtime and spending on the previous devices.\footnote{Ex. Expert 13 Cragg ¶¶ 25–33, 79–81, Figs. 10–12; Trial Tr. (Schmid) 3207:8–18.}

Industry participants also support the conclusion. Microsoft documents show that mobile gaming generates more than half of the industry revenue and profits, compared to only a quarter for consoles and PCs each. Moreover, Ms. Wright testified that Microsoft does not view game transactions for cross-platform games on iOS devices as competition to transactions on its Xbox console. Although Ms. Wright also testified that mobile is “a segment of the game industry as a whole,” that is consistent with it being a separate submarket. By contrast, Steam is the largest game store on PCs. Mr. Cook’s lack of familiarity with it presents strong evidence that the iOS App Store does not compete with PC game stores.\footnote{DX-5523.008–.009; Trial Tr. (Wright) 547:4–9, 549:14–21, 638:6–19; Trial Tr. (Cook) 3993:2–6.}

Finally, as the Court concluded in the findings of facts, the Court would not at this time find that the Switch or game streaming services are part of the mobile game transactions market. This is in part due to the underdeveloped record on these products, and in part on the relative recent introduction of these products to the market. While the record supports a finding that these are new entrants into the same market space as Apple and Google, whether these products ultimately are substitutable and reasonably interchangeable by consumers remain to be seen.

Accordingly, for the same reasons that game transactions, rather than app transactions in general, are the proper focus in this case, the Court finds that mobile gaming, including mobile devices and tablets,\footnote{As discussed in the findings of facts, see supra Facts §§ II.D–E., this would include both iOS and Android tablets and mobile phone devices.} is a separate market from gaming in general. Thus, the relevant product market is mobile gaming transactions.
b. Epic Games’ Approach: Foremarket/Aftermarket Market Definition

The Court reaffirms here the fundamental factual flaws with Epic Games’ market structure. See supra Facts §§ II.A–C. Without a product, there is no market for the non-product, and the requisite analysis cannot occur. Thus, where there is no product or market for smartphone operating systems, there are no derivative markets. The payment solutions aftermarket also fails for the independent reason that IAP is not a product for which there is a market. Further, Epic Games’ aftermarket approach to market definition is inconsistent with its recognition that the App Store constitutes a two-sided transaction platform which it fails to properly analyze. Id.; Amex, 138 S. Ct. at 2287. Nonetheless, the Court addresses the additional problems with Epic Games’ attempt to define the market with the confines of a single brand.

Determining whether a single-brand market is proper requires “a factual inquiry into the ‘commercial realities’ faced by consumers.” Eastman Kodak Co. v. Image Tech. Servs., 504 U.S. 451, 482 (1992) (“Eastman Kodak”) (quoting, Grinnell Corp., 384 U.S. at 572). “Single-brand markets are, at a minimum, extremely rare” and courts have rejected such market definitions “[e]ven where brand loyalty is intense.” Apple, Inc. v. Psystar Corp., 586 F. Supp. 2d 1190, 1198 (N.D. Cal. 2008) (internal quotation marks and citation omitted). But see id. (“Antitrust markets consisting of just a single brand, however, are not per se prohibited . . . . In theory, it may be possible that, in rare and unforeseen circumstances, a relevant market may consist of only one brand of a product.”). Indeed, “[a] single brand is never a relevant market when the underlying product is fungible.” Areeda & Hovenkamp § 563d. “It is an understatement to say that single-brand markets are disfavored. From nearly the inception of modern antitrust law, the Supreme Court has expressed skepticism of single-brand markets[.]” In re Am. Express Anti-Steering Rules Antitrust Litig., 361 F. Supp. 3d 324, 343 (E.D.N.Y. 2019); Herbert J. Hovenkamp, Markets in IP & Antitrust, 100 Geo. L.J. 2133, 2137 (2012) (“[A]ntitrust law has found that a single firm’s brand constitutes a relevant market in only a few situations.”).

Despite the foregoing, “in some instances one brand of a product can constitute a separate market.” See Eastman Kodak, 504 U.S. at 482; see also Newcal, 513 F.3d at 1048 (“[T]he law permits an antitrust claimant to restrict the relevant market to a single brand of the product at issue . . . .”). Antitrust law has continued to develop since Eastman Kodak. Beginning there, the Supreme Court considered whether summary judgment was appropriate for Kodak on a Sections 1 and 2 claims where the plaintiffs had argued that Kodak possessed monopoly power in the aftermarket of sales of parts and repair services, despite not having such power in the foremarket of equipment sales. 504. U.S. at 466–471. In affirming the Ninth Circuit’s reversal of summary judgment, the Supreme Court identified two factors that supported the aftermarket framework: the existence of significant (i) “information” costs and (ii) “switching costs.” Id. at 473.

As to the first, information costs, the Supreme Court noted that “[f]or the service-market price to affect equipment demand, consumers must inform themselves of the total cost of the ‘package’—[in Eastman Kodak] equipment, service, and parts—at the time of purchase; that is, consumers must engage in accurate lifecycle pricing.” Id. “Much of this information is difficult—some of it impossible—to acquire at the time of purchasing,” and that “even if consumers were capable of acquiring and processing the complex body of information, they may choose not to do so [as a]cquiring [such] information is expensive.” Id. at 473, 474. Indeed,
“[i]f the costs of service are small relative to the equipment price, or if consumers are more concerned about equipment capabilities than service costs, they may not find it cost efficient to compile the information.” *Id.* at 474–75.

As to the second factor, switching costs, the Supreme Court stated that “[i]f the cost of switching is high, consumers who already have purchased the equipment, and are thus ‘locked in,’ will tolerate some level of service-price increases before changing equipment brands.” *Id.* at 476. “Under this scenario, a seller profitably could maintain supracompetitive prices in the aftermarket if the switching costs were high relative to the increase in service prices, and the number of locked-in customers were high relative to the number of new purchasers.” *Id.* The Supreme Court further noted that this strategy was “likely to prove profitable” especially where a “seller could simply charge new customers below-marginal cost on the equipment and recoup the charges in service,”581 or offer specific packages including “lifetime warranties or long-term service agreements that are not available to locked-in customers.” *Id.* at 476–477.

In sum, given the presence of these two factors, the Supreme Court found a question of fact “foil[ed] the simple assumption that the equipment and service markets act as pure complements to one another.” *Id.* at 477.

Since 1992, five circuit courts and numerous district courts refused to find a *Kodak*-type single-brand aftermarket where customers had knowledge of the alleged restrictive policies and were not subject to a post-purchase policy change. Big tech may ultimately convince the Supreme Court to change the calculus, but for now the state of antitrust law has that distinct parameter. The Court recounts the history.

Four years after *Eastman Kodak*, the Fifth Circuit in *United Farmers Ass’n, Inc. v. Farmers Insurance Exchange*, 89 F.3d 233, 238 (5th Cir. 1996) rejected a claim that insurance agents were “locked-in” to a particular insurance company because the agents “would clearly have become aware of [the alleged anticompetitive] policy long before they faced significant switching costs.” A year later the Sixth Circuit similarly found that an “antitrust plaintiff cannot succeed on a *Kodak*-type [single-brand-aftermarket] theory when the defendant has not changed its policy after locking-in some of its customers, and the defendant has been otherwise forthcoming about its pricing structure and service policies.” *PSI Repair Servs., Inc. v. Honeywell, Inc.*, 104 F.3d 811, 820 (6th Cir. 1997) (emphasis supplied). Rounding off the decade, the First Circuit found that “the easy availability of information” and “purely prospective nature” of an allegedly anticompetitive policy “helps to take [a] case out of *Kodak’s* precedential

581 The Court notes that this identified problematic business model in *Eastman Kodak*, of selling the initial equipment near marginal cost and recouping profits in later service, appears to mirror more closely the gaming console’s business models for their console platforms (selling hardware near or at a loss and recouping through the sale of games and transactions) as opposed to Apple’s business model for its iOS platform (profit on both the hardware and transactions). *See supra* Facts §§ II.D.3.c.

Fast-forward to 2008, the Ninth Circuit in *Newcal* outlined four factors that could indicate whether an alleged market is a properly defined single-brand aftermarket under *Eastman Kodak* at the motion to dismiss stage. *See Newcal*, 513 F.3d at 1049–50. The first indicator of an aftermarket is that the market is “wholly derivative from and dependent on the primary market.” *Id.* at 1049. The second indicator is that the “illegal restraints of trade and illegal monopolization relate only to the aftermarket, not to the initial market.” *Id.* at 1050. The third indicator is that the defendant’s market power “flows from its relationship with its consumers” and the defendant did “not achieve market power in the aftermarket through contractual provisions that it obtains in the initial market.” *Id.*. The fourth indicator is that “[c]ompetition in the initial market . . . does not necessarily suffice to discipline anticompetitive practices in the aftermarket.” *Id.*

While not explicitly repeated elsewhere, other circuits have aligned with the contours of *Newcal* and the foregoing cases regarding consumer knowledge and/or post-purchase policy changes. In 2014, the Federal Circuit weighed in concluding that “it is only the customers who learned about the [allegedly anticompetitive policy] after purchasing their equipment that are relevant to the ‘locked-in’ analysis.” *DSM Desotech, Inc. v. 3D Sys. Corp.*, 749 F.3d 1332, 1346 (Fed. Cir. 2014). Two years later the Third Circuit held that no *Kodak*-type aftermarket existed “when customers were put on clear notice that purchasing [defendant’s product] precluded use of [third-party] maintenance.” *Avaya Inc., RP v. Telecom Labs, Inc.*, 838 F.3d 354, 405 (3d Cir. 2016).

The breadth of antitrust law on the issue has counseled that currently “to establish a single-brand aftermarket under *Kodak* and *Newcal*, the restriction in the aftermarket must not have been sufficiently disclosed to consumers in advance to enable them to bind themselves to the restriction knowingly and voluntarily.” *Datel Holdings Ltd. v. Microsoft Corp.*, 712 F. Supp. 2d 974, 987 (N.D. Cal. 2010).582 Indeed, “[m]arket imperfections” may “prevent consumers from discovering” that purchasing a product in the initial market could restrict their freedom to shop in the aftermarket. *Newcal*, 513 F.3d at 1048; *see also Red Lion Med. Safety, Inc. v. Ohmeda, Inc.*, 63 F. Supp. 2d 1218, 1231 (E.D. Cal. 1999) (“Information costs may be high, and a manufacturer may thus have considerable market power in the aftermarket, even in the absence of a change in policy.”); *Ward v. Apple Inc.*, Case No. 12-cv-05404-YGR, 2017 WL 1075049, at *7 (N.D. Cal. Mar. 22, 2017) (agreeing with *Red Lion*, 63 F. Supp. 2d at 1231–32, that a policy change is not necessary to find a valid single-brand market under *Newcal*). In other words, a plaintiff must show evidence “to rebut the economic presumption that [defendant’s] consumers

582 *See also Teradata Corp. v. SAP SE*, No. 18-CV-03670, 2018 WL 6528009, at *16 (N.D. Cal. Dec. 12, 2018) (single-brand markets are possible only in situations in which customers face “restrictions that were undisclosed at the time of the purchase of the product from the primary market”).
make a knowing choice to restrict their aftermarket options when they decide in the initial (competitive) market to” purchase in the foremarket. *Newcal*, 513 F.3d at 1050.

With these principles in mind, the Court analyzes the evidence presented.

As noted, Epic Games created a construct that largely satisfies the *Newcal* test. By definition, distribution of iOS apps and iOS payment processing derive from Apple’s operating system (first factor). Next, Epic Games only identified restraints that related to the distribution and payment processing, so again, by design, they do not relate to the “market for Apple’s operating system” (second factor). Similarly, given that (i) consumers do not contractually agree to obtain apps only through the App Store when they purchase an iPhone; (ii) developers are contractually restricted in the aftermarket; and (iii) in light of the technical restrictions on iOS devices, Apple’s market power flows from its relationship with its consumers and Apple did not achieve market power in the aftermarket through contractual provisions that it obtains in the initial market (third indicator). Thus, three of the four indicators are fulfilled.\(^{583}\)

It is within the last indicator that problems arise for Epic Games given antitrust jurisprudence. Issues of lock-in or switching costs, and notice or consumer knowledge, fall under the analysis of evaluating whether competition in the initial market suffices to discipline anticompetitive practices in the aftermarkets.

First, the evidence shows no material change in the conditions for accessing the App Store for either side of the platform. In the Sixth Circuit, the absence of a change in policy following the consumers’ initial purchase in the alleged foremarket, which locked consumers into the alleged aftermarket (i.e., the concept of lock-in), was fatal. *See PSI Repair Servs., Inc.*, 104 F.3d at 820. For consumers, iOS has always been a closed system, and the App Store has been a “walled garden” with respect to native apps from its inception; even prior to any time in which Apple was alleged to have become a monopolist. Indeed, it is undisputed by the parties that a key distinguishing feature of the iOS platform is its closed platform model, as compared to the open Android platform maintained by its main competitor Google. At the very least, previous consumers of iOS devices would have been familiar with the iOS platform and the App Store model when they repurchased a device prior to 2011.

Epic Games’ reliance on a 2007 statement from Steve Jobs when he announced the 70-30 split that Apple did not intend to make a profit, much less an unpublicized, internal 2011 comment by Phil Schiller regarding a reduction of the 70-30 after a billion dollars in profit, do not change the analysis. As discussed above, these statements do not create a policy shift sufficient to show lock-in. At best, these statements reflect Apple’s initial expectation that the

\(^{583}\) Epic Games did not define the foremarket as the market for sale of mobile cellular phones or mobile devices. That said, even Dr. Evans acknowledges, consumers do not buy smartphone operating systems separately from smartphones. *Trial Tr. (Evans) 1621:19–23; Ex. Expert 7 (Lafontaine) ¶¶ 61–63*. There is no price charged to consumers for either the iOS or the Android operating systems. *See supra* Facts § II.A.; *Trial Tr. (Lafontaine) 2022:11–2023:4; Ex. Expert 1 (Evans) ¶ 139.
App Store was not projected to be profitable for Apple.\textsuperscript{584} Apple’s miscalculation, while hugely profitable, does not evidence consumers lock-in with iOS devices. While Apple’s calculated risk returned incredible profits, the reality is that Apple has maintained the same general rules with both consumers and developers since the inception of the iOS devices. Epic Games’ arguments that Apple has otherwise repeatedly increased prices does not persuade, where Apple’s rate has always been 30%.\textsuperscript{585}

Second, Epic Games failed to prove lock-in, even absent a policy shift. Given the weak showing, plaintiff either found itself with an unachievable task or insufficient time to address the issue. In short, there is no evidence in the record demonstrating that consumers are unaware that the App Store is the sole means of digital distribution on the iOS platform. Specifically, there is no evidence in the form of consumer survey data demonstrating the extent of consumers knowledge when purchasing of an iOS device, much less that they are unaware they are purchasing into a closed ecosystem that is tightly controlled by Apple.

Instead of addressing the issue head-on, Epic Games pivots to argue that the market imperfections prevent consumers from discovering the true costs of downloading apps. In other words, even those consumers who know the facts about Apple’s practices in the iOS app distribution market typically do not or cannot effectively take those facts into account when choosing a smartphone and operating system because the cost of distributing apps is low compared to the overall cost of a smartphone and because it is difficult to calculate and compare the lifecycle costs of smartphones between smartphone operating systems.\textsuperscript{586}

These arguments are not supported by the record. Epic Games fails to quantify the actual cost to consumers on downloading and purchasing apps and in-app purchases. Indeed, if anything, the record reflects that cross-platform functionality and apps have only proliferated since the early 2010s, where middleware like streaming services and cross-platform games have only made switching platforms and devices easier and more convenient. That is, the market is responding and evolving.

\textsuperscript{584} Moreover, this 2007 statement is better categorized as a statement concerning price—not about any restriction on iOS app distribution or payment processing that Epic Games mainly challenges. In other words, this statement taken in the best possible light for Epic Games is a misrepresentation as to price—not as to any of the then and still present restrictions on distribution or payment processing.

\textsuperscript{585} Indeed, Epic Games’ citation to Apple’s 2009 action requiring IAP to process payment for in-app digital content does not persuade where no Epic Games expert witness opines that Apple had monopoly power prior to 2010 or 2011. Even considering this action, along with Apple’s 2011 and 2016 rules regarding antisteering, subscriptions, and search ads, do not demonstrate any increase in the rate for consumers or developers. Indeed, most of these actions enabled increased functionality for consumers and developers, permitting new business models, and relied on increasing innovation on both the iOS device and the App Store.

\textsuperscript{586} Trial Tr. (Evans) 1508:15–1509:25.
Epic Games’ sole focus on iOS devices simply ignores the market reality that is available to consumers. The Court’s definition of the product as “digital mobile game transactions” takes into account that the App Store competes against other platforms for both consumers and developers. Indeed, as discussed in the findings of facts, several recent entrants into the mobile gaming submarket, from Nintendo, Microsoft, and Nvidia, show that this submarket is presently evolving and is dynamic. Moreover, the continued rise and popularity of cross-platform games like *Fortnite* and *Minecraft* offered on a variety of platforms, even beyond mobile gaming devices, are making switching between platforms seamless because a consumer can carry over rewards and progress between the diverse platforms. As a result, neither consumers nor developers are “locked-in” to the App Store for digital mobile game transactions—they can and do pursue game transactions on a variety of other mobile platforms and increasingly other game platforms.587 Although the state of the wider gaming market is not at a level where the entirety of these gaming platforms can truly be characterized as competing for purposes of antitrust law (e.g., substitutes), the continued rise of cross-platform games, technologies, and innovative ways in which to reach consumers only demonstrate that these differing platforms are converging and ever intertwining.588

In sum, with seasoned antitrust counsel at the helm, Epic Games created a market definition which theoretically made a strong showing within the *Newcal* and *Eastman Kodak* framework. For the reasons explained above, the market definition was fundamentally flawed, and in any event, does not satisfy all four of the *Newcal* factors. With respect to the Court’s ultimate finding that the relevant market is mobile gaming transactions, the Court further finds

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587 On some metrics, Apple is in fact more open than some competitors in the wider digital gaming market. For instance, the record reflects that certain competitors institute restrictions on cross-platform play and cross-platform wallet. Moreover, some platform owners require revenue sharing when game players disproportionately spend on a platform other than their own. Further still, some agreements require that certain goods be charged the same as the cheapest available on other platforms.

588 The Court has further never been satisfied by Epic Games’ explanation as how its aftermarket theory as to Apple would not also apply to other platform holders with similar walled garden models in the wider gaming market, including Nintendo, Microsoft, and Sony. *See Epic Games, Inc. v. Apple Inc.*, 493 F. Supp. 3d 817, 838–39 (N.D. Cal. 2020). The same three *Newcal* factors that readily apply to Apple’s iOS devices would also facially apply to Nintendo’s, Microsoft’s, and Sony’s consoles and their digital stores. Epic Games’ distinction as to general purpose devices (e.g., iOS devices) versus special purpose devices (e.g., game consoles) has no basis in current antitrust law. Presumably, the factors would be applied in the same fashion.

Instead, and as discussed above, consumers if anything appear to purchase a game console in the same manner they purchase an iOS device: understanding that they must purchase into an ecosystem and are limited in the later transactions for apps and games. Despite the foregoing, Epic Games does not claim that every game console manufacturer has unlawfully created and maintained a monopoly, and in fact, appears content to offer *Fortnite* and other Epic Games on those platforms without complaint. Trial Tr. (Schmalensee) 1904:15–1905:4.
that, at a minimum, the fourth Newcal factor would similarly not be adequately satisfied on the record before the Court.

2. Geographic Market

“The criteria to be used in determining the appropriate geographic market are essentially similar to those used to determine the relevant product market.” Brown Shoe, 370 U.S. at 336 (citations omitted). “A geographic market is an area of effective competition where buyers can turn for alternate sources of supply.” Morgan, Strand, Wheeler & Biggs v. Radiology, Ltd., 924 F.2d 1484, 1490 (9th Cir. 1991) (simplified).

“The relevant geographic market for goods sold nationwide is often the entire United States[.]” Heerwagen v. Clear Channel Commc’ns, 435 F.3d 219, 228 (2d Cir. 2006). As compared to others, in antitrust cases, courts regularly recognize global markets. See, e.g., United States v. Microsoft Corp., 253 F.3d 34, 52 (D.C. Cir. 2001) (upholding relevant geographic market encompassing “the licensing of all Intel-compatible PC operating systems worldwide”); United States v. Eastman Kodak Co., 63 F.3d 95, 108 (2d Cir. 1995) (upholding worldwide geographic market for film). The United States antitrust laws’ concern with anticompetitive conduct, includes harm that such American businesses suffer relating to their transactions with foreign consumers. See 15 U.S.C. § 6a (Sherman Act generally applies to conduct affecting “export trade”). Importantly here, the question focuses on the area of effective competition, not the reach of United States antitrust laws which is addressed elsewhere.

Having found the relevant product market to be that of mobile gaming transactions, the Court finds the area of effective competition in the geographic market to be global, with the exception of China. As discussed in the findings of facts, see supra Facts § III, Apple’s engagement in that market does not change based on national borders. Developers globally access the platform based on the same set of rules and agreements. Even here, Epic Games’ related entity was bound by the exact same set of rules and agreements. Given the current record, the Court discerns no meaningful difference for digital mobile gaming transactions domestically than globally.

II. SECTIONS 1 AND 2 OF THE SHERMAN ACT (COUNTS 1, 3, 4, 5)

A. General Framework

As Qualcomm instructs, “[t]he similarity of the burden-shifting tests under §§ 1 and 2 means that courts often review claims under each section simultaneously.” Qualcomm, 969 F.3d at 991. Indeed, “[i]f, in reviewing an alleged Sherman Act violation, a court finds that the conduct in question is not anticompetitive under § 1, the court need not separately analyze the conduct under § 2.” Id. (citing Williams v. I.B. Fischer Nevada, 999 F.2d 445, 448 (9th Cir. 1993)). That result is logical as “proving an antitrust violation under § 2 of the Sherman Act is more exacting than proving a § 1 violation . . . .” Id. at 992 (citing Microsoft Corp., 253 F.3d at 79).

Among the differences in the analysis is the type of evidence used to prove a monopoly. “[A]lthough the tests are largely similar, a plaintiff may not use indirect evidence to prove unlawful monopoly maintenance via anticompetitive conduct under § 2.” Id. (citing Broadcom
Here, in light of Qualcomm, the Court reviews Sections 1 and 2 Sherman Act claims together. Underpinning both Sections 1 and 2 claims is the level of market power, and possibly monopoly power, that Apple exercises in the determined product and geographic market. The Court therefore initially assesses Apple’s market and monopoly power in the relevant product and geographic market before addressing Epic Games’ claims under Sections 1 and 2 of the Sherman Act.

B. Assessing Apple’s Market Power in the Relevant Product and Geographic Market

1. Legal Framework

Market power and monopoly power are related but distinct concepts. As the Supreme Court has stated: “market power is the ability to raise prices above those that would be charged in a competitive market.” NCAA v. Bd. of Regents of the Univ. of Oklahoma, 468 U.S. 85, 109 n.38 (1984). Monopoly power is “the power to control prices or exclude competition.” Grinnell Corp., 384 U.S. at 571.

The difference between the two is a matter of degree. “Monopoly power under § 2 requires, of course, something greater than market power under § 1.” Eastman Kodak, 504 U.S. at 481; see also Image Tech. Servs. II, 125 F.3d at 1206 (same). Courts have described the distinction as “substantial” market power or an “extreme degree” of market power. See, e.g., Bacchus Indus., Inc. v. Arvin Indus., Inc., 939 F.2d 887, 894 (10th Cir. 1991) (defining monopoly power as “substantial” market power); Deauville Corp. v. Federated Dep’t Stores, Inc., 756 F.2d 1183, 1192 n.6 (5th Cir. 1985) (defining monopoly power as an “extreme degree of market power”); Safeway Inc. v. Abbott Lab’y’s, 761 F. Supp. 2d 874, 886 n.2 (N.D. Cal. 2011) (defining monopoly power as a substantial degree of market power). Courts have also required that the monopoly power be beyond fleeting or ephemeral which the Court understands to be durable and sustaining. See United States v. Syufy Enters., 903 F.2d 659, 665–66 (9th Cir. 1990) (“In evaluating monopoly power, it is not market share that counts, but the ability to


590 See also Areeda & Hovenkamp § 801 (stating that “the Sherman Act § 2 notion of monopoly power . . . is conventionally understood to mean ‘substantial’ market power”).

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maintain market share.” (emphasis in original)); Colo. Interstate Gas Co. v. Nat. Gas Pipeline Co. of Am., 885 F.2d 683, 695–96 (10th Cir. 1989) (finding a firm lacked monopoly power because its “ability to charge monopoly prices will necessarily be temporary”).

“[M]arket share is just the starting point for assessing market power.” Hunt-Wesson Foods, Inc. v. Ragu Foods, Inc., 627 F.2d 919, 925 (9th Cir. 1980). It “should not be equated with monopoly power” but instead is “evidence from which the existence of monopoly power may be inferred . . .” Hunt-Wesson, 627 F.2d at 924. Indeed, as the Ninth Circuit has cautioned, “[b]lind reliance upon market share, divorced from commercial reality, could give a misleading picture of a firm’s actual ability to control prices or exclude competition.” Id. In other words, “market share, while being perhaps the most important factor, does not alone determine the presence or absence of monopoly power.” Pac. Coast Agr. Export Ass’n v. Sunkist Growers, Inc., 526 F.2d 1196, 1204 (9th Cir. 1975) (affirming jury finding where defendant controlled anywhere from 45-70% of the market and competitors were fragmented with less than 12 to 18% of the market).

The threshold of market share for finding a prima facie case of monopoly power is generally no less than 65% market share. See Image Tech. Servs. II, 125 F.3d at 1206 (“Courts generally require a 65% market share to establish a prima facie case of market power.”); Hunt-Wesson, 627 F.2d at 924–25 (“market shares on the order of 60 percent to 70 percent have supported findings of monopoly power”). A more conservative threshold would require a market share of 70% or higher for monopoly power. See Kolon Indus. Inc. v. E.I. DuPont de Nemours & Co., 748 F.3d 160, 174 (4th Cir. 2014) (“Although there is no fixed percentage market share that conclusively resolves whether monopoly power exists, the Supreme Court has never found a party with less than 75% market share to have monopoly power. And we have observed that when monopolization has been found the defendant controlled seventy to one hundred percent of the relevant market.” (citations omitted)); Syufy Enters. v. Am. Multicinema, Inc., 793 F.2d 990, 995 (9th Cir. 1986) (“[A]s far as we know, neither the Supreme Court nor any other court has ever decided whether a market share as low as 60-69% is sufficient, standing alone, to sustain such a finding.”). Relatedly, “numerous cases hold that a market share of less than 50 percent is presumptively insufficient to establish” the requisite level of market power under a Section 2 claim. Rebel Oil Co., Inc. v. Atl. Richfield Co., 51 F.3d 1421, 1438 (9th Cir. 1995).

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591 See also Areeda & Hovenkamp § 801d; Oahu Gas Serv., Inc. v. Pac. Res., Inc., 838 F.2d 360, 366 (9th Cir. 1988) (“A firm with a high market share may be able to exert market power in the short run, but [s]ubstantial market power can persist only if there are significant and continuing barriers to entry.” (internal quotation marks omitted) (emphasis supplied).

592 See also Grinnell Corp., 384 U.S. at 571 (noting that the Supreme Court previously found “over two-thirds of the entire domestic field of cigarettes, and over 80% of the field of comparable cigarettes’ constituted ‘a substantial monopoly’” before finding monopoly power where defendant had an 87% market share).

593 See also Twin City Sportservice, Inc. v. Charles O. Finley & Co., 512 F.2d 1264, 1274 (9th Cir. 1975) (“We do, however, wish to remind the trial court when considering this case
By contrast, Section 1 claims can be satisfied with less market power. For instance, the Ninth Circuit affirmed a finding of a Section 1 violation where the market share was as low as 24% but has also found market share above 30% insufficient. See, e.g., Twin City Sportsservice, Inc. v. Charles O. Finley & Co., 512 F.2d 1264 (9th Cir. 1982). But see also Jefferson Parish, 466 U.S. at 26 & n.43 (30 percent market share insufficient); Pilch v. French Hosp., No. CV 98-9470 CAS(CWX), 2000 WL 33223382, at *7 (C.D. Cal. Apr. 28, 2000) (33.2 percent market share insufficient).

Here, the Court considers other market factors in the form of direct and indirect evidence. First, direct evidence is evidence “of the injurious exercise of market power” such as “evidence of restricted output and supracompetitive prices.” Rebel Oil Co., 51 F.3d at 1434. This kind of evidence is “direct proof of the injury to competition which a competitor with market power may inflict, and thus, [direct proof] of the actual exercise of market power.” Id. (citing FTC v. Indiana Fed’n of Dentists, 476 U.S. 447, 460–61 (1986)).

The second and “more common type of proof is circumstantial evidence pertaining to the structure of the market.” Id. To demonstrate market power indirectly, a plaintiff must: “(1) define the relevant market, (2) show that the defendant owns a dominant share of that market, and (3) show that there are significant barriers to entry and show that existing competitors lack the capacity to increase their output in the short run.” Id.594

Because “[a] mere showing of substantial or even dominant market share alone cannot establish market power sufficient to carry out a predatory scheme,” a plaintiff “must show that new rivals are barred from entering the market and show that existing competitors lack the capacity to expand their output to challenge the predator’s high price.” Rebel Oil Co., 51 F.3d at 1438–39, n.10 (“telltale factors” include “market share, entry barriers and the capacity of existing competitors to expand output”). Entry barriers are market characteristics “that prevent new rivals from timely responding to an increase in price above the competitive level.” FTC v. Qualcomm Inc., 411 F. Supp. 3d 658, 684 (N.D. Cal. 2019) (quotation marks omitted), rev’d on other grounds, 969 F.3d 974 (9th Cir. 2020). They include “additional long-run costs that were not incurred by incumbent firms but must be incurred by new entrants,” or “factors in the market on remand of Judge Learned Hand’s famous dictum that while 90% of the market ‘is enough to constitute a monopoly; it is doubtful whether sixty or sixty-four per cent would be enough; and certainly thirty-three per cent is not.’ It also should be recalled that on several occasions courts have considered a 50% share of the market as inadequate to establish a proscribed monopoly.” (quoting United States v. Aluminum Co. of Am., 148 F.2d 416, 424 (2d Cir. 1945)).

594 See also Microsoft Corp., 253 F.3d at 51 (“Because such direct proof is only rarely available, courts more typically examine market structure in search of circumstantial evidence of monopoly power. Under this structural approach, monopoly power may be inferred from a firm’s possession of a dominant share of a relevant market that is protected by entry barriers.”) (citations omitted)); Oahu Gas, 838 F.2d at 367 (“A high market share, though it may ordinarily raise an inference of monopoly power . . . will not do so in a market with low entry barriers or other evidence of a defendant's inability to control prices or exclude competitors.”) (internal citation omitted)).
that deter entry while permitting incumbent firms to earn monopoly returns.” *L.A. Land Co. v. Brunswick Corp.*, 6 F.3d 1422, 1427–28 (9th Cir. 1993) (quotation marks omitted).

2. Analysis

As a starting point, the Court has found Apple’s market share in mobile gaming transactions appears to fluctuate anywhere from approximately 52% to 57% over the course of the three years in evidence. *See supra* Facts § II.E. While the prior figures suggest that Apple’s share in mobile gaming is increasing, the more recent year reflects some stability in the market between Apple and its main competitor, Google. That Apple has more than a majority in a mostly duopolistic, and otherwise highly concentrated, market indicates that Apple has considerable market power.

Apple’s market share is below the general ranges of where courts found monopoly power under Section 2. Nonetheless, the Court considers additional direct and indirect evidence to determine whether that market share should be sufficient under Section 2 or, under any event, sufficient under Section 1.

In considering *direct* evidence of monopoly power, Epic Games has failed to demonstrate that there is a necessary restriction in the output of the relevant product—here, mobile game transactions. The record contains substantial evidence that output has increased in mobile gaming transactions. *See supra* Facts §§ IV–V. Even though the Court has concerns about the 30% rate and its appearance of being artificially higher (i.e., supracompetitive) than it would be in a more competitive market, there has not been the corollary impact on output. This could be because of the technological nature of the dispute. *Id.; see also supra* Facts § V.A.1.c. Nonetheless, given the manner in which this case was litigated, Epic Games failed to produce evidence that this rate has had any impact on the output of mobile gaming transactions.

“[S]upracompetitive pricing, on its own, is not direct evidence of monopoly power.” *Safeway Inc.*, 761 F. Supp. 2d at 887 (N.D. Cal. 2011) (*citing* Forsyth *v. Humana, Inc.*, 114 F.3d 1467, 1476 (9th Cir. 1997) (“The plaintiffs submitted evidence that [defendant] routinely charged higher prices than other [competitors] while reaping high profits. With no accompanying showing of restricted output, however, the plaintiffs have failed to present direct evidence of market power [under Section 2].”)), *overruled on other grounds by Lacey v. Maricopa County*, 693 F.3d 896 (9th Cir. 2012); *see also Harrison Aire, Inc. v. Aerostar Int’l, Inc.*, 423 F.3d 374, 381 (3d Cir. 2004); *Geneva Pharmas. Tech. Corp. v. Barr Lab’y’s Inc.*, 386 F.3d 485, 500 (2d Cir. 2004); *Blue Cross & Blue Shield United of Wisconsin v. Marshfield Clinic*, 65 F.3d 1406, 1412 (7th Cir. 1995). Indeed, “[t]o prove monopoly power directly, supracompetitive pricing must be accompanied by restricted output.” *Safeway Inc.*, 761 F. Supp. 2d at 887 (*citing* Rebel Oil Co., 51 F.3d at 1434). In other words, “[b]oth are required to prove monopoly power directly.” *Id.*

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595 Indeed, as the *Safeway* court notes and explains in a footnote:

Plaintiffs nevertheless continue to argue that evidence of restricted output is not required because raising prices necessarily depresses sales. This is incorrect. Take for example a market in which demand
of decreased output for mobile gaming transactions and mobile game apps is fatal in demonstrating monopoly power using direct evidence.

With respect to indirect evidence, a more mixed result emerges. A share between 52 and 57 percent is not high enough to sustain a *prima facia* case of a monopoly, but is enough to permit the Court to evaluate the state and durability of the market. This evaluation includes whether (i) new rivals are barred from entering the market (*i.e*., the degree of entry barriers) and (ii) whether existing competitors lack the capacity to expand their output to challenge the predator’s high price. In general, entry barriers are “additional long-run costs that were not incurred by incumbent firms but must be incurred by new entrants” or “factors in the market that deter entry while permitting incumbent firms to earn monopoly returns.” *L.A. Land Co.*, 6 F.3d at 1427–28. Such barriers include “(1) “legal license requirements, (2) control of an essential or superior resource, (3) entrenched buyer preferences for established brands; (4) capital market evaluations imposing higher capital costs on new entrants; and, in some situations, (5) economies of scale.” *Rebel Oil Co.*, 51 F.3d at 1439 (citing *L.A. Land Co.*, 6 F.3d at 1428 n.4).

Here, the evidence is both undeveloped and mixed. Given that mobile gaming was not a proposed product market for either party, neither party has adequately presented evidence of these barriers or competitors’ ability to challenge monopolistic actions. The Court nonetheless considers the limited evidence in record.

On the one hand, only a small number of platforms, and their attendant licenses on which to distribute mobile games, exist—namely iOS and Android. Moreover, economies of scale in the form of network effects favor these established digital gaming stores and platforms over new entrants. Finally, new entrants may face information barriers to entry, as users may not know that cheaper game distribution may be available on alternative platforms. Although these factors do not create “lock-in,” they are evidence of some entry barriers for new companies providing mobile game transactions.

On the other hand, there are significant changes in both the wider gaming market and the mobile gaming market—both appear to be in flux. Indeed, the evidence reflects that the wider gaming market is both dynamic and evolving. Mobile gaming transactions do not appear to be immune to this dynamism. The introduction of the hybrid platform the Nintendo Switch in 2017 provides some evidence that the barriers of entry are not so high as to deter competitors in

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outstrips supply. In such a hypothetical market, a firm could raise prices—up to a certain point—without necessarily causing a commensurate reduction in sales.

*Safeway Inc.*, 761 F. Supp. 2d at 887 n.3.

596 See Ex. Expert 4 (Athey) ¶¶ 36–37, 45–46; Ex. Expert 1 (Evans) ¶ 118. Although, the Court notes that some platform owners require price parity among other platforms, such that prices are universal amongst each platform. *See supra* Facts §§ II.D.3–4.
related markets from entering the mobile gaming transactions market. Moreover, Microsoft and Nvidia’s efforts into mobile game streaming are further evidence that these entry barriers are not so substantial to prevent new market entrants. Indeed, these competitors are moving into the same lucrative mobile gaming submarket without facing substantial market barriers to entry. In short, these competitors appear to be leveraging either existing intellectual property in the form of hardware and gaming content as well as existing established networks, including its own consumer and developer bases, to break into this market space. Given this recent movement by competitors, it is hard to characterize the entry barriers as oppressive or high on this record.

The evidence is further mixed on whether existing competitors, here Google, could increase output in the short run in order to erode Apple’s market share. See Pacific Coast, 526 F.2d at 1204 (affirming jury’s finding of monopoly power where defendant had a market share of 45 to 70% in the relevant years, and the remaining competitors “were relatively small, with no single competitor controlling over 18% [or] 12%” of the market). Beyond similar market share in this market, neither party explored mobile gaming and the record is inconclusive on Google’s actual capabilities in disciplining and competing with Apple in this sphere.

In sum, given the totality of the record, and its underdeveloped state, while the Court can conclude that Apple exercises market power in the mobile gaming market, the Court cannot conclude that Apple’s market power reaches the status of monopoly power in the mobile gaming market. That said, the evidence does suggest that Apple is near the precipice of substantial market power, or monopoly power, with its considerable market share. Apple is only saved by the fact that its share is not higher, that competitors from related submarkets are making inroads into the mobile gaming submarket, and, perhaps, because plaintiff did not focus on this topic.

C. Section 1 of the Sherman Act: Apple’s Unlawful Restraint of the iOS App Distribution Market (Count 3) and Unlawful Restraint on the iOS In-App Payment Solutions Market (Count 5)

Epic Games brings two counts under Section 1 of the Sherman Act for unlawful restraint of trade in the iOS app distribution aftermarket (Count 3) and in the iOS in-app payment solutions aftermarket (Count 5). The legal framework is the same for both.

597 Although not in the record, the Court is further aware that Valve, a major player in the computer gaming market as the owner of the Steam platform, has also announced its own mobile and portable gaming platform. The Court does not rely on this fact in reaching its conclusions herein, but only mentions it to further support the Court’s ultimate conclusion: that entries into the mobile gaming submarket appear to be possible and achievable from competitors in related gaming submarkets.

598 Of course, game streaming is still relatively new and currently does not replicate freemium games, the primary driver of App Store revenue, because, with the exception of Nvidia’s free access tier, such services generally require an up-front subscription payment. See supra Facts § II.D.3.d.
1. Legal Framework

Section 1 of the Sherman Act prohibits “[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations.” 15 U.S.C. § 1. Section 1 is understood “to outlaw only unreasonable restraints.” Amex, 138 S. Ct. at 2283 (internal quotation marks and emphasis omitted); State Oil Co. v. Khan, 522 U.S. 3, 10 (1997); Standard Oil Co. of N.J. v. United States, 221 U.S. 1, 59–60 (1911). “To establish liability under § 1, a plaintiff must prove (1) the existence of an agreement, and (2) that the agreement was in unreasonable restraint of trade.” Aerotec Int’l, Inc. v. Honeywell Int’l, Inc., 836 F.3d 1171, 1178 (9th Cir. 2016).

Despite the broad language of the statute, antitrust law has developed to find that “[t]he essence of a Section 1 claim is concerted action.” E.W. French & Sons v. Gen. Portland, 885 F.2d 1392, 1397 (9th Cir. 1989). “[E]xpress ‘agreements’” are “direct evidence of ‘concerted activity.’” Paladin Assocs., Inc. v. Montana Power Co., 328 F.3d 1145, 1153 (9th Cir. 2003); see also Sun Microsystems Inc. v. Hynix Semiconductor Inc., 608 F. Supp. 2d 1166, 1192 (N.D. Cal. 2009) (“One way of proving concerted action is by express agreement.”). A plaintiff “need not prove intent to control prices or destroy competition to demonstrate the element of an agreement among two or more entities.” Paladin Assocs., 328 F.3d at 1153–54 (internal quotation marks and alterations omitted). “Unilateral conduct by a single firm, even if it appears to restrain trade unreasonably, is not unlawful under Section 1 of the Sherman Act.” The Jeanery, Inc. v. James Jeans, Inc., 849 F.2d 1148, 1152 (9th Cir. 1988) (internal quotation marks omitted); see also Monsanto Co. v. Spray-Rite Serv. Corp., 465 U.S. 752, 761 (1984) (“Independent action is not proscribed.”). Thus, in evaluating the first element, the Sherman Act distinguishes between concerted conduct and unilateral conduct and “treat[s] concerted behavior more strictly than unilateral behavior.” Copperweld Corp. v. Indep. Tube Corp., 467 U.S. 752, 768 (1984).

With respect to the second element, some restraints are per se unreasonable. Where they are not, they are “judged under the ‘rule of reason.’” Amex, 138 S. Ct. at 2284. “The rule of reason requires courts to conduct a fact-specific assessment of ‘market power and market structure to assess the restraint’s actual effect’ on competition.” Id. (quoting Copperweld Corp., 467 U.S. at 768) (alterations omitted). “Under this rule, the factfinder weighs all of the circumstances of a case in deciding whether a restrictive practice should be prohibited as imposing an unreasonable restraint on competition.” Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 885–86 (2007) (internal quotation marks and citation omitted). “Appropriate factors to consider include specific information about the relevant business and the restraint’s history, nature, and effect.” Id. (internal quotation marks and citation omitted). “Whether the businesses involved have market power is a further, significant consideration.” Id. (citation omitted). “In its design and function the rule distinguishes between restraints with anticompetitive effect that are harmful to the consumer and restraints stimulating competition that are in the consumer’s best interest.” Id.

As the Supreme Court recently explained:

To determine whether a restraint violates the rule of reason, . . . a three-step, burden shifting framework applies. Under this
framework, the plaintiff has the initial burden to prove that the challenged restraint has a substantial anticompetitive effect that harms consumers in the relevant market. If the plaintiff carries its burden, then the burden shifts to the defendant to show a procompetitive rationale for the restraint. If the defendant makes this showing, then the burden shifts back to the plaintiff to demonstrate that the procompetitive efficiencies could be reasonably achieved through less anticompetitive means.

Amex, 138 S. Ct. at 2284 (citations omitted); see also Qualcomm, 969 F.3d at 989. The three steps “do not represent a rote checklist” and are not “an inflexible substitute for careful analysis.” NCAA v. Alston (“NCAA”), 141 S. Ct. 2141, 2160 (2021). Rather, their purpose is “to furnish an enquiry meet for the case, looking to the circumstances, details, and logic of a restraint.” Id. (quoting Cal. Dental Ass’n v. FTC, 526 U.S. 756, 781 (1999)).

2. Count 3: iOS App Distribution Market Analysis

a. Existence of an Agreement

Count 3 alleges that Apple “require[s] iOS developers distribute their apps through the App Store.” Compl. ¶ 210. Starting with the first element, Epic Games relies on the DPLA to demonstrate an agreement.599 As noted, express agreements provide “direct evidence” of concerted activity. Paladin Assocs., 328 F.3d at 1153. Apple argues, however, that the DPLA does not qualify because Apple unilaterally imposes it on developers. See Costco Wholesale Corp. v. Maleng, 522 F.3d 874, 898 (9th Cir. 2008) (no “meeting of the minds” from unilateral rules).600

As explained above, the Sherman Act distinguishes between unilateral and concerted activity. Jeanery, 849 F.3d at 152. “Concerted activity subject to § 1 is judged more sternly than unilateral activity under § 2” because it “deprives the marketplace of the independent centers of decisionmaking that competition assumes and demands.” Copperweld Corp., 467 U.S. at 768–

599 In its Section 2 rule of reason analysis, Apple argues that technical design of iOS cannot form the basis of antitrust liability. Apple COL ¶ 249. In response, Epic Games appears to disclaim any challenge to Apple’s code signing restrictions. Epic Games COL ¶ 143. The Court here considers only the DPLA restrictions on distribution.

600 In Costco, a retailer challenged Washington state’s regulations of alcohol sales under antitrust laws. 522 F.3d at 883. Washington had required distributors to sell alcohol at a uniform price and to post those prices publicly, among other restrictions. Id. To evaluate the conduct, the Ninth Circuit distinguished “unilateral” restraints—which were not prohibited by the Sherman Act—from “hybrid” restraints, which involve concerted action and implicate Section 1. Id. at 886–87. The court found that the price restrictions were unilateral state conduct, but that the requirement to post and adhere to the prices was “hybrid” because private parties still retained discretion. Id. at 894, 899. It then found that the posting requirement violates Section 1. Id. at 895. Costco shows that even government command can create “concerted activity” under Section 1. Apple’s conduct here is far less unilateral.
69. It thus “warrant[s] scrutiny even in the absence of incipient monopoly.” Id. Unilateral conduct, by contrast, may simply represent “robust competition.” Id. at 767–68; see Qualcomm, 969 F.3d at 1005 (“hypercompetitive behavior” is not illegal under antitrust laws). Thus, even unreasonable unilateral restraints are not subject to antitrust scrutiny unless “they pose a danger of monopolization.” Copperweld Corp., 467 U.S. at 768.

Given this distinction, a business may set conditions for dealing unilaterally and refuse to deal with anyone who does not meet those conditions. See Monsanto, 465 U.S. at 761. However, where the conduct extends beyond announcing a policy and refusing to deal with non-compliant partners to coercing an agreement, the conduct falls under Section 1. See id. at 765; see also Dimidowich v. Bell & Howell, 803 F.2d 1473, 1478 (9th Cir. 1986) (recognizing an exception to the “unilateral refusal to deal” rule where a party “imposes restraints on dealers or customers by coercive conduct and they involuntarily adhered to those restraints”).

For example, in Jeanery, a jeans manufacturer had set suggested prices for retailers and made clear that those who set prices below the suggested price would be terminated or receive less favorable treatment. 849 F.2d at 1150. A distributor undercut those prices and was promptly terminated. Id. at 1151. The Ninth Circuit found no Section 1 violation based on insufficient evidence of an agreement. Id. at 1155. Specifically, the Ninth Circuit found no evidence that the manufacturer “coerced” the distributors into adherence or that the distributors “communicated acquiescence to such an agreement.” Id. at 1158–60 (reasoning that manufacturer did nothing more than inform distributors of its policy). Conversely, such evidence was found in Monsanto, in which case an agricultural manufacturer threatened to withhold herbicide at a time of short supply and even complained to a distributor’s parent company to force compliance, which the distributor expressly communicated in return. 465 U.S. at 764–65 & nn.9–10.

Here, the DPLA is a unilateral contract which the parties agree that a developer must accept its provisions (including the challenged restrictions) to distribute games on iOS. Thus, under antitrust jurisprudence, element one would not be satisfied. See Toscano v. Prof. Golfers Ass’n, 258 F.3d 978 (9th Cir. 2001) (because the sponsors “did not help create anticompetitive rules” but only “agreed to purchase products” under “conditions set by the other party,” they were not liable for concerted conduct under Section 1). Id.

That said, the Court addresses here the potential conflicts with the goals of antitrust law given this narrow view. The jurisprudence assumes that unilateral conduct may simply be the result of robust competition. That may not always be the case. Ending the analysis on that basis alone does not allow for those assumptions to be tested, especially where, as here, the Court is faced with a highly concentrated market.

Nor is the jurisprudence particularly consistent with tying claims which are allowed under Section 1. For example, a tying claim involves a seller exploiting “its control over the tying product to force the buyer into the purchase of a tied product.” Jefferson Parish, 466 U.S. at 12. The buyer plays no role beyond purchasing the goods under conditions set by the seller.

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601 PX-2619; PX-2621.
Similarly, an exclusive dealing claim involves “agreement between a vendor and a buyer that prevents the buyer from purchasing a given good from any other vendor.” Aerotec, 836 F.3d at 1180. Again, the buyer passively accepts conditions set by the vendor. More recently, Amex involved an anti-steering provision as a vertical restraint imposed by American Express on merchants. 138 S. Ct. at 2277. The merchants accepted the provision as a condition of dealing with American Express without further involvement. Id.602

Thus, while the Court does not find the DPLA provides sufficient evidence of an agreement, it nonetheless continues the analysis to inform the issues relating to anticompetitive and incipient antitrust conduct, especially given the anti-steering provision therein.

b. Reasonableness of the Restraint

For the reasons stated, the Court turns to the second element using the rule of reason test. Amex, 138 S. Ct. at 2284; see also Copperweld Corp., 467 U.S. at 768 (explaining that vertical agreements “hold the promise of increasing a firm’s efficiency and enabling it to compete more effectively” and so “are judged under a rule of reason”). As the Court described in Amex:

The rule of reason requires courts to conduct a fact-specific assessment of “market power and market structure . . . to assess the [restraint]’s actual effect” on competition. Copperweld Corp. v. Independence Tube Corp., 467 U.S. 752, 768, 104 S. Ct. 2731, 81 L.Ed.2d 628 (1984). The goal is to “distinguish between restraints with anticompetitive effect that are harmful to the consumer and restraints stimulating competition that are in the consumer’s best interest.” Leegin Creative Leather Products, Inc. v. PSKS, Inc., 551 U.S. 877, 886, 127 S. Ct. 2705, 168 L.Ed.2d 623 (2007).

Amex, 138 S. Ct. at 2284. Recognizing that the rule of reason is not a “rote checklist,” NCAA, 141 S. Ct. at 2160, the Court examines the app distribution restrictions and considers their anticompetitive effects, procompetitive rationales, and less restrictive alternatives. Amex, 138 S. Ct. at 2284.

i. Anticompetitive Effects

“To demonstrate anticompetitive effects on the two-sided [mobile gaming] market as a whole,” plaintiff must prove that Apple’s app distribution provisions increased the cost of mobile gaming transactions “above a competitive level, reduced the number of [mobile gaming] transactions, or otherwise stifled competition in the [mobile gaming] market.” See Amex, 138 S. Ct. at 2287. Evidence of this nature is considered direct evidence. Id. at 2284 (simplified).

602 See Image Tech. Servs., Inc. v. Eastman Kodak Co., 903 F.2d 612, 619 (9th Cir. 1990) (“‘Image Tech Services I’”) (rejecting the argument that party “acted unilaterally in tying parts to service” because otherwise, Monsanto “without discussing the courts’ tying decisions, meant to overturn” tying arrangements); Eastman Kodak, 504 U.S. at 463 n.8 (conditioning sales is not a “unilateral refusal to deal”).
Indirect evidence is also admissible and would involve “proof of market power plus some evidence that the challenged restraint harms competition.” *Amex*, 138 S. Ct. at 2284.

Here, the Court recognizes significant challenges in assessing the anticompetitive effects of the app distribution restrictions. The market in mobile game transactions has grown dramatically over recent years due to growth in gaming generally, smartphone ownership, and digital transactions as a whole. Apple’s commission rate has remained static throughout even though Google, Apple’s main competitor (and who also charges a 30% commission rate), does not have the same app distribution restrictions. These facts suggest prices are artificially high given Apple’s growing market power and growing demand. Evaluating competitive effects under these circumstances would require isolating the effects of a particular restriction. This is particularly difficult in light of the expansive market growth caused by innovation in the field. It is for these reasons that “novel business practices—especially in technology markets—should not be ‘conclusively presumed to be unreasonable and therefore illegal without elaborate inquiry as to the precise harm they have caused or the business excuse for their use.’” *Qualcomm*, 969 F.3d at 990–91 (emphasis in original) (quoting *Microsoft Corp.*, 253 F.3d at 91).

Having carefully considering the evidence, the Court finds that Apple’s app distribution restrictions do have some anticompetitive effects. The evidence here shows that, unlike the increased merchant fees in *Amex*, Apple’s maintenance of its commission rate stems from market power, not competition in changing markets. As explained above, Apple set its 30% commission rate almost by accident when it first launched the App Store without considering operational costs, benefit to users, or value to developers, that is, both sides of the platform. That commission has enabled Apple to collect extraordinary profits as Mr. Barnes credibly shows that the operating margins have exceeded 75% for years. Yet the 30% commission rate has barely budged in over a decade despite developer complaints and regulatory pressure. High commission rates certainly impact developers, and some evidence exists that it impacts consumers when those costs are passed on.

With respect to indirect evidence, the Court discusses these effects in Facts § V.A.1., but summarizes them here. Apple holds considerable market share, 55 percent. Its restrictions harm competition by precluding developers, especially larger ones, from opening competing game stores on iOS and compete for other developers and users on price. Given this but-for-world, increased competition could result in a reduction of Apple’s commissions charged to developers,

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603 Thus, the facts here differ from *Amex*. There, American Express raised fees only after a “careful study” of “how much additional value its cardholders offer merchants.” 138 S. Ct. at 2288. It used higher merchant fees “to offer its cardholders a more robust rewards program,” which created loyalty and “encourage[d] the level of spending that makes Amex valuable to merchants.” *Id*. No study or evaluation exists here.

604 For this reason, the spectacular growth of free apps on the App Store is not dispositive. While Apple may have decided, over time, to use freemium games to subsidize the rest of the App Store, there is no evidence that the commission is calibrated to the costs or value of providing free games, as the merchant fees in *Amex* were calibrated to providing rewards.
who could then pass on savings to users.\footnote{The record is bare as to who would ultimately benefit from a reduction in commissions. With the limited examples in the record, some developers, like Down Dog, pass on the entirety of the reduction in the commission to consumers, whereas Epic Games split the 30% commission by retaining 12% and remitting 18% to consumers. Thus, it is unclear the extent or degree to which developers would pass on any savings to consumers.} Competing game stores could compete on features, including “search and discoverability,” in-app payment processing, and security. This could improve the innovation in and perhaps quality of “matchmaking” to increase output.\footnote{Under \textit{Amex}, services for each of the two sides of the platform are both “inputs” to the single product, which is transactions. 138 S. Ct. at 2286 n.8. Although Apple does not directly restrict game transaction output, it limits the supply of these inputs on iOS, which reduces quality and may reduce output.} Further, competing game stores could provide specialized stores tailored to particular groups and otherwise innovate to meet user and developer needs.

Accordingly, Epic Games has put proffered both direct and indirect evidence of anticompetitive effects under Section 1.

\textbf{ii. Procompetitive Justifications}

In response, Apple offers three procompetitive justifications: security, intrabrand competition, and protecting intellectual property investment. A procompetitive rationale is a “nonpretextual claim that [defendant’s] conduct is indeed a form of competition on the merits because it involves, for example, greater efficiency or enhanced consumer appeal.” \textit{Qualcomm}, 969 F.3d at 991. It is not enough that “conduct ‘has the effect of reducing consumers’ choices or increasing prices to consumers.’” \textit{Id.} at 990 (quoting \textit{Brantley v. NBC Universal, Inc.}, 675 F.3d 1192, 1202 (9th Cir. 2012)). That is because these effects may arise for procompetitive reasons, such as increased interbrand competition. \textit{See Leegin}, 551 U.S. at 891–93. In a two-sided transaction market, a court must consider procompetitive effects on both sides of the market. \textit{Amex}, 138 S. Ct. at 2287.

Here, the Court finds Apple’s security justification to be a valid and nonpretextual business reason for restricting app distribution. As previously discussed, \textit{see supra} Facts § V.A.2., centralized app distribution enables Apple to conduct app review, which includes both technical and human components. Human review in particular helps protect security by preventing social engineering attacks, the main vector of malware distribution. Human review also helps protect against fraud, privacy intrusion, and objectionable content beyond levels achievable by purely technical measures. By providing these protections, Apple provides a safe and trusted user experience on iOS, which encourages both users and developers to transact freely and is mutually beneficial. As a result, Apple’s conduct “enhance[s] consumer appeal.” \textit{See Qualcomm}, 969 F.3d at 991.

As a corollary of the security justification, the app distribution restrictions promote interbrand competition. The Supreme Court has recognized that limiting intrabrand competition can promote interbrand competition. \textit{Leegin}, 551 U.S. at 890. For example, restricting price
competition among retailers who sell a particular product can help the manufacturer of that product compete against other manufacturers. *Id.* at 890–91. It is this interbrand competition that “the antitrust laws are designed primarily to protect.” *Id.* at 895. Here, centralized app distribution and the “walled garden” approach differentiates Apple from Google. That distinction ultimately increases consumer choice by allowing users who value open distribution to purchase Android devices, while those who value security and the protection of a “walled garden” to purchase iOS devices. This, too, is a legitimate procompetitive justification.

Epic Games does not persuasively rebut the security justification nor shows it to be pretextual. Instead, it focuses on the lack of app distribution restrictions (besides code signing) on Mac computers. *See supra* Facts §§ V.A.1.a, V.A.2.a.iv. However, Apple submits some evidence that Mac computers have more malware than iOS and, in any case, provides a compelling explanation for app review’s increased effectiveness against certain types of attacks. Epic Games also questions the effectiveness of app review in practice. *See supra* Facts § V.A. That hardly provides a reason against app review. Epic Games’ security expert agrees that “mayhem” would result if unfettered app distribution were allowed.607 Thus, plaintiff’s proffer is really one of the “effectiveness” of Apple’s security procedures, not the need for them. Whether the precise restrictions Apple has selected could be replicated through less restrictive means is more properly addressed in the next section. Given the trial record, the Court finds that Apple’s security rationale is a valid business justification for the app distribution restrictions.608

As for the intellectual property justification, the specific commission rate is pretextual, as the Court previously found. As discussed in Facts § V.A.2.b, there is no evidence that Apple set or maintains its specific commission rate with any consideration of the value or cost of intellectual property in mind.609 Indeed, the Supreme Court recently rejected a justification without “any direct connection” to the challenged restraint in *NCAA*. 141 S. Ct. at 2162. There, a sport association argued that restrictions on student athlete compensation were necessary to preserve amateurism and related consumer demand. *Id.* at 2152. The Court rejected this justification based on the district court’s findings that the association set those rules without any reference to considerations of consumer demand. *Id.* at 2162–63 (quoting *In re NCAA Athletic Grant-in-Aid Antitrust Litig.*, 375 F. Supp. 3d 1058, 1070, 1075, 1100 (N.D. Cal. 2019)).

*Eastman Kodak* is further instructive. There, the photocopier maker argued that companies providing repair services for its machines were “exploiting the investment Kodak has made in product development, manufacturing and equipment sales.” *Eastman Kodak*, 504 U.S.

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607 Trial Tr. (Mickens) 2709:23–2710:2.

608 Relatedly, Apple has a legitimate business justification in maintaining and improving the quality of its services, here, privacy and security. *See Cal. Computs. Prods., Inc. v. Int’l Bus. Machs. Corp.*, 613 F.2d 727, 744 (9th Cir. 1979) (“IBM, assuming it was a monopolist, had the right to redesign its products to make them more attractive to buyers whether by reason of lower manufacturing cost and price or improved performance.”).

609 *See, e.g.*, PX-0880.021; Ex. Depo. 8 (Cue) 137:23–138:14, 140:10–141:7; Trial Tr. (Malackowski) 3692:18–21, 3693:13–17.
at 485. The Supreme Court declined to accept this argument and find in Kodak’s favor as a matter of law. *Id.* at 486. Ultimately, on remand, the Ninth Circuit affirmed a jury finding of pretext. The evidence showed that “patents ‘did not cross [Kodak’s] mind at the time Kodak began its parts policy’ and that Kodak did not distinguish patented and unpatented parts in its policy. *Image Tech. Servs. II*, 125 F.3d at 1219–20.

Like the defendants in those cases, Apple did not consider intellectual property in setting its specific commission rate, nor does it list any specific intellectual property in the DPLA. Thus, the justification with respect to the 30% commission rate is pretextual.

That said, while the Court has found the *rate itself* pretextual, the Court cannot conclude that Apple’s protection of its intellectual property is pretextual. Courts have found similar justifications based on the protection of intellectual property rights valid, albeit rebuttable, procompetitive justifications. *See, e.g.*, *Tech. Res. Servs., Inc. v. Dornier Med. Sys., Inc.*, 134 F.3d 1458, 1467 (11th Cir. 1998) (jury could have credited defendant’s “need to protect its trade secrets and proprietary information”). Indeed, as the Court has found, Apple is entitled to license its intellectual property for a fee, and to guard its intellectual property from uncompensated use by others. The restrictions on app distribution on the iOS platform accomplishes that aim, whereas Epic Games’ proposed alternatives (discussed in more length below) would weaken it. In short, Epic Games has failed to show that Apple’s proffered intellectual property justification is pretextual as it relates to the restrictions on app distribution.

Accordingly, Apple has shown procompetitive justifications based on security and the corollary interbrand competition, as well as generally with respect to intellectual property rights.

iii. Less Restrictive Alternatives

Turning to the last step, the parties dispute whether these procompetitive justifications could be achieved through less restrictive means. Generally, “antitrust law does not require businesses to use anything like the least restrictive means of achieving legitimate business purposes.” *NCAA*, 141 S. Ct. at 2161. “To the contrary, courts should not second-guess degrees of reasonable necessity so that the lawfulness of conduct turns upon judgments of degrees of efficiency.” *Id.* (simplified).610

Thus, under the third step, an alternative must be “a significantly (not marginally) less restrictive means for achieving the same procompetitive benefits.” *Id.* at 2164. It must be

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610 The Court notes slightly differing language at the third step between Section 1 (“plaintiff [must] demonstrate that the procompetitive efficiencies could be reasonably achieved through less anticompetitive means”) and Section 2 (“the plaintiff must demonstrate that the anticompetitive harm of the conduct outweighs the procompetitive benefit”). *See Qualcomm*, 969 F.3d at 991. Although the Ninth Circuit has recently stated that the rule of reason analysis under both sections is “essentially the same,” *id.*, prior case law has explicitly recognized that “there is no least restrictive alternative requirement in the context of a Section 2 claim.” *Image Tech. Servs. I*, 903 F.2d at 620; accord *Apple iPod iTunes Antitrust Litig.*, No. 05-CV-0037-YGR, 2014 WL 12719194, at *1 (N.D. Cal. Nov. 25, 2014); *Allied Orthopedic Appliances, Inc. v. Tyco Health Care Grp. L.P.*, Nos. 05-CV-6419-MRP-AJW, 2008 WL 7346921, at *16 (C.D.
“virtually as effective in serving the procompetitive purposes” as current rules “without significantly increased cost.” In re NCAA Athletic Grant-in-Aid Cap Antitrust Litig., 958 F.3d 1239, 1260 (9th Cir. 2020) (simplified), aff’d 141 S. Ct. at 2161. Where a restraint is “patently and inexplicably stricter than is necessary to accomplish” the proffered procompetitive objective, “an antitrust court can and should invalidate it and order it replaced with a viable [less restrictive alternative].” Id. (quoting O’Bannon v. NCAA, 802 F.3d 1049, 1075 (9th Cir. 2015) (emphasis in original)).

Here, Epic Games argues that the app distribution restrictions can be replaced with the enterprise model or the notarization model. As discussed above, see supra Facts § V.A.2.a.iv., Apple already implements both of these models on iOS and Mac, respectively. The enterprise model enables Apple to certify organizations, such as companies, to distribute apps to their own employees. This model could be extended to certify app stores. The notarization model allows Apple to sign apps to verify security while allowing them to be distributed as the developer wishes. Epic Games argues that these models could be implemented on iOS with minimal technical difficulty.

However, missing from both the enterprise and notarization models is human app review which provides most of the protection against privacy violations, human fraud, and social engineering. These proposed alternatives would require Apple to either add human review to the notarization model or leave app review to third-party app stores. Apple executives suggested that the first option would not scale well.611 Under the second option, Apple could in theory set minimum guidelines for app stores to provide a “floor” for privacy, security, and quality. However, security could increase or decrease depending on the quality and diligence of the store. Evidence shows that at least on Android, the experiment shows less security.

In evaluating remedies, no court should “impose a duty that it cannot explain or adequately and reasonably supervise.” NCAA, 141 S. Ct. at 2163 (quoting Verizon, 540 U.S. at 883). Here, Epic Games has provided requests for its remedy which principally appear to eliminate app review.612 The requests also leave unclear whether Apple can collect licensing

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611 Trial Tr. (Federighi) 3502:22–3503:15. Professor Mickens even suggested the courts should micro-manage policy decisions.

612 See, e.g., Dkt. No. 276-1 at 4 (requesting an injunction prohibiting Apple from enforcing its guidelines to “impede” or “disadvantage” app distribution outside of the App store). Although this request purports not to “prohibit Apple from taking steps to prevent the distribution of malware,” it is not clear what constitutes “malware” and whether that distinction includes “broad” security (privacy, fraud, offline safety, etc.) or is limited to Dr. Mickens’
royalties and, if so, how it would do so. At closing argument, Epic Games’ counsel suggested that “Apple can charge” for its license, so long as it does not discriminate among developers. However, it has sought to require Apple to give competing app stores access to the same “iOS functionality that the App Store has access to,” which is more than the DPLA currently licenses. Thus, the Court need not consider these possibilities because Epic Games has not sufficiently developed them.

In short, Epic Games has not met its burden to show that its proposed alternatives are “virtually as effective” as the current distribution model and can be implemented “without significantly increased cost.” In re NCAA Athletic Grant-in-Aid Cap Antitrust Litig., 958 F.3d at 1260 (quoting O’Bannon, 802 F.3d at 1074). Nor has it shown that the restraints are “patently and inexplicably stricter than is necessary.” Id. (quoting O’Bannon, 802 F.3d at 1074). “[A]ntitrust courts must give wide berth to business judgments before finding liability.” NCAA, 141 S. Ct. at 2163. Here, Apple’s business choice of ensuring security and protecting its intellectual property rights through centralized app distribution is reasonable, and the Court declines to second-guess that judgment on an underdeveloped record. See In re Citric Acid Litig., 191 F.3d 1090, 1101 (9th Cir. 1999) (“Courts have recognized that firms must have broad discretion to make decisions based on their judgments of what is best for them . . . .”).

Accordingly, the Court finds that Apple’s app distribution restrictions do not violate Section 1 of the Sherman Act.

3. Count 5: iOS In-App Payment Solutions Market Analysis

In Count 5, Epic Games avers that Apple has unreasonably restrained trade in the “iOS In-App Payment Processing Market” by requiring developers to “use Apple’s In-App Purchase for in-app purchases of in-app content to the exclusion of any alternative solution or third-party payment processor.” This claim fails for substantially the same reasons that Count 3 fails.

At step one, for the reasons stated, supra Facts § V.B.1. and Law § II.C.2.b.i., Epic Games has presented some direct and indirect evidence showing that Apple’s IAP functionality has had anticompetitive effects.

At step two, for the reasons stated in both the Count 3 analysis as well as the Court’s findings of facts with respect to IAP, supra Facts § V.B.2 and Law § II.C.2.b.ii, Apple has proffered more than three procompetitive justifications for the terms of the DPLA relating to IAP. One, IAP is the mechanism by which Apple can easily receive its commission and is further how Apple collects a royalty for the use of its intellectual property. Two, IAP provides

613 Trial Tr. (Closing Arguments) 4156:20.

614 Dkt. No. 276-1 at 4.

615 Compl. ¶ 227.
consumers with a unitary safe and secure means to execute transactions on the iOS platform. Three, IAP offers consumers a centralized purchasing system, whereby consumers have a convenient way to both execute and track transactions on the iOS platform.

At step three, Epic Games has identified no suitable less restrictive alternative for Apple’s use of IAP based on the current record. The only alternative that Epic Games proposes is that Apple be barred from restricting or deterring in any way “the use of in-app payment processors other than IAP.” This proposed alternative is deficient for several reasons:

First, and most significant, as discussed in the findings of facts, IAP is the method by which Apple collects its licensing fee from developers for the use of Apple’s intellectual property. Even in the absence of IAP, Apple could still charge a commission on developers. It would simply be more difficult for Apple to collect that commission.

Indeed, while the Court finds no basis for the specific rate chosen by Apple (i.e., the 30% rate) based on the record, the Court still concludes that Apple is entitled to some compensation for use of its intellectual property. As established in the prior sections, see supra Facts §§ II.C., V.A.2.b., V.B.2.c., Apple is entitled to license its intellectual property for a fee, and to further guard against the uncompensated use of its intellectual property. The requirement of usage of IAP accomplishes this goal in the easiest and most direct manner, whereas Epic Games’ only proposed alternative would severely undermine it. Indeed, to the extent Epic Games suggests that Apple receive nothing from in-app purchases made on its platform, such a remedy is inconsistent with prevailing intellectual property law.

Second, if Apple could no longer require developers to use IAP for digital transactions, Apple’s competitive advantage on security issues, in the broad sense, see supra Facts § V.B.2.a., would be undermined and ultimately could decrease consumer choice in terms of smartphone devices and hardware.

Third, but to a lesser extent, the use of different payment solutions for each app may reduce the quality of the experience for some consumers by denying users the centralized option of managing a single account through IAP. This would harm both consumers and developers by weakening the quality of the App Store to those that value this centralized system.

Thus, the Court concludes that Apple’s restrictions as to its IAP and separate payment processors do not violate Section 1 of the Sherman Act.

616 Epic Games COL ¶ 642.

617 In such a hypothetical world, developers could potentially avoid the commission while benefitting from Apple’s innovation and intellectual property free of charge. The Court presumes that in such circumstances that Apple may rely on imposing and utilizing a contractual right to audit developers annual accounting to ensure compliance with its commissions, among other methods. Of course, any alternatives to IAP (including the foregoing) would seemingly impose both increased monetary and time costs to both Apple and the developers.

618 Epic Games COL ¶ 643.
D. Section 2 of the Sherman Act: Apple’s Monopoly Maintenance of the iOS App Distribution Market (Count 1) and iOS in-App Payment Solutions Market (Count 4)

Epic Games brings two claims under Section 2 arguing monopoly maintenance: Count 1 is based on its theory of the iOS distribution market and Count 4 is based on the iOS in-app payment solutions market. The legal framework is the same for both.

1. Legal Framework

Section 2 of the Sherman Act prohibits persons from “monopoliz[ing], or attempt[ing] to monopolize, or combin[ing] or conspir[ing] with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations.” 15 U.S.C. § 2. A claim for unlawful monopolization under Section 2 of the Sherman Act requires that a plaintiff show: “(a) the possession of monopoly power in the relevant market; (b) the willful acquisition or maintenance of that power; and (c) causal antitrust injury.” Qualcomm Inc., 969 F.3d at 989–90.

To recap: monopoly power is “the power to control prices or exclude competition.” Grinnell Corp., 384 U.S. at 571 (quotation marks omitted). “[A] firm is a monopolist if it can profitably raise prices substantially above the competitive level,” Microsoft Corp., 253 F.3d at 51, “without inducing so rapid and great an expansion of output from competing firms as to make the supracompetitive price untenable,” Harrison Aire, Inc., 423 F.3d at 380 (internal quotation marks omitted).

Section 2 monopolization claims “must be judged on a market-by-market basis.” Syufy Enters., 903 F.2d at 672 n.22; see also Walker Process Equip., Inc. v. Food Mach. & Chem. Corp., 382 U.S. 172, 177 (1965) (“Without a definition of [the] market there is no way to measure [the defendant’s] ability to lessen or destroy competition.”).

2. Count 1: iOS App Distribution Market Analysis

In Count 1, Epic Games claims that Apple has a monopoly in the “iOS App Distribution Market” and has unlawfully maintained the monopoly by prohibiting iOS app developers from distributing their apps through alternative channels.

In short, this claim fails for two significant reasons: (1) Epic Games fails to prove the first element, that Apple has monopoly power in the relevant product and geographic market; and (2) Epic Games alternatively fails to satisfy the rule of reason analysis under Section 1—an acknowledged less exacting test as compared to Section 2.

First, the Court has found that the relevant market is the global mobile gaming transactions. Epic Games did not argue that Apple had monopoly power in this market. Instead, Epic Games focused on its two-tiered aftermarket theory. The Court will not rehash the failed analysis here. Suffice it to say, neither parties’ proposed markets ultimately persuaded the Court. Rather, Epic Games’ proposed market ignored greater market pressures, and Apple’s proposed market was overbroad in its inclusion of similar products.
As demonstrated with respect to the relevant market, Apple does not have substantial
market power equating to monopoly power. While considerable, Epic Games has failed to show
that Apple’s market power is durable and sustaining given the current state of the relevant
market. For that reason, the Court finds that Epic Games failed to prove the first element of a
Section 2 claim: the possession of monopoly power in the relevant market.

Second, and alternatively, Epic Games’ Section 2 claims fail to satisfy the substantively
similar rule of reason analysis for similar reasons as Section 1. Epic Games’ Section 1 and
Section 2 claims are based on the same conduct and restrictions: namely, restrictions on both
distribution of apps as well as the use of non-IAP payment processors. As the Court has found
above, Epic Games has failed to persuade on this record that these ultimate restrictions are
anticompetitive. Because “the three-part burden-shifting test under the rule of reason is
essentially the same” under Sections 1 and 2, and “proving an antitrust violation under § 2 of the
Sherman Act is more exacting than proving a § 1 violation,” the analysis here applies to the
monopolization claims if required and fails for the same reasons. Qualcomm, 969 F.3d at 991–
92; see also Williams, 999 F.2d at 448 (“[A] § 1 claim insufficient to withstand summary
judgment cannot be used as the sole basis for a § 2 claim.”).

In sum, Epic Games’ monopolization claims fail because Epic Games has failed to
demonstrate that (i) Apple possesses monopoly power in the relevant market and that (ii) the
challenged restrictions are anticompetitive under the rule of reason.

3. Count 4: iOS In-App Payment Solutions Market Analysis

In Count 4, Epic Games claims that Apple has a monopoly in the “iOS In-App Payment
Processing Market” and has unlawfully maintained the monopoly by requiring “iOS app
developers that sell in-app content to exclusively use Apple’s In-App Purchase.” This claim fails
for the same reasons as Count 2.

As with its Section 2 monopolization claim for the distribution of apps (Count 2), Epic
Games’ Section 2 claim fails at the outset because Apple does not have monopoly power in the
relevant product market.

III. SECTION 1 OF THE SHERMAN ACT: TYING CLAIM (COUNT 6)

Epic Games’ Count 6 alleges a violation of Section 1 of the Sherman Act based on the
existence of a tie between app distribution, on the one hand, and IAP on the other.

A. Legal Standard

Tying involves the linking of two separate products from two separate product markets.
Jefferson Parish, 466 U.S. at 21. “[T]he essential characteristic of an invalid tying arrangement
lies in the seller’s exploitation of its control over the tying product to force the buyer into the
purchase of a tied product that the buyer either did not want at all, or might have preferred to
purchase elsewhere on different terms.” Id. at 12.

Tying arrangements may be evaluated under Section 1 of the Sherman Act under either
per se or rule of reason analysis. See id. at 29. The per se rule applies “only after considerable
experience with certain business relationships,” *Broad. Music, Inc. v. Columbia Broad. Sys., Inc.*, 441 U.S. 1, 9 (1979) (citation omitted), shows that a restraint “always or almost always tend to restrict competition and decrease output,” *Amex*, 138 S. Ct. at 2283 (citation omitted).

“For a tying claim to suffer per se condemnation, a plaintiff must prove: (1) that the defendant tied together the sale of two distinct products or services; (2) that the defendant possesses enough economic power in the tying product market to coerce its customers into purchasing the tied product; and (3) that the tying arrangement affects a not insubstantial volume of commerce in the tied product market.” *Cascade Health Sols. v. PeaceHealth*, 515 F.3d 883, 913 (9th Cir. 2008); *see also Jefferson Parish*, 466 U.S. at 12–18; *Eastman Kodak*, 504 U.S. at 461–62.

The first element requires that the plaintiff must prove that the alleged tying product and the alleged tied product are “separate and distinct” products. *Rick-Mik Enters., Inc. v. Equilon Enters. LLC*, 532 F.3d 963, 974 (9th Cir. 2008). Further, if tied, the tie, would link “two separate product markets.” *Jefferson Parish*, 466 U.S. at 21; *see also Microsoft Corp.*, 253 F.3d at 85 (“[U]nless products are separate, one cannot be ‘tied’ to the other.”).

“[T]he answer to the question whether one or two products are involved turns not on the functional relation between them, but rather on the character of the demand for the two items.” *Jefferson Parish*, 466 U.S. at 19; *see also Rick-Mik*, 532 F.3d at 975. There must be “sufficient demand for the purchase of [the tied product] separate from [the tying product] to identify a distinct product market in which it is efficient to offer [the tied product] separately from [the tying product].” *Jefferson Parish*, 466 U.S. at 21–22; *see also Rick-Mik*, 532 F.3d at 975.

“[T]he ‘purchaser demand’ test of *Jefferson Parish* examine[s] direct and indirect evidence of consumer demand for the tied product separate from the tying product. Direct evidence addresses the question whether, when given a choice, consumers purchase the tied good from the tying good maker, or from other firms. Indirect evidence includes the behavior of firms without market power in the tying good market, presumably on the notion that (competitive) supply follows demand.” *Rick-Mik*, 532 F.3d at 975 (internal quotation marks and citations omitted); *see also id.* (“If competitive firms always bundle the tying and tied goods, then they are a single product.”).

With respect to the second element, a tie exists where “sale of the desired (‘tying’) product is conditioned on purchase of another (‘tied’) product.” *Aerotec*, 836 F.3d at 1178. “[T]he essential characteristic of an invalid tying arrangement lies in the seller’s exploitation of its control over the tying product to force the buyer into the purchase of a tied product that the buyer either did not want at all, or might have preferred to purchase elsewhere on different terms.” *Jefferson Parish*, 466 U.S. at 12. “A plaintiff must present evidence that the defendant went beyond persuasion and coerced or forced its customer to buy the tied product in order to obtain the tying product.” *Paladin Assocs.*, 328 F.3d at 1159.

Finally, “the Supreme Court has condemned tying arrangements when the seller has the market power to force a purchaser to do something that he would not do in a competitive market.” *Cascade Health Sols.*, 515 F.3d at 915. “[I]n all cases involving a tying arrangement,
the plaintiff must prove that the defendant has market power in the tying product.” *Illinois Tool Works Inc.*, 547 U.S. at 46; *Rick-Mik*, 532 F.3d at 972.

**B. Analysis**

At the outset, the parties dispute whether the *per se* analysis or the rule of reason analysis should control the Court’s analysis. The Court need not decide this dispute. Epic Games’ claim fails under either framework because a tying claim cannot be sustained where the alleged good is not a “separate and distinct product.” *Rick-Mik*, 532 F.3d at 974; *Microsoft Corp.*, 253 F.3d at 85 (“[U]nless products are separate, one cannot be ‘tied’ to the other.”). Here, Epic Games argues that a tying claim exists because Apple is forcing distributors who use the iOS app distribution platform (the alleged tying product) to also use IAP (the alleged tied product). As discussed above, *supra* Facts § II.C., IAP is not a product. Two core factual issues lead to this conclusion: integration and consumer demand.

With respect to integration, the Court described in detail how IAP functions and the Court does not reiterate it here. Suffice it to say, IAP is not merely a payment processing system, as Epic Games suggests, but a comprehensive system to collect commission and manage in-app payments. This IAP system is not bought or sold but it is integrated into the iOS devices. “[I]ntegration [is] common” among technological products and services.” *Microsoft Corp.*, 253 F.3d at 93.

*Rick-Mik* supports this conclusion. There, the Ninth Circuit found that Equilon’s (also known as Shell Oil Co.) requirement that franchisees process all credit and debit card transactions through Equilon’s own system did not involve two separate products. *Rick-Mik*, 532 F.3d at 967, 974. Said differently, the purchase of an oil company’s franchise (the tying product) and the requirement that it use Equilon’s credit-card processing system (the tied product) were not two distinct products. *Id.* Rather, the Court found that franchises are “almost by definition” a bundle of related products and services. *Id.* at 674. The proper inquiry was whether the allegedly tied products were “integral components of the business method being franchised.” *Id.*

Here, as there, IAP is but one component of the full suite of services offered by iOS and the App Store. Moreover, and as discussed above, the App Store is a two-sided transaction platform. *See Amex*, 138 S. Ct. at 2286 n.8 (noting that “a two-sided platform” is one that “offers different products or services to two different groups who both depend on the platform to intermediate between them”). By definition, the platform has two sides: the developer on one side providing gaming apps and the consumer on the other, purchasing the apps. This is a single platform which cannot be broken into pieces to create artificially two products.619 *See, e.g.*, *Serv.

619 This conclusion is further bolstered by comparison to other platforms in the wider gaming market. *See Microsoft Corp.*, 253 F.3d at 88 (comparing the bundling to competitive firms); cf. *In re: Cox Enters., Inc.*, 871 F.3d 1093, 1109 (10th Cir. 2017) (bundling in the premium cable industry found to be “simply more efficient than offering them separately”). As described above, the wider gaming industry routinely use walled gardens, including the PlayStation Store, the Nintendo eShop, and the Xbox Games Store. These game stores are vertically integrated with respect to distribution, content delivery, and payment functionalities.
& Training, Inc. v. Data Gen. Corp., 737 F. Supp. 334, 343 (D. Md. 1990) (rejecting tying claim because alleged tied product was “one feature of [defendant’s] integrated and unified product”); Areeda & Hovenkamp § 1741a (“a car with tires attached might be deemed a single product because a vehicle that can be driven is the essence of what the customer buys”).

Moreover, with respect to consumer demand, Epic Games presented no evidence showing that demand exists for IAP as a standalone product. As discussed above, supra Facts § II.C., Epic Games’ argument mischaracterizes IAP and its functionality. Payment processing is simply an input into the larger bundle of services provided by the IAP system.  While there may be a market for payment processing, that fact is irrelevant as IAP is not just payment processing.

In sum, whether analyzed as an integrated functionality or from the perspective of consumer demand, IAP is not a separate product from iOS app distribution. Thus, Epic Games’ Count 6 fails to show the existence of an illegal tie under Section 1.

IV. CALIFORNIA’S CARTWRIGHT ACT (COUNTS 7, 8, AND 9)

Epic Games asserts three claims against Apple under the Cartwright Act: (i) Count 7 for unreasonable restraint of trade in the iOS app distribution market; (ii) Count 8 for unreasonable restraint of trade in the iOS in-app payment solutions market; and (iii) Count 9 for tying of app distribution and payment processing. Epic Games argues that its Cartwright Act claims are based on the same conduct as the analogous Sherman Act claims. Specifically, Count 7 is based on the same conduct as Count 3; Count 8 is based on the same conduct as Count 5; and Count 9

See supra Facts § II.D.3.c. The only exception is Epic Games Store. However, as noted, plaintiff’s move occurred in the context of litigation planning. Id. § I.B.3.a.

In fact, as noted, IAP does not itself even process payments—that function is performed by a third-party settlement provider like Chase Bank with which Apple contracts. And unlike the purported alternatives that Epic Games proposes (e.g., PayPal), Apple has never tried to market the technology for use on other digital transaction platforms, and Epic Games does not contend otherwise.

The Court also notes that in the but-for world where developers could use an alternative processor, Apple would still be contractually entitled to its commission on any purchase made within apps distributed on the App Store. Thus, so long as the alternative processor charged a non-zero commission or fee for its services, no economically rational developer would choose to use the alternative processor, because on each transaction, they would still have to pay Apple its commission, and they would have to pay the alternative processor a commission for its services. For the same reason, the fact that some developers like Facebook and Spotify have tried to avoid Apple’s commission by bypassing IAP is not evidence that there is separate demand for IAP, only that developers would prefer not to pay Apple a commission. Epic Games’ reliance on this evidence thus “conflates competition on the merits with Epic Games’ goal of avoiding Apple’s 30%.” Epic Games, Inc., 493 F. Supp. 3d at 843.
is based on the same conduct as Count 6. The basic legal framework is the same for all three claims.

A. Legal Framework

The Cartwright Act makes “unlawful, against public policy and void” “every trust,” which is defined as “a combination of capital, skill, or acts by two or more persons . . . [t]o create or carry out restrictions in trade or commerce.” Cal. Bus. & Prof. Code §§ 16720(a), 16726. Interpretations of federal antitrust law are at most instructive, not conclusive, when construing the Cartwright Act, given that the Cartwright Act was modeled not on federal antitrust statutes but instead on statutes enacted by California’s sister states around the turn of the 20th century.” *Aryeh v. Canon Bus. Sols., Inc.*, 55 Cal. 4th 1185, 1195 (2013). “The Ninth Circuit has recognized after *Aryeh* it ‘is no longer the law in California’ that the Cartwright Act is ‘coextensive with the Sherman Act.’” *In re Lithium Ion Batteries Antitrust Litig.*, No. 13–MD–2420, 2014 WL 4955377, at *10 (N.D. Cal. Oct. 2, 2014) (quoting *Samsung Elecs. Co. v. Panasonic Corp.*, 747 F.3d 1199, 1205 n.4 (9th Cir. 2014)).

B. Analysis

Epic Games argues that, even if its claims under the Sherman Act fail, it is nevertheless entitled to relief on its Cartwright Act claims because the Cartwright Act is broader in range and deeper in reach than the Sherman Act.\(^\text{622}\) Apple disagrees arguing that where, as here, Epic Games has not identified any specific and material differences between the Cartwright Act and the Sherman Act, plaintiff cannot prevail on a Cartwright Act where its claims fail under the Sherman Act.

The Court agrees with Apple. Epic Games has not cited any authority for the contrary position. Plaintiff’s authorities contain conclusory statements about the broader “reach” of the Cartwright Act relative to the Sherman Act.\(^\text{623}\) Because the context of these statements is inapposite, the statements do not support a finding that the Cartwright Act claims here can survive notwithstanding the failure of Sherman Act claims. \(^\text{See, e.g., Cianci v. Superior Court, 40 Cal. 3d 903, 917–18 (1985) (holding that the “broad” scope of the Cartwright Act covers entities involved in anticompetitive conduct “in every type of business,” including in the “medical profession,” and noting, in dicta, that the reach of the Cartwright Act includes “threats to competition in their incipiency” similarly to Section 7 of the Clayton Act, which prohibits mergers that may substantially lessen competition); In re Capacitors Antitrust Litig., 106 F. Supp. 3d 1051, 1072 (N.D. Cal. 2015) (declining to apply standard for federal antitrust standing in the context of claims brought under the Cartwright Act in light of the absence of a “definitive decision” by California courts that doing so would be permissible). Because Epic Games has not met its burden to show that it can prevail on its Cartwright Act claims despite the failure of its analogous Sherman Act claims, the Court finds and concludes that Epic Games’ Cartwright Act claims fail for the same reasons as its analogous Sherman Act claims.

\(^{622}\) \textit{See} Epic Games COL ¶ 426.

\(^{623}\) \textit{See} Dkt. No. 276 at 84–85; Epic Games COL ¶ 426.
This conclusion is confirmed by a review of California authorities applying the Cartwright Act in the context of claims asserting an unreasonable restraint of trade, as in Counts 7 and 8, and tying, as in Count 9.

As in the context of claims under Section 1 of the Sherman Act, California courts employ the rule of reason to determine whether a restraint of trade that is not subject to \textit{per se} treatment, such as the DPLA\textsuperscript{624}, is unreasonable and, therefore, unlawful under the Cartwright Act. \textit{See In re Cipro Cases I & II}, 61 Cal. 4th 116, 146 (2015) (holding that “antitrust illegality” under the Cartwright Act where a “challenged agreement involves a restraint of trade” depends on the “traditional rule of reason” analysis because both “the Cartwright Act and Sherman Act carry forward the common law understanding that ‘only unreasonable restraints of trade are prohibited’” (citation omitted)). The rule of reason inquiry in the context of the Cartwright Act, as in the federal context, looks to “whether the challenged conduct promotes or suppresses competition,” based on “the facts peculiar to the business in which the restraint is applied, the nature of the restraint and its effects, and the history of the restraint and the reasons for its adoption.” \textit{Id.} (internal quotation marks and citation omitted).

Here, the Court has carefully considered the evidence in the record and has determined, based on the rule of reason, that the DPLA provisions at issue in Counts 3 (app distribution) and 5 (IAP) have procompetitive effects that offset their anticompetitive effects, and that Epic Games has not shown that these procompetitive effects can be achieved with other means that are less restrictive. These findings, which defeat Counts 3 and 5, also defeat Counts 7 and 8. As noted above, Epic Games has cited no authority that compels a different conclusion.

The result is similar with respect to Count 9. As is the case with a tying claim in violation of the Sherman Act, a tying claim under the Cartwright Act requires the existence of two separate products. \textit{See Freeman v. San Diego Ass’n of Realtors}, 77 Cal. App. 4th 171, 184 (1999) (“The threshold element for a tying claim is the existence of separate products or services in separate markets. Absent separate products in separate markets, the alleged tying and tied products are in reality a single product.” (internal citation omitted)).

Here, as discussed above, the Court has found and concluded Epic Games’ tying claim under the Sherman Act (Count 6) fails because plaintiff has not shown that IAP is a separate product from iOS App Distribution. Because the tying claim under the Cartwright Act (Count 9) is based on the same conduct as Count 6, that claim fails for the same reason as Count 6. \textit{See} 

\textsuperscript{624} Apple argues that Epic Games’ Cartwright Act claims fail for lack of concerted action because the claims challenge “only unilateral conduct,” and the Cartwright Act “does not impose liability for ‘wrongful conduct on the part of a single entity.’” Apple COL ¶¶ 588–589. The Court disagrees with this interpretation of Epic Games’ claims. While Counts 7 and 8, as Counts 3 and 5, are predicated on the theory that the DPLA is an agreement between Apple and Epic Games, it may include particular terms that would constitute unreasonable restraints of trade. \textit{See Kolling v. Dow Jones & Co.}, 137 Cal. App. 3d 709, 719 (1982) (“If a ‘single trader’ pressures customers or dealers into adhering to” restraints of trade, then “an unlawful combination [under the Cartwright Act] is established, irrespective of any monopoly or conspiracy, and despite the recognized right of a producer to determine with whom it will deal” (citations omitted)).
Freeman, 77 Cal. App. 4th at 184 (holding that a tying claim under the Cartwright Act fails in the absence of two separate products in separate markets). Again, Epic Games has cited no authority that warrants a different outcome.

V. SECTION 2 OF THE SHERMAN ACT: APPLE’S DENIAL OF AN ESSENTIAL FACILITY IN THE IOS APP DISTRIBUTION MARKET (COUNT 2)

The legal elements of an essential facility claim under governing Ninth Circuit precedent are undisputed. To establish such a claim, a plaintiff must show that (i) the defendant is “a monopolist in control of an essential facility”; (ii) the plaintiff “is unable reasonably or practically to duplicate the facility”; (iii) the defendant “has refused to provide [the plaintiff] access to the facility”; and (iv) “it is feasible for [the defendant] to provide such access”. Aerotec, 836 F.3d at 1185; MetroNet Servs. Corp. v. Qwest Corp., 383 F.3d 1124, 1128–29 (9th Cir. 2004); Alaska Airlines, Inc. v. United Airlines, Inc., 948 F.2d 536, 542–46 (9th Cir. 1991).

Epic Games has failed to prove this claim for myriad reasons, but most convincingly for two. First, for the reasons set forth above, Epic Games has failed to prove that Apple is an illegal monopolist in control of the iOS platform. This alone is sufficient to defeat the claim. Second, the claim would still fail because Epic Games failed to prove that the iOS platform is an essential facility. The best evidence of this is Epic Games’ own expert, Dr. Evans, who refused to endorse the argument that the iOS platform is an essential facility. On this issue, he and Professor Schmalensee agree.

The term “essential facility” is a term of art under the antitrust laws. Caselaw describes essential facilities as those that are not capable of being replicated by competitors and serve as a conduit for the distribution of another product. For example, sports stadiums facilitate the display of indoor sports, see Fishman v. Estate of Wirtz, 807 F.2d 520, 532 (7th Cir. 1986), and railroad bridges permit continuation of rail service and delivery of freight, see United States v. Terminal R.R. Ass’n, 224 U.S. 383, 392–94 (1912). While prior cases have focused only on physical infrastructures of a finite availability (such as a bridge or a power network), an “essential facility” can exist even in the absence of such traditional physical attributes. See MCI Commc’ns Corp. v. Am. Tel. & Tel. Co., 708 F.2d 1081, 1148 (7th Cir. 1983).

625 Not only did Dr. Evans confirm in his live testimony that he would not describe iOS or Android as utilities, Trial Tr. (Evans) 2381:21–2383:18, Dr. Evans twice declined to express any opinion related to an essential facilities claim. Trial Tr. (Evans) 1673:4–11, 2390:16–2391:2; see also generally Ex. Expert 1 (Evans) § II.

626 As a corollary, given that the nature of the “facility” is one solely comprised of intellectual property, as opposed to a physical structure, the question arises whether this claim could ever be recognized under Section 2 as a matter of law. Citing primarily district court cases, Apple argues it cannot be forced to license its intellectual property and to hold otherwise would chill innovation and investment. While the argument appears meritorious, the Court declines to rule on this issue as it was not fully vetted and is not necessary to the resolution of this claim.
To constitute an essential facility, “access to the facility or resource must be truly ‘essential’ in the sense that competitors cannot simply duplicate it or find suitable alternatives, and that absent access, competitors’ ability to compete will be substantially constricted.” 1 William C. Holmes, Intellectual Property and Antitrust Law § 6:10 (2021)627; Paladin Assocs., 328 F.3d at 1162–63 (no viable claim under the “essential facilities” doctrine where customers were able to obtain gas from other pipelines and sources and noting that a facility is ‘essential’ only if control of the facility carries with it the power to eliminate competition in a downstream market”).

Obviously, under its theory, given the proprietary nature of iOS, plaintiff could not replicate iOS. However, as defined by the Court, in terms of distribution of mobile apps, multiple avenues do exist to distribute the content to the consumer. Distribution can occur through web apps, by web access, and through other games stores. This doctrine does not require distribution in the manner preferred by the competitor, here native apps. The availability of these other avenues of distribution, even if they are not the preferred or ideal methods, is dispositive of Epic Games’ claim. The doctrine does not demand an ideal or preferred standard.

Based on these reasons, the Section 2 claim based on an essential facilities theory fails.

VI. CALIFORNIA’S UNFAIR COMPETITION LAW (COUNT 10)

Antitrust law does not end with the Sherman Act. “States have regulated against monopolies and unfair competition for longer than federal government, and federal law is intended only “to supplement, not to displace, state antitrust remedies.”” In re Cipro Cases I & II, 61 Cal. 4th at 160 (quoting Cal. v. ARC Am. Corp., 490 U.S. 93, 102 (1989)); see also Areeda & Hovenkamp §§ 216, 2401 (describing legislative history).

California’s Unfair Competition Law (“UCL”) prohibits business practices that constitute “unfair competition,” which is defined, in relevant part, as “any unlawful, unfair or fraudulent

627 Citing circuit cases: e.g., Pittsburg County Rural Water Dist. No. 7 v. City of McAlester, 358 F.3d 694, 721 (10th Cir. 2004) (affirming dismissal of an essential facilities claim where the competitor admitted that it had a “suitable available alternative water supply”); Midwest Gas Services, Inc. v. Indiana Gas Co., Inc., 317 F.3d 703, 713–14 (7th Cir. 2003) (dismissing an essential facilities claim where a distributor of natural gas had other routes available even if more costly); Paddock Publ’ns, Inc. v. Chicago Tribune Co., 103 F.3d 42, 44–56 (7th Cir. 1996) (“Unlike United States v. Terminal R.R. Ass’n, 224 U.S. 383 (1912), the granddaddy of these cases, in which the Court held that a bottleneck facility that could not feasibly be duplicated must be shared among rivals, this case does not involve a single facility that monopolizes one level of production and creates a potential to extend the monopoly to others. We have, instead, competition at each level of production; no one can ‘take over’ another level of production by withholding access from disfavored rivals.”); Twin Lab’ys, Inc. v. Weider Health & Fitness, 900 F.2d 566, 612–13 (2d Cir. 1990) (defendant’s resource was not “essential” where alternate resources existed); Directory Sales Mgmt. Corp. v. Ohio Bell Tel. Co., 833 F.2d 606 (6th Cir. 1987) (same).
business act or practice.” Cal. Bus. & Prof. Code § 17200. Each of these descriptions provides a 
separate “variety” of unfair competition. Thus, “a practice may be deemed unfair even if not 
specially proscribed by some other law” and even if not violating an antitrust statute. See Cel-

The UCL permits claims to be brought by any “person,” which includes “natural persons, 
corporations, firms, partnerships, joint stock companies, associations and other organizations of 
persons.” Cal. Bus. & Prof. Code §§ 17201, 17204. To bring a claim under the UCL, a plaintiff 
must “(1) establish a loss or deprivation of money or property sufficient to quantify as injury in 
fact, i.e., economic injury, and (2) show that the economic injury was the result of, i.e., caused 
by, the unfair business practice.” Kwikset Corp. v. Superior Court, 51 Cal. 4th 310, 322 (2011) 
(emphasis in original); see also Cal. Bus. & Prof. Code § 17204.

Epic Games challenges Apple’s conduct under the “unlawful” and “unfair” provisions of 
the UCL. Apple disputes both claims and further argues that Epic Games lacks “customer” 
standing. The Court addresses standing and then each claim.

A. Standing

The injury-in-fact requirement of the UCL incorporates standing under Article III of the 
United States Constitution. Kwikset, 51 Cal. 4th at 322–23. Accordingly, the injury in fact must 
be “concrete and particularized . . . and actual or imminent, not conjectural or hypothetical.” 
Lujan v. Defenders of Wildlife, 504 U.S. 555, 560 (1992) (simplified). In addition, the UCL 
requires an economic injury. Kwikset, 51 Cal. 4th at 323. For example, “[a] plaintiff may 
(1) surrender in a transaction more, or acquire in a transaction less, than he or she otherwise 
would have; (2) have a present or future property interest diminished; (3) be deprived of money 
or property to which he or she has a cognizable claim; or (4) be required to enter into a 
transaction, costing money or property, that would otherwise have been unnecessary.” Id. Last, 
a plaintiff must show “a causal connection” between the defendant’s conduct and the alleged 
injury. Id. at 326 (internal quotation marks and citation omitted).

Here, Apple does not dispute Epic Games’ standing as a potential competitor: Epic 
Games wanted to open a competing iOS game store and could not. Because Epic Games would 
earn revenues from a competing store, it has suffered an economic injury. However, Apple 
challenges Epic Games’ standing as a consumer. For that interpretation, Epic Games argues that 
it is a business customer of Apple’s App Store and has been economically injured because it 
could not distribute games directly to consumers at lower cost.

The precise meaning of “consumer” under the UCL is undefined. Generally, the UCL 
makes a distinction between “consumer” and “competitor” suits. See Cel-Tech, 20 Cal. 4th at 
187 & n.12; Barquis v. Merchs. Collection Assn., 7 Cal. 3d 94, 109–10 (1972); Kasky v. Nike, 
Inc., 27 Cal. 4th 939, 949 (2002). There is no specific third category for non-competitor 
business.628 Here, despite Apple’s position, both parties’ experts agree that developers like Epic

628 The Court recognizes Levitt v. Yelp! Inc., and finds it distinguishable. There, in terms 
of analyzing the UCL claim, the court found the competitor standard applied even though 
plaintiffs and Yelp! did not compete. There, “the crux of the business owners’ complaint [was]
Games jointly consume Apple’s game transactions and distribution services together with iOS users. Thus, although the question is close, the Court finds that Epic Games has standing to bring a UCL claim as a quasi-consumer, not merely as a competitor.

B. “Unlawful” Practices

Under the “unlawful” prong of the UCL, Epic Games must show that Apple’s conduct “can properly be called a business practice and that at the same time is forbidden by law.” Korea Supply Co. v. Lockheed Martin Corp., 29 Cal. 4th 1134, 1143 (2003) (internal quotation marks and citation omitted). “Virtually any law . . . can serve as a predicate for an action under Business and Professions Code section 17200.” Durell v. Sharp Healthcare, 183 Cal. App. 4th 1350, 1361 (2010) (citation omitted).

Here, for the reasons stated above, Epic Games has not shown a violation of any other law. Accordingly, the claim under the “unlawful” standard fails.

C. “Unfair” Practices

The “unfair” prong of the UCL may differ for consumer and competitor suits. As a competitor who claims to have suffered injury from Apple’s unfair practices, Epic Games must show that Apple’s conduct (1) “threatens an incipient violation of an antitrust law,” (2) “violates the policy or spirit of one of those laws because its effects are comparable to or the same as a violation of the law,” or (3) “otherwise significantly threatens or harms competition.” Cel-Tech, 20 Cal. 4th at 187. These findings must be “tethered to some legislatively declared policy or proof of some actual or threatened impact on competition.” Id. at 186–87; see also Hodson v. Mars, Inc., 891 F.3d 857, 866 (9th Cir. 2018).

As a quasi-consumer, on the other hand, Epic Games has several tests available for showing unfairness. Although some courts have continued to apply the “tethering” test stated above, others have applied a “balancing” test that requires the challenged business practice to be “immoral, unethical, oppressive, unscrupulous, or substantially injurious to consumers” based on the court’s weighing of “the utility of the defendant’s conduct against the gravity of the harm to the alleged victim.” Drum v. San Fernando Valley Bar Ass’n, 182 Cal. App. 4th 247, 257 (internal quotation marks and citation omitted). The Court notes the Ninth Circuit has declined to apply the FTC test with respect to anti-consumer conduct “in the absence of a clear holding from the California Supreme


630 Still others have applied the “FTC test,” which requires that “[1] the consumer injury must be substantial; (2) the injury must not be outweighed by any countervailing benefits to consumers or competition; and (3) it must be an injury that consumers themselves could not reasonably have avoided.” Drum, 182 Cal. App. 4th at 257 (internal quotation marks and citation omitted).
257 (2010) (citations omitted). Stated otherwise, the balancing test “involves an examination of that practice’s impact on its alleged victim, balanced against the reasons, justifications and motives of the alleged wrongdoer.” Nationwide Biweekly Admin., Inc. v. Superior Court of Alameda Cty., 9 Cal. 5th 279, 303 n.10 (2020) (internal quotation marks and citation omitted).

These tests “are not mutually exclusive.” Lozano v. AT&T Wireless Servs., Inc., 504 F.3d 718, 736 (9th Cir. 2007); see also Davis v. HSBC Bank Nevada, N.A., 691 F.3d 1152, 1169–70 (9th Cir. 2012) (applying both tests). Accordingly, the Court considers both.

1. Tethering Test

Under the “tethering” test, “California courts require a close nexus between the challenged act and the legislative policy.” Hodson, 891 F.3d at 886 (citation omitted). That is because “courts may not apply purely subjective notions of fairness” or “determine the wisdom of any economic policy,” which “rests solely with the legislature.” Cel-Tech, 20 Cal. 4th at 184 (internal quotation marks and citation omitted). However, unfair practices under this test are not limited to violations of existing laws. Id. at 180. Instead, California courts distinguish between conduct made lawful (or for which relief is barred) by a statute and conduct not prohibited by any statute. See id. at 183. The latter may be actionable under the “unfair” prong. Id.

Here, Epic Games seeks relief for the same conduct that it challenged under the Sherman and Cartwright Acts. Apple argues that separate consideration under the UCL is inappropriate.631 The Court disagrees. Cel-Tech expressly recognizes that “incipient” violations of antitrust laws and violations of the “policy or spirit” of those laws with “comparable” effects are prohibited. 20 Cal. 4th at 187. Under Apple’s interpretation, that standard would be rendered meaningless because any conduct that fails under the Sherman Act failed would also fail the UCL. The UCL, however, has “broad, sweeping language[] precisely to enable judicial tribunals to deal with the innumerable new schemes which the fertility of [one’s] invention would contrive.” Id. at 181 (simplified). Thus, it warrants separate consideration apart from antitrust laws.

On the present record, however, Epic Games’ claims based on the app distribution and in-app payment processing restrictions fail for the same reasons as stated for the Sherman Act. As explained, Epic Games has demonstrated real anticompetitive effects, but Apple has proffered mostly valid and non-pretextual procompetitive justifications. To a large extent that makes the conduct more than “not anticompetitive” but potentially beneficial to consumers. However, as the Court demonstrated, the procompetitive justifications were only tethered as to certain

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631 Apple cites Chavez v. Whirlpool Corp., 93 Cal. App. 4th 363, 375 (2001), but that case does not counsel otherwise. Chavez expressly rejected the notion that “an ‘unfair’ business act or practice must violate an antitrust law to be actionable under the unfair competition law,” but found that conduct cannot be unfair where it is “deemed reasonable and condoned under the antitrust laws.” Id. As explained here, there is a difference between conduct “deemed reasonable” and conduct for which a violation has not been shown.
restrictions. With respect to those restrictions, under the Cel-Tech framework, Apple’s conduct is protected. 20 Cal. 4th at 183.

That does not, however, end the matter.\textsuperscript{632} “A UCL action is equitable in nature.” \textit{Korea Supply Co.}, 29 Cal. 4th at 1144. Courts have “broad discretion” to fashion equitable remedies to serve the needs of justice. \textit{Zhang v. Superior Court}, 57 Cal. 4th 364, 371 (2013); see also \textit{Nationwide Biweekly Admin.}, 9 Cal. 5th at 300. The statute reinforces that discretion by permitting courts to “make such orders or judgments . . . as may be necessary to prevent the use or employ by any person of any practice which constitutes unfair competition.” Cal. Bus. & Prof. Code § 17203.

Epic Games did challenge and litigate the anti-steering provisions albeit the record was less fulsome. While its strategy of seeking broad sweeping relief failed, narrow remedies are not precluded.\textsuperscript{633} As discussed at length, the evidence presented showed anticompetitive effects and excessive operating margins under any normative measure. The lack of competition has resulted in decrease information which also results in decreased innovation relative to the profits being made. The costs to developer are higher because competition is not driving the commission rate. As described, the commission rate driving the excessive margins has not been justified. Cross-reference to a historic gamble made over a decade ago is insufficient. Nor can Apple hide behind its self-created web of interlocking rules, regulations, and generic intellectual property claims; or the lack of transparency among various businesses to feign innocence.

Apple’s own records reveal that two of the top three “most effective marketing activities to keep existing users coming back” in the United States, and therefore increasing revenues, are “push notifications” (no. 2) and “email outreach” (no. 3).\textsuperscript{634} Apple not only controls those avenues but acts anticompetitively by blocking developers from using them to Apple’s own unrestrained gain. As explained before, Apple uses anti-steering provisions prohibiting apps from including “buttons, external links, or other calls to action that direct customers to purchasing mechanisms other than in-app purchase,” and from “encourag[ing] users to use a purchasing method other than in-app purchase” either “within the app or through communications sent to points of contact obtained from account registrations within the app (like email or text).”\textsuperscript{635} Thus, developers cannot communicate lower prices on other platforms either

\textsuperscript{632} The Court recognizes a contrary unpublished opinion in \textit{LiveUniverse, Inc. v. MySpace, Inc.}, 304 F. App'x 554, 557 (9th Cir. 2008) which summarily treated the UCL as rising and falling with the Sherman Act. The Court respectfully disagrees (on this record) for the reasons stated.

\textsuperscript{633} The FTC Act, which California courts have used as guidance on the UCL, similarly permits remedies beyond the “specific violations alleged in the complaint” that were “litigated in the manner contemplated by the statute.” \textit{Sears, Roebuck & Co. v. FTC}, 676 F.2d 385, 390–91 (9th Cir. 1982).

\textsuperscript{634} DX-3922.057.

\textsuperscript{635} PX-2790 §§ 3.1.1, 3.1.3.
within iOS or to users obtained from the iOS platform. Apple’s general policy also prevents developers from informing users of its 30% commission.636

These provisions can be severed without any impact on the integrity of the ecosystem and is tethered to legislative policy. As an initial matter, courts have long recognized that commercial speech, which includes price advertising, “performs an indispensable role in the allocation of resources in a free enterprise system.” Bates v. State Bar of Arizona, 433 U.S. 350, 364 (1977) (citation omitted). Restrictions on price information “serve to increase the difficulty of discovering the lowest cost seller . . . and [reduce] the incentive to price competitively[.]” Id. at 377. Thus, “where consumers have the benefit of price advertising, retail prices often are dramatically lower than they would be without advertising.” Id. Antitrust scholars have recognized the same: “The less information a consumer has about relative price and quality, the easier it is for market participants to charge supracompetitive prices or provide inferior quality.” Areeda & Hovenkamp § 2008c.

In the context of technology markets, the open flow of information becomes even more critical. As explained above, information costs may create “lock-in” for platforms as users lack information about the lifetime costs of an ecosystem. Users may also lack the ability to attribute costs to the platform versus the developer, which further prevents them from making informed choices.637 In these circumstances, the ability of developers to provide cross-platform information is crucial. While Epic Games did not meet its burden to show actual lock-in on this record, the Supreme Court has recognized that such information costs may create the potential for anticompetitive exploitation of consumers. Eastman Kodak, 504 U.S. at 473–75.

Thus, although Epic Games has not proven a present antitrust violation, the anti-steering provisions “threaten[] an incipient violation of an antitrust law” by preventing informed choice among users of the iOS platform. Cel-Tech, 20 Cal. 4th at 187; cf. FTC v. Neovi, Inc., 604 F.3d 1150, 1158 (9th Cir. 2010) (requiring that “consumers ha[ve] a free and informed choice” under the FTC test for unfairness).638 Moreover, the anti-steering provisions violate the “policy [and] spirit” of these laws because anti-steering has the effect of preventing substitution among platforms for transactions. Id.

Accordingly, the Court finds that the anti-steering provisions violate the UCL’s unfair prong under the tethering test.

636 PX-0257; Trial Tr. (Simon) 365:3–367:5; Ex. Depo. (Shoemaker) 144:10–23.

637 Ex. Expert 1 (Evans) ¶ 118.

638 See Cel-Tech, 20 Cal. 4th at 185 (looking “for guidance to the jurisprudence arising under the ‘parallel’ section 5 of the [FTC] Act” to determine “what is unfair” under the UCL); see also People ex rel. Mosk v. Nat’l Res. Co. of Cal., 20 Cal. App. 2d 765, 773 (1962) (“[D]ecisions of the federal court [as to what constitutes “unfair” under the FTC Act] are more than ordinarily persuasive.”).
2. Balancing Test

Under the balancing test, the Court must weigh “the utility of the defendant’s conduct against the gravity of the harm to the alleged victim.” Drum, 182 Cal. App. 4th at 257. Under this test the focus is on the injury to consumers. Here, the harm to users and developers who are also quasi-consumers, is considerable.639 This trial has exposed numerous anticompetitive effects which need not be recounted in detail. The only justification Apple offers is an analogy: just like a store such as Nordstrom does not advertise prices at Macy’s on its goods, Apple should not have to advertise prices on the web or on Android.640 Apple also cites Amex, 138 S. Ct. at 2280, which also involved anti-steering, to justify its anti-steering provisions.

Both are distinguishable. In Amex, American Express prohibited merchants from dissuading customers from using Amex cards as a way of avoiding its merchant fees. Id. at 2283. It did so because merchants would often advertise Amex acceptance to attract users who used American Express’s rewards program, but then would steer them towards cards with lower merchant fees, such as Visa or Mastercard. Id. at 2289. The Court found that this was not anticompetitive because there was strong evidence of procompetitive effects (as discussed above) and “[p]erhaps most importantly, antisteering provisions do not prevent Visa, MasterCard, or Discover from competing against Amex by offering lower merchant fees or promoting their broader merchant acceptance.” Id. at 2289–90 (emphasis supplied).

Here, the information base is distinctly different. In retail brick-and-mortar stores, consumers do not lack knowledge of options. Technology platforms differ. Apple created a new and innovative platform which was also a black box. It enforced silence to control information and actively impede users from obtaining the knowledge to obtain digital goods on other platforms. Thus, the closer analogy is not American Express’ prohibiting steering towards Visa or Mastercard but a prohibition on letting users know that these options exist in the first place. Apple’s market power and resultant ability to control how pricing works for digital transactions, and related access to digital products, distinguishes it from the challenged practices in Amex. The same would extend to the Nordstrom/Macy’s analogy.641 Apple has not offered any

639 E.g., Trial Tr. (Simon) 365:3–367:5; Trial Tr. (Evans) 1715:11–16.

640 See Trial Tr. (Schiller) 2821:8–20 (explaining that the “key idea” of anti-steering outside the App Store is to prevent “targeting this individual user who really is being acquired from the App Store”).

641 Best Buy may not be the traditional “brick-and-mortar” analogy as the Court previously footnoted and Mr. Cook, ironically, referenced. According to news reports, in order for Best Buy to compete with the likes of Amazon, and not just be a place where consumers physically test product but buy them more cheaply elsewhere, the company pivoted. It appears Best Buy actually rents square footage to companies like Apple and Samsung for “branded space” where they sell their own products and provide Best Buy not only with a revenue stream but the foot traffic to compete on other products. Compare Trial Tr. (Cook) 3864:24–3865:3 with Justin Bariso, Amazon Almost Killed Best Buy. Then, Best Buy Did Something Completely Brilliant, Inc., June 24, 2021, https://www.inc.com/justin-bariso/amazon-almost-killed-best-buy-then-best-buy-did-something-completely-
justification for the actions other than to argue entitlement. Where its actions harm competition and result in supracompetitive pricing and profits, Apple is wrong. Accordingly, the harm from the anti-steering provisions outweighs its benefits, and the provision violates the UCL under the balancing test.

D. Remedies

“[T]he primary form of relief available under the UCL to protect consumers from unfair business practices is an injunction.” In re Tobacco II Cases, 46 Cal. 4th 298, 319 (2009). A private party seeking injunctive relief under the UCL may request “public injunctive relief,” McGill v. Citibank, N.A., 2 Cal. 5th 945, 954 (2017), which is “relief that by and large benefits the general public and that benefits the plaintiff, if at all, only incidentally and/or as a member of the general public,” id. at 955 (simplified). “[F]ederal courts must apply equitable principles derived from federal common law to claims for equitable [relief] under California's Unfair Competition Law[.]” Sonner v. Premier Nutrition Corp., 971 F.3d 834, 837 (9th Cir. 2020). This means that, “even if a state authorizes its courts to provide equitable relief when an adequate legal remedy exists, such relief may be unavailable in federal court because equitable remedies are subject to traditional equitable principles unaffected by state law.” Id. at 841 (citation omitted).

Accordingly, under Sonner, a plaintiff seeking equitable relief under the UCL in federal court must demonstrate: “(1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.” eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388, 391 (2006).

Based on the reasoning discussed above, the Court finds the elements for equitable relief are satisfied. While Apple’s conduct does not fall within the confines of traditional antitrust law, the conduct falls within the purview of an incipient antitrust violation with particular anticompetitive practices which have not been justified. Apple contractually enforces silence, in the form of anti-steering provisions, and gains a competitive advantage. Moreover, it hides information for consumer choice which is not easily remedied with money damages. The injury has occurred and continues and can best be remedied by invalidating the offending provisions. In terms of balancing, Apple’s business justifications focus on other parts of the Apple ecosystem and will not be significantly impacted by the increase of information to and choice for consumers. Rather, this limited measure balances the justification for maintaining a cohesive ecosystem with the public interest in unclouaking the veil hiding pricing information on mobile devices and bringing transparency to the marketplace.

brilliant.htmlhttps://www.inc.com/justin-bariso/amazon-almost-killed-best-buy-then-best-buy-did-something-completely-brilliant.html. Thus, there is no need to put a sign inside Best Buy as Apple’s store is already there.
While the Court has defined the relevant market for antitrust purposes as the market for mobile gaming transactions, UCL jurisprudence does not require that the Court import that market limitation. The Court cannot discern any principled reason for eliminating the anti-steering provisions to mobile gaming only. The lack of information and transparency extends to all apps, not just gaming apps.

Apple argues that any equitable relief issued “under state law,” presumably including under the UCL, must be “limited to California” to avoid a violation of the Commerce Clause. The only authority that Apple cites to support this proposition is *Healy v. Beer Inst., Inc.*, 491 U.S. 324, 336 (1989), which holds that “[t]he Commerce Clause precludes the application of a state statute to commerce that takes place wholly outside of the State’s borders, whether or not the commerce has effects within the State.”

In *Healy*, an association of brewers and importers of beer sought declaratory judgment that a Connecticut statute was unconstitutional because it regulated out-of-state conduct in violation of the Commerce Clause. *Healy*, 491 U.S. at 326. The statute in question required out-of-state shippers of beer to affirm that their prices for beer sold to Connecticut wholesalers were no higher than prices at which those products were sold in bordering states. *Id.* at 326–27. The Supreme Court held that the Connecticut statute violated the Commerce Clause because the interaction of the Connecticut statute with beer-pricing statutes of bordering states had the “practical effect” of controlling prices “wholly outside” of Connecticut’s borders. *Id.* at 336–37.

*Healy* is inapposite. Here, in contrast to *Healy*, there is no challenge to the constitutionality of the UCL. Rather than seeking to invalidate the UCL on the basis that it violates the Commerce Clause, Apple seeks to restrict the geographic scope of any injunction issued under the UCL to California based on the Commerce Clause. The proper scope of an injunction issued under state law is not an issue that was addressed in *Healy*. Further, even if *Healy* had any relevance to that issue, *Healy*’s holding that a state statute cannot be applied “to commerce that takes place wholly outside” of that state would nevertheless be inapposite. Here, neither the conduct at issue, nor its effects, are taking place “wholly outside” of California. Apple is headquartered in California; the DPLA is governed by California law; and the commerce affected by the conduct that the Court has found to be unfair takes place at least in part in California. Accordingly, Apple has not shown that *Healy* prevents the Court from enjoining conduct outside of California that undisputedly harms California and its residents. See *RLH Indus., Inc. v. SBC Commc’ns, Inc.*, 133 Cal. App. 4th 1277, 1291–93 (2005) (holding that “the commerce clause, even as construed in *Healy*, does not necessarily prohibit state antitrust and unfair competition law from reaching out-of-state anticompetitive practices injuring state residents”).

By the same token, Epic Games provides the Court with no authority that an injunction could issue globally based upon a violation of California’s UCL.

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642 See Apple COL ¶¶ 739–740.
Accordingly, a nationwide injunction shall issue enjoining Apple from prohibiting developers to include in their:

Apps and their metadata buttons, external links, or other calls to action that direct customers to purchasing mechanisms, in addition to IAP.

Nor may Apple prohibit developers from:

Communicating with customers through points of contact obtained voluntarily from customers through account registration within the app.

VII. APPLE’S COUNTERCLAIMS

Apple asserts counterclaims against Epic Games that arise out of Epic Games’ breach of the DPLA, including (1) breach of contract; (2) breach of the implied covenant of good faith and fair dealing; (3) unjust enrichment; (4) indemnification; and (5) declaratory judgment. These counterclaims are based on Epic Games’ covert implementation of the hotfix in Fortnite and its failure to pay Apple its commission on in-app purchases through Fortnite. Apple alleges that these acts breached the DPLA provisions requiring developers (i) not to “hide, misrepresent or obscure any features, content, services or functionality” in their apps and not to “provide, unlock or enable additional features or functionality through distribution mechanisms other than the App Store”; and (ii) to pay Apple “a commission equal to thirty percent (30%) of all prices payable by each end-user” through the App Store.

Plaintiff has admitted that it breached the DPLA in the manner that Apple alleges, and that Apple is entitled to relief on its counterclaim for breach of contract to the extent that the Court finds that the DPLA is enforceable. Epic Games does not admit liability as to any other counterclaim.

Pointing to its affirmative defenses, Epic Games contends that all of Apple’s counterclaims are barred notwithstanding its admitted breach of the DPLA because the DPLA

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643 Apple asserted other counterclaims in its answer, Docket No. 66. Based on its proposed findings of fact and conclusions of law, the Court finds Apple has abandoned all counterclaims except those addressed herein. See generally Apple FOF and COL.

644 Apple’s Answer and Counterclaims ¶ 50 (citing DPLA § 6.1).

645 Id. (citing DPLA §§ 3.2, 3.3.2, 3.3.3, 3.3.25).

646 Id. (citing DPLA, Schedule 2, §§ 1.1(a), 3.4(a)).

647 See Docket No. 474.
provisions it breached are unenforceable (i) under the doctrine of illegality; (ii) because they are void as against public policy; and (iii) because they are unconscionable.648

The Court first considers whether any of the DPLA’s provisions upon which Apple’s counterclaims depend are unenforceable based on Epic Games’ affirmative defenses, and if they are not, the Court next considers whether Apple has shown that it is entitled to relief on each of its counterclaims.

A. Epic Games’ Affirmative Defenses

1. Doctrine of Illegality

“[T]he general rule [is] that the courts will deny relief to either party who has entered into an illegal contract or bargain which is against public policy.” Tri-Q, Inc. v. Sta-Hi Corp., 63 Cal. 2d 199, 216 (1965). “Where a contract has several distinct objects, of which one at least is lawful, and one at least is unlawful, in whole or in part, the contract is void as to the latter and valid as to the rest.” Cal. Civ. Code § 1599. Thus, if the alleged “illegality is collateral to the main purpose of the contract, and the illegal provision can be extirpated from the contract by means of severance or restriction, then such severance and restriction are appropriate.” Marathon Entm’t, Inc. v. Blasi, 42 Cal. 4th 974, 996 (2008) (quotation marks omitted). “The burden ordinarily rests upon the party asserting the invalidity of the contract to show how and why it is unlawful.” Rock River Commc’ns, Inc. v. Universal Music Grp., Inc., 745 F.3d 343, 350 (9th Cir. 2014) (citation omitted).

Epic Games alleges that Apple’s counterclaims are barred because “the contracts on which Apple’s counterclaims are based” are “illegal and unenforceable” on the basis that they violate the Sherman Act, the Cartwright Act, and the UCL.649

As discussed above, the Court has found and concluded that no provision of the DPLA at issue in this action is unlawful under the Sherman Act or the Cartwright Act and only one unrelated provision under the UCL.

While the Court has found that evidence suggests Apple’s 30% rate of commission appears inflated, and is potentially anticompetitive, Epic Games did not challenge the rate. Rather, Epic Games challenged the imposition of any commission whatsoever. Nor did plaintiff show either that the provision of the DPLA which required developers not to “provide, unlock or enable additional features or functionality through distribution mechanisms other than the App Store,” was illegal or unenforceable or that it was forced to violate the agreement to bring this

648 Epic Games asserted other affirmative defenses in its answer, Docket No. 106. Based on its proposed findings of fact and conclusions of law, the Court finds Epic Games has abandoned all affirmative defenses except those addressed herein. See generally Epic Games FOFs.

649 See Epic Games’ Answer to Counterclaims at 17 (affirmative defenses 1 and 2).
Accordingly, the Court finds and concludes that Apple’s counterclaims are not barred on the basis that they arise out of an illegal and unenforceable contract.

2. Void as Against Public Policy

“In general, a contract contrary to public policy will not be enforced.” Kelton v. Stravinski, 138 Cal. App. 4th 941, 949 (2006). A contract need not be contrary to a statute for it to be deemed contrary to public policy. Altschul v. Sayble, 83 Cal. App. 3d 153, 162 (1978) (“There is no requirement that a contract violate an express mandate of a statute before it may be declared void as contrary to public policy.”); see also Cal. Civ. Code § 1667(2) (“That is not lawful which is . . . contrary to the policy of express law, though not expressly prohibited.”).

“The authorities all agree that a contract is not void as against public policy unless it is injurious to the interests of the public as a whole or contravenes some established interest of society.” Rosenberg v. Raskin, 80 Cal. App. 2d 335, 338 (1947). “California has a settled public policy in favor of open competition.” Kelton, 138 Cal. App. 4th at 946. It also has a public policy of protecting consumers of goods and services. See Margolin v. Shemaria, 85 Cal. App. 4th 891, 901 (2000) (“Both legislative enactments and administrative regulations can be utilized to further this state’s public policy of protecting consumers in the marketplace of goods and services.”). “Where a contract has several distinct objects, of which one at least is lawful, and one at least is unlawful, in whole or in part, the contract is void as to the latter and valid as to the rest.” Cal. Civ. Code § 1599.

Plaintiff alleges that Apple’s counterclaims are barred in whole or in part because the contracts on which they are based “are void as against public policy pursuant to the antitrust laws and unfair competition laws[.]”651 Epic Games contends that the DPLA violates “the public policy in favor of competitive markets” because it forecloses all alternative app stores and non-IAP payment solutions in the iOS app distribution market and iOS in-app payment solutions market, respectively; they facilitate the imposition of Apple’s supracompetitive 30% commission; and they were forced upon Epic Games through Apple’s exercise of its market power.652

The Court is not persuaded by Epic Games’ broad-brush argument that it should not be bound by certain portions of the agreement. The DPLA provisions related to the breaching conduct arising from Project Liberty were not found to be invalid. For the reasons discussed at length above, the Court has found and concluded that these DPLA provisions are not contrary to the interests of the public as a whole and do not contravene some established interest of society, in the context of competition or otherwise. Accordingly, the remaining DPLA provisions are not unenforceable on the basis that they violate public policy. Rosenberg, 80 Cal. App. 2d at 338

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650 Id. (citing DPLA §§ 3.2, 3.3.2, 3.3.3, 3.3.25).
651 See Epic Games’ Answer to Counterclaims at 17 (affirmative defense 3).
652 See Epic Games FOF ¶ 547.
(“The authorities all agree that a contract is not void as against public policy unless it is injurious to the interests of the public as a whole or contravenes some established interest of society.”).

Even though the Court has found the anti-steering provisions to be unfair under the UCL, the result was a measured alternative to plaintiff’s overreach. These provisions can be severed while maintaining the provisions that require honesty to control the parties’ relations and the coding of apps. Epic Games never adequately explained its rush to the courthouse or the actual need for clandestine tactics. The marketing campaign appears to have resulted in indirect benefits but it does not provide a legal defense.

In light of the foregoing, the Court finds and concludes that Apple’s counterclaims are not barred based on Epic Games’ public policy affirmative defense.

3. Unconscionability

a. Legal Framework

“[A] contract or provision, even if consistent with the reasonable expectations of the parties, will be denied enforcement if, considered in its context, it is unduly oppressive or ‘unconscionable.’” Graham v. Scissor-Tail, Inc., 28 Cal. 3d 807, 820 (1981).

“Unconscionability has generally been recognized to include an absence of meaningful choice on the part of one of the parties together with contract terms which are unreasonably favorable to the other party. Phrased another way, unconscionability has both a ‘procedural’ and a ‘substantive’ element. . . . Both the procedural and substantive elements must be met before a contract or term will be deemed unconscionable. Both, however, need not be present to the same degree. A sliding scale is applied so that the more substantively oppressive the contract term, the less evidence of procedural unconscionability is required to come to the conclusion that the term is unenforceable, and vice versa.” Lhotka v. Geographic Expeditions, 181 Cal. App. 4th 816, 821 (2010) (internal quotation marks and citations omitted).

“Unconscionability analysis begins with an inquiry into whether the contract is one of adhesion. The term contract of adhesion signifies a standardized contract, which, imposed and drafted by the party of superior bargaining strength, relegates to the subscribing party only the opportunity to adhere to the contract or reject it.” Armendariz v. Found. Health Psychcare Servs., Inc., 24 Cal. 4th 83, 113 (2000) (quotation marks and alterations omitted). “The procedural element of the unconscionability analysis concerns the manner in which the contract was negotiated and the circumstances of the parties at that time. The element focuses on oppression or surprise. Oppression arises from an inequality of bargaining power that results in no real negotiation and an absence of meaningful choice. Surprise is defined as the extent to which the supposedly agreed-upon terms of the bargain are hidden in the prolix printed form drafted by the party seeking to enforce the disputed terms.” Gatton v. T-Mobile USA, Inc., 152 Cal. App. 4th 571, 581 (2007) (internal quotation marks and citations omitted)).

“The substantive element of the unconscionability analysis focuses on overly harsh or one-sided results,” Gatton, 152 Cal. App. 4th at 586, or “whether a contractual provision reallocates risks in an objectively unreasonable or unexpected manner,” Lhotka, 181 Cal. App. 4th at 821. Substantive unconscionability “traditionally involves contract terms that are so one-
sided as to ‘shock the conscience,’ or that impose harsh or oppressive terms.” Wherry v. Award, Inc., 192 Cal. App. 4th 1242, 1248 (2011).

In California, “where a single contract provision is invalid, but the balance of the contract is lawful, the invalid provision is severed, and the balance of the contract is enforced.” Kec v. Superior Court of Orange Cnty., 51 Cal. App. 5th 972, 974–75 (2020). For example, when a contract is held to be unconscionable, “the strong legislative and judicial preference is to sever the offending term and enforce the balance of the agreement.” Lange v. Monster Energy Co., 46 Cal. App. 5th 436, 453 (2020) (quotation marks omitted); see also Cal. Civ. Code § 1670.5 (“If the court as a matter of law finds the contract or any clause of the contract to have been unconscionable at the time it was made the court may refuse to enforce the contract, or it may enforce the remainder of the contract without the unconscionable clause, or it may so limit the application of any unconscionable clause as to avoid any unconscionable result.”).

b. Analysis

Again, Epic Games alleges that Apple’s counterclaims are barred because “the contracts on which Apple’s counterclaims are based are unconscionable” on the basis that they are “are contrary to the antitrust laws and unfair competition laws[.]”653 Epic Games contends that the DPLA provisions upon which Apple’s counterclaims depend are (i) procedurally unconscionable because they are non-negotiable terms in contracts of adhesion, and (ii) are substantively unconscionable because “they foreclose all alternative app stores and non-IAP payment solutions in the iOS app distribution market and iOS in-app payment solutions market, respectively, and they facilitate the imposition of Apple’s supra-competitive 30% commission.”654

The Court finds and concludes that Epic Games has not shown that the DPLA is unconscionable. A contractual term is not unconscionable unless it is found to be both procedurally and substantively unconscionable. Here, the absence of substantive unconscionability is dispositive. A contractual term is not substantively unconscionable unless it so “one-sided so as to ‘shock the conscience,’” Wherry, 192 Cal. App. 4th at 1248. Based on the record before it, the Court cannot conclude that the DPLA meets that standard. Plaintiff’s response that the unconscionability stems from the violations of antitrust and unfair competition laws fails.655 Because the Court has found only one unrelated provision to violate the UCL, the Court cannot conclude that the remaining provisions are substantively unconscionable.

Epic Games points to no other evidence or authority based upon which the Court could find that the provisions at issue “shock the conscience.” These are billion and trillion dollar companies with a business dispute. Epic Games itself uses adhesion contracts. Plaintiff points to no authority in which a court has held that contractual provisions similar to the ones at issue, despite their longevity and relative ubiquity, are unenforceable on the ground that they are

653 See Epic Games’ Answer to Counterclaims at 17–18.

654 Epic Games FOF ¶¶ 192.

655 See Epic Games FOF ¶¶ 191–192.
unconscionable. The Court finds and concludes, therefore, that Apple’s counterclaims are not barred on the basis that they arise out of contractual terms that are unconscionable.

The Court now turns to the question of whether Apple is entitled to relief with respect to any counterclaim that is based on breaches to DPLA provisions other than the one stricken.

**B. Breach of Contract**

Under California law, the elements of a cause of action for breach of contract are (1) the existence of the contract, (2) plaintiff’s performance or excuse for nonperformance, (3) defendant’s breach, and (4) the resulting damages to the plaintiff. *Oasis W. Realty, LLC v. Goldman*, 51 Cal. 4th 811, 821 (2011). To prove causation, a plaintiff must show “the breach was a substantial factor in causing the damages.” *US Ecology, Inc. v. California*, 129 Cal. App. 4th 887, 909 (2005).

Apple asserts a counterclaim against Epic Games for breach of contract arising out of Project Liberty. In particular, Epic Games’ actions violated the DPLA provisions (1) requiring developers not to “hide, misrepresent or obscure any features, content, services or functionality” in their apps and not to “provide, unlock or enable additional features or functionality through distribution mechanisms other than the App Store,” and (2) requiring Epic Games to pay Apple “a commission equal to thirty percent (30%) of all prices payable by each end-user” through the App Store.

As noted, plaintiff has admitted that it breached the DPLA as Apple alleges and has conceded that, if the Court finds that the breached provisions of the DPLA are enforceable against Epic Games, then Apple would be entitled to relief as a result of the breach.

Because Apple’s breach of contract claim is also premised on violations of DPLA provisions independent of the anti-steering provisions, the Court finds and concludes, in light of plaintiff’s admissions and concessions, that Epic Games has breached these provisions of the DPLA and that Apple is entitled to relief for these violation.

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656 The parties agree that the DPLA is governed by California law. See Dkt. No. 276 at 99; see also PX-2619 (DPLA) § 14.10 (providing that the DPLA is “governed by and construed in accordance with the laws of the United States and the State of California”).

657 Dkt. No. 66 ¶ 50 (citing DPLA § 6.1).

658 *Id.* (citing DPLA §§ 3.2, 3.3.2, 3.3.3, 3.3.25).

659 *Id.* (citing DPLA, Schedule 2, §§ 1.1(a), 3.4(a)).

660 See Stipulation, Dkt. No. 474.
C. Breach of the Implied Covenant of Good Faith and Fair Dealing

“The covenant of good faith and fair dealing, implied by law in every contract, exists merely to prevent one contracting party from unfairly frustrating the other party’s right to receive the benefits of the agreement actually made.” Durell, 183 Cal. App. 4th at 1369 (emphasis and citation omitted). While “[a] breach of the implied covenant of good faith is a breach of the contract,” “breach of a specific provision of the contract is not . . . necessary to a claim for breach of the implied covenant of good faith and fair dealing.” Thrifty Payless, Inc. v. The Americana at Brand, LLC, 218 Cal. App. 4th 1230, 1244 (2013) (internal quotation marks and citation omitted).

“In California, the factual elements necessary to establish a breach of the covenant of good faith and fair dealing are: (1) the parties entered into a contract; (2) the plaintiff fulfilled his obligations under the contract; (3) any conditions precedent to the defendant’s performance occurred; (4) the defendant unfairly interfered with the plaintiff’s rights to receive the benefits of the contract; and (5) the plaintiff was harmed by the defendant’s conduct.” Rosenfeld v. JPMorgan Chase Bank, N.A., 732 F. Supp. 2d 952, 968 (N.D. Cal. 2010) (citation omitted).

“In essence, the covenant is implied as a supplement to the express contractual covenants, to prevent a contracting party from engaging in conduct which (while not technically transgressing the express covenants) frustrates the other party’s rights to the benefits of the contract.” Love v. Fire Ins. Exch., 221 Cal. App. 3d 1136, 1153 (1990) (emphasis in original). It exists to “prevent one contracting party from unfairly frustrating the other party’s right to receive the benefits of the agreement actually made. The covenant thus cannot be endowed with an existence independent of its contractual underpinnings. It cannot impose substantive duties or limits on the contracting parties beyond those incorporated in the specific terms of their agreement.” Durell, 183 Cal. App. 4th at 1369 (citations omitted) (emphasis in original). “If there exists a contractual relationship between the parties, . . . the implied covenant is limited to assuring compliance with the express terms of the contract, and cannot be extended to create obligations not contemplated in the contract.” Racine & Laramie, Ltd. v. Dep’t of Parks & Recreation, 11 Cal. App. 4th 1026, 1032 (1992).

Apple asserts a counterclaim against Epic Games for breach of the implied covenant of good faith and fair dealing. Apple contends that “[t]o the extent that any of Epic’s bad faith actions did not breach the express terms of the [DPLA], Epic Games frustrated Apple’s right to receive the benefits of the agreement actually made, including by publishing an update to Fortnite that circumvented payment of commissions to which Apple was contractually entitled, by violating the Guidelines, and by otherwise undermining Apple’s operation and maintenance of the App Store.”661 Accordingly, Apple asserts this counterclaim in the alternative to its breach of contract claim.

661 Dkt. No. 66 ¶ 60 (emphasis supplied).
Because the Court has found and concluded that Apple is entitled to relief on its breach-of-contract claim, the Court denies relief to Apple as to its alternative claim for breach of the implied covenant of good faith and fair dealing.

D. Unjust Enrichment

“[T]he elements for a claim of unjust enrichment” are “[1] receipt of a benefit and [2] unjust retention of the benefit at the expense of another.” Lectrodryer v. SeoulBank, 77 Cal. App. 4th 723, 726 (2000). “Under California law, unjust enrichment is an action in quasi-contract, and is not cognizable when there is a valid and enforceable contract between the parties.” Cont'l Cas. Co. v. Enodis Corp., 417 F. App’x 668, 670 (9th Cir. 2011) (citation omitted). “The doctrine applies where plaintiffs, while having no enforceable contract, nonetheless have conferred a benefit on defendant which defendant has knowingly accepted under circumstances that make it inequitable for the defendant to retain the benefit without paying for its value.” Hernandez v. Lopez, 180 Cal. App. 4th 932, 938 (2009).

Apple asserts a counterclaim for unjust enrichment against plaintiff based on its alleged failure to pay Apple the agreed-upon 30% commission under the DPLA, but it asserts this counterclaim only “[i]n the alternative” to its claim for breach of contract. See Docket No. 66 ¶ 63.

Because the Court has found and concluded that Apple is entitled to relief on its claim for breach of contract, as discussed above, the Court denies relief to Apple as to its alternative claim for unjust enrichment.

E. Indemnification

Under California law, “[a]n indemnity agreement is to be interpreted according to the language and contents of the contract as well as the intention of the parties as indicated by the contract.” Myers Bldg. Indus., Ltd. v. Interface Tech., Inc., 13 Cal. App. 4th 949, 968 (1993); see also Herman Christensen & Sons, Inc. v. Paris Plastering Co., 61 Cal. App. 3d 237, 245 (1976) (where the parties “have expressly contracted with respect to the duty to indemnify, the extent of that duty must be determined from the contract and not by reliance on the independent doctrine of equitable indemnity” (quotation marks omitted)). Such agreements “are construed under the same rules that govern the interpretation of other contracts.” Alki Partners, LP v. DB Fund Servs., LLC, 4 Cal. App. 5th 574, 600 (2016).

Apple asserts a counterclaim against Epic Games for indemnification in the form of the recovery of its attorneys’ fees and costs of defending this litigation and pursuing its counterclaims. This counterclaim is based on Section 10 of the DPLA, which provides:

To the extent permitted by applicable law, You agree to indemnify and hold harmless, and upon Apple’s request, defend, Apple, its directors, officers, employees, independent contractors and agents (each an “Apple Indemnified Party”) from any and all claims, losses, liabilities, damages, taxes, expenses and costs, including without
limitation, attorneys’ fees and court costs . . . incurred by an Apple Indemnified Party and arising from or related to any of the following . . . : (i) Your breach of any certification, covenant, obligation, representation or warranty in this Agreement, including Schedule 2; . . . or (vi) Your use (including Your Authorized Developers’ use) of the Apple Software or services, Your Licensed Application Information, Pass Information, metadata, Your Authorized Test Units, Your Registered Devices, Your Covered Products, or Your development and distribution of any of the foregoing.662

Apple contends that it is entitled to indemnification from Epic Games under this indemnification provision because plaintiff’s lawsuit involves claims arising from or related to its breaches of its certifications, covenants, obligations, representations, or warranties under the DPLA, and its use of the Apple Software or services, its licensed application information, its covered products, and its development and distribution of the foregoing.

Epic Games counters that Apple is not entitled to indemnification under Section 10 because that section applies only to claims brought by third parties against Apple and not “claims between Epic and Apple,” and because the indemnification clause would be unconscionable to the extent that it is interpreted as covering intra-party disputes.663

The Court’s interpretation of the indemnification provision is guided by the following principles:

Generally, an indemnification provision allows one party to recover costs incurred defending actions by third parties, not attorney fees incurred in an action between the parties to the contract. Courts look to several indicators to distinguish third party indemnification provisions from provisions for the award of attorney fees incurred in litigation between the parties to the contract. The key indicator is an express reference to indemnification. A clause that contains the words ‘indemnify’ and ‘hold harmless’ generally obligates the indemnitor to reimburse the indemnitee for any damages the indemnitee becomes obligated to pay third persons—that is, it relates to third party claims, not attorney fees incurred in a breach of contract action between the parties to the indemnity agreement itself. Courts also examine the context in which the language appears. Generally, if the surrounding provisions describe third party liability, the clause will be construed as a standard third party indemnification provision. The court will not infer that the parties intended an indemnification provision to cover attorney fees.

662 PX-2619 ¶ 10.

663 Epic Games FOF ¶¶ 573, 578.
between the parties if the provision “‘does not specifically provide for attorney's fees in an action on the contract[.]’”

Alki Partners, 4 Cal. App. 5th at 600–01 (internal citations omitted) (emphasis supplied).

Here, the indemnification provision at issue contains the words “indemnify” and “hold harmless,” and the surrounding provisions describe third-party liability, which, under Alki Partners, suggests that any obligation by Epic Games to reimburse Apple would arise only in the context of third-party claims, and not claims between the two. Additionally, the provision does not specifically provide for attorneys’ fees and costs in an action on the contract between the parties to the contract, which also weighs against interpreting the provision at issue as covering Apple’s attorneys’ fees and costs in this action.

Apple argues that the indemnification provision does contain language specifically providing “for attorneys’ fees in an action on the contract” because the indemnification provision is “triggered” by Epic Games’ breach of the DPLA.664 The Court is not persuaded. For an indemnification provision to be interpreted as covering attorneys’ fees and costs in an action on a contract between the parties, there must be language in the contract that “reasonably can be interpreted as addressing the issue of an action between the parties on the contract.” Alki, 4 Cal. App. 5th at 601 (citation and internal quotation marks omitted) (emphasis supplied). For example, attorneys’ fees and costs are recoverable in an action between the parties where the indemnity provision includes “express language for attorney’s fees incurred in enforcing [the] indemnity agreement.” Id. at 602 (citations omitted) (emphasis supplied); see also Baldwin Builders v. Coast Plastering Corp., 125 Cal. App. 4th 1339, 1342 (2005) (holding that an indemnity provision authorized the recovery of attorneys’ fees on an action on the contract between the parties because it included express language that “[s]ubcontractor shall pay all costs, including attorney’s fees, incurred in enforcing this indemnity agreement”’ (emphasis supplied)). No such express language is included in the indemnification provision at issue. In light of the absence of such express language, and in light of the terms used in the indemnification provision that suggest that it covers only third-party claims, as discussed in more detail above, the Court finds and concludes that Apple has not shown that it is entitled to recover attorneys’ fees and costs from Epic Games pursuant to Section 10 of the DPLA.

F. Declaratory Judgment

1. Legal Framework

“In a case of actual controversy within its jurisdiction . . . , any court of the United States, upon the filing of an appropriate pleading, may declare the rights and other legal relations of any interested party seeking such declaration, whether or not further relief is or could be sought. Any such declaration shall have the force and effect of a final judgment or decree and shall be reviewable as such.” 28 U.S.C. § 2201(a).

664 Apple FOF ¶ 841.
Courts have “substantial discretion in deciding whether to declare the rights of litigants” under the Declaratory Judgment Act. *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118, 136 (2007). This “substantial” discretion permits the Court to consider “equitable, prudential, and policy arguments” for or against the declaratory relief sought. *Id.* A “district court should avoid needless determination of state law issues,” “should discourage litigants from filing declaratory actions as a means of forum shopping,” and “should avoid duplicative litigation.” *Principal Life Ins. Co. v. Robinson*, 394 F.3d 665, 672 (9th Cir. 2005) (quotation marks omitted). Courts also consider “whether the declaratory action will settle all aspects of the controversy; whether the declaratory action will serve a useful purpose in clarifying the legal relations at issue; whether the declaratory action is being sought merely for the purposes of procedural fencing or to obtain a ‘res judicata’ advantage; or whether the use of a declaratory action will result in entanglement between the federal and state court systems.” *Gov’t Empls. Ins. Co. v. Dizol*, 133 F.3d 1220, 1225 n.5 (9th Cir. 1998). Essentially, the district court must “balance concerns of judicial administration, comity, and fairness to the litigants.” *Principal Life Ins. Co.*, 394 F.3d at 672 (quotation marks omitted).

2. Analysis

Apple seeks a declaratory judgment that: (a) the DPLA is valid, lawful, and enforceable contracts; (b) Apple’s termination of the DPLA with Epic Games was valid, lawful, and enforceable; (c) Apple has the contractual right to terminate the DPLA with any or all of Epic Games’ wholly owned subsidiaries, affiliates, and/or other entities under its control; and (d) Apple has the contractual right to terminate the DPLA with any or all of the Epic Affiliates for any reason or no reason upon 30 days written notice, or effective immediately for any “misleading fraudulent, improper, unlawful or dishonest act relating to” the DPLA. Docket No. 66 ¶ 88.

Epic Games contends that Apple is not entitled to the declaratory judgment it seeks on the basis that the challenged provisions of the DPLA are “unlawful” and that Apple’s termination of the DPLA as to Epic Games was “unlawful” retaliation. Epic Games has not litigated every aspect of the DPLA, and the Court has raised concerns about issues lacking a full evidentiary record. Thus, it is not inclined to make a broad pronouncement that the DPLA in its entirety is valid, lawful, and enforceable.

That said, with respect to the sections of the DPLA requiring developers not to “provide, unlock or enable additional features or functionality through distribution mechanisms other than the App Store,” DPLA §§ 3.2, 3.3.2, 3.3.3, 3.3.25, those have not been found to be unlawful under federal and state antitrust law or the UCL.

This case does not involve retaliation. Epic Games never showed why it had to breach its agreements to challenge the conduct litigated. Two parallel antitrust actions prove the contrary. Apple had contractual rights to act as it did. It merely enforced those rights as plaintiff’s own.

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665 Epic Games FOF ¶¶ 566–567.
internal documents show Epic Games expected. Accordingly, plaintiff’s challenges to Apple’s claim for declaratory relief fail as to the remaining requests.

G. Remedies

The relief to which Apple is entitled is that to which Epic Games stipulated in the event that the Court found it liable for breach of contract, namely:

1. damages in an amount equal to (i) 30% of the $12,167,719 in revenue Epic Games collected from users in the Fortnite app on iOS through Epic Direct Payment between August and October 2020, plus (ii) 30% of any such revenue Epic Games collected from November 1, 2020 through the date of judgment; and

2. a declaration that (i) Apple’s termination of the DPLA and the related agreements between Epic Games and Apple was valid, lawful, and enforceable, and (ii) Apple has the contractual right to terminate its DPLA with any or all of Epic Games’ wholly owned subsidiaries, affiliates, and/or other entities under Epic Games’ control at any time and at Apple’s sole discretion.

CONCLUSION

This trial highlighted that “big tech” encompasses many markets, including as relevant here, the submarket for mobile gaming transactions. This lucrative, $100 billion, market has not been fully tapped and is ripe for economic exploitation. As a major player in the wider video gaming industry, Epic Games brought this lawsuit to challenge Apple’s control over access to a considerable portion of this submarket for mobile gaming transactions. Ultimately, Epic Games overreached. As a consequence, the trial record was not as fulsome with respect to antitrust conduct in the relevant market as it could have been.

Thus, and in summary, the Court does not find that Apple is an antitrust monopolist in the submarket for mobile gaming transactions. However, it does find that Apple’s conduct in enforcing anti-steering restrictions is anticompetitive. A remedy to eliminate those provisions is appropriate. This measured remedy will increase competition, increase transparency, increase consumer choice and information while preserving Apple’s iOS ecosystem which has procompetitive justifications. Moreover, it does not require the Court to micromanage business operations which courts are not well-suited to do as the Supreme Court has appropriately recognized.

A separate judgment shall issue based on the findings of fact and conclusions of law set forth above, the Court will enter a separate permanent injunction barring the noted restraints.

For the reasons set forth herein, the Court finds in favor of Apple on all counts except with respect to violation of California’s Unfair Competition law (Count Ten) and only partially

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666 See Dkt. No. 474 ¶ 3.
with respect to its claim for Declaratory Relief. The preliminary injunction previously ordered is terminated.

Each party shall bear its own costs. No party shall file any post-trial motions based on previously-made arguments.

IT IS SO ORDERED.

Date: September 10, 2021

YVONNE GONZALEZ ROGERS
UNITED STATES DISTRICT COURT JUDGE
APPENDIX: ORDER OUTLINE

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

FEDERAL TRADE COMMISSION
600 Pennsylvania Avenue, N.W.
Washington, DC 20580

Plaintiff,

v.

FACEBOOK, INC.
1601 Willow Road
Menlo Park, CA 94025

Defendant.

Case No.: 1:20-cv-03590-JEB
PUBLIC REDACTED VERSION OF
DOCUMENT FILED UNDER SEAL

FIRST AMENDED COMPLAINT FOR INJUNCTIVE AND OTHER EQUITABLE RELIEF

Plaintiff, the Federal Trade Commission ("FTC"), by its designated attorneys, petitions this Court pursuant to Section 13(b) of the Federal Trade Commission Act ("FTC Act"), 15 U.S.C. § 53(b), for a permanent injunction and other equitable relief against Defendant Facebook, Inc. ("Facebook"), to remedy and prevent its anticompetitive conduct and unfair methods of competition in or affecting commerce in violation of Section 5(a) of the FTC Act, 15 U.S.C. § 45(a).

I. NATURE OF THE CASE

1. Facebook is the world’s dominant online social network, with a purported three billion-plus regular users. Facebook has maintained its monopoly position in significant part by pursuing Chief Executive Officer ("CEO") Mark Zuckerberg’s strategy, expressed in 2008: “it is better to buy than compete.” True to that maxim, Facebook has systematically tracked potential rivals and acquired companies that it viewed as serious competitive threats. Facebook
supplemented this anticompetitive acquisition strategy with anticompetitive conditional dealing policies, designed to erect or maintain entry barriers and to neutralize perceived competitive threats.

2. Facebook holds monopoly power in the market for personal social networking services (“personal social networking” or “personal social networking services”) in the United States, primarily due to its control of two of the largest and most profitable social networks in the world, Facebook and Instagram. The Facebook social network is known internally at Facebook as “Facebook Blue” and has more than [redacted] monthly users in the United States. Instagram attracts more than [redacted] monthly users. No other personal social networking provider in the United States remotely approaches Facebook’s scale. Snapchat is the next-largest provider of personal social networking services, but its user base pales in comparison: Snapchat has tens of millions fewer monthly users than either Facebook Blue or Instagram.

3. Facebook’s dominant position provides it with staggering profits. Facebook monetizes its personal social networking monopoly principally by selling surveillance-based advertising. Facebook collects data on users both on its platform and across the internet and exploits this deep trove of data about users’ activities, interests, and affiliations to sell behavioral advertisements. Last year alone, Facebook generated revenues of more than $85 billion and profits of more than $29 billion.

4. As Facebook has long recognized, its personal social networking monopoly is protected by high barriers to entry, including strong network effects. In particular, because a personal social network is more valuable to a user when more of that user’s friends and family are already members, a new entrant faces significant difficulties in attracting a sufficient user base to compete with Facebook. Facebook’s internal documents confirm that it is very difficult to win
users with a social networking product built around a particular social “mechanic” (i.e., a particular way to connect and interact with others, such as photo-sharing) that is already being used by an incumbent with dominant scale. Oftentimes, even an entrant with a superior product cannot succeed against the overwhelming network effects enjoyed by an incumbent personal social network.

5. Strong network effects can insulate a dominant personal social networking provider from competitive threats until a disruptive or innovative technology emerges to open up new ways for users to connect. In a competitive environment, Facebook’s success would depend on its ability to anticipate and adapt to periods of technological transition by developing innovative tools that create value for the company’s social network. But in navigating its own transition from small startup to business behemoth, Facebook’s leadership came to the realization—after several expensive failures—that it lacked the business talent required to maintain its dominance amid changing conditions. Unable to maintain its monopoly by fairly competing, the company’s executives addressed the existential threat by buying up new innovators that were succeeding where Facebook failed. The company supplemented this anticompetitive spending spree with an opened-first-closed-later scheme that helped cement its monopoly by further thwarting nascent rivals.

6. A critical transition period in the history of the internet, and in Facebook’s history, was the emergence of smartphones and the mobile internet in the 2010s. The emergence of these technologies fundamentally disrupted the digital economy by allowing people to connect on the go. As users increasingly shifted online activities to the mobile internet, opportunities arose for innovative, upstart companies to challenge Facebook and other giants that had grown dominant in the desktop age. Venture capital and other funding flowed to startups like Instagram, which
allowed users to connect through photo sharing, and WhatsApp, which provided messaging services. These upstarts became popular quickly.

7. Facebook recognized that the transition to mobile posed an existential challenge—and that Facebook had a brief window of time to stymie emerging mobile threats. Facebook’s CEO, Mr. Zuckerberg, described the period as a Fail to compete on business talent, Facebook developed a plan to maintain its dominant position by acquiring companies that could emerge as or aid competitive threats. By buying up these companies, Facebook eliminated the possibility that rivals might harness the power of the mobile internet to challenge Facebook’s dominance.

8. Facebook buttressed its acquisition strategy by implementing and enforcing a series of anticompetitive conditional dealing policies that pulled the rug out from under firms perceived as competitive threats. Facebook included these policies in agreements with third-party developers of software apps that ran on or connected to Facebook’s platform. Beginning in 2007, Facebook actively invited app developers onto its platform, granting them open access to critical application programming interfaces (“APIs”) and tools needed to interconnect with Facebook. This open access policy drove developer and user engagement with Facebook, which in turn helped to fuel Facebook’s massive advertising profits. But as developers expanded popular offerings, Facebook came to view them as a threat, recognizing that some could aid emerging rivals or even challenge Facebook directly. In response, Facebook retooled its API policies into an anticompetitive weapon: developers could only access Facebook’s platform if they agreed (i) not to compete with Facebook’s core services and (ii) not to facilitate the growth of potential rivals to Facebook. App developers or websites that stayed loyal to Facebook by adhering to these conditions were given
access to valuable Facebook platform interconnections. In contrast, app developers that worked with or themselves emerged as potential competitive threats to Facebook lost access to those interconnections, forcing some out of business. But for the restrictions imposed by Facebook’s anticompetitive conditional dealing policies, developers could promote competitive threats to Facebook or become threats themselves. By preventing them from doing so, Facebook reduced the opportunities available to nascent threats. In other words, Facebook beat competitors not by improving its own product, but instead by imposing anticompetitive restrictions on developers. This conduct is no less anticompetitive than if Facebook had paid off these nascent competitive threats to cease competing.

9. Through these actions, Facebook implemented an anticompetitive scheme that prevented differentiated and innovative firms from gaining scale, thus enabling Facebook to maintain its dominance. Facebook’s course of conduct has eliminated nascent rivals and extinguished the possibility that such rivals’ independent existence might allow other internet platforms to overcome the substantial barriers to entry that protect Facebook’s monopoly position. In doing so, Facebook deprives personal social networking users in the United States of the benefits of competition, including increased choice, quality, and innovation.

10. By interfering with the emergence and growth of personal social networking rivals, Facebook also suppresses meaningful competition for the sale of advertising. Many personal social networking providers monetize their platforms through the sale of advertising; thus, more competition in personal social networking is also likely to mean more competition in the provision of advertising. By monopolizing personal social networking, Facebook thereby also deprives advertisers of the benefits of competition, such as lower advertising prices and increased choice, quality, and innovation related to advertising.
11. Facebook’s unlawful course of conduct to maintain its monopoly continues today and must be enjoined. Facebook continues to hold and operate the assets it acquired unlawfully and continues to keep them positioned to provide a protective “moat” around its personal social networking monopoly. Moreover, Facebook continues to monitor competitive threats and will seek to acquire or kneecap them unless enjoined.

II. JURISDICTION AND VENUE

A. Jurisdiction

12. This Court has subject matter jurisdiction over this action pursuant to Sections 5(a) and 13(b) of the FTC Act, 15 U.S.C. §§ 45(a) and 53(b), and 28 U.S.C. §§ 1331, 1137(a), and 1345. This is a civil action arising under Acts of Congress protecting trade and commerce against restraints and monopolies, and is brought by an agency of the United States authorized by an Act of Congress to bring this action.

13. This Court has personal jurisdiction over Facebook because Facebook has the requisite constitutional contacts with the United States of America pursuant to 15 U.S.C. § 53(b).

14. Facebook’s general business practices, and the unfair methods of competition alleged herein, are “in or affecting commerce” within the meaning of Section 5 of the FTC Act, 15 U.S.C. § 45.

15. Facebook is, and at all relevant times has been, a corporation, as the term “corporation” is defined in Section 4 of the FTC Act, 15 U.S.C. § 44.

B. Venue

III. THE PARTIES

17. Plaintiff FTC is an administrative agency of the United States government, established, organized, and existing pursuant to the FTC Act, 15 U.S.C. §§ 41 et seq., with its principal offices in the District of Columbia. The Commission is vested with authority and responsibility for enforcing, among other things, Section 5 of the FTC Act, 15 U.S.C. § 45, and is authorized under Section 13(b) of the FTC Act, 15 U.S.C. § 53(b), to initiate court proceedings to enjoin violations of any law the FTC enforces and to seek equitable remedies.

18. The FTC is authorized to bring this case in federal court because it has reason to believe that Defendant Facebook is violating or is about to violate a provision of law enforced by the FTC, and this is a proper case for permanent injunctive relief within the meaning of Section 13(b) of the FTC Act, 15 U.S.C. § 53(b).

19. Defendant Facebook is a publicly traded, for-profit company, incorporated in Delaware and with its principal place of business at 1601 Willow Road, Menlo Park, CA 94025. Facebook’s principal businesses are in technologies that facilitate digital interactions and communications, including Facebook Blue, which provides personal social networking; Instagram, which provides personal social networking; Facebook Messenger, which provides mobile messaging services; and WhatsApp, which provides mobile messaging services.

IV. INDUSTRY BACKGROUND

A. The Rise of Personal Social Networking and Facebook’s Beginnings

20. In the early 2000s, the widespread use of personal computers and internet connectivity enabled a new way of connecting and communicating with other people: online social networking with friends and family. In contrast to the limited functionality of email and text messaging, personal social networking gained popularity by providing a distinct way for people to
maintain personal connections. Personal social networking enables people to stay up to date and share personal content with friends and family. It is now an integral part of the daily lives of millions of Americans.

21. Through an account on a personal social network, people can post content about their own lives and interests, and view content that personal connections have posted. Because many people use personal social networking to engage with personal connections, the presence of a critical mass of people on a particular personal social network both attracts new users and keeps existing users on the network. In this sense, social networks share features of telephone systems, operating systems, and other services characterized by strong network effects: the value of the service to individual consumers increases with the number of other consumers that use the service. Internal Facebook investor call talking points expressed this phenomenon crisply:

22. Friendster, launched in March 2002, was one of the first personal social networks to gain significant popularity, and Myspace followed the next year.

23. Subsequently, in February 2004, Mr. Zuckerberg and his college classmates launched Facebook (then styled “TheFacebook”). They first launched the product on their school campus, and then quickly expanded to other college campuses. Following rapid uptake in university settings, Facebook became widely available to members of the general public in 2006. Facebook’s rapid initial growth led to substantial private investment in the company, which in turn fueled more growth.

B. **Facebook Launched Facebook Platform, and Provided Access to Critical Interfaces, to Induce App Developers to Interoperate with Facebook Blue**

24. The early, rapid growth of Facebook’s user base was of critical importance to the company. Facebook needed to add users rapidly not only to sell itself to investors, but also to
achieve a critical mass of users that could allow it to establish and benefit from network effects: As more users actively and regularly engaged with Facebook’s offerings, users would be more likely to stay with Facebook and attract yet more users—and leave potential competitors with little room to maneuver. Facebook therefore sought to quickly expand its offerings to users.

25. In furtherance of this goal, Facebook in 2007 launched “Facebook Platform.” The Platform initiative leveraged Facebook’s control over its rapidly expanding user base to encourage software developers to build an entire ecosystem of apps and tools—ranging from games and page design tools to video-sharing tools and e-marketing apps—that interoperate with Facebook Blue. Facebook aimed to turn Facebook Blue into a dominant platform for apps: If Facebook could induce developers to use Facebook Blue to promote and distribute innovative apps that appealed to users, Facebook would benefit from increased user engagement, yielding greater and more granular data about its users and their online activities, and cementing network effects to insulate itself from competition.

26. When it launched Platform, Facebook explicitly “welcome[d] developers with competing applications” to build on Platform, representing that it had “designed Facebook Platform so that applications from third-party developers are on a level playing field with applications built by Facebook.”

27. Facebook’s Platform initiative allowed it to conserve its own resources and leverage the creativity of third parties to ensure that engagement continued on Facebook. Without Platform, Facebook itself would be required to build apps that increased the value of its network—meaning that Facebook would have to try to predict what apps users wanted; design, code, and scale those apps across its user base and network; and bear the risk and resource drain of guessing wrong and making mistakes.
28. Platform allowed Facebook to avoid these risks and costs—and to reap the benefits derived from the efforts of third-party app developers. Facebook would not need to spend significant resources to develop new apps or test new business models—third parties would do that instead. Facebook could merely wait for an app built for Platform to gain widespread adoption, then either build a competing app or reap the benefits of that popular app’s user engagement, including valuable new social data for Facebook. The potential to extract profits from the work of these developers—including from the apps these developers built and the users they attracted—led Facebook to actively seek out and invite developers to build apps on Platform.

29. Facebook rolled out Facebook Platform as a program that would provide all app developers with the freedom to design apps. When Facebook introduced Facebook Platform, Mr. Zuckerberg stated, “[u]ntil now, social networks have been closed platforms. Today, we’re going to end that. With this evolution of Facebook Platform, any developer worldwide can build full social applications on top of the social graph, inside of Facebook.”

30. Facebook marketed Facebook Platform as a way to empower all app developers because it recognized that doing so would be critical to its business. In a 2007 press release, Mr. Zuckerberg stated, “[Facebook Platform] is good for us because if developers build great applications then they’re providing a service to our users and strengthening the social graph. This is a big opportunity. We provide the integration and distribution and developers provide the applications. We help users share more information and together we benefit.”

31. Mr. Zuckerberg and Facebook continued to repeat the message that Facebook benefited from an “open” Facebook Platform that allowed any social app developer to interoperate. In 2008, Mr. Zuckerberg observed that
In early 2012, a Facebook Initial Public Offering document stated that “[t]he success of our Platform developers and the vibrancy of our Platform ecosystem are key to increasing user engagement [on Facebook Blue]. We continue to invest in tools and APIs that enhance the ability of Platform developers to deliver products that are more social and personalized and better engage users on Facebook [Blue], across the web, and on mobile devices.”

32. Facebook’s open platform was designed to attract not only new developers, but also (i) new Facebook users attracted by the developers that interoperated with Facebook’s Platform; and (ii) greater engagement from existing Facebook users as they enjoyed new functionality on the platform. In each case, Facebook’s Platform was designed to create and leverage the network effects that come with an increased user base and engagement. And each drove the other: more users meant more developers, and more developers meant more users. Both were good for Facebook.

33. Following the 2007 launch of Platform, Facebook frequently added new tools for developers to use, usually at its semi-annual “f8” developers conference. For example, in 2008, Facebook launched Facebook Connect, a tool that enabled developers to let their users log into the developer’s websites or apps using their Facebook credentials, “bring their Facebook account information, friends and privacy” to the developer’s service, and share content back to Facebook. Use of Facebook Connect by developers benefitted Facebook by increasing the amount of engaging content on Facebook Blue and making Facebook more ubiquitous across the internet.

34. Facebook continued to add functionalities to Platform, including APIs that allowed third-party apps access to Facebook user data. An API is a structured way for different pieces of
software to communicate and share data or functionality with one another. APIs are used widely online to facilitate communication among businesses and other entities, integration or interoperation between products and services, and the development of new products built “on top of” the features or data of others.

35. By providing an API, businesses can enable third-party developers to programmatically interact with certain data or functionality from the API provider. This is a common pattern for businesses that wish to enable the development of products that are complementary or adjacent to their own products without building those products themselves. In these situations, the API provider makes available to third-party developers the data and functionality needed to interoperate with the provider. By providing critical interoperability, many APIs effectively serve as a means of distribution for third-party developers in digital markets.

36. Facebook Platform comprises access to many different APIs, and many have changed over time. Graph API, launched in 2010, is one of the core Facebook Platform APIs. Although it, too, has changed over the years, its general purpose has been to facilitate the exchange of a multitude of different types of information and data between Facebook’s social graph and other apps, including both Facebook and third-party products. After Facebook grants a third-party developer access to particular endpoints of Graph API, that developer can use Graph API to retrieve and/or create those particular types of information within Facebook’s social graph. For example, Graph API can be used to retrieve the photos that a user has uploaded to Facebook Blue, or to publish a video to a user’s Facebook Blue timeline. The data available through Graph API can provide developers with an important means to achieve distribution and grow their user bases.
37. In 2010, Facebook provided third-party apps with access to critical APIs through Graph API, including the Find Friends API (providing information about a user’s Facebook friends) and other APIs used to access user content from Facebook Blue. The Find Friends API, in particular, was a valuable growth tool for third-party apps because it enabled users of such apps to find their Facebook Blue friends who also used the third-party app and to invite those friends who did not.

38. In 2010, Facebook also added the Open Graph and Social Plugins to Facebook Platform, which enabled third-party apps and websites to add features such as the Facebook “Like” button to their own services. Using the Like button, Facebook Blue users could like and share their interest in the third-party app. Third-party apps were motivated to install the Like button and encourage its use, as a “Like” would be shared on the user’s news feed and profile on Facebook Blue, which could attract additional users to the third-party app.

39. Open access to Facebook Platform was important to developers from the time that Facebook introduced it for at least three primary reasons. First, Facebook Platform offered developers a unique distribution channel for their products and services, promising to allow developers to exploit Facebook’s massive social graph to “spur mass distribution.” Second, tools like Graph API, Social Plugins, and Open Graph provided developers with the ability to engage their users through personalized experiences: “For example, if you like a band on [the music service] Pandora, that information can become part of the graph so that later if you visit a concert site, the site can tell you when the band you like is coming to your area.” Third, Facebook Platform enabled developers to advertise their products and conduct in-app transactions. With these benefits on offer, and the company’s active encouragement, developers were induced to rely on Facebook’s open access policies and invested in developing compatible products.
40. Usage of Open Graph grew rapidly. One week after the introduction of Open
Graph, over 50,000 websites had installed Open Graph plug-ins. Those sites realized the
immediate benefits of a massive new distribution channel. By July 2008, one year after it
launched, more than 400,000 developers were already using Facebook Platform. By April 2010,
over [400,000] developers were using Facebook Platform. By July 2012, Open Graph was being
used to share nearly one billion pieces of social data each day to Facebook Blue, giving Facebook
substantially greater and more granular information about its users and their online activities.

41. This strategy not only integrated users’ online activities more fully into Facebook
Blue, but also drove profits for Facebook. As a Facebook executive summarized in a May 2012
email to Facebook Chief Operating Officer (“COO”) Sheryl Sandberg: “Because we have this
critical mass of people, that attracts new people to sign up, it attracts developers who want to find
customers for their apps and websites, and it attracts advertisers [who] want to reach the
audience[.]” The executive explained that Facebook had “[r]eached a size now where you can
imagine as a developer that most of your current and future users/customers are on Facebook[,]”
noting that “[7] of the top 10 apps in the Apple App store are Facebook enabled[.]”

42. Further, third-party apps helped Facebook grow through Facebook plug-ins and by
directing social data, such as “Likes,” back to Facebook Blue. These interactions also provided
Facebook with critical information about the extent to which users interacted with third-party apps
and enabled it to closely track and identify usage trends in their incipiency.

C. **Facebook Surpassed Early Competitors to Become the Dominant Social
Network**

43. Facebook grew rapidly following its 2006 expansion beyond schools to the general
public. According to ordinary course documents, between May 2007 and May 2008, Facebook’s
monthly active users grew [150 million], while those of Myspace—its primary competitor—grew just
over the same period. By 2009, Facebook had surpassed Myspace and established itself as the most popular personal social networking provider in the United States and the world. In October 2011, according to internally circulated figures, Facebook had 156 million unique users in the United States averaging 441 minutes per visitor on the service. At the same time, Myspace had just twenty-seven million users in the United States averaging merely ten minutes per visitor. By 2011, Facebook was touting to its advertising clients that “Facebook is now 95% of all social media in the US.”

44. Facebook’s Platform policies helped to fuel its growth. After launching its Facebook Platform and Open Graph initiatives, Facebook grew significantly, adding an average of more than ten million monthly active users in the United States each year from 2010 to 2018.

D. Facebook’s Business Model: Selling Advertising Based on Detailed User Data

45. While there are several ways in which personal social networking could be monetized, Facebook has chosen to monetize its product by mining the personal data of its users and selling behavioral advertising.

46. This practice has been highly profitable for Facebook. Advertisers now pay billions—approximately $84 billion in 2020—to display their ads to specific sets of Facebook Blue and Instagram users. Facebook serves up these “audiences” using proprietary algorithms that analyze the vast quantity of data the company collects on its users. This allows advertisers to target different campaigns and messages to different groups of users. Ads displayed by Facebook are interspersed with—and can be similar in appearance to—user-generated content.

47. Facebook recognizes the unique characteristics of the advertising that a personal social network can offer (“social advertising”). For example, in earnings calls, Facebook COO Sheryl Sandberg described Facebook Blue as the “world’s first global platform that lets marketers
personalize their messages at unprecedented scale,” and called Facebook Blue and Instagram the “two most important mobile advertising platforms” in the world.

48. Social advertising is distinct from other forms of advertising, including other forms of display advertising, search advertising, and “offline” advertising (e.g., television, radio, and print).

49. Social advertising is a distinct form of display advertising. Display advertising refers to the display of advertisements—in the form of images, text, or videos—on websites or apps when a user visits or uses them. Display advertising is distinct from “offline” advertising, such as television, radio, and print advertising, because it offers the ability to reach consumers during their online activity (including during their use of mobile devices like smartphones and tablets), allows for interactive ads, and permits rich ad targeting to users using personal data generated and collected through their online activity. Display advertising is also distinct from search advertising, which is a form of digital advertising that is shown to a person when he or she enters a specific search term in an online search engine, like Google or Bing. Advertisers buy search advertising to target consumers who are actively inquiring about a particular type of product or service. By contrast, display advertising reaches consumers who are not actively querying a search engine, including consumers who may be further from making a specific purchase decision.

50. Social advertising is a type of display advertising, but it is distinct in several ways from the non-social display advertising found on websites and apps that are not personal social networks. For example, in part because users must log in to a personal social network with unique user credentials, social advertising enables advertisers to target users based on personalized data regarding users’ personal connections, activities, identity, demographics, interests, and hobbies. Also, in contrast to display advertising on other websites and apps, social advertising leverages
high engagement and frequent contact with users, as well as the integration of advertisements directly into a user’s feed of content generated by personal connections (including ads that resemble “native” content and boosted content). In addition, social advertising facilitates forms of engagement with the advertisement that are not available with other forms of display advertising—such as allowing a user to share an advertisement with a personal connection, or to “like” or follow an advertiser’s page. Among other things, the foregoing characteristics enable social advertising providers to sell advertisers access to personally targeted “audiences” of highly engaged users, and to reach users that need not be actively searching for—or even aware of—the advertised product or service.

51. As Ms. Sandberg emphasized in a 2012 earnings call: “[O]n the question of where advertisers are, you know as I’ve said before, we are a third thing. We’re not TV, we’re not search. We are social advertising.” Facebook in particular has a preeminent ability to target users with advertising due to its scale, its high level of user engagement, and its ability to track users both on and off Facebook properties to measure outcomes.

52. Benefiting from the vast trove of data Facebook collects on users, Facebook’s social advertising business is extraordinarily profitable. According to its public earnings reports, Facebook earns “substantially all of [its] revenue from selling advertising placements to marketers.”

E. The Threat to Facebook from the Emergence of the Mobile Internet

53. Beginning around 2010, the widespread adoption of smartphones marked a significant change in the way that people in the United States consumed digital services, with users shifting from desktop computers to mobile devices. In the fourth quarter of 2009, smartphones were adopted by only 21% of all mobile subscribers in the United States and only 30% of
customers who had recently acquired a new cell phone. By the second quarter of 2012, smartphones were adopted by 55% of all mobile subscribers in the United States and accounted for 67% of new mobile phone purchases. Estimates suggest that mobile data traffic increased 62% from 2011 to 2012, and that by 2012, mobile data traffic was approximately seventy-three times larger than U.S. mobile data traffic in 2007.

54. The shift to smartphones opened up opportunities for new businesses. Among other features, smartphones are portable and offer integrated digital cameras. Social networking with family and friends through taking, sharing, and commenting on photographs via a mobile app optimized for that activity became increasingly popular, as services attempted to take advantage of what

55. Businesses that sought to ride the mobile wave—or use it to challenge entrenched desktop-bound competitors—had to act promptly.
56. Smartphones also facilitated the explosion of mobile messaging, which includes (i) text messaging via short-message-service or multimedia-message-service protocols (“SMS”), and (ii) text messaging via internet-based, over-the-top mobile messaging apps (“OTT mobile messaging services”). Since 2011, when the messaging volume of SMS peaked, the messaging volume of OTT mobile messaging services has grown astronomically. By April 2012, Mr. Zuckerberg believed that “messaging is the single most important app on anyone’s phone.”

57. Smartphone-enabled OTT mobile messaging services, like WhatsApp, posed a threat to Facebook Blue. OTT mobile messaging services generally have not charged a per-message fee and have provided improvements over SMS, like enhanced features for sharing content (e.g., photos, videos, sound clips, and GIFs) and the option to create persistent groups of users.

58. Facebook offered Facebook Blue on mobile devices in an effort to address the rise of mobile smartphones, but Facebook Blue’s performance on mobile devices was initially weak. Facebook launched its first Facebook Blue mobile website in January 2007, its first native Facebook Blue iPhone app in July 2008, and its first native Facebook Blue Android app in September 2009. In a post announcing Facebook Blue for iPhone, the engineer responsible for the app wrote “applications built for the iPhone have access to more technology than websites. For example, with the native application you can take photos with the iPhone’s camera and upload them instantly.” But by 2010, Facebook decided to re-write its native applications in HTML—the language used for pages designed to be viewed in a web browser. The effort, which it called Faceweb, failed to improve Facebook’s mobile offerings, and by June 2011, reviews for Facebook
Blue for iPhone had languished to an all-time low average of two-stars. Mr. Zuckerberg would later call the decision to write in HTML “the biggest mistake we made as a company.”

59. By late 2011, Mr. Zuckerberg and other executives realized that Facebook Blue offered a relatively poor experience for mobile users, and that this made Facebook’s monopoly position more vulnerable than it had ever been. In addition, Facebook struggled to translate its social advertising model onto mobile devices. The transition to mobile required Facebook to transform the manner in which its advertisements were displayed: as Mr. Zuckerberg described it,

60. Given these mounting consecutive failures, Facebook justifiably feared that its personal social networking monopoly, and its enormous advertising profits, would be threatened by a mobile-first competitor emerging and gaining traction by connecting users in innovative ways and exploiting mobile phones’ photo or messaging capabilities. Such an entrant could substantially threaten Facebook’s advertising profits. A competitor able to launch a popular product could capture a rich set of data on mobile users’ behavior, which would not be available to Facebook due to its unattractive mobile performance. Facebook had an acute need for such data as it increasingly sought to target advertisements based on granular information about individual users, including their identities, behavior, and locations. In order to monetize its user base, Facebook needed to target advertising to individuals who would be most receptive. And Facebook could not determine which users would be most receptive to which advertisements without a critical mass of data regarding users’ activity. Alternatively, a competitor could offer an advertisement-free business model, which could undermine Facebook’s ability to monetize user attention. In particular, WhatsApp emerged as a rapidly growing OTT mobile messaging app that pursued an advertising-free business model (prior to its acquisition by Facebook).
61. To ensure it continued to dominate despite its sub-par mobile performance, Facebook undertook a [REDACTED]. But Facebook could not accept the possibility that a rival might threaten its monopoly position, and its enormous advertising profits, in the time it would take Facebook to improve its inferior mobile offerings. Realizing it could not maintain its monopoly based on the merits of its own offerings, Facebook then sought to [REDACTED] the transition to mobile through anticompetitive actions to protect its dominance.

F. For Many Years, Facebook Has Focused on Acquiring Potential Rivals and Those Who Might Aid Potential Rivals

62. The proliferation of smartphones and the transition to the mobile internet in the 2010-2014 timeframe transformed the way that users consumed social networking and other digital services. This critical yet fleeting transition period introduced the risk that a new and nimble startup could be better placed than Facebook to quickly exploit these changes in technology and user behavior.

63. One way to deal with this threat was to acquire any startup that could threaten Facebook’s dominance during this window of opportunity. Acquiring competitive threats that introduce innovative mechanics is particularly attractive to a dominant incumbent during periods of disruption, such as the transition to the mobile internet. This proposition was especially true in Facebook’s case, given the company’s failing attempts to transition its own offerings to this new environment.

64. Maintaining its monopoly through acquisition was a natural choice for Facebook. The company has long sought to achieve and maintain dominance through acquisitions rather than competition, reflecting a deeply rooted view within Facebook that, as Mr. Zuckerberg put it in a June 2008 internal email, “it is better to buy than compete.” Facebook’s acquisitions have often
focused on arresting the growth of potential rivals: for example, following Facebook’s failed 2008 attempt to acquire Twitter, Mr. Zuckerberg wrote: “I was looking forward to the extra time that would have given us to get our product in order.” Facebook has also made multiple overtures to acquire Snapchat over the years, moving quickly when it believed that Snapchat might have had other well-financed suitors that could have bolstered its competitive position.

65. Personal social networking services are characterized by strong network effects: a provider’s service is generally more valuable to a user when more of the user’s friends and family are using that service. Once a personal social networking service has achieved dominant scale, these effects make competition and entry harder, even for a rival that users perceive as offering a higher quality product.

66. As a result, and as Facebook well understands, the most significant competitive threats to Facebook Blue may arise from a differentiated product that is able to gain scale quickly by offering users a superior “mechanic” (that is, a distinctive way of interacting with friends and family, such as sharing photos). Facebook’s strategy to prevent innovative entrants from gaining scale and benefiting from network effects has consisted of acquiring innovators and—where possible—transforming their products into integral parts of the company’s competitive “moat.”

Mr. Zuckerberg clearly explained this strategy in a February 2012 email advocating the acquisition of Instagram: “[T]here are network effects around social products and a finite number of different social mechanics to invent. Once someone wins at a specific mechanic, it’s difficult for others to supplant them without doing something different. It’s possible someone beats Instagram by building something that is better to the point that they get network migration, but this is harder as long as Instagram keeps running as a product.” (Emphasis added.)
67. As Mr. Zuckerberg recognized, by simply acquiring firms able to gain scale, Facebook could make up for its failure to innovate and forestall future threats: “[O]ne way of looking at this is that what we’re really buying is time. Even if some new competitors spring[] up, buying Instagram, Path, Foursquare, etc now will give us a year or more to integrate their dynamics before anyone can get close to their scale again. Within that time, if we incorporate the social mechanics they were using, those new products won’t get much traction since we’ll already have their mechanics deployed at scale.” (Emphasis added.)

68. Facebook has long focused on detecting potential threats at an early stage, in order to neutralize them before they have a chance to either grow on their own or facilitate the growth of other potential Facebook rivals.

69. Facebook’s focus on detecting threats early is illustrated by its 2013 acquisition of Onavo, a firm which billed itself as the “most comprehensive market intelligence service in the mobile industry.” Onavo marketed itself to users as providing secure virtual private networking services, but—unknown to many users—it also tracked users’ activity online. Facebook understood that surveilling users would enable it to identify services that were growing rapidly and potentially diverting users from Facebook, thus making Onavo “really cool for identifying acquisition targets.”

70. In October 2013, Facebook acquired Onavo for [REDACTED], and within days, Onavo’s business customers were informed that their access to Onavo’s services would be terminated in six days. The move thwarted potential Facebook rivals that could have used Onavo’s services to identify firms they might partner with or acquire in order to compete with Facebook. Cut-off Onavo customers expressed their frustration.
71. By acquiring Onavo, Facebook obtained control of, and denied its potential rivals access to, data that it used to track the growth and popularity of other apps. As a December 2013 internal slide deck noted: “With our acquisition of Onavo, we now have insight into the most popular apps. We should use that to also help us make strategic acquisitions.” Facebook has used Onavo data to generate internal “Early Bird” reports for Facebook executives, which focused on “apps that are gaining prominence in the mobile eco-system in a rate or manner which makes them stand out.”

72. Facebook has used its Onavo data to identify acquisition targets, including WhatsApp, to execute the playbook Mr. Zuckerberg identified in connection with the Instagram purchase: acquire a potential rival and keep the rival’s mechanics deployed to frustrate others’ efforts to gain scale using similar mechanics. For example, Facebook reportedly used Onavo to identify acquisition target “tbh,” a polling app that had achieved 2.5 million daily active users within only nine weeks of launch. At the time of the 2017 acquisition, tbh was popular amongst teens and growing rapidly. Although Facebook initially announced plans to maintain tbh as a distinct brand, it ended up ultimately shuttering it.

73. Facebook shut down Onavo in 2019 following public scrutiny; however, it continues to track and evaluate potential competitive threats using other data.

74. While Onavo’s mobile data turbo-charged Facebook’s ability to identify and eliminate potential threats, Facebook had been executing the same basic strategy for years prior to the Onavo acquisition. For example, in 2008, Facebook licensed contact importing services from a company called Octazen. Contact importing services facilitate the rapid growth of networks of contacts—critical to direct network effects—by seamlessly pulling contacts from a user’s digital address book and importing them for use in an app. Facebook soon realized that acquiring Octazen
would deprive rivals and potential rivals of this “key” resource for growth and engagement. As an executive explained: “By [buying Octazen], we would: . . . Let [sic] everyone else in the industry without a provider for contact importer libraries.” In discussing the acquisition, Facebook executives focused not on what Octazen would add to Facebook, but on how the acquisition would let Facebook deny rivals a technology key for increasing user interactions and generating network effects. Describing this dynamic, another executive explained that the Octazen “acquisition could be interesting if *for a few million we could slow some competitors down for a quarter or so . . . .*” Immediately after completing the acquisition in February 2010, Facebook terminated all third-party access to Octazen.

75. Likewise, in 2012, Facebook learned that a new “social discovery” app that might have fueled the growth of The app, called Glancee, used geolocation services to help users meet new people. Facebook then acquired Glancee and simultaneously shut the app down, terminating services to Glancee’s users. Two years later, Facebook launched a location-based feature on Facebook Blue that utilized Glancee’s technology, but in a scaled-back form that allowed users to know only when their existing Facebook friends were nearby.

76. Similarly, after learning that Snapchat and others were interested in EyeGroove, an app that allowed users to create and share music videos with augmented reality effects, Facebook decided to move quickly to acquire it in 2016—and then shut the app down.

**V. FACEBOOK’S ANTICOMPETITIVE CONDUCT**

77. Central to Facebook’s efforts to “derisk” the transition to mobile was its strategy to buy or bury innovators threatening to out-compete Facebook in the new mobile environment.
78. Facebook’s anticompetitive course of conduct includes the acquisition and continued control of Instagram, which has neutralized a significant independent personal social networking provider; and the acquisition and continued control of WhatsApp, which has neutralized a significant competitive threat to Facebook’s personal social networking services monopoly. Acquiring these competitive threats has enabled Facebook to sustain its dominance—to the detriment of competition and users—not by competing on the merits, but by avoiding competition.

79. Facebook’s course of conduct also includes conditional dealing policies embodied in agreements with firms that interoperated with its platform, which Facebook introduced as a way to weaponize platform access. Facebook implemented these agreements, and enforced them where necessary, to bury other potential threats and prevent rivals from eroding its monopoly power.

A. **Facebook Has Engaged in Anticompetitive Acquisitions to Protect Its Dominant Position, Including the Acquisitions of Instagram and WhatsApp**

1. **Facebook Acquired Instagram to Neutralize a Competitor**

80. Instagram was a serious threat to Facebook’s dominance given its made-for-mobile offerings. Following its launch in October 2010 for iOS devices, Instagram quickly gained popularity with users seeking a product that facilitated photo-based social interactions with friends and family.

81. Instagram’s growth was stellar. It gained 25,000 users on its first day; 100,000 users in a week; one million users in less than three months; and ten million users in less than a year—all while available only on Apple’s iOS devices and before launching on Android devices.

82. Facebook watched Instagram’s emergence with mounting anxiety. In February 2011, Mr. Zuckerberg wrote to colleagues: “In 4 months they’re up to 2m users and 300k daily photo uploads. That’s a lot. We need to track this closely.”
83. Facebook initially tried to compete on the merits with mobile photo-sharing capabilities, dedicating significant resources to developing its own camera app, code-named “Snap.” But despite relentless pressure from senior management, these efforts achieved limited success. In July 2011, one executive demanded: “[W]hy is mobile photos app development moving so slowly? We still are getting our ass kicked by Instagram.” And by September 2011, Mr. Zuckerberg was railing: “In the time it has taken us to get ou[r] act together on this[,] Instagram has become a large and viable competitor to us on mobile photos, which will increasingly be the future of photos.”

84. Recognizing that photos were integral to the popularity of many Facebook Blue features, and therefore to Facebook Blue’s overall prevalence, in that same September 2011 email, Mr. Zuckerberg warned that Instagram was a major threat:

> One theme in many of the products we’re about to launch -- News Feed, Timeline, Open Graph -- is that people love nice big photos. A lot of the time people don’t even understand how the new News Feed or Timeline work, but they love those products because of the bigger and richer photos. While this is nice in the short term, I view this as a big strategic risk for us if we don’t completely own the photos space. If Instagram continues to kick ass on mobile or if Google buys them, then over the next few years they could easily add pieces of their service that copy what we’re doing now, and if they have a growing number of people’s photos then that’s a real issue for us.

> They’re growing extremely quickly right now. It seems like they double every couple of months or so, and their base is already ~5-10m users. As soon as we launch a compelling product a lot of people will use ours more and future Instagram users will find no reason to use them. But at the current rate, literally every couple of months that we waste translates to a double in their growth and a harder position for us to work our way out of. (Emphasis added.)

85. Facebook employees scrambled to meet Mr. Zuckerberg’s demands. In an internal email dated September 13, 2011, Facebook’s Director of Engineering reminded her team: “Zuck is anxious for the [Facebook] snap app (mainly motivated by a desire to slow down Instagram’s growth).”
86. Facebook’s leadership feared not only an independent Instagram, but also an Instagram in the hands of another purchaser, such as Google (mentioned by Mr. Zuckerberg in the September 2011 email above), Apple, or Twitter. In April 2012, a Facebook engineer warned Mr. Zuckerberg of “the potential for someone like Apple to use [Instagram] as a foothold.” And an investor in Instagram and former Facebook executive underscored the threat of Twitter: “if twitter and instagram [sic] became one company it would make life more difficult for facebook.”

87. As Instagram soared, Facebook’s leaders began to focus on the prospect of acquiring Instagram rather than competing with it. For example, in January 2012, the head of Facebook’s internal Mergers and Acquisitions (“M&A”) group wrote to Mr. Zuckerberg to suggest “m&a” as a solution to this problem, in order to increase users’ switching costs, retain engagement, and lock users into Facebook Blue:

[I think photos in general and certainly in conjunction with mobile is a weak spot for us, yet represents a large part of many users’] engagement on fb. i view this as both a significant threat (google/picasa/android, instagram, etc.) and opportunity. . . . imo, photos (along with comprehensive/smart contacts and unified messaging) is perhaps one of the most important ways we can make switching costs very high for users - if we are where all users’ photos reside because the uploading [sic] (mobile and web), editing, organizing, and sharing features are best in class, will be very tough for a user to switch if they can’t take those photos and associated data/comments with them. i think this area should be a priority for us organically and through m&a especially given competitive dynamics. (Emphasis added.)

88. By February 2012, Mr. Zuckerberg predicted that an independent Instagram could soon achieve massive scale, and suggested that Facebook should move to acquire it:

If [my analytical] framework holds true, then we should expect apps like Instagram to be able to grow quite large. If it has 15m users now, it might be able to reach 100-200m in the next 1-2 years. (Intuitively this is not crazy because in the next year alone iOS should double and it should spread to Android, so even without further increase in market share it should grow by at least 4x this year.) If those assumptions hold true, then we should perhaps be more open to buying these companies than we currently seem to be. (Emphasis added.)
89. Throughout this period, Mr. Zuckerberg repeatedly explained the case for acquisition in terms of Instagram’s threat as a personal social networking competitor. In February 2012, he wrote:

_I wonder if we should consider buying Instagram, even if it costs ~$500m. . . . For the network piece, one concerning trend is that a huge number of people are using Instagram every day -- including everyone ranging from non-technical high school friends to even FB employees -- and they’re only uploading some of their photos to FB. This creates a huge hole for us and one that I’m [sic] sure anything we’re going to do on platform or with social dynamics will completely solve. Sometimes you don’t want to bug all your FB friends with a lot of photos so you put them in the photo-posting place instead. With [Facebook] Snap, our basic thesis is that what people need is a good way to post a bunch of photos on FB. We’re doing some work on filters but not a ton, and the team is approaching this more as a nice feature and somewhat of a gimmick. Instagram, on the other hand, is approaching this problem from the perspective of how to help people take beautiful photos. I think it’s quite possible that our initial thesis was wrong and that theirs is right -- that what people want is more to take the best photos than to put them on FB. If so, [Facebook] Snap might be a good first step but we’d be very behind in both functionality and brand on how one of the core use cases of Facebook will evolve in the mobile world, which is really scary and why we might want to consider paying a lot of money for this._ (Emphasis added.)

90. Later that month, Mr. Zuckerberg wrote in similar terms to David Ebersman, Facebook’s Chief Financial Officer (“CFO”) at the time:

One business questions [sic] I’ve been thinking about recently is how much we should be willing to pay to acquire mobile app companies like Instagram and Path that are building networks that are competitive with our own. These companies have the properties where they have millions of users (up to about 20m at the moment for Instagram), fast growth, a small team (10-25 employees) and no revenue. The businesses are nascent but the networks are established, the brands are already meaningful and if they grow to a large scale they could be very disruptive to us. These entrepreneurs don’t want to sell (largely inspired [by] our success), but at a high enough price -- like $500m or $1b -- they’d have to consider it. Given that we think our own valuation is fairly aggressive right now and that we’re vulnerable in mobile, I’m curious if we should consider going after one or two of them. What do you think about this? (Emphasis added.)

91. Mr. Ebersman cautioned that acquiring a nascent competitor was a poor reason for an acquisition since “someone else will spring up immediately in their place” and “[w]e will
always have upstarts nipping at our heels.” But, as Mr. Zuckerberg explained, Mr. Ebersman was wrong:

_It’s a combination of (1) [i.e., neutralizing a potential competitor] and (3) [integrating acquired products into Facebook]. The basic plan would be to buy these companies and leave their products running while over time incorporating the social dynamics they’ve invented into our core products. One thing that may make [neutralizing a potential competitor] more reasonable here is that there are network effects around social products and a finite number of different social mechanics to invent. Once someone wins at a specific mechanic, it’s difficult for others to supplant them without doing something different. It’s possible someone beats Instagram by building something that is better to the point that they get network migration, but this is harder as long as Instagram keeps running as a product. [Integrating acquired products into FB] is also a factor but in reality we already know these companies’ social dynamics and will integrate them over the next 12-24 months anyway. The integration plan involves building their mechanics into our products rather than directly integrating their products if that makes sense. By a combination of (1) and (3), one way of looking at this is that what we’re really buying is time. Even if some new competitors spring[] up, buying Instagram, Path, Foursquare, etc now will give us a year or more to integrate their dynamics before anyone can get close to their scale again. Within that time, if we incorporate the social mechanics they were using, those new products won’t get much traction since we’ll already have their mechanics deployed at scale. (Emphasis added.)_

92. On March 9, 2012, Mr. Zuckerberg emailed Facebook’s Vice President of Engineering (and later Chief Technology Officer) Mike Schroepfer to let him know that “Kevin [Systrom] from Instagram called me yesterday to talk about selling his [company] to us. He said he thinks he’ll either raise money or sell at $500m.” Mr. Schroepfer replied that “not losing strategic position in photos is worth a lot of money.”

93. Similarly, on April 4, 2012, Ms. Sandberg and other senior managers received an email report that compared usage of Instagram and Facebook Blue on the iPhone, which flagged that “Facebook is not that far ahead [of Instagram] on iPhone.” Ms. Sandberg forwarded the email to Mr. Zuckerberg, noting: “This makes me want Instagram more[.]”

94. Meanwhile, Facebook employees continued their efforts to compete with Instagram by developing a standalone photo-sharing app for the Facebook Blue network. In an email dated
April 3, 2012, Mr. Schroepfer reminded a Facebook engineer, with respect to Facebook’s own photo app: “[W]e need to get into ship mode asap. Not sure if you saw the recent instgram [sic] numbers but we just don’t have much time.” The engineer responded: “Yeah, Instagram stats are scary and we need to ship asap. I’ll communicate to the team that we need to enter into launch mode.”

95. On April 9, 2012, Facebook announced that it had reached an agreement to acquire Instagram for $1 billion, Facebook’s most expensive acquisition as of that date. Facebook paid a premium for Instagram, reflecting the significant threat that Instagram posed to Facebook’s monopoly. The same day, Mr. Zuckerberg wrote privately to a colleague to celebrate suppressing the threat: “I remember your internal post about how Instagram was our threat and not Google+. You were basically right. One thing about startups though is you can often acquire them.”

96. Meanwhile, Facebook employees celebrated the acquisition of an existential threat. For example, on April 10, 2012—two days after the announcement—the head of Facebook’s internal M&A group wrote to Mr. Ebersman emphasizing that Instagram had “done a great job in one of the main tenets of social networking as we know it today (photos), but where social networking is clearly headed (mobile).” He noted that “their growth trajectory is pretty incredible, mark asked them yesterday during their visit when they will reach 100m users and they said their projections are for end of this year.”

97. Other close observers of Facebook recognized that Facebook had neutralized a significant competitive threat by buying Instagram. For example, in an email dated April 12, 2012, a major Facebook shareholder and former Facebook executive wrote to Instagram co-founder Kevin Systrom:

I have been prodding various FB folks, including Zuck, for at least 6 months to do this, do it quickly, and do it at any cost. From my perspective the risk of not buying
you guys (and someone like Google snapping you up) was beginning to make me, and a lot of other major shareholders, extremely uncomfortable. . . . [I]n the last few years [Facebook] allowed [its] core photos product (and its mobile offering) to languish. As a result the photos product never realized its ultimate potential, and worse, it ran the risk of the unthinkable happening - being eclipsed by another network with a “parallel graph”. As you know, photos is the lifeblood of Facebook, propping up the whole network through the usage, interaction, and positive feedback loops it generates, and time on site is directly linked to photo browsing. Going back to 2005, shortly after I launched photos it was generating ~50% of all Facebook page views, a stat which remained fairly steady until the introduction of games on platform. (Emphasis added.)

98. Less than two weeks after the acquisition was announced, Mr. Zuckerberg suggested canceling or scaling back investment in Facebook’s own mobile photo app as a direct result of the Instagram deal, writing in an email dated April 22, 2012: “Examples of things we could scale back or cancel: . . . Mobile photos app (since we’re acquiring Instagram).” And Facebook did indeed allow it to die, making only two updates to it before discontinuing it entirely in 2014.

99. In the wake of the Instagram acquisition, Facebook employees felt that they no longer needed to fear that a personal social networking competitor would emerge using mobile photo-sharing. For example, in an email dated April 23, 2012, a Facebook business development manager wrote to colleagues that he was unconcerned about the apps Camera+ and Hipstamatic because, among other things, “Instagram is clear winner on iOS and would [be] difficult to compete with at this point[.]” In an October 2012 document, a Facebook product director recognized that its ownership of Instagram meant it “effectively dominate[d] photo sharing,” and would not be “require[d] to do much work to maintain or extend” that dominance.

100. Facebook’s acquisition of Instagram neutralized a singularly threatening personal social networking competitor and an increasingly serious threat to Facebook Blue’s monopoly. An investor slide deck dated May 31, 2011, underscored Instagram’s founders’ plan “to develop a
complete social networking service.” Mr. Systrom emphasized the breadth of this vision to Mr. Zuckerberg in private correspondence shortly before the acquisition:

[My vision for Instagram] means not limiting the scope of Instagram to just photos - but to explore other mediums as well which support the original vision of Burbn [Instagram’s original name] being to improve the way we communicate and share in the real world. . . . Is it a next-generation photos app or is it a next-generation communication app? I don’t mean to get overly philosophical, but the limits of our ambitions have really yet to be tested, and I want to see that through at least for now. The desire to have an effect at the scale of FB is real and tangible, and one that is actually quite hard to balance in our minds. (Emphasis added.)

101. Instagram also planned and expected to be an important advertising competitor. An investor slide deck dated May 31, 2011, records Instagram’s plan to earn revenues through mobile advertising. Likewise, in a January 2012 email, Mr. Systrom explained to an external partner: “[W]e believe in the long run brands will pay to either be featured, have their content featured, or run targeted ‘instagrams’ to people as advertisements. Right now we raised enough money that we can work on building a product people love before going to try to sell to advertisers. We want an audience first[.]”

102. By acquiring Instagram, Facebook neutralized Instagram as an independent competitor to Facebook Blue. Since the acquisition, Facebook has taken actions to reduce the impact of Instagram on Facebook Blue, confirming that Instagram is a significant threat to Facebook’s personal social networking monopoly. For instance, after the acquisition, Facebook limited promotions of Instagram that would otherwise have drawn users away from Facebook Blue. This disappointed Mr. Systrom, who complained in a November 2012 email: “you keep mentioning how you can’t promote Instagram until you understand it’s [sic] effect on FB engagement. Who decided this?”

103. Facebook’s Vice President of Growth responded: “Chris [Cox, Vice President of Product,] voiced the concern (which btw I agree with) about instagram’s feed cannibalizing our
own / training users to check multiple feeds—which is why we want to first measure the impact of Instagram’s usage on our engagement / wire things up to make sure it is all accretive. . . . I am not sure growing Instagram blindly through promotions without understanding the impact on FB’s engagement makes sense[.]”

104. Nevertheless, despite Facebook’s efforts to minimize Instagram’s impact on Facebook Blue, Facebook Blue continues to lose ground to Instagram. For example,[Redacted]

105. In sum, Facebook’s acquisition and control of Instagram represents the neutralization of a significant threat to Facebook Blue’s personal social networking monopoly and the unlawful maintenance of that monopoly by means other than competition on the merits. This conduct deprives users of the benefits of competition from an independent Instagram (either on its own or acquired by a third party), including, among other things: the presence of an additional locus of competitive decision-making and innovation; a check on Facebook Blue’s treatment of and level of service offered to users, including ad load and level of privacy; an alternative provider of personal social networking for users untethered from Facebook’s control; and a spur for Facebook to compete on the merits in response. Facebook’s ownership and control of Instagram also maintains a protective “moat” that deters and hinders competition and entry in personal social networking.

106. Facebook cannot substantiate merger-specific efficiencies or other procompetitive benefits sufficient to justify the Instagram acquisition.
2. Facebook Acquired WhatsApp to Neutralize a Competitive Threat to Its Personal Social Networking Monopoly

107. After neutralizing the threat from Instagram, Facebook turned to what it considered “the next biggest consumer risk” for Facebook Blue: the risk that an app offering mobile messaging services would enter the personal social networking market, either by adding personal social networking features or by launching a spinoff personal social networking app. Facebook identified the popular and widely used mobile messaging app, WhatsApp, as the most significant threat in this regard. Once again, though, rather than investing and innovating in an effort to out-compete WhatsApp, Facebook responded to the competitive threat by acquiring it.

108. Facebook’s leadership soon realized that a mobile messaging app that reached sufficient scale could, by adding additional features and functionalities, enter the personal social networking market at competitive scale and undermine or displace Facebook Blue’s personal social networking monopoly. By early 2012, the risk that a successful mobile messaging app available on multiple mobile operating systems could break into personal social networking had become a strategic focus for the company’s leadership. In an April 2012 email, for example, Mr. Zuckerberg identified a troubling global trend of “messaging apps . . . using messages as a springboard to build more general mobile social networks.” And by October 2012, the threat was widely recognized within Facebook, with a Facebook business growth director predicting internally that “[t]his might be the biggest threat we’ve ever faced as a company.”

109. Facebook’s leadership feared that mobile messaging would serve as a path for a serious competitive threat to enter the personal social networking market. For example, in an April 2012 email, a Facebook data scientist noted: “[W]hile these [mobile messaging] apps began as alternatives to SMS, they are increasingly expanding into domains that more closely resemble traditional social-networking services.” A couple of weeks later, he wrote again to colleagues:
“We’re continuing to focus on mobile messenger apps. Two takeaways: several of these apps are trying to expand into more full-fledged social networking; and a number are working on international expansion but with varying degrees of success.” Likewise, in an August 2013 email, the head of Facebook’s internal M&A group warned that “the scary part, of course, is that this kind of mobile messaging is a wedge into broader social activity / sharing on mobile we have historically led in web.”

110. Facebook executives and employees saw this as a serious strategic threat. For example, in an email dated October 4, 2012, Facebook’s Director of Product Management wrote to colleagues on the subject of competition from mobile messaging services: “[T]his is the biggest threat to our product that I’ve ever seen in my 5 years here at Facebook; it’s bigger than G+, and we’re all terrified. These guys actually have a credible strategy: start with the most intimate social graph (i.e. [sic] the ones you message on mobile), and build from there.”

111. Similarly, notes included with a February 2013 Facebook board presentation titled “Mobile Messaging” warned that mobile messaging services were “a threat to our core businesses: both [with respect to] graph and content sharing. [T]hey are building gaming platforms, profiles, and news feeds. [T]hese competitors have all the ingredients for building a mobile-first social network. . . . At its current rate, WhatsApp will be near SMS levels of messaging in 1 year[.]”

112. Mr. Zuckerberg also recognized the strategic value of mobile messaging services as popular and important services in their own right. For example, in April 2012, he wrote: “I actually think that messaging is the single most important app on anyone’s phone. It may not be the biggest business, but it is almost certainly by far the most used app, and therefore it’s a critical strategic point for us.” He continued: “Since we bought Instagram (and extended the close date!), I now feel like we’re ahead in photos but falling increasingly behind in messages.”
113. Facebook’s fears soon focused on WhatsApp, the leading OTT mobile messaging services provider and a significant competitive threat to Facebook Blue’s personal social networking monopoly. Launched in November 2009, WhatsApp’s distinctively strong user experience and top-grade privacy protection had fueled stellar growth. By February 2014, WhatsApp had more than 450 million monthly active users worldwide and was gaining users at a rate of one million per day, placing it “on a path to connect 1 billion people.”

114. Unlike other mobile messaging apps that had built a large user base in parts of Asia but had not made inroads in the West, WhatsApp had not only achieved vast scale in Asia and Europe, but was also building share in the United States. Unlike Apple’s iMessage app, which is confined to the iOS operating system on Apple devices, WhatsApp was available on all the major smartphone operating systems, positioning it as a credible threat to achieve significant cross-platform scale. And unlike traditional SMS, WhatsApp offered a rich content-sharing ability akin to a social network and increased encryption for privacy-conscious users. As a result, by 2014 WhatsApp was the clear “category leader” in mobile messaging and threatened a move or spin-off into the personal social networking market.

115. In a direct effort to prevent WhatsApp from gaining scale, Facebook in the fall of 2011 launched Facebook Messenger, an app that offered OTT mobile messaging services. On the date of its global launch, the product director of Facebook Messenger wrote to his team that: “We have a great shot of competing with Whatsapp on being the app for serious mobile messaging users worldwide. . . . Whatsapp has 15 million (registered?) users. Let’s see how quickly can we get to 10 million daily actives.”
But Facebook soon realized that it was far behind WhatsApp. To improve its performance and usage, Facebook would have had to spend considerable resources to catch up. As Mr. Zuckerberg put it in April 2012:

[R]ight now, aside from Facebook integration, WhatsApp is legitimately a better product for mobile messaging than even our standalone Messenger app. It’s more reliable and faster for sending messages. You get better signal and feedback via read receipts and last seen times. You can even reach most people easily via the contacts integration. . . . [W]hatApp sends more mobile messages per day than we do by more than 2x, and they’re growing about 3x faster week-over-week. This is a big deal. . . . [U]nfortunately for us, I don’t think there’s any way to directly minimize the advantage which is their momentum and growth rate. Their growth comes from the product and network they’ve built, so the best things that we can do is build out our product and network as well and as quickly as we can.

Facebook executives saw clearly that WhatsApp credibly threatened to increase its scale in mobile messaging in the United States as it had already done in Europe and elsewhere. One executive wrote to Mr. Zuckerberg on August 8, 2013: “[I] am really worried . . . these guys [WhatsApp] are the real deal!” He continued: “With the window of opportunity to solve the messaging situation shrinking there are a couple of things we might want to add to messenger 3.0 . . . . I will run it by you offline briefly to get your thoughts / see if we should double down now (it might be now or never given how fast these guys keep growing / the ambitions they are signaling)[..]” Mr. Zuckerberg responded: “[I]f they build substantive features beyond just making SMS free, that could be enough for them to tip markets like the US where SMS is still the primarily [sic] platform.”

Facebook executives and employees repeatedly identified WhatsApp internally as a unique threat to Facebook Blue that it would not be able to forestall through competition via Facebook Messenger. For example:

a. In May 2013, a Facebook director of product growth commented of WhatsApp’s CEO, Jan Koum, that he is “our biggest competitor/threat today[..]”
b. In July 2013, a director of engineering wrote: “‘If we don’t build the thing that kills Facebook, someone else will,’ and that’s WhatsApp (see below). I personally think companies like WhatsApp are Facebook’s biggest threat . . . []”

c. In August 2013, the Vice President of Growth noted: “We are definitely not playing in the same field as whatsapp does . . . . [W]e might be already too late as of today for a ‘start from scratch strategy’ . . . []”

d. In September 2013, the Vice President of Growth wrote further that if WhatsApp became a platform “in a way that makes the user experience better / fuels growth -> we are f.ed / this cements them as leader[.]”

119. Facebook feared not only what WhatsApp would do independently, it also feared what WhatsApp would do in the hands of another purchaser. As Facebook’s Vice President of Growth wrote in October 2012, the “[b]iggest problem would be if it lands in the wrong hands…[.]” Facebook particularly feared an acquisition of WhatsApp by Google. As a manager of engineering and co-founder of a messaging app that Facebook acquired in 2011 warned colleagues in October 2012: “[T]he case for Google acquiring WhatsApp has only gotten stronger in the past 6 months. . . . [I]f [WhatsApp] is acquirable at all, the risks of us not being the acquirer have grown.” Facebook’s Vice President of Growth agreed: “[T]hat is definitely what I would do if I was them…[.]”

120. As with Instagram, Facebook decided to acquire WhatsApp rather than compete with it, in an effort to neutralize a significant competitive threat to its personal social networking monopoly. In April 2012, Mr. Zuckerberg wrote: “[I]’m the most worried about messaging. WhatsApp is already ahead of us in messaging in the same way Instagram was ‘ahead’ of us in photos.” He added: “I’d pay $1b for them if we could get them.”

121. Facebook first reached out to WhatsApp about a potential acquisition in November 2012; and it reached out again in February 2014, this time with more success. On February 19, 2014, Facebook announced an agreement to buy WhatsApp for $19 billion. This valuation
reflected the seriousness of the threat that WhatsApp posed to Facebook’s personal social networking monopoly.

122. For the second time in two years, Facebook employees celebrated the neutralization of an existential competitive threat. In an instant message dated February 19, 2014, a Facebook manager noted approvingly: “[W]orth it. Their numbers are through the roof, everyone uses them, especially abroad it [sic]. Prevents probably the only company which could have grown into the next FB purely on mobile[,] . . . [1]0% of our market cap is worth that[,]” (Emphasis added.)

123. A few days later, a Facebook executive wrote to colleagues summarizing the WhatsApp acquisition as a “land grab”—a significant response to a limited period of competitive vulnerability, rather than something that would have to be repeated regularly in the future:

A big concern expressed is that we are going to spend 5-10% of our market cap every couple years to shore up our position. I like David’s answer that we think this is a “point in time” where change is coming to the mobile landscape. I hate the word “land grab” but I think that is the best convincing argument and we should own that.

124. Outside Facebook, industry analysts also understood that the WhatsApp acquisition had neutralized a significant competitive threat to Facebook. The investment bank SunTrust Robinson Humphrey laid out the case for the deal with remarkable clarity:

[W]e feel it is easy to see why WhatsApp was more than just a “messaging” threat. Much like how the acquisition of Instagram by Facebook was both an offensive and defensive move, we think this acquisition not only expands the company’s [total addressable market] and capabilities but also covers it’s [sic] flank from the fast growing “messaging companies”. At first glance, one may assume that WhatsApp is “merely a texting app”. However WhatsApp is much more, sharing 600m photos, 100m videos, 200m voice messages, and 19B messages per day. Moreover, users can also share locations, places, and communicate 1-to-1 or 1-to-many. Given this functionality by WhatsApp and the focus of Facebook on communication and linking the world’s population, we think WhatsApp and Facebook were likely to more closely resemble each other over time, potentially creating noteworthy competition, which can now be avoided.

125. Another firm, Bernstein Research, noted of the deal:
The “distance” between the WhatsApp mobile stream and Facebook’s mobile Newsfeed is not great and one could see the emergence of another 1 billion user service that could, over time, become a competitor to Facebook for user engagement. As an independent company or as part of another business such as Google, Twitter, or eBay, WhatsApp graph could be extended and used to create a feasible competitor to Facebook.

126. By acquiring WhatsApp, Facebook has suppressed the competitive threat that WhatsApp poses to Facebook’s personal social networking monopoly. Facebook has kept WhatsApp cabined to providing mobile messaging services rather than allowing WhatsApp to become a competing personal social networking provider, and has limited promotion of WhatsApp in the United States. For example,

127. In sum, Facebook’s acquisition and control of WhatsApp represents the neutralization of a significant threat to Facebook Blue’s personal social networking monopoly, and the unlawful maintenance of that monopoly by means other than competition on the merits. This conduct deprives users of the benefits of competition from an independent WhatsApp (either on its own or acquired by a third party), which would have the ability and incentive to enter the U.S. personal social networking market. Moreover, WhatsApp embraced privacy-focused offerings and design, including the principle “of knowing as little about you as possible” and an ads-free subscription model. Such distinctively valuable options for many users would provide an important form of product differentiation for WhatsApp as an independent competitive threat in personal social networking. Facebook’s ownership and control of WhatsApp also maintains a protective “moat” that deters and hinders other mobile messaging apps that could credibly threaten to enter the personal social networking market.
128. Facebook cannot substantiate merger-specific efficiencies or other procompetitive benefits sufficient to justify the WhatsApp acquisition.

129. Facebook’s monopolization through acquisition is ongoing today. Facebook continues to hold and operate Instagram and WhatsApp, which neutralizes their direct competitive threats to Facebook, and continues to keep them positioned to provide a protective “moat” around its personal social networking monopoly. Specifically, Facebook recognizes that so long as it maintains Instagram and WhatsApp operating at scale, it will be harder for new firms to enter and build scale around their respective mechanics. Thus, Facebook benefits from precisely the dynamic that Mr. Zuckerberg emphasized when explaining the value of the Instagram acquisition: “new products won’t get much traction since we’ll already have their mechanics deployed at scale.” Facebook continues to look for other competitive threats and will seek to acquire them unless enjoined from doing so.

B. Facebook Maintained and Enforced Anticompetitive Conditions for Platform Access to Deter Competitive Threats to Its Personal Social Networking Monopoly

130. Even firms as large as Facebook cannot eliminate every competitive threat through acquisition. Facebook therefore supplemented its acquisition campaign with a series of anticompetitive actions designed to protect Facebook’s personal social networking monopoly by hobbling and denying scale to firms that could grow into threats to its monopoly or aid other firms that could do so.

131. As detailed above, Facebook’s decision to allow open interconnections to its platform drove significant benefits to app and web developers and users—and to Facebook. With the wide adoption of Facebook Platform, Facebook became important infrastructure for third-party
apps and obtained immense power over apps’ developmental trajectories, competitive decision-making, and investment strategies.

132. Facebook has used this power to deter and suppress competitive threats to its personal social networking monopoly. In order to protect its monopoly, Facebook adopted and required developers to agree to conditional dealing policies that limited third-party apps’ ability to engage with Facebook rivals or to develop into rivals themselves.

133. Specifically, Facebook required that developers seeking to use Facebook Platform and access commercially significant APIs agree to contractual restrictions imposed by Facebook, including any new or changed restrictions or policies that Facebook imposed over time. These restrictions limited the types of activities developers could engage in using the platform. As detailed below, these restrictions changed over time, but at various points included requirements that developers agree that their apps would not compete with Facebook (including, at relevant times, by “replicating core functionality” offered by a Facebook product) and would not promote competitors. Facebook punished apps that violated these conditions, cutting off their use of commercially significant API functionality, including the Find Friends API, that allowed them to scale their operations and hindering their ability to develop into stronger competitive threats to Facebook Blue. In short, Facebook entered into agreements through which Facebook exchanged valuable access to key APIs for a commitment by those firms to refrain from competing against Facebook.

134. In cutting off developers from key APIs, Facebook made a deliberate decision to sacrifice the benefits that cut-off apps would otherwise bring to Facebook, including ad spend. This sacrifice was made to achieve a longer-term goal for Facebook: extinguishing potential competitive threats and maintaining monopoly power.
1. Facebook’s Anticompetitive Platform Policies, Embodied in Agreements with Developers, Neutralized Competitive Threats from App Developers

135. In its 2012 Annual Report, Facebook disclosed as a significant risk factor to its operations the possibility that “Platform partners may use information shared by our users through the Facebook Platform in order to develop products or features that compete with us. . . . As a result, our competitors may acquire and engage users at the expense of the growth or engagement of our user base, which may negatively affect our business and financial results.”

136. To address this risk, from July 2011 until December 2018, Facebook introduced and maintained a series of anticompetitive policies, embodied in agreements with app developers governing developers’ access to Facebook Platform.

137. In June 2011, Google launched a personal social network called Google+. On July 27, 2011, Facebook responded by introducing a new policy regarding actions that apps accessing the Facebook Platform could take: “Apps on Facebook may not integrate, link to, promote, distribute, or redirect to any app on any other competing social platform.” This policy was intended to harm the prospects for—and deter the emergence of—competition, including personal social networking competitors. Indeed, the immediate impetus for the policy was Google’s launch of the Google+ personal social network. In a July 27, 2011 email, a Facebook manager explained: “[W]e debated this one a lot. In the absence of knowing what and how google was going to launch, it was hard to get very specific, so we tended towards something broad with the option to tighten up as approach and magnitude of the threat became clear.” Later that same day, another Facebook employee protested the anticompetitive move to colleagues: “I think its [sic] both anti user and sends a message to the world (and probably more importantly to our employees) that we’re scared that we can’t compete on our own merits.”
138. In July and August of 2011, Facebook terminated API access of several third-party developers because their apps allowed users to move their Facebook contacts into Google+ or another social network.

139. Following that, Facebook imposed several other policies restricting app developers’ use of Facebook Platform, including Facebook APIs. Through these policies, Facebook used its control over APIs to deter and suppress the threat posed by developers on Facebook Platform.

140. September 2012: no exporting data to competitor social networks. On September 12, 2012, Facebook introduced a new condition to which developers were required to agree: “Competing social networks: You [developers] may not use Facebook Platform to export user data into a competing social network without our permission[.]”

141. January 2013: no promotion / data export to any app that “replicates a core Facebook product or service.” On January 25, 2013, Facebook further revised its standard agreement with app developers to add a new condition that prevented developers from “replicating core functionality” (i.e., competing with Facebook), or assisting others who might do so:

   Replicating core functionality: You may not use Facebook Platform to promote, or to export user data to, a product or service that replicates a core Facebook product or service without our permission.

142. With the implementation of these anti-competition policies, developers who had relied on Facebook’s expressions of openness suddenly found themselves targeted by Facebook. For example, the developers of personal social networking app Path began development in 2010, a time when Facebook was extolling the openness of Platform and inviting even competing apps to interconnect. Similarly, local social network Circle also began development in 2010. For a time, these developers were able to interconnect with Facebook and access Platform APIs to distribute their products.
143. In 2013, Facebook cut off both apps’ access to key API functionality because, it said, they were in violation of the new Platform policies. Both developers made changes to their apps in an attempt to mollify Facebook and thus regain access to crucial APIs, but both were rebuffed. In the case of Circle, one Facebook executive explained to another that its access would not be restored even though Circle had taken steps to address Facebook’s concerns, because Circle was a local social network that might ultimately emerge as a competitive threat: “While I appreciate that Circle has done all of the items below (or agrees to do them), we ultimately still have the replicating core functionality piece, which can’t be ‘fixed.’”

144. Facebook continued to evaluate further Platform restrictions on firms that might pose competitive threats, fueling internal dissent, as well as repeated explicit recognition of the importance of API access to the growth and success of apps and businesses in the Facebook Platform ecosystem. In an email from December 2013, a Facebook software engineer wrote:

[S]o we are literally going to group apps into buckets based on how scared we are of them and give them different APIs? How do we ever hope to document this? Put a link at the top of the page that says “Going to be building a messenger app? Click here to filter out the APIs we won’t let you use!” And what if an app adds a feature that moves them from 2 to 1? Shit just breaks? And a messaging app can’t use Facebook login? So the message is, “if you’re going to compete with us at all, make sure you don’t integrate with us at all.”? I am just dumbfounded.

145. Facebook’s Head of Developer Products responded, noting that Facebook already targeted competitive threats for access restrictions: “[Y]eah, not great, but this already happens to some degree - e.g. Path isn’t allowed to use certain things. . . . [T]he absolute numbers in terms of who is considered a competitor are pretty small.” Another Facebook engineer agreed: “[m]ore than complicated, it’s sort of unethical[,]” while an engineering manager noted: “[w]ell, I agree it is bad[.]” The Head of Developer Products replied: “[S]o, I agree this sucks but you are reading this too absolutely. . . . [R]ealistically only the top 5 messaging apps will ever raise an eyebrow.”
But the software developer was unsatisfied: “[T]hat feels unethical somehow, but I’m having difficulty explaining how. It just makes me feel like a bad person.” The Head of Developer Products replied: “[T]his is kind a [sic] political safety net internally that allows Platform to escape-hatch situations that the rest of the company isn’t happy about.”

146. In sum, Facebook has repeatedly conditioned access to commercially significant API functionality on developers’ agreement to terms that prohibited competition with Facebook. As a general matter, interconnection with developers provides significant benefits to Facebook, including increased user engagement and the financial rewards that come from this, but Facebook provided full interconnection access only to those app developers that would not take acts to competitively threaten Facebook.

147. Facebook’s policy conditions and developer agreement terms changed the incentives of app developers and deterred them from developing competing functionalities or supporting competing personal social networks.

148. Moreover, Facebook knew and expected that API access was sufficiently important to affect the incentives of developers and the developmental trajectories of their apps. Developers were incentivized to make decisions that would not jeopardize their access to Facebook’s APIs. An internal Facebook slide deck dated January 2014 dealing with Facebook Platform policies directly acknowledged the importance of API access, asking whether Facebook was “[c]omfortable altering / killing prospects of many startups[.]”

149. December 2018: removal of explicit anticompetitive conditioning policy. On December 4, 2018, Facebook removed its “core functionality” restrictions. The following day, a Member of the U.K. Parliament published a cache of documents, obtained from litigation between
Facebook and the app Six4Three, highlighting Facebook’s anticompetitive conduct toward app developers.

150. Facebook’s suspension of the explicit anticompetitive conditioning policy in December 2018 was driven by anticipated public scrutiny from the release of the documents and did not represent a disavowal by Facebook of the underlying anticompetitive conduct. On the day that Facebook expected the documents to be made public, the CEO wrote a note to Facebook’s board of directors stating:

Having suspended its anticompetitive platform policies in response to anticipated public scrutiny, Facebook is likely to reinstitute such policies if such scrutiny passes. Indeed, to this day, Facebook continues to screen developers and can weaponize API access in ways that cement its dominance. Moreover, Facebook is likely to reinstitute its conditioning or other, similar anticompetitive practices when it next faces acute competitive pressures from a period of technological transition. Such pressures may arise, for example, around increased use of artificial intelligence or around Facebook’s own view that future dominant technology companies will offer users a compelling “metaverse,” a virtual environment that hosts users in digital spaces—and that, as Mr. Zuckerberg recently said, will be “the successor to the mobile Internet.”

151. There is no government sanction barring Facebook from reinstating its policies, and Facebook’s own representations have proven meaningless on multiple occasions. In fact, since 2012, Facebook has paid heavy penalties relating to misrepresentations to both users and regulatory authorities. For example, the FTC in 2011 alleged, in an eight-count complaint, that
Facebook made deceptive representations to users about how it shares and protects their data. To resolve the allegations, Facebook agreed to a consent order restricting it from making certain misrepresentations about user privacy and obligating it to create a new privacy program. The Decision and Order became final in August 2012. Yet, only a few months after signing the 2012 Consent Order, Facebook reverted to conduct that would lead the FTC to take enforcement action yet again. Following a subsequent investigation, the FTC brought a second action stating that Facebook’s continued failure to protect user privacy and its series of misrepresentations violated the FTC Act and the 2012 Consent Order. To resolve the new charges, Facebook agreed to a settlement requiring that it pay a record-breaking $5 billion penalty and imposing new injunctive provisions set forth in modifications to the Decision and Order, including a new corporate structure with additional privacy compliance channels and oversight layers. In granting the motion to accept the settlement and enter the stipulated order, Judge Timothy Kelly wrote that Facebook’s alleged violations of “both the law and the administrative order is stunning.” United States v. Facebook, Inc., 456 F. Supp. 3d 105, 117 (D.D.C. 2020).

152. Facebook has also previously misrepresented information to other authorities. In 2014, as part of Facebook’s efforts to receive clearance from the European Commission to acquire WhatsApp, Facebook twice represented that it would be unable to establish reliable automated matching between Facebook Blue users’ accounts and WhatsApp users’ accounts. Approximately two years later, however, Facebook updated WhatsApp’s terms of service and privacy policy to allow it to connect WhatsApp users’ phone numbers with Facebook users’ identities. Following an investigation into Facebook’s misrepresentations, the European Commission found that the technical feasibility of matching Facebook Blue and WhatsApp users’ identities already existed at the time of Facebook’s misrepresentations and that Facebook staff were aware of those
capabilities. The European Commission found that Facebook’s repeated misrepresentations deprived the European Commission of relevant information needed for assessing the acquisition. As a result, the European Commission fined Facebook €110 million.

2. *Facebook’s Enforcement of Its Anticompetitive Conditions Deterred Emerging Threats*

153. The terms of Facebook’s agreements with app developers, including as changed over time by Facebook policy updates, themselves impacted app developers’ incentives and ability to compete. App developers generally had to agree to accept the terms in order to use Facebook Platform. Facebook’s inclusion of these restrictive contractual provisions changed developers’ incentives and ability to compete. And Facebook’s decision to aggressively enforce these provisions further ensured the message to developers was crystal clear: competing with Facebook would come at a serious cost. Facebook’s actions to enforce these agreements by cutting off access to commercially valuable API functionality were generally directed against apps in three groups.

154. First, Facebook targeted promising apps that provided personal social networking. For example, Facebook took actions against a personal social networking competitor, Path, which was founded by a former Facebook manager. In or around April 2013, Facebook terminated Path’s access to key API functionality, and Path’s growth subsequently slowed significantly.

155. The second group of targets were promising apps with some social functionality. For example, Circle was an app that was attempting to build a local social network that came to Facebook’s attention in December 2013. In proposing to cut off Circle’s access to key API functionality, a Facebook manager emphasized Circle’s competitive promise: “Circle positions itself as the ‘local social network’ and has seen some strong growth over the last four days (+800K downloads yesterday, +600K FB logins yesterday, #1 in the App Store in the UK).” While Facebook claimed externally that the termination was because Circle had “spammed” users,
internal correspondence after Circle had resolved the spam problems revealed the real reason was because Circle posed a threat: “They are duplicating the [social] graph - and doing a rather excellent job if [sic] it . . . . They are also very directly creating a competing social network on top of that graph.” Indeed, Facebook continued to withhold access to API functionality after Circle remedied concerns that Facebook had flagged, with a Facebook manager stating: “While I appreciate that Circle has done all of the items below (or agrees to do them), we ultimately still have the replicating core functionality piece, which can’t be ‘fixed’.” Over the following weeks, Circle’s daily new users dropped from six hundred thousand per day to nearly zero.

156. Similarly, in January 2013, Facebook’s Director of Platform Partnerships and Operations wrote to colleagues: “[T]witter launched Vine today which lets you shoot multiple short video segments to make one single, 6-second video. As part of their NUX [new user experience], you can find friends via FB. Unless anyone raises objections, we will shut down their friends API access today. [W]e’ve prepared reactive PR, and I will let Jana know our decision.” Mr. Zuckerberg replied: “[Y]up, go for it.” By cutting off Vine, Facebook prevented it from accessing important API functionality that would have helped it grow.

157. The third group of targets were promising apps that offered mobile messaging services, that were existing competitors of Facebook Messenger, or that threatened to develop into competitive threats to Facebook Blue. Throughout 2013 and beyond, Facebook blocked mobile messaging, video, and photo apps from using commercially significant API functionality:

a. In January 2013, Facebook cut off key API access to Voxer, a mobile messaging app featuring voice communication, shortly after Facebook Messenger launched competing voice functionality. Following the cutoff, Voxer shifted away from consumer-facing mobile messaging and pivoted to push-to-talk business communications.

b. In February 2013, messaging app MessageMe soared in popularity and achieved nearly one million users within a week of release. But shortly after MessageMe reached one
million users, Facebook shut off key API access. Following the cutoff, MessageMe stagnated and eventually shut down.

c. In August 2013, Facebook undertook an enforcement strike against a number of messaging apps simultaneously, with the Head of Developer Enforcement directing colleagues to restrict them from “accessing any read APIs beyond basic info[,]” instructing that “we will not be communicating with the [developers] in any way about these restrictions.”

d. In October 2016, Facebook cut off certain API functionality to Tribe, a videomessaging app that was generating buzz around that time.

158. Facebook’s enforcement of its anticompetitive conditions on Platform access hindered the ability of individual businesses to grow and threaten Facebook’s personal social networking monopoly.

159. Facebook’s enforcement actions also alerted other apps that they would lose access to commercially significant Facebook APIs if they, too, posed a threat to Facebook’s personal social networking monopoly. For instance, one third-party app contacted Facebook about its Platform practices soon after Facebook cut off Vine. A Facebook manager reported internally about the third-party app: “They’re super concerned about the viability of relying on our platform moving forward when there’s this lingering chance that we can shut them down under grounds like this.”

160. Collectively, Facebook’s announcement and enforcement of its anticompetitive agreements have served to hinder, suppress, and deter the emergence of promising competitive threats to its U.S. personal social networking monopoly. Accordingly, this exclusionary conduct has contributed to the maintenance of Facebook’s U.S. personal social networking monopoly. By deterring entry by other apps and excluding developers whose apps threatened to compete with it, Facebook solidified the network effects that insulate it from competition—effects that persist to this day.
161. Facebook’s actions, individually and in the aggregate, have suppressed the ability and incentive of apps operating on Facebook’s Platform to become competitive threats to Facebook—and its personal social networking monopoly—in at least two ways. First, the terms of the Facebook-mandated agreements that app developers were required to enter in order to access Facebook’s APIs changed developers’ incentives, deterring them from developing features and functionalities that would present a competitive threat to Facebook, or from working with other platforms that might compete with Facebook. Second, enforcement of the agreements—i.e., the actual termination of API access for apps that attracted Facebook’s attention as potential competitive threats—hindered the ability of individual businesses to threaten Facebook’s personal social networking monopoly.

162. There are no procompetitive benefits sufficient to justify the anticompetitive conditioning of access to Facebook Platform.

VI. FACEBOOK’S MONOPOLY POWER

163. Facebook holds monopoly power in the provision of personal social networking in the United States and has held such power continuously since at least 2011. Multiple sources of evidence demonstrate that Facebook has monopoly power with respect to U.S. personal social networking services. First, Facebook has maintained a dominant share of the relevant market for U.S. personal social networking from 2011 until the present day. Second, direct evidence indicates that Facebook has monopoly power with respect to U.S. personal social networking services. Further, Facebook’s monopoly power is durable due to significant entry barriers, including direct network effects and high switching costs.
A. Personal Social Networking in the United States Is a Relevant Market

164. The provision of personal social networking services in the United States is a relevant market.

165. Personal social networking services are a relevant product market. Personal social networking services consist of online services that enable and are used by people to maintain personal relationships and share experiences with friends, family, and other personal connections in a shared social space. Personal social networking services are a unique and distinct type of online service. Three key elements distinguish personal social networking services from other forms of online services provided to users.

166. First, personal social networking services are built on a social graph that maps the connections between users and their friends, family, and other personal connections. The social graph forms the foundation upon which users connect and communicate with their personal connections, and can reflect friendships, online conversations, a desire to see someone’s updates, visits to places, and other shared connections to personal interests and activities, including groups, locations, businesses, artists, and hobbies. Personal social networking providers use the social graph as the backbone for the features they offer users, including the two other key elements of personal social networking discussed below.

167. Second, personal social networking services include features that many users regularly employ to interact with personal connections and share their personal experiences in a shared social space, including in a one-to-many “broadcast” format. In this shared social space, which may include a news feed or other similar feature, users share content—such as personal updates, interests, photos, news, and videos—with their personal connections. Personal social networking providers can use the social graph to inform what content they display to users in the
shared social space and when. This generally applies to all forms of content on the personal social networking service, including user-created content like user “news feed” posts, publisher-created content like news articles, and advertisements.

168. Third, personal social networking services include features that allow users to find and connect with other users, to make it easier for each user to build and expand their set of personal connections. The social graph also supports this feature by informing which connections are suggested or available to users. Within the United States, the most widely used personal social networking services are Facebook Blue, Instagram, and Snapchat.

169. The relevant geographic market is the United States. The United States is a relevant geographic market for personal social networking services due to several factors, including differences in broadband access and social norms that vary at the country level. In addition, network effects between users are generally stronger between users in the same country, because for most users the vast majority of relevant friends, family, and other personal connections reside in the same country as the user. Accordingly, users in the United States predominantly share content with other users in the United States. For users in the United States, a personal social networking service that is not popular in the United States, even if it is popular in another country, is therefore not reasonably interchangeable with a personal social networking service that is popular in the United States. Facebook and other industry participants recognize these distinctions and track their performance, and that of rivals, separately by country.

170. As described below, other types of internet-based services available in the United States that facilitate the sharing or consumption of content are not adequate substitutes for personal social networking services.
171. Personal social networking is distinct from, and not reasonably interchangeable with, mobile messaging services. Mobile messaging services do not feature a shared social space in which users can interact, and do not rely upon a social graph that supports users in making connections and sharing experiences with friends and family. Indeed, users of mobile messaging services generally do not and cannot query a mobile messaging service to find contact information they do not already possess, nor can they query the service to find other users connected to the people, places, things, and interests that matter to them. Instead, users of mobile messaging services employ such services primarily to send communications to a small and discrete set of people generally limited to a set of contacts entered by each user. Mr. Zuckerberg described this distinction in a 2019 post, calling personal social networking providers like Facebook Blue “the digital equivalent[] of the town square,” and contrasting the private communication offered by mobile messaging apps like WhatsApp as “the digital equivalent of the living room.”

172. Personal social networking is distinct from, and not reasonably interchangeable with, specialized social networking services that are designed for, and are utilized by users primarily for, sharing a narrow and highly specialized category of content with a narrow and highly specialized set of users for a narrow and distinct set of purposes. As a result, users employ these services primarily to maintain or communicate with a distinct or narrow set of connections—like engaging in professional networking—and not to connect with friends and family and share the experiences of their personal daily lives. Examples include networks that focus on professional (e.g., LinkedIn) or interest-based (e.g., Strava) connections. Other examples of services that users view as appropriate for limited sharing with a narrow set of connections include some online dating services and Nextdoor, a service which focuses on facilitating sharing only among users that reside in close physical proximity to one another.
173. Personal social networking is distinct from, and not reasonably interchangeable with, online services that focus on the broadcast or discovery of content based on users’ interests rather than their personal connections. Prominent examples are Twitter, Reddit, and Pinterest. These services do not focus on connecting friends and family: Twitter focuses on enabling users to stay informed about topics that interest them, while Reddit facilitates conversations centered around topics of interest to the participants. As a result, users employ these services primarily to stay informed about and discuss events relevant to their interests (e.g., Twitter), or engage in conversations with communities of mostly anonymous people who share a particular interest (e.g., Reddit), rather than to connect with friends, family, and other personal connections. Therefore, such services are not reasonable substitutes for personal social networking services. In a similar vein, Pinterest allows users to browse content by conducting searches based on their interests, and allows connections based on such interests, but does not focus on connecting users with friends and family and therefore is not an adequate substitute for personal social networking services that do so.

174. Personal social networking is distinct from, and not reasonably interchangeable with, online services focused on video or audio consumption such as YouTube, Spotify, Netflix, and Hulu. Users employ such services primarily for the passive consumption of specific media content (e.g., videos or music) from and to a wide audience of typically unknown users. These services are not used primarily to communicate with friends, family, and other personal connections, and therefore are not adequate substitutes for personal social networking services that do so.

175. TikTok is a prominent example of a content broadcasting and consumption service that is not an acceptable substitute for personal social networking services. TikTok users primarily
view, create, and share video content to an audience that the poster does not personally know, rather than connect and personally engage with friends and family. The purpose for which users employ TikTok, and the predominant form of interaction on the platform, is not driven by users’ desire to interact with networks of friends and family.

176. Facebook’s own statements and internal documents indicate that it understands the distinction between personal social networking services and other services. In a July 2009 email to Apple, Facebook’s head of mobile business explained to an Apple representative that:

In February 2015, a Facebook executive reported to Mr. Zuckerberg that her team had analyzed

Similarly, in January 2019, Facebook assessed internally that

177. Facebook’s own statements and internal documents also indicate that it recognizes that Facebook Blue is providing personal social networking services, and that personal social networking services are the predominant value and use of Facebook Blue to users. For example, from the beginning, Mr. Zuckerberg has described Facebook Blue as being “about real connections to actual friends, so the stories coming in are of interest to the people receiving them, since they are significant to the person creating them.” More recently, in August 2020, Mr. Zuckerberg testified that “the use cases that we’ve focused on the most over time are helping you connect . . .
with your friends and family.” Similarly, Ms. Sandberg testified in September 2020 that the value Facebook Blue provides to its users is “helping you stay in touch with friends and family and helping you know what’s going on with them in a very efficient way.”

Likewise, internal documents from 2014 and 2015 indicate that Facebook focused on optimizing Facebook Blue to prioritize

178. Instagram provided personal social networking at the time Facebook acquired it. Instagram’s founders set out to build a “mobile social network” and succeeded in doing so. Since its founding, Instagram has provided the defining features of personal social networking, including maintaining a social graph with personal connections, enabling users to interact with their personal connections and share their personal experiences via a shared social space, including in a one-to-many “broadcast” format, and offering features that allow each user to find and connect with other users in order to build a network of personal connections. Additionally, recent internal documents indicate that Facebook has optimized Instagram to prioritize

179. Providers of personal social networking typically sell advertising spots that they display to their users. Any positive indirect network effects (i.e., increases in the value of one service as a function of usage of another) between a personal social networking provider’s services to users and its sale of advertising to advertisers operate in only one direction: users either are indifferent to the amount of advertising that the personal social networking provider displays, or would prefer fewer or no advertisements.
B. Facebook’s Dominant Share of the U.S. Personal Social Networking Market

180. Facebook provides personal social networking to users via its Facebook Blue and Instagram services, and has been the dominant provider of such services since at least 2011. Further, Facebook Blue and Instagram are the two largest personal social networking services in the United States.

181. Facebook Blue has been the dominant and largest personal social networking service in the United States since at least 2011. Based on analysis of data maintained by Comscore,\(^1\) a commercially-available data source, in every month of last year, more than [redacted] people in the United States visited Facebook Blue, with U.S. users spending in total an average of more than [redacted] minutes per day on the service. Further, in 2020, over [redacted] of U.S. internet users in each month, on average, used Facebook Blue.

182. Since the 2012 acquisition, Facebook has also controlled Instagram. Based on analysis of Comscore data, last year more than [redacted] people in the United States used Instagram each month, with U.S. users spending in total an average of more than [redacted] minutes per day on the service. Further, in 2020, approximately [redacted] of U.S. internet users in each month, on average, used Instagram.

183. After Facebook, Snapchat is currently the next-largest provider of personal social networking services in the United States. Launched in 2011, Snapchat worked to differentiate itself as a mobile messaging service, in particular by offering users the ability to send their contacts “ephemeral” messages that are available for only a short time before becoming inaccessible. Snapchat has added features over time, and now, unlike consumption-focused services (e.g., TikTok), and typical of personal social networking services, Snapchat provides a shared social space that users employ to engage in personal sharing with friends and acquaintances.
184. Snapchat’s user base and engagement level are only a fraction of the size of those of Facebook Blue and Instagram. Based on analysis of Comscore data, last year an average of about [number] people per month used Snapchat in the United States, spending in total an average of roughly [number] minutes per day on the service. By comparison, this represents only about [fraction] of the time that users spent on Facebook Blue. Further, in 2020, only about [number] of U.S. internet users in each month, on average, used Snapchat.

185. Other smaller personal social networking services have launched from time to time in the United States, but have not gotten significant traction and pale in size compared to Facebook. For example, MeWe launched in 2016 with the tagline “No Ads. No Tracking. No BS.” MeWe provides personal social networking services without advertising, but charges users for additional storage and premium features. Based on analysis of Comscore data, last year an average of only [number] people per month visited MeWe in the United States, spending in total an average of less than [number] minutes per day on the service. By comparison, this represents less than [fraction] of the time users spend on Facebook Blue. Further, in 2020, less than [number] of U.S. internet users in each month, on average, used MeWe.

186. Underscoring the significant barriers to entry, multiple firms—including even well-known, sophisticated, and well-financed firms—have also tried but failed to successfully enter the U.S. personal social networking market. For instance, in June 2011, Google launched Google+, a personal social networking offering. The entry of Google+ into the U.S. personal social networking market initially triggered a significant response from Facebook, offering insights into the potential benefits of a non-monopolized relevant market. For example, Ms. Sandberg remarked internally within weeks of the launch of Google+: “For the first time, we have real competition and consumers have real choice.”
we will have to be better to win.

Consistent with this, Facebook executives scrambled to react to Google+—mobilizing efforts to improve user satisfaction with Facebook Blue, including rolling out features to give users greater control over their information.

187. Despite Facebook’s early concern, however, Google+ failed to gain significant traction after its launch. Facebook commented internally in December 2011 about the entry barriers that appeared to be blocking the growth of Google+: “People who are big fans of G+ are having a hard time convincing their friends to participate because 1/ there isn’t yet a meaningful differentiator from Facebook and 2/ switching costs would be high due to friend density on Facebook.” Facebook’s initial concern with and reactions to Google+ therefore dissipated within months of its launch. Google+ continued to operate but without meaningful traction, and it was ultimately shuttered by Google in 2019.

188. Other providers have, like Google+, also exited the U.S. personal social networking services market. Now-defunct providers include Friendster, Myspace, Orkut (which was owned and operated by Google), and Path. Friendster and Myspace achieved popularity in the United States prior to Facebook’s launch and rise in the mid-2000s, but they were surpassed by Facebook by early 2009. Orkut and Path launched after Facebook and, like Google+, failed to attract a mass of users sufficient to sustain the product. Both products were discontinued by the end of 2018.

189. Facebook has today, and has maintained since 2011, a dominant share of the relevant market for U.S. personal social networking services, as measured using multiple metrics: time spent, daily active users (“DAUs”), and monthly active users (“MAUs”). Individually and
collectively, these metrics provide significant evidence of Facebook’s durable monopoly power in personal social networking services since at least 2011.

190. Measurements of a personal social networking service’s active user base and how much users use the service are appropriate measurements of market shares and market power for personal social networking services. This is true for several reasons.

191. First, a personal social networking service’s attractiveness to users, and therefore its competitive significance, is related to its number of users and to how intensively its users engage with the service. A consumer is more likely to use and engage with, and less likely to switch away from, a personal social networking service that offers the opportunity to share and engage with a larger number of the person’s friends and family. Facebook’s ordinary course documents recognize the unique value of a network that facilitates connections and communications between friends and family. A personal social networking provider’s ability to offer this opportunity is indicated by its number of users, and by how intensively its users engage with the service.

192. Second, in the ordinary course of business, Facebook’s executives and investors, rival personal social networking providers, and industry observers have assessed the performance of Facebook Blue, Instagram, and other personal social networking providers using measures of active user base and how much people use the services—with DAUs, MAUs, and the amount time spent by users on the service being common units of measure.

193. For example, Facebook’s internal presentations assessing the performance of Facebook Blue and Instagram focus on time spent per month, MAUs, and DAUs. And Facebook relies on these same metrics to assess its rivals’ competitive significance. For example, Mr. Zuckerberg was provided with such metrics when he sought an assessment of in , asking two of his top executives: 
In response, Mr. Zuckerberg’s lieutenants provided him with an analysis of metrics in different geographic regions, including the United States, based on metrics including MAUs and share of time spent, as well as its “reach,” or the percentage of internet users who used the product in a particular month within a particular geographic area.

194. Other firms that offer or have offered personal social networking services, including , have also used MAUs, DAUs, and time spent to gauge their own growth and the performance of others. For example, recent ordinary course documents compare the performance of and by observing the firms’ MAUs, DAUs, and time spent, among other metrics. Similarly, tracked the performance of both and using MAUs, DAUs, and time spent. When evaluating a potential acquisition of a personal social networking provider, also evaluated the target company’s MAUs, DAUs, and time spent.

195. Commercial data sources track the usage of online services within the United States, including metrics like MAUs, DAUs, and time spent. For example, Comscore is a commercial data provider that directly observes the online behavior of large panels of internet users, as well as trillions of monthly interactions on tagged websites and apps, and extrapolates industry statistics based on panel behavior and tagged traffic. Comscore data is relied upon by industry participants and observers, including Facebook, to assess the usage of online services within the United States and elsewhere.

196. Facebook itself relies on such commercial data sources to track the performance of Facebook Blue and Instagram. For example, multiple internal Facebook presentations cite
Comscore as the source for metrics such as time spent, and Facebook has relied on Comscore statistics as inputs to prepare important materials for Mr. Zuckerberg.

197. Analysis of commercial data tracking online services in the United States indicates that Facebook (through Facebook Blue and Instagram) has had a dominant share of the relevant market for personal social networking services in the United States since 2011, whether measured using time spent, MAUs, or DAUs.

198. Specifically, Facebook’s share of the time spent by users of apps providing personal social networking services in the United States has exceeded 80% since 2012 and was at least as high in 2011. In particular:

a. Analysis of data maintained by Comscore indicates that, from September 2012 through December 2020, Facebook’s share of time spent by users of apps providing personal social networking services in the United States has averaged % per month, and did not drop below % in any month. The combined shares of other providers, including Snapchat, Google+, Myspace, Path, MeWe, Orkut, and Friendster, did not exceed % in any month during this period.

b. Data from Comscore maintained in Facebook’s files from 2011 indicates that Facebook’s share of time spent by users of apps providing personal social networking services was at least as high as it was in the later 2012 to 2020 period described above.

199. Facebook’s share of DAUs of apps providing personal social networking services in the United States has exceeded 70% since 2016 and was at least as high in 2011. In particular:

a. Comscore maintains daily visitor data separately for each of smartphones, tablets, and desktop computers. Analysis of data maintained by Comscore indicates that, from September 2016 through December 2020, Facebook’s share of DAUs among apps providing personal social networking services in the United States averaged % per month for smartphones, % per month in tablets, and % per month for desktop computers. Facebook’s share of DAUs has not dropped below % in any month on any device-type. The combined shares of other providers, including Snapchat, Google+, Myspace, Path, MeWe, Orkut, and Friendster, did not exceed % on any device type during any month in this period.
b. Periodic snapshots of data from Comscore maintained in Facebook’s files from 2011 indicate that Facebook’s share of DAUs among apps providing personal social networking services was at least as high as it was in the later 2016 to 2020 period described above.

200. Facebook’s share of MAUs of apps providing personal social networking services in the United States has exceeded 65% since 2012 and was at least as high in 2011. In particular:

a. Comscore maintains monthly visitor data separately for mobile devices (including smartphones and tablets) and desktop computers. Analysis of data maintained by Comscore indicates that, from September 2012 to December 2020, Facebook’s share of MAUs among apps providing personal social networking services in the United States averaged % per month on mobile devices and % per month on desktop. During this period, Facebook’s share of MAUs did not drop below % in mobile or % in desktop in any month. The combined shares of other providers, including Snapchat, Google+, Myspace, MeWe, Path, Orkut, and Friendster, did not exceed % on either device type, mobile or desktop, in any month during this period.

b. Data from Comscore maintained in Facebook’s files from 2011 indicates that Facebook’s share of MAUs among apps providing personal social networking services was at least as high as it was in the later 2012 to 2020 period described above.

201. As indicated above, Facebook recognizes that Facebook Blue and Instagram are predominantly used as personal social networking services. Contrary to that, even if one were to assume, arguendo, that half of the time that U.S. users spend on Facebook Blue and Instagram was not in fact spent using personal social networking services, Facebook would still have maintained a dominant share of the U.S. personal social networking market. Specifically, analysis of Comscore time spent data indicates that, even assuming that U.S. users spend only half of their time on Facebook Blue and Instagram using personal social networking services—while U.S. users spend all of their time on Snapchat, MeWe, Path, Orkut, Google+, Myspace, and Friendster using personal social networking services—Facebook’s share of time spent on U.S. personal social networking services in each month would still have averaged % since September 2012, and would have been approximately % at its lowest.
202. Other antitrust authorities have also used time spent, MAUs, DAUs, or combinations of those metrics to assess the competitive significance of Facebook in their countries and have concluded that Facebook has market power with respect to offering a user service in their countries. For example:

a. In 2020, the United Kingdom’s Competition and Markets Authority (“CMA”) concluded that “Facebook has significant and enduring market power in social media” within the United Kingdom. The CMA’s conclusion that Facebook possessed significant market power was based in part on commercially available data, from Comscore, indicating time spent by users on Facebook services and Facebook’s reach among U.K. internet users. The CMA determined that Facebook, including WhatsApp, accounted for more than 70% of the time that U.K. users aged 13 and over spent on social media platforms as of February 2020 and “around 75%” of time spent on social media for a number of years. The CMA also observed that Facebook apps reached over 85% of U.K. internet users.

b. In 2019, Germany’s Federal Cartel Office (Bundeskartellamt or “BKartA”) determined that Facebook’s data terms of service constituted “an abuse of a dominant position on the market for social networks for private users.” In reaching its determination that Facebook had a dominant position for social networking services within Germany, BKartA relied in part on assessments of DAUs and MAUs of Facebook and other firms within Germany. BKartA concluded that from 2012-2018, for social networking providers within Germany, Facebook enjoyed a DAU share of above 90% and a MAU share above 70%.

c. In 2019, the Australian Competition and Consumer Commission (“ACCC”) published the results of its Digital Platforms Inquiry which, among other things, assessed Facebook’s “market power” within Australia based on, among other factors, monthly users of social media services within Australia and the time that users spend engaging with the services. Specifically, the ACCC conducted a survey to assess the percentage of digital platform users who used various platforms on a daily basis, and commercially available information regarding Facebook’s monthly audience and time spent. The ACCC concluded, inter alia, “Facebook is insulated from dynamic competition by barriers to entry and expansion, advantages of scope, and its acquisition strategies.” Among other factors relevant to barriers to entry, the ACCC found that “[t]he size of Facebook’s audience is more than three times larger than the size of Snapchat’s audience (the closest competitor to the Facebook platforms). This network effect creates a significant barrier to entry and expansion.”

203. DAUs and MAUs do not reflect a person’s intensity of use of two different personal social networking services within a day (for DAUs) or within a month (for MAUs). As described
herein, DAUs and MAUs are nonetheless measures used by Facebook, and other industry participants and observers, to assess the competitive performance of Facebook and other personal social networking providers. Further, the greater intensity of use of Facebook is established by its predominant share of time spent throughout the relevant period. As such, any imprecision in intensity of use reflected in the DAU and MAU measurements understates Facebook’s competitive significance. Even so, Facebook has had a dominant share of DAUs and MAUs during the relevant period.

C. Direct Evidence, Including Historical Events and Market Realities, Confirms that Facebook Has Market Power

204. Multiple sources of other evidence indicate and confirm that Facebook wields significant market power with respect to providing personal social networking services in the United States.

205. First, historical events indicate that even when Facebook’s conduct has caused significant user dissatisfaction, Facebook does not lose significant users or engagement to competitors. This is an indicator of market power. For instance, after news broke in 2018 that Facebook user data had been secretly harvested by a firm known as Cambridge Analytica, Facebook’s ability to withstand significant user dissatisfaction while experiencing a minimal loss of user engagement on Facebook Blue indicates inelastic demand and market power.
206. More generally, Facebook has also engaged in other activities that have degraded the user experience, including the misusing or mishandling of user data. For example, the FTC charged Facebook with engaging in a range of serious user privacy and related abuses in 2012 and 2019, and both times Facebook agreed to Consent Orders (and, in 2019, to pay a $5 billion penalty). Facebook’s ability to harm users by decreasing product quality, without losing significant user engagement, indicates that Facebook has market power.

207. Second, despite causing significant customer dissatisfaction, Facebook has enjoyed enormous profits for an extended period of time, suggesting both that it has monopoly power and that its personal social networking rivals are not able to overcome entry barriers and challenge its dominance. Since 2011, Facebook has sustained high profits and market capitalization. In 2020, for example, Facebook was the world’s sixth largest public company by market capitalization and generated $29 billion in profits worldwide on approximately $85 billion in revenue—of which $42 billion in revenue was generated in the United States and Canada. In the fourth quarter of 2020, Facebook reported its average revenue per user (“ARPU”) was $53.56 in the United States and Canada. Since 2013—its first full year as a public company—Facebook’s profit margin has significantly exceeded that of the average of the firms that make up the S&P 500, as well as that of the firms in the S&P 500 information technology sector. Facebook’s durable monopoly power over users is a significant driver of these profits. And investors appear to believe that Facebook’s monopoly power will persist: its exceptional market cap indicates an expected stream of high profits for many years to come.

208. Facebook’s profits massively outstripped equivalent figures from personal social networking rivals in the United States. Snapchat, for example, has never recorded a profit. In 2020, Snapchat reported an overall net loss of $944.8 million on approximately $2.5 billion of
revenue. Approximately $1.6 billion of that revenue was generated from users within the United States. In the fourth quarter of 2020, Snapchat’s reported ARPU was $7.19 in North America.

209. Facebook’s monopoly power is further demonstrated by its ability to crush the prospects of application developers by enforcing restrictive policies that deny potential competitive threats access to Facebook’s enormous base of personal social networking users. As detailed above, Facebook undertook a series of actions to prevent apps that it viewed as competitive threats from interconnecting with Facebook’s Platform. As a result, apps were unable to emerge as meaningful competitive constraints on Facebook’s monopoly power, and in several instances they shut down entirely. Facebook’s ability to exclude firms that could emerge as or aid competitive threats is direct evidence of its monopoly power.

210. Facebook’s ability to harm app developers’ prospects derives from—and illustrates—its dominance of personal social networking services, as a Facebook executive summarized in a May 2012 email to Facebook COO Sheryl Sandberg: “Because we have this critical mass of people, that attracts new people to sign up, it attracts developers who want to find customers for their apps and websites, and it attracts advertisers [who] want to reach the audience.” According to the executive, as early as 2012 Facebook had “[r]eached a size now where you can imagine as a developer that most of your current and future users/customers are on Facebook[,]” noting that “[7] of the top 10 apps in the Apple App store are Facebook enabled[.]”

D. Facebook’s Dominant Position is Protected by Barriers to Entry

211. Facebook’s dominant position in the U.S. personal social networking market is durable due to significant entry barriers, including direct network effects and high switching costs. Direct network effects refer to user-to-user effects that make a personal social network more valuable as more users join the service. Direct network effects are a significant barrier to entry
into personal social networking. Specifically, because a core purpose of personal social networking is to connect and engage with personal connections, it is very difficult for a new entrant to displace an established personal social network in which users’ friends and family already participate. As a Facebook executive expressed succinctly in May 2012:

Mr. Zuckerberg himself also recognized the significant advantage Facebook enjoyed due to these structural barriers, writing in April 2012:

212. In addition to facing these network effects, a potential entrant in personal social networking services would also have to overcome the high switching costs faced by users. Over time, users of Facebook’s and other personal social networks build more connections and develop a history of posts and shared experiences, which they cannot easily transfer to another personal social networking provider. Further, these switching costs can increase over time—a “ratchet effect”—as each user’s collection of content and connections, and investment of effort in building each, continually builds with use of the service. Indeed, a Facebook ordinary course document notes that there are

213. Facebook’s dominance among U.S. personal social networking providers in time spent, DAUs, and MAUs suggest that it benefits from strong direct network effects, reinforcing its dominance and making potential rivals’ entry more difficult.

214. Moreover, Facebook’s internal data confirms that it benefits from ratchet effects that have strengthened over time. As one indication, the number of Facebook friends per monthly
active Facebook Blue user (measured on the first day of each month) in the United States increased from [redacted] in January 2009 to [redacted] in October 2019.

215. Facebook has long recognized that users’ switching costs increase as users invest more time in, and post more content to, a personal social networking service. For example, in January 2012, a Facebook executive wrote to Mr. Zuckerberg: “one of the most important ways we can make switching costs very high for users - if we are where all users’ photos reside . . . will be very tough for a user to switch if they can’t take those photos and associated data/comments with them.” Facebook’s increase in photo and video content per user thus provides another indication that the switching costs that protect Facebook’s monopoly power remain significant. From 2012 to 2018, Facebook’s average number of images posted per MAU increased by more than [redacted]%, and its average number of videos posted per MAU increased by [redacted]%

216. Facebook’s anticompetitive conduct has further buttressed barriers to entry. Facebook’s acquisition of Instagram and WhatsApp created a “moat” that protects Facebook from entry into personal social networking by another firm via mobile photo-sharing or mobile messaging. And Facebook’s conditions governing app developers’ access to Facebook Platform created roadblocks for potential rivals that might have emerged as competitive threats.

VII. HARM TO COMPETITION AND CONSUMERS FROM FACEBOOK’S CONDUCT

217. Through the conduct described above, Facebook has hindered, suppressed, and deterred the emergence and growth of rival personal social networking providers and unlawfully maintained its monopoly in the U.S. personal social networking market through means other than competition on the merits.
218. Through the conduct described above, Facebook has excluded potential competitors from effective distribution channels and thus denied these firms the scale needed to emerge as meaningful competitors in the U.S. personal social networking market.

219. The conduct described above harmed, and continues to harm, competition by limiting and suppressing competition that Facebook otherwise would have to face in the provision of personal social networking. As a result, users of personal social networking in the United States have been deprived of the benefits of competition for personal social networking.

220. Competition benefits users in some or all of the following ways: additional innovation (such as the development and introduction of new features, functionalities, and business models to attract and retain users); quality improvements (such as improved features, functionalities, integrity measures, and user experiences to attract and retain users); and consumer choice (such as enabling users to select a personal social networking provider that more closely suits their preferences, including, but not limited to, preferences regarding the amount and nature of advertising, as well as the availability, quality, and variety of data protection privacy options for users, including, but not limited to, options regarding data gathering and data usage practices).

221. Consumers have been harmed by the lack of sufficient competitive constraints on Facebook, which has enabled Facebook to exercise its monopoly power. Without meaningful competition, Facebook has been able to provide lower levels of service quality on privacy and data protection than it would have to provide in a competitive market.

222. Facebook’s continuing illegal monopoly power, and the harms to consumers that flow from it, are particularly intractable given that its illegitimate monopoly is buttressed by strong network effects. Competition can be restored only via an injunction that is tailored to counter these effects.
223. The harm to consumers from Facebook’s conduct is particularly severe because Facebook increased barriers to entry and excluded competition during a critical period of technological transition in which nascent competitors could have effectively challenged Facebook’s monopoly power. Facebook’s anticompetitive conduct stunted innovation and the development of new products that could have disrupted Facebook’s monopoly during this period of transition.

224. By monopolizing the U.S. market for personal social networking, Facebook also harmed, and continues to harm, competition for the sale of advertising in the United States. In particular, because personal social networking providers typically monetize their platform through the sale of advertising, Facebook’s suppression of competing personal social networking providers has also enabled Facebook to avoid close competition in the supply of advertising services. This has had predictable results on the value that Facebook provides to advertisers: for example, Facebook has been repeatedly criticized for its non-transparent and sometimes unreliable advertising reporting metrics, and for the prevalence of fake accounts on its platform, which undermines advertisers’ ability to assess the effectiveness of their ads.

225. Competing personal social networking providers would have been close competitors of Facebook Blue in the supply of advertising. This is because they would have been able to offer the distinctive advertising features described above that distinguish social advertising from other forms of display advertising, search advertising, and “offline” advertising. Instagram and WhatsApp, in particular, were each well-situated to develop into meaningful competitive constraints on Facebook Blue in the sale of advertising. Instagram’s founders planned to develop advertising offerings to monetize the Instagram personal social network. And an independent WhatsApp that developed a personal social networking offering would have had incentives to
monetize it either by offering advertising or pursuing an alternative model. Competing social networks may also have explored and developed alternative advertising models that consumers and advertisers could have preferred.

226. Therefore, Facebook’s anticompetitive conduct to maintain its personal social networking monopoly has also neutralized, suppressed, and deterred competition for the sale of advertising, and deprived advertisers of the benefits of additional competition.

227. The benefits to advertisers of additional competition include some or all of the following: additional users to advertise to (as a result of increased innovation and improved quality of personal social networking for users); lower advertising prices (as additional advertising competition would incentivize reductions in advertising prices); additional innovation (as additional advertising competition would incentivize the development and introduction of additional features, functionalities, and business models in order to attract advertisers); quality improvements (as additional advertising competition would incentivize quality improvement, such as with respect to transparency, integrity, authentication of ad views, customer service, accuracy in reporting performance and other metrics, and brand safety measures such as sensitivity to neighboring content); and choice (as additional advertising competition would enable advertisers to select a personal social networking provider that more closely suits their preferences, including, but not limited to, preferences regarding different forms of advertising and/or different options for users).

228. Facebook cannot justify this substantial harm to competition with claimed efficiencies, procompetitive benefits, or business justifications that could not be achieved through other means.
VIII. COUNT 1 – MONOPOLY MAINTENANCE THROUGH ANTICOMPETITIVE ACQUISITIONS

229. The FTC re-alleges and incorporates by reference the allegations in paragraphs 1-228 above.

230. At least since 2011, Facebook has had monopoly power in the United States with respect to personal social networking.

231. Facebook has willfully maintained its monopoly power through its course of anticompetitive conduct consisting of its anticompetitive acquisitions. Through its conduct, Facebook has excluded competition and willfully maintained its monopoly in personal social networking through means other than competing on the merits.

232. Facebook’s course of conduct is ongoing. Facebook continues to hold and integrate the competitive threats it acquired, including Instagram and WhatsApp. Facebook’s continued ownership and operation of Instagram and WhatsApp both neutralizes their direct competitive threats, and creates and maintains a “moat” that protects Facebook from entry into personal social networking by another firm via mobile photo-sharing and mobile messaging. Facebook continues to monitor the industry for competitive threats and likely would seek to acquire any companies that constitute, or could be repositioned to constitute, threats to its personal social networking monopoly.

233. There is no procompetitive justification for Facebook’s exclusionary conduct in maintaining its personal social networking monopoly.

IX. COUNT 2 – MONOPOLY MAINTENANCE THROUGH AN UNLAWFUL COURSE OF CONDUCT INCLUDING ANTICOMPETITIVE ACQUISITIONS AND ANTICOMPETITIVE CONDITIONAL DEALING POLICIES EMBODIED IN AGREEMENTS GOVERNING DEVELOPERS’ ACCESS TO FACEBOOK PLATFORM

235. The FTC re-alleges and incorporates by reference the allegations in paragraphs 1-228 above.

236. At least since 2011, Facebook has had monopoly power in the United States with respect to personal social networking.

237. Facebook has willfully maintained its monopoly power through its course of conduct that includes both anticompetitive acquisitions and its anticompetitive conditional dealing practices, and maintaining and enforcing anticompetitive agreements relating to Facebook Platform to deter competitive threats to its personal social networking monopoly. As described above, Facebook has maintained its personal social networking monopoly through anticompetitive acquisitions, through conditional dealing policies embodied in agreements extracted in exchange for third-party apps’ access to Facebook Platform, and by enforcing its anticompetitive agreements by cutting off apps’ access to critical APIs.

238. Through its course of conduct, Facebook has excluded competition and willfully maintained its monopoly in personal social networking through means other than competing on the merits.

239. Facebook’s course of conduct is ongoing. Facebook continues to hold and integrate the competitive threats it acquired in Instagram and WhatsApp. Facebook recognizes that its continued ownership and operation of Instagram and WhatsApp both neutralizes their direct competitive threats, and creates and maintains a “moat” that protects Facebook from entry into personal social networking by another firm via mobile photo-sharing and mobile messaging. Facebook continues to monitor the industry for competitive threats, and likely would seek to
acquire any companies that constitute, or could be repositioned to constitute, threats to its personal social networking monopoly. Facebook also continues to screen developers and can allow or deny API access for any reason it chooses. Facebook maintained its restrictive agreements with developers until December 2018, when public scrutiny of its policies related to app developers forced it to claim that it would not enforce the policies embodied in the agreements, and Facebook is likely to reinstitute such policies if such scrutiny stops or other conditions change.

240. There is no procompetitive justification for Facebook’s exclusionary conduct in maintaining its personal social networking monopoly.


X. POWER TO GRANT RELIEF

242. Section 13(b) of the FTC Act, 15 U.S.C. § 53(b), empowers this Court to issue a permanent injunction against violations of the FTC Act and, in the exercise of its equitable jurisdiction, to order equitable relief to remedy the injury caused by Facebook’s violations.

XI. PRAYER FOR RELIEF

WHEREFORE, the FTC requests that this Court, as authorized by Section 13(b) of the FTC Act, 15 U.S.C. § 53(b), and pursuant to its own equitable powers, enter final judgment against Facebook, declaring, ordering, and adjudging:

A. that Facebook’s course of conduct, as alleged herein, violates Section 2 of the Sherman Act and thus constitutes an unfair method of competition in violation of Section 5(a) of the FTC Act, 15 U.S.C. § 45(a);
B. divestiture of assets, divestiture or reconstruction of businesses (including, but not limited to, Instagram and/or WhatsApp), and such other relief sufficient to restore the competition that would exist absent the conduct alleged in the Complaint, including, to the extent reasonably necessary, the provision of ongoing support or services from Facebook to one or more viable and independent business(es);

C. any other equitable relief necessary to restore competition and remedy the harm to competition caused by Facebook’s anticompetitive conduct described above;

D. a prior notice and prior approval obligation for future mergers and acquisitions;

E. that Facebook is permanently enjoined from reaching anticompetitive agreements governing, or imposing anticompetitive conditions on, developers’ access to APIs and data;

F. that Facebook is permanently enjoined from engaging in the unlawful conduct described herein;

G. that Facebook is permanently enjoined from engaging in similar or related conduct in the future;

H. a requirement to file periodic compliance reports with the FTC, and to submit to such reporting and monitoring obligations as may be reasonable and appropriate; and

I. any other equitable relief, including, but not limited to, divestiture, restructuring, or interoperability requirements as the Court finds necessary to redress and prevent recurrence of Facebook’s violations of law, as alleged herein.
References to analyses of Comscore data are based on data collected for U.S. desktop users ages 2 and older, and U.S. mobile users ages 18 and older. Comscore data is subject to a disclaimer from Comscore, Inc.: “DUE TO THE CONFIDENTIAL NATURE OF THIS ANALYSIS, COMSCORE, INC. WAS NOT PERMITTED TO REVIEW ITS CONTENTS AND THEREFORE ASSUMES NO RESPONSIBILITY WHATSOEVER FOR ANY THIRD PARTIES’ RELIANCE ON ANY INFORMATION CONTAINED HEREIN. COMSCORE, INC. DISCLAIMS ANY AND ALL LIABILITY REGARDING THE ACCURACY OR COMPLETENESS OF ANY COMSCORE DATA USED IN ASSOCIATION WITH THIS ANALYSIS.”
UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

IN RE: GOOGLE DIGITAL
ADVERTISING ANTITRUST
LITIGATION

Civil Action No.: 1:21-md-03010-PKC

THIS DOCUMENT RELATES TO:

STATE OF TEXAS
By Attorney General Ken Paxton

STATE OF ALASKA
By Attorney General Treg R. Taylor

STATE OF ARKANSAS
By Attorney General Leslie Rutledge

STATE OF FLORIDA
By Attorney General Ashley Moody

STATE OF IDAHO
By Attorney General Lawrence G. Wasden

STATE OF INDIANA
By Attorney General Todd Rokita

COMMONWEALTH OF KENTUCKY
By Attorney General Daniel Cameron

STATE OF LOUISIANA
By Attorney General Jeff Landry

STATE OF MISSISSIPPI
By Attorney General Lynn Fitch

STATE OF MISSOURI
By Attorney General Eric Schmitt

STATE OF MONTANA
By Attorney General Austin Knudsen

STATE OF NEVADA
By Attorney General Aaron D. Ford

Related File

Civil Action No. 1:21-cv-06841-PKC

JURY TRIAL DEMANDED
STATE OF NORTH DAKOTA
By Attorney General Wayne Stenehjem

COMMONWEALTH OF PUERTO RICO
By Attorney General Domingo Emanuelli-Hernández

STATE OF SOUTH CAROLINA
By Attorney General Alan Wilson

STATE OF SOUTH DAKOTA
By Attorney General Jason R. Ravnsborg

and

STATE OF UTAH
By Attorney General Sean D. Reyes

Plaintiffs,

vs.

GOOGLE LLC,

Defendant.

SECOND AMENDED COMPLAINT
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1. The States of Texas, Alaska, Arkansas, Florida, Idaho, Indiana, Louisiana, Mississippi, Missouri, Montana, Nevada, North Dakota, South Carolina, South Dakota, and Utah, and the Commonwealths of Kentucky and Puerto Rico, by and through their Attorneys General (collectively, the “Plaintiff States”), in the above-styled action, file their Second Amended Complaint (“Complaint”) against Google LLC (“Google”) under federal and state antitrust laws and deceptive trade practices laws and allege as follows:

I. NATURE OF THE CASE

2. The halcyon days of Google’s youth are a distant memory. Over twenty years ago, two college students founded a company that forever changed the way that people search the internet. Since then, Google has expanded its business far beyond search and dropped its famous “don’t be evil” motto. Its business practices reflect that change. As internal Google documents reveal, Google sought to kill competition and has done so through an array of exclusionary tactics, including an unlawful agreement with Facebook, its largest potential competitive threat, to manipulate advertising auctions. The Supreme Court has warned that there are such things as antitrust evils. This litigation will establish that Google is guilty of such antitrust evils, and it seeks to ensure that Google won’t be evil anymore.

3. Google is an advertising company that makes billions of dollars a year by deceptively using individuals’ personal information to engage in targeted digital advertising. Google has extended its reach from search advertising to dominate the online advertising landscape for image-based ads on the web, called “display ads.” In its complexity, the market for display ads resembles the most complicated financial markets; publishers and advertisers trade display inventory through brokers and on electronic exchanges and networks at lightning speed. As of 2020, Google is a company standing at the apex of power in media and advertising, generating over $161 billion annually with staggering profit margins, almost all from advertising.
4. Google’s advertising apparatus extends to the new ad exchanges and brokers through which display ads trade. Indeed, nearly all of today’s online publishers (be they large or small) depend on one company—Google—as their middleman to sell their online display ad space in “ad exchanges,” i.e., the centralized electronic trading venues where display ads are bought and sold. Conversely, nearly every consumer goods company, e-commerce entity, and small business now depends on Google as their respective middleman for purchasing display ads from exchanges in order to market their goods and services to consumers. In addition to representing both the buyers and the sellers of online display advertising, Google also operates the largest exchange, AdX. In this electronically traded market, Google is pitcher, batter, and umpire, all at the same time.

5. The scale of online display advertising markets in the United States is extraordinary. Google operates the largest electronic trading market in existence. Whereas financial exchanges such as the NYSE and NASDAQ match millions of trades to thousands of company symbols daily, Google’s exchange processes about 11 billion online ad spaces each day. In Google’s words, “[h]undreds of thousands of publishers and advertisers use [Google’s] AdX [exchange] to transact inventory, and more daily transactions are made on AdX than on the NYSE and NASDAQ combined.” At the same time, Google owns the largest buy-side and sell-side brokers. As one senior Google employee admitted, “[t]he analogy would be if Goldman or Citibank owned the NYSE.” Or more accurately, the analogy would be if Goldman or Citibank were a monopoly financial broker and owned the NYSE, which was a monopoly stock exchange.

6. Google, however, did not accrue its monopoly power through excellence in the marketplace or innovations in its services alone. Google’s internal documents belie the public image of brainy Google engineers having fun at their sunny Mountain View campus while trying to make the world a better place. Rather, to cement its dominance across online display markets,
Google has repeatedly and brazenly violated antitrust and consumer protection laws. Its *modus operandi* is to monopolize and misrepresent. Google uses its powerful position on every side of online display markets to unlawfully exclude competition. It also deceptively claims that “we’ll never sell your personal information to anyone,” but its *entire* business model centers on targeted advertising—the purchase and sale of advertisements targeted to individual users based on their personal information. From its earliest days, Google’s carefully curated public reputation of “don’t be evil” has enabled it to act with wide latitude. That latitude is enhanced by the extreme opacity and complexity of digital advertising markets, which are at least as complex as the most sophisticated financial markets in the world.

7. The fundamental change for Google dates back to its 2008 acquisition of DoubleClick, the leading provider of the ad server tools that online publishers, including newspapers and other media companies, use to sell their graphical display advertising inventory on exchanges. After acquiring the leading middleman between publishers and exchanges, Google quickly monopolized the publisher ad server and exchange markets by engaging in unlawful tactics. For instance, Google started requiring publishers to license Google’s ad server and to transact through Google’s exchange in order to do business with those in another market in which Google possessed monopoly power: the one million plus advertisers who used Google as their middleman for buying inventory. So Google was able to demand that it represent the buy-side (i.e., advertisers), where it extracted one fee, as well as the sell-side (i.e., publishers), where it extracted a second fee, and it was also able to force transactions to clear in its exchange, where it extracted a third, even larger, fee.

8. Within a few short years of executing this unlawful tactic, Google successfully monopolized the publisher ad server market and grew its ad exchange to number one, despite
having entered those two markets much later than the competition. With a newfound hold on publisher ad servers, Google then proceeded to further foreclose publishers’ ability to trade in non-Google exchanges. Google imposed a one-exchange-rule on publishers, barring them from routing inventory to more than one exchange at a time. At the same time, Google’s ad server blocked competition from non-Google exchanges through a program called Dynamic Allocation and falsely told publishers that Dynamic Allocation maximized their revenue. As internal documents reveal, however, Google’s real scheme with Dynamic Allocation was to permit its exchange to snatch publishers’ best inventory at the expense of publishers’ best interests. One industry publication put it succinctly: “[t]he lack of competition was costing pub[s] cold hard cash.”

9. In an attempt to reinject competition in the exchange market, a new innovation called header bidding was devised. Publishers could use header bidding to simultaneously route their ad inventory to multiple exchanges in order to solicit the highest bid for the inventory. At first, header bidding promised to bypass Google’s stranglehold on the exchange market. By 2016, about 70 percent of major online publishers in the United States had adopted the innovation. Advertisers also migrated to header bidding in droves because it helped them to purchase from exchanges offering the same inventory for the lowest price.

10. Google quickly realized that this innovation substantially threatened its exchange’s ability to demand a very large—19 to 22 percent—cut on all advertising transactions. Header bidding also undermined Google’s ability to trade on inside and non-public information from one side of the market to advantage itself on the other—a practice that in other markets would be considered insider trading or front running. Google deceptively told the public that “we don’t see header bidding as a threat to our business. Not at all.” But privately, Google’s internal
communications make clear Google viewed header bidding’s promotion of genuine competition as a major threat. In Google’s own words, header bidding was an “existential threat.”

11. Google responded to this threat through a series of anticompetitive tactics. First, Google appeared to cede ground and allow publishers using its ad server to route their inventory to more than one exchange at a time. However, Google secretly made its own exchange win, even when another exchange submitted a higher bid. Google’s codename for this program was Jedi—a reference to Star Wars. And as one Google employee explained internally, Google deliberately designed Jedi to avoid competition, and Jedi consequently harmed publishers. In Google’s words, the Jedi program “generates suboptimal yields for publishers and serious risks of negative media coverage if exposed externally.” Next, Google tried to come up with other creative ways to shut out competition from exchanges in header bidding. During one internal debate, a Google employee proposed a “nuclear option” of reducing Google’s exchange fees down to zero. A second employee captured Google’s ultimate aim of destroying header bidding altogether, noting in response that the problem with simply competing on price is that it “doesn’t kill HB [header bidding].” Google wanted to be more aggressive.

12. Google grew increasingly brazen in its efforts to undermine competition. In March 2017, Google’s largest Big Tech rival, Facebook, announced that it would throw its weight behind header bidding. Like Google, Facebook brought millions of advertisers on board to reach the users on its social network. In light of Facebook’s deep knowledge of its users, Facebook could use header bidding to operate an electronic marketplace for online ads in competition with Google. Facebook’s marketplace for online ads is known as “Facebook Audience Network” or FAN. Google understood the severity of the threat to its position if Facebook were to enter the market and support header bidding. To diffuse this threat, Google made overtures to Facebook. Internal
Facebook communications reveal that Facebook executives fully understood why Google wanted to cut a deal with them: “they want this deal to kill header bidding.”

13. Any collaboration between two competitors of such magnitude should have set off the loudest alarm bells in terms of antitrust compliance. Apparently, it did not. Internally, Google documented that if it could not “avoid competing with FAN,” then it wanted to collaborate with Facebook to “build a moat.” Indeed, Facebook understood Google’s rationale as a monopolist very well. An internal Facebook communication at the highest level reveals that Facebook’s header bidding announcement was part of a pre-planned long-term strategy—an “18 [month] header bidding strategy”—to draw Google in. Facebook decided to dangle the threat of competition in Google’s face so it could then cut a deal to manipulate publishers’ auctions in its favor.

14. In the end, Facebook curtailed its involvement with header bidding in return for Google giving Facebook information, speed, and other advantages in the ~43 billion auctions Google runs for publishers’ mobile app advertising inventory each month in the United States. As part of this agreement, Google and Facebook work together to identify users using Apple products. The parties also agreed up front on quotas for how often Facebook would win publishers’ auctions—literally manipulating the auction with minimum spends and quotas for how often Facebook would bid and win. In these auctions, Facebook and Google compete head-to-head as bidders. Google’s internal codename for this agreement, signed at the highest-level, was Jedi Blue—a twist on the Star Wars reference.

15. Above and beyond its unlawful agreement with Facebook, Google employed a number of other anticompetitive tactics to shut down competition from header bidding. Google deceived non-Google exchanges into bidding through Google instead of header bidding, telling them it would stop front running their orders when in fact it would not. Google employees also deceived
publishers, telling one major online publisher that it should cut off a rival exchange in header bidding because of a strain on its servers. After this misrepresentation was uncovered, Google employees discussed playing a trick—a “jedi mind trick”—on the industry to nonetheless get publishers to cut off exchanges in header bidding. Google wanted to “get publishers to come up with the idea to remove exchanges … on their own.” Google then proceeded to cripple publishers’ ability to use header bidding in a variety of ways.

16. Having reached its monopoly position, Google now uses its immense market power to extract a very high tax of 22 to 42 percent of the ad dollars otherwise flowing to the countless online publishers and content producers such as online newspapers, cooking websites, and blogs who survive by selling advertisements on their websites and apps. These costs invariably are passed on to the advertisers themselves and then to American consumers. The monopoly tax Google imposes on American businesses—advertisers like clothing brands, restaurants, and realtors—is a tax that is ultimately borne by American consumers through higher prices and lower quality on the goods, services, and information those businesses provide. Every American suffers when Google imposes its monopoly pricing on the sale of targeted advertising.

17. From its earliest days, the internet’s fundamental tenet has been its decentralization: there is no controlling node, no single point of failure, and no central authority granting permission to offer or access online content. Online advertising is uniquely positioned to provide content to users at a massive scale. However, the open internet is now threatened by a single company. Google has become the controlling node and the central authority for online advertising, which serves as the primary currency enabling a free and open internet.

18. Google’s current dominance is also merely a preview of its future plans. Google’s latest announcements with respect to its Chrome browser and privacy will further its longstanding plan
to create a “walled garden”—a closed ecosystem—out of the otherwise-open internet. At the same time, Google uses “privacy” as a pretext to conceal its true motives.

19. In sum, Google’s anticompetitive conduct has adversely and substantially affected the Plaintiff States’ economies, as well as the general welfare in the Plaintiff States. Google’s illegal conduct has reduced competition, raised prices, reduced quality, and reduced output in each of the Plaintiff States. This conduct has harmed the Plaintiff States’ respective economies by depriving the Plaintiff States and the persons within each Plaintiff State of the benefits of competition.

20. As a result of Google’s deceptive trade practices and anticompetitive conduct, including its unlawful agreement with Facebook, Google has violated and continues to violate Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2, as well as state antitrust and consumer protections laws. Plaintiff States bring this action to remove the veil of Google’s secret practices and put an end to Google’s anticompetitive abuses of its monopoly power in online advertising markets. Plaintiff States seek to restore free and fair competition to these markets and to secure structural, behavioral, and monetary relief to prevent Google from ever again engaging in deceptive trade practices and abusing its monopoly power to foreclose competition and harm consumers.

II.   PARTIES

21. Plaintiff States, by and through their respective Attorneys General, bring this action in their respective sovereign capacities and as parens patriae on behalf of the citizens, general welfare, and economy of their respective States under their statutory, equitable, or common law powers, and pursuant to Section 16 of the Clayton Act, 15 U.S.C. § 26.

22. Google is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business in Mountain View, California. Google is an online advertising technology company providing internet-related products, including various online
advertising technologies, directly and through subsidiaries and business units it owns and controls. Google is owned by Alphabet Inc., a publicly traded company incorporated and existing under the laws of the State of Delaware and headquartered in Mountain View, California.

### III. JURISDICTION


24. In addition to pleading violations of federal antitrust law, the Plaintiff States allege violations of state antitrust and consumer protection laws and seek civil penalties, restitution, disgorgement, damages, equitable relief, and/or other relief, as applicable, under those state laws. All claims under federal and state law are based upon a common nucleus of operative facts, and the entire action commenced by this Complaint constitutes a single case that would ordinarily be tried in one judicial proceeding.

25. This Court has jurisdiction over the non-federal claims under 28 U.S.C. § 1367(a), as well as under principles of pendent jurisdiction. Pendent jurisdiction will avoid unnecessary duplication and multiplicity of actions and should be exercised in the interests of judicial economy, convenience, and fairness.

26. This Court may exercise personal jurisdiction over Google because Google conducts business in this District. Google has established sufficient contacts in this District such that personal jurisdiction is appropriate. Google sells the products at issue throughout the United States and across state lines. Google is engaged in, and its activities substantially affect, interstate trade and commerce. Google provides a range of products and services that are marketed, distributed, and offered to consumers throughout the United States, in the Plaintiff States, across state lines, and internationally.
IV. **Venue**

27. Venue is proper in this District under Section 12 of the Clayton Act, 15 U.S.C. § 22, and 28 U.S.C. § 1391. A substantial part of the events or omissions giving rise to the Plaintiff States’ claims occurred in this District. Google transacts business and is found within this District.

V. **Industry Background**

28. The internet revolutionized the way people consume content, and along with it, the types of advertisements that companies can purchase to reach consumers. Image-based ads on the internet (called “display ads”), as well as audio and video ads in the online world, have largely supplanted their traditional print, radio, and television counterparts. In addition, the internet ushered in completely new advertising formats, including targeted text-based ads on search engines, shareable ads on social media, and specialized ads inside mobile phone applications.

29. For online publishers and advertisers alike, the different online advertising formats are not interchangeable. Online media companies that operate websites and mobile applications (“online publishers”) are necessarily restricted in the types of ad formats they can sell. A news website, for example, can generally sell display ads alongside its news articles but cannot generally sell search or audio ads to monetize the same content. At the same time, advertisers on the other end of the transaction purchase one format or another to serve their different goals. For instance, advertisers usually purchase search ads to reach consumers actively looking to make a purchase, whereas they typically purchase display ads to increase brand awareness.

30. In addition to introducing new advertising formats, the internet changed how online publishers sell their advertising inventory. Online publishers sell their inventory to advertisers either directly or indirectly through ad marketplaces. The “direct” sales method refers to campaigns that the publisher itself sells directly to advertisers, including those campaigns sold by the publisher’s internal sales staff and through the publisher’s private auctions. For example, *USA*
Today, as an online publisher, could negotiate directly with Disney, as an advertiser, to display Disney ads atop the USA Today homepage one million times in a particular month. But a publisher cannot always predict how many of its ad spaces will be available to sell directly to advertisers because its inventory depends on how many users actually visit the publisher’s website. Publishers can therefore find themselves with unsold surplus inventory, and this was the original impetus for the development of a specialized “indirect” distribution channel whereby publishers sell their ad inventory indirectly to advertisers.

31. “Indirect” sales occur through centralized electronic trading venues called “ad exchanges” and through “networks” of publishers and advertisers. Publishers selling this way permit ad exchanges to auction off some or all of their inventory to advertisers in real time (and in return, the ad exchange will retain a portion of proceeds).

32. Whether online publishers sell their web display inventory directly or indirectly, the advertisements can target specific users in real time. When a user views a website or mobile app, advertisers purchase the individual spaces for ads (“impressions”) targeted to that user.

33. Because publishers can target ads to specific users in real time, online publishers manage highly varied, or “heterogeneous,” inventory. One might think that a website with three pages and three different ad slots (i.e., impressions) per page would have a total of nine unique ad units to sell. But because online ads are targeted at individual users, the same site with 1,000,000 readers actually has 9,000,000 different ad units to sell: each of the website’s impressions targeted to each unique reader. Consequently, an online publisher’s inventory is akin to the inventory of seats at a baseball stadium: no two pieces of inventory are the exact same and each is valued by its particulars. In online advertising, this includes the particulars of each person viewing each ad.
34. Google likes to claim that it will “never sell your personal information to anyone,” with Google CEO Sundar Pichai deceptively claiming that such a policy is “unequivocal.” But Google leverages intimate user data and personal information to broker billions of daily online ad impressions between publishers and advertisers that target individual users based almost entirely on their personal information. Internal documents confirm that Google knows its users are deceived by its misrepresentations, even as it reaps billions from ads that use personal data to target those users. In Orwellian terms, it’s a beautiful thing for Google, the destruction of words like “sell” and “personal.”

A. **Online Display Advertising Markets**

35. Online publishers and advertisers depend on several different, distinct, and non-interchangeable products to sell their web display inventory. These products include: (1) the ad server, which acts as the publisher’s inventory management system and helps the publisher sell its inventory, (2) the marketplaces that match buyers and sellers of display ads (exchanges and networks, separately), and (3) the ad buying tools that advertisers must use as their middleman to buy display inventory from exchanges. These products conduct the complex tasks associated with pricing, clearing, executing, and settling billions of display impressions every month in the United States. Google possesses monopoly power in each of these distinct markets. Imagine if the financial markets are controlled by one monopoly company, say Goldman Sachs, and that company then owns the NYSE, which is the largest financial exchange, that then trades on that exchange to advantage itself, eliminate competition, and charge a monopoly tax on billions of daily transactions. Obviously, no free, fair and functioning market could operate that way. Yet, that is today’s world of online display advertising.
1. Publishers’ Inventory Management Systems: Ad Servers

36. Large publishers such as CBS, Time, ESPN, Weather.com, and NPR depend on a sophisticated inventory management system called an ad server to holistically manage their display inventory on the web. Ad servers keep track of publishers’ heterogeneous ad inventory and help them sell that inventory both directly and indirectly through exchanges, with the stated goal of maximizing their advertising revenue. Publishers typically use a single ad server to manage all of their web display inventory; using multiple ad servers would substantially frustrate a publisher’s ability to effectively optimize management of their inventory and maximize revenue.

37. When using an ad server, online publishers necessarily relinquish control over inventory management and revenue maximization. While a publisher can adjust some of the ways their ad server manages and sells inventory, an ad server’s features and limitations ultimately limit the publisher’s control. Publishers also rely on the specialization of their ad server to help them navigate the complexities of electronic trading: ad server account analysts individually advise
online publishers on how to adjust the ad server’s parameters to increase revenue. Put simply, in a competitive market, ad servers advance publishers’ interests.

38. To holistically manage a publisher’s web display inventory, the ad server performs three internal critical tasks related to selling ad space. First, the ad server identifies the users visiting the publisher’s webpage in order to manage ad inventory and maximize yield. When a user visits a webpage, the ad server—on behalf of and with the permission of the publisher—identifies the user through identification technology facilitated by the user’s web browser (e.g., Chrome or Safari) and/or mobile device (e.g., Android or iOS). To keep track of individual users, the ad server assigns each user a unique user ID (e.g., 5g77yuu3bjNH). By essentially “tagging” users with a unique user ID, an ad server helps publishers, ad exchanges, and advertisers know the identity and characteristics of each particular user associated with a publisher’s ad space. For example, an advertiser can correlate a user’s pseudonymous ID (e.g., 5g77yuu3bjNH) with the user’s identity (e.g., John Connor) and use that identity “link” to look up additional information about the user (e.g., John Connor lives in Los Angeles, drives Harley-Davidson motorcycles, and wears Oakley sunglasses). This, in turn, allows an advertiser to place a value on the ad space each individual user will see. User IDs are also used for “frequency capping,” which limits the number of times a user is shown a particular ad to avoid oversaturating the user. Additionally, user IDs facilitate evaluation of ad campaigns’ effectiveness by allowing publishers and advertisers to track whether a user took a subsequent action (e.g., clicking on an ad, signing up for a service, or purchasing a product). This “attribution” is critical for some ad campaign billing models, including cost-per-conversion models whereby advertisers are charged only when users take a specified action.

39. The second critical task ad servers perform is managing how publishers sell ad space indirectly through advertising marketplaces such as ad exchanges. Publisher ad servers connect
with multiple marketplaces and let publishers automatically route their inventory into them for sale as the users load publishers’ webpages. As the middleman between a publisher and marketplaces (exchanges and networks), the ad server controls how the different marketplaces can access and compete for a publisher’s inventory.

40. The third critical task performed by ad servers is routing inventory correctly between a publisher’s direct and indirect sales channels. As Google’s internal documents show, only a tiny percentage of publishers’ ad impressions are considered “high value,” which refers to impressions targeted to users likely to make a purchase. Indeed, publishers generally make almost all (~80 percent) of their revenue from just a small portion (~20 percent) of their impressions. When a publisher like ESPN sells their most valuable inventory directly to an advertiser like Fanatics.com for premium prices, they rely on their ad server to allocate the impressions targeted to high-value users—e.g., sports fanatics who have a propensity for buying merchandise for their favorite sports team—to those direct deals.

41. Because the ad server sits between a publisher and the publisher’s indirect sales channel, the ad server can obstruct competition between the multiple exchanges competing for publishers’ impressions in a variety of ways. For example, the ad server might interfere with a publisher’s ability to share full information about its impressions with exchanges (e.g., the user
IDs associated with each publisher impression). Alternatively, an ad server might prevent publishers from understanding how their inventory performs in one exchange versus another. Without this transparency of information, a publisher cannot reward a better-performing exchange with more of its business. Transparency fuels competition between marketplaces to maximize value for publishers, and ultimately, for the consumer.

42. Despite the relative complexity of ad servers, prior to Google’s entrance into the publisher ad server market, ad servers were “a commodity good.” They neutrally routed publishers’ inventory to exchanges (thereby helping publishers maximize their inventory yield) and charged a low cost-per-impression rate or monthly subscription fee. Google’s conduct substantially changed this market.

43. Now, Google monopolizes the publisher ad server market for display inventory through its product called Google Ad Manager (GAM). Google originally acquired its publisher ad server in 2008 from DoubleClick. In 2011, Google acquired and integrated AdMeld, a yield optimization technology that further helped publishers efficiently route inventory to exchanges and networks. Today, GAM controls over 90 percent of this product market in the United States. Essentially every major website (including, e.g., USA Today, ESPN, CBS, Time, Walmart, and Weather.com) uses GAM. GAM, as the middleman between publishers and exchanges, has the power to foreclose competition in the exchange market.

2. **Electronic Marketplaces for Display Advertising: Exchanges and Networks**

44. The vast majority of online publishers in the United States today sell at least some of their inventory to advertisers indirectly through advertising marketplaces (exchanges and networks). Large publishers like CNN and The Wall Street Journal predominantly use ad exchanges, whereas smaller publishers like local newspapers and individual blogs typically use ad networks.
i. Display Ad Exchanges

45. Ad exchanges for display ads are real-time auction marketplaces that match multiple buyers and multiple sellers on an impression-by-impression basis. A publisher’s ad server can route the publisher’s inventory to exchanges in real time as users load webpages. The exchanges then connect with advertisers through their respective middleman (ad buying tools). In other words, the entities that have a “seat” to bid on exchanges are not the actual advertisers (e.g., Ford or a local car dealership), but their respective agents. In addition, exchanges do not bear inventory risk. That is, the ad exchange serves as an intermediary, connecting publishers’ inventory with willing buyers in real time.

46. Ad exchanges are mostly intended for large online publishers. To sell in ad exchanges, online publishers must meet minimum impression or spend requirements. For example, Google’s AdX exchange is only open to publishers that have 5 million page views or 10 million impressions per month. These requirements put exchanges out of reach for many small online publishers such as local newspapers and blogs.

47. Google owns and operates the largest display ad exchange in the United States, historically called the Google Ad Exchange or “AdX.” Google compares its ad exchange to
financial exchanges like the NYSE and Nasdaq. However, contrary to Google’s comparison, AdX is not an open exchange like the NYSE.

48. Ad exchanges charge publishers a share of transaction value, which is currently 5 to 20 percent (or more) of the inventory’s clearing price. Google’s exchange charges publishers 19 to 22 percent of exchange clearing prices, which is double to quadruple the prices of some of its nearest exchange competitors. For example, if Google’s exchange sells $100,000 worth of a publisher’s inventory, Google will extract at least $19,000. The dramatically higher price (or “take rate”) of Google’s exchange evidences its substantial market power.

49. Google’s exchange fees are also exponentially higher than analogous exchange fees on a stock exchange where, by contrast, fees are low and set by volume instead of transaction value. Imagine if the NYSE charged an individual a fee equivalent to a double-digit percentage of the value of the overall stock trade—e.g., $19,000 as a transaction fee on a $100,000 stock trade. That is how much Google charges on transactions between an online publisher like ESPN and an advertiser like Fanatics.

50. Internally, Google concedes that an electronic exchange such as its own should not normally be able to extract such high fees in the market. As one Google employee frankly conceded, “an exchange shouldn’t be an immensely profitable business” like Google’s AdX, but should instead be “like a public good used to facilitate buyers and sellers.” As this litigation will make clear, Google can charge these fees for one simple reason: Google uses its monopoly over publishers’ ad servers to unlawfully foreclose competition in the exchange market.

51. By controlling publishers’ inventory through its ad server and simultaneously operating the largest ad exchange, Google has inherent conflicts of interest between publishers’ best interests and its own. Google charges a low cost for acting as publishers’ sell-side intermediary but then
makes substantially higher fees when selling those publishers’ inventory in its exchange. Accordingly, Google incentivizes itself to steer publishers’ inventory towards its exchange, where it can extract double to quadruple the rate of some of its nearest exchange competitors.

52. Whereas large online publishers typically sell their inventory through ad exchanges, small online publishers predominantly sell their inventory in marketplaces called “ad networks.” Ad networks cater almost exclusively to the needs of smaller and lower-traffic online publishers such as local online newspapers and independent content creators’ websites and apps. Like ad exchanges, ad networks match publishers’ inventory with their advertisers’ demand. But unlike exchanges, networks do not require publishers to meet high monthly minimum impression or spend requirements. Rather, networks obscure prices within auctions, which enables them to capture undisclosed margins; neither the buyers nor sellers will know whether the network takes,
e.g., 20 or 50 percent of matched trades. Moreover, networks often carry inventory risk. That is, they purchase (and then sell) impressions on their own behalf, as opposed to purchasing on behalf of an advertiser or buy-side middleman.

53. In the network market, there are networks for publishers that sell web display inventory, and separately, networks for mobile applications that sell in-app inventory. Google operates the leading web display network, as well as the leading mobile app network.

54. Google’s display advertising network, known as the Google Display Network (“GDN”), is described by Google as “the largest ad network in the world.” GDN operates as a closed marketplace accessible only by advertisers who use one of Google’s products to buy publisher ad inventory. Here, Google charges even higher fees—around 32 to 40 percent of each transaction—to the small publishers and advertisers using GDN than it does to the large players on AdX.

55. Google also owns AdMob, the largest ad network selling mobile app inventory on behalf of mobile app developers such as Spotify. Google’s closest competitor in the mobile app network market is Facebook’s Audience Network, FAN, although Google internal documents suggest that Google’s share of the market is eight times larger than FAN’s. Advertisers can use Facebook’s website to purchase ads on Facebook and Instagram, as well as mobile app inventory from third-party apps like Shazam or Huffington Post who sell their inventory via FAN. In the discrete market for mobile app networks competing to sell third-party app publishers’ impressions to advertisers, Google and Facebook compete head-to-head.

56. In sum, millions of websites and mobile apps sell their inventory in Google’s exchange for display ads and its ad networks for display and mobile in-app ads. As a result, competition on
the buy-side among the middlemen that serve advertisers depends on access to Google’s exchange and networks. Google is the bottleneck between publishers and advertisers.

FIGURE 5. How Google’s ad server controls routing functions to competing exchanges and networks

3. Ad Buying Tools for Large and Small Advertisers

57. Just as publishers rely on ad servers to sell their inventory in ad exchanges, advertisers use specialized middlemen, ad buying tools, to represent their own interests. Large advertisers use ad buying tools called demand-side platforms ("DSPs"), while small businesses use pared-down analogues. Google analogizes these buying tools to “brokerage houses” in financial markets, with small advertisers using a “fund manager to pick stocks for you” and large advertisers “using ETrade to pick stocks yourself.”

58. Just as publishers typically use only a single ad server, small advertisers tend to use just one intermediary at a time to optimize buying across multiple exchanges and/or networks. Ad buying tools let advertisers set parameters integral to their purchasing decisions, including details
about the types of users they want to target and the maximum bids they are willing to submit for various types of display ad inventory. On an advertiser’s behalf, an ad buying tool uses these parameters to automatically bid on ad space in exchanges and networks in an effort to acquire it at the lowest cost. Some enterprise buying tools, including The Trade Desk, compete by minimizing conflicts of interest and not simultaneously operating an exchange or sell-side ad server.

59. Ad buying tools for large advertisers (DSPs) offer robust and complex bidding and trading options ill-suited for smaller and less sophisticated advertisers. In fact, DSPs are so complex that they are frequently not used or managed by the actual advertisers (e.g., Ford), but by the advertisers’ specialized ad buying team (e.g., an ad agency or specialized division at an agency called a “trading desk”). The different types of ad buying tools are also sold at different price levels. DSPs usually require high minimum monthly spend commitments, sometimes $10,000 or more, whereas ad buying tools for small advertisers can require just a few dollars to get started. For example, Amazon’s DSP requires a monthly commitment of over $35,000, while Google’s buying tool for small advertisers (Google Ads) requires no monthly minimum spend.

FIGURE 6: How small advertisers can use the Google Ads buying tool to set their bids
60. When a user visits a publisher’s website, the ad server can route the publisher’s available impressions to exchanges, along with information about the impression, including the user’s ID, the ad slot’s parameters, and any rules about pricing. Each exchange then sends a “bid request” to the ad buying tools who have a “seat” to bid in the exchange and act as advertisers’ middlemen. These bid requests also contain information about the impression at issue and convey a “timeout,” which is the amount of time the advertisers have to respond with their “bid response.” Within this timeframe, which is typically a mere fraction of a second, each ad buying tool must unpack the information contained in the bid request, gather and deploy personal information about the user, determine the appropriate price to bid on behalf of the prospective advertiser, and return a bid response to the exchange. When time expires, each exchange closes its auction, excludes any late bids, and chooses a winner. The publisher’s ad server then selects the advertisement associated with the highest exchange bid and returns it on the user’s page before the page has even finished loading. The user simply sees a display ad adjacent to the web content they are reading. This leveraging of personal information in a real-time auction happens every minute of every day for millions of Americans browsing the internet.
To compete effectively in an exchange’s auction, not only must ad buying tools return bids to exchanges before their timeout expires, but they must be able to adequately identify relevant characteristics of the user associated with each impression (e.g., an impression targeted to John Connor the motorcycle enthusiast verses an impression targeted to a user who has shown no interest motorcycles). An exchange as large as Google’s can exclude and harm competition between the bidders in its auction by giving a subset of bidders an advantage in terms of, e.g., information (e.g., more robust information about the user) or speed (e.g., longer timeouts, which translates to more time to calculate and return bids).

Google operates the largest buy-side middlemen for advertisers, i.e., the ad buying tools for both large and small advertisers. Google’s DSP (enterprise buying tool for large advertisers such as Toyota or Nestle) is called DV360; it arose from Google’s acquisition of the DSP Invite Media. Google’s ad buying tool for small advertisers, on the other hand, is called “Google Ads,” and it is designed for (what Google calls) the “smaller, less sophisticated advertisers.” DV360 charges advertisers an 8 to 9 percent commission to purchase inventory from exchanges, whereas
Google Ads charges small advertisers a much higher and undisclosed 15 percent commission when purchasing inventory from Google’s exchange.

63. Although Google executives considered “creating a completely neutral platform like the NYSE,” they ultimately chose instead to stack the deck in their favor by owning the exchange and giving preferred access to Google’s buy-side middlemen. Indeed, Google’s exchange gives Google Ads and DV360 information and speed advantages when bidding on behalf of advertisers. Such preferred access helps explain why Google’s ad buying tools win the overwhelming majority—over 80 percent—of the auctions hosted on Google’s dominant ad exchange, AdX.

64. Google’s ad buying intermediaries also do not always act in the best interests of their clients. For instance, Google subjects the smaller and less sophisticated advertisers to complicated arbitrages that are extraordinarily difficult to understand. Specifically, when bidding on behalf of those advertisers on Google’s exchange, Google can manipulate or adjust their bids. Google also processes their bids through two auctions, keeps a spread between the two, and does not disclose to the advertiser the price that ad space actually cleared on Google’s exchange. Google discloses this in fine print distributed across multiple separate documents. When Google ultimately explains why it “automatically” routes advertisers’ bids across multiple markets, the language is misleading: “If you go butterfly hunting during the height of summer, the bigger your butterfly net, the more butterflies you’ll be able to catch.” Google, however, does not clarify who it is hunting.
VI. THE RELEVANT MARKETS AND GOOGLE’S MARKET POWER

A. Publisher Inventory Management: Publisher Ad Servers

1. Publisher ad servers for web display inventory in the United States are a relevant antitrust market.

65. Publisher ad servers for web display inventory (“publisher ad servers”) in the United States are a relevant antitrust product market. Publisher ad servers are inventory management systems that publishers use to holistically manage their online display advertising inventory—the image-based graphical ads shown alongside web content. Ad servers provide publishers with features such as: (1) reservation-based sales technology to support the publisher’s direct sales efforts; (2) inventory forecasting technology to help the publisher determine what inventory will be available to sell; (3) a user interface through which the publisher’s sales team can input ad requirements and parameters; (4) co-management of direct and indirect sales channels; (5) report generation of ad inventory performance; (6) invoicing capabilities for the publisher’s direct campaigns; (7) a decision engine for determining what ad will ultimately serve on the publisher’s page; and (8) yield management technology.

66. Generally, ad servers charge publishers based on the volume of ads served. Most publishers “single home,” using just one ad server to holistically manage all of their web display inventory. When a publisher sells more than one type of inventory (e.g., web display, in-app, and/or video), they might use one ad server for their display inventory and a second for their in-app or video inventory, or they might still use a single ad server that manages all of their ad formats. Using multiple ad servers for the same format, however, would create conflicts between the ad servers, thereby defeating the point of the ad servers’ crucial inventory management functions.

67. Publisher ad servers are unique. They are not interchangeable with exchanges, networks, advertiser ad servers, or ad buying tools for large or small advertisers. None of those
products can manage a publisher’s direct sales channel or offer the reporting, invoicing, or forecasting functions publishers need to holistically manage their inventory and optimize yield.

68. Advertising marketplaces, including ad networks and exchanges, are not effective substitutes for publisher ad servers. For example, Google’s exchange is not, and cannot serve as, an ad management platform for direct sales. Google said as much when seeking to acquire DoubleClick, making explicit representations to the United States Federal Trade Commission (“FTC”) regarding the non-interchangeability of ad servers and networks. Indeed, Google described any suggestion that ad servers and ad networks are interchangeable as “seriously flawed and utterly divorced from commercial reality.” More specifically, Google represented that its existing display ad network (then called AdSense) and the ad server it sought to (and then did) acquire (DFP) “are not direct substitutes” (emphasis added), explaining that “[i]f the price of DFP were increased by a small but significant amount, customers would switch to other publisher-side ad serving products, such as those provided by 24/7 Real Media, Atlas/aQuantive.” In other words, Google has long acknowledged that while publisher ad servers are substitutes for each other, ad networks and other advertising marketplaces are not.

69. Building an ad server is not a substitute for licensing an ad server. Building an ad server from scratch requires scale, substantial capital, and deep access to highly sophisticated engineering resources; it is a viable option usually only for the very largest online publishers (e.g., Facebook). And the few publishers who have built in house ad server technology do not license it to third parties. So, neither building an ad server from scratch nor licensing another publisher’s in house ad server is an alternative to licensing a publisher ad server.

70. Publisher ad servers’ customers are large and medium online publishers who need to manage both direct and indirect sales channels, including, e.g., CBS, Spotify, Time, ESPN, Major
League Baseball, Walmart, Weather.com, The New York Times, The Wall Street Journal, eBay, NBC, Pandora, Trip Advisor, NPR, Buzzfeed, and many more. But smaller publishers lacking significant direct sales volume do not use publisher ad servers. Google advertises this distinction to potential customers: “Google Ad Manager is an ad management platform for large publishers who have significant direct sales.”

71. The relevant geographic market for publisher display ad servers is the United States. Publisher ad servers available in other countries are not a reasonable substitute for ad servers available in the United States.

2. **Google has monopoly power in the publisher ad server market.**

72. Google has monopoly power in the publisher ad server market in the United States. Google’s monopoly power in this market is supported and evidenced by its high market share. More than 90 percent of large publishers use Google’s publisher ad server, Google Ad Manager (“GAM” f/k/a “DFP”), according to published reports. Google internal documents show that GAM served the vast majority—75 percent—of all online display ad impressions in the United States in the third quarter of 2018.

73. Google’s own documents confirm that it has held a consistent monopoly position in the publisher ad server market for at least a decade. By 2012, just four years after Google acquired DoubleClick, Google estimated that 78 percent of large online publishers in the United States used Google’s ad server. Since then, Google’s closest competitors have either exited the market entirely or have been relegated to negligible market shares.

74. As above, Google urged the FTC to permit its acquisition of DoubleClick by positing that several competing publisher ad servers—24/7 Real Media and Atlas/aQuantive—were viable alternatives for publishers if Google were to increase DFP’s prices. Those competitors have since exited the market.
75. Google’s monopoly power in the publisher ad server market is further confirmed by direct evidence. Defying the existence of competitive restraints, Google has degraded quality and charged supra-competitive fees in the publisher ad server market. For example, Google’s ad server now charges publishers for routing their inventory to exchanges and networks. When deciding how much to charge publishers for routing their inventory to non-Google exchanges, Google arbitrarily landed on 5 percent of gross spend; they did not consider competitive constraints such as what the market would bear. On top of this, Google’s ad server charges a 10 percent fee of gross transactions for routing publishers’ inventory to non-Google ad networks. When publishers route their inventory to exchanges and networks using a non-Google routing service called header bidding, publishers pay no fee whatsoever for routing to exchanges and networks. Google’s unilateral ability to extract non-competitive ad server fees demonstrates its monopoly power.

76. Instead of pursuing and providing procompetitive welfare-enhancing innovations with its publisher ad server, many of Google’s product changes actually degraded quality, thereby further illustrating Google’s monopoly power and the utter lack of real competitive constraints in the publisher ad server market. Examples are numerous and discussed throughout this Complaint; they include unpopular changes such as Dynamic Allocation, Enhanced Dynamic Allocation, and Google’s prohibition on publishers setting different price floors for different ad exchanges and ad buying tools (which depresses publishers’ inventory yield for Google’s direct benefit). Despite widespread publisher dissatisfaction over the price and quality of Google’s ad server, Google has not suffered any loss to its ad server market share or dominance.

77. Google’s market power in the publisher ad server market is protected by significant barriers to entry and expansion, notably including high switching costs. For publishers, switching ad servers is both risky and resource intensive. Some publishers have inventory on hundreds of
thousands, or even hundreds of millions, of webpages, which makes switching ad servers exceedingly expensive, difficult, and time consuming. Moreover, the switching process also entails significant revenue risk, as even minor glitches during the transition can disrupt and prevent delivery of advertiser campaigns. Industry experts compare a change in ad servers to “switching engines in mid-flight.” Google’s internal documents confirm publishers’ high switching costs. Because switching costs are high, publishers are effectively locked in.

78. In addition to high switching costs in the ad server market, Google’s own anticompetitive conduct imposes additional barriers to entry and expansion. The most notable is probably Google’s tying of its publisher ad server with its ad exchange, ad network, and ad buying tools. As addressed further in the Anticompetitive Conduct section below, once Google had both a publisher ad server (acquired from DoubleClick) and an ad exchange (launched in 2009), they made it so the massive number of advertisers using Google Ads (the ad buying tool for smaller advertisers to bid on display space) could transact only in Google’s own ad network and/or ad exchange, not in any non-Google network or exchange. With so many advertisers funneled exclusively into Google’s exchange, Google also made it so that publishers could receive bids from these advertisers (necessary for maximizing yield) only by licensing Google’s ad server and transacting in Google’s exchange. The resulting situation imposes near-insurmountable barriers to entry and expansion for any potential or actual provider of publisher ad server technology. Moreover, this situation further illustrates how Google’s pricing power is unencumbered by competitive constraints: Google demanded that it represent the buy-side, where it extracted one fee, as well as the sell-side, where it extracted a second fee, and it also forced transactions to clear in its own network and exchange, where it extracted even more fees.
B. Ad Exchanges

1. Exchanges for web display inventory in the United States are a relevant antitrust market.

79. Exchanges for web display inventory (“exchanges”) in the United States are a relevant antitrust product market. They are marketplaces in which publishers’ display inventory is auctioned off to end-advertisers (through advertisers’ middlemen) on an impression-by-impression basis and in real time. On the sell-side, exchanges generally interface with publishers through the publishers’ ad server (e.g., Google’s ad server). On the buy-side, they interface with advertisers through ad buying tools, including those for large advertisers (e.g., Google’s DV360) and for small advertisers (e.g., Google Ads), and sometimes, even ad networks.

80. Exchange marketplaces exhibit several unique features. First, they do not bear inventory risk. Instead, they connect a publisher’s inventory with an immediate willing buyer, as opposed to purchasing and then reselling ad space. Second, exchanges monetize by charging the publisher with a transparent percentage of transaction value, as opposed to monetizing via arbitrage or taking a non-transparent fee. Third, to sell directly on an exchange, most exchanges require publishers to meet minimum monthly requirements for impression volume and/or spend. This puts direct relationships with exchanges out of the reach of smaller publishers, who are effectively relegated to selling their inventory in the less-transparent marketplaces called networks (addressed below). Finally, large advertisers (e.g., Procter & Gamble) purchase primarily in exchanges, not networks; so in order to efficiently sell ad space to these large advertisers, publishers must also transact there.

81. The publishers who license Google’s ad server and sell their display inventory through marketplaces primarily do so through exchanges, not networks. For example, one major online
publisher in the United States sold over 80 percent of their indirect display inventory to exchanges, not networks.

82. Ad exchanges are unique and not interchangeable with publisher ad servers, ad networks, or ad buying tools for large or small advertisers; those products serve different types of customers (e.g., advertisers on the buy-side rather than publishers on the sell-side). They also have vastly different sets of features and price points. A small but significant increase in the price of an ad exchange does not cause publishers to switch, e.g., to an ad server, ad network, or ad buying tool, as none of those products provide a real-time auction marketplace with the features unique to exchanges.

83. Ad exchanges are also not interchangeable with direct sales channels. For publishers, selling inventory directly requires substantial investment in and development of expertise around managing, selling, and serving online ad campaigns; it is an expensive proposition for publishers. For advertisers, buying inventory directly likewise requires considerable expertise and ongoing investment. For direct deals, publishers and advertisers alike typically must hire and maintain internal staff to manage these one-to-one relationships. As a result, the direct sales channel tends to be reserved for very high-value publisher-advertiser transactions. For instance, a large online publisher like The Wall Street Journal would generally not directly transact with a local Ford dealership, as the monthly value of those transactions would probably be no more than a few thousand dollars. They would, however, gladly transact with that dealership indirectly through an ad exchange, even if the total value of monthly transactions was just a few dollars. Reflecting these differences, ad servers and exchanges charge publishers completely different prices. Ad servers tend to charge publishers a low fixed-cost per volume of ads served, whereas exchanges tend to charge publishers anywhere from 5 to in excess of 20 percent of each impression’s clearing price.
Ultimately, a small but significant increase in price for ad exchanges does not cause customers to switch to publisher ad servers, and the barrier to switching outweighs the cost.

84. The relevant geographic market for display ad exchanges is the United States. Display ad exchanges available in other countries are not a reasonable substitute for display ad exchanges available in the United States.

2. Google has monopoly power in the exchange market.

85. Google has monopoly power in the United States in the display ad exchange market. Despite an early competitive landscape, Google’s ad exchange (historically called AdX) has enjoyed dominance in the United States since at least 2013. By October 2019, it transacted over 60 percent of all display ad inventory sold on ad exchanges in the United States, and that percentage has increased substantially since Google’s introduction of Unified Pricing rules in late 2019 (as addressed further in the Anticompetitive Conduct section below).

86. Finally, for online publishers with high-value users, Google’s exchange transacts an even greater share of impressions. For example, Google’s exchange transacts over 80 percent of one major online publisher’s exchange impressions, even though the publisher routes and sells its impressions in at least six other exchanges.

87. The closest competitors to Google’s exchange include the exchanges provided by Magnite, AT&T’s Xandr, and Index Exchange. But those exchanges transact much smaller shares of publishers’ exchange impressions; in comparison to the more-than 60 percent of indirect impressions flowing through exchanges that Google’s exchange routinely transacts, Google’s closest exchange competitors typically transact a mere 4 to 5 percent of the same publishers’ exchange impressions.

88. Direct evidence confirms Google’s monopoly power in the display ad exchange market. Google’s exchange has the power to control prices. It is able to charge supra-competitive
prices, which are 19 to 22 percent of every trade. By contrast, the prices charged by Google’s closest exchange competitors are considerably lower: from 15 percent down to a mere 5 percent. Despite their lower prices, these competing exchanges are simply unable to grow their market share.

89. Additionally, Google’s ability to increase prices (i.e., its take rate) in the exchange market further demonstrates its durable monopoly power. Google’s 2018 internal documents observed that “[r]ecent market dynamics ... are putting pressure on the 20% fee.” Nevertheless, Google did not reduce its average exchange take rate from 2017 to 2020. In fact, Google increased its exchange take rate from 2017 to 2019 (from 20 percent for third-party buyers buying through AdX in 2017 to 22 percent in 2019). The fact that Google did not lower its take rates, and instead increased them, demonstrates that Google has insulated its exchange from any of the competitive market dynamics that would otherwise incentivize them to lower their prices.

90. Google’s monopoly power is also evidenced by the fact that its exchange does not lose market share when competitors drop their prices. For example, when rival exchanges attempted to gain market share by lowering their prices in 2017, Google’s exchange maintained or even increased prices and still increased its market share. Competing exchanges have not been able to meaningfully increase their market shares, despite some cutting their take rates by half.

91. Google’s market power in the exchange market is also protected by significant barriers to entry and expansion. The first is a sort of chicken-and-egg problem; a new entrant must achieve a sufficient scale of both publishers and advertisers on its exchange to become viable. A second barrier is imposed by Google itself. Employing a variety of anticompetitive tactics, Google unilaterally captures a large volume of the transactions otherwise available to competing exchanges by causing its publisher ad server to preferentially route transactions to its exchange (as
addressed further in the Anticompetitive Conduct section below). Moreover, Google imposes yet another barrier by exclusively and preferentially routing the bids of advertisers who use DV360 and Google Ads to Google’s exchange (through a separate set of anticompetitive conduct addressed below).

C. Ad Networks

1. Networks for web display inventory in the United States are a relevant antitrust market.

92. The market for web display ad networks (“networks”) in the United States is a relevant antitrust product market. Display ad networks are a type of indirect marketplace that differ from exchanges in their features and price points. While networks, like exchanges, match publishers’ ad inventory with advertisers, networks do not necessarily do this on a real-time impression-by-impression basis. Moreover, networks often carry inventory risk. That is, they purchase (and then sell) impressions on their own behalf, as opposed to purchasing on behalf of an advertiser or buy-side middleman. Networks often do not provide impression-by-impression price transparency to the sell- or buy- sides of the transaction (i.e., the publishers or the advertisers). Instead, networks obscure prices within auctions, which enables them to capture undisclosed margins; neither the buyers nor sellers will know whether the network takes, e.g., 20 or 50 percent of matched trades. The qualitative differences between exchanges and networks result in two entirely different price points: networks are more expensive than exchanges on a per transaction basis.

93. Compared to exchanges, networks tend to match smaller advertisers’ ads with ad space from smaller publishers. Smaller publishers (e.g., local newspapers, niche websites, and blogs with a comparatively lower volume of impressions) are attracted to networks because, unlike exchanges, networks rarely require publishers to meet minimum impression or spend requirements. For example, Google does not impose monthly page view or impression
requirements on publishers who sell through Google’s network (the Google Display Network or “GDN”). Additionally, networks tend to be more restrictive on the buy-side, often refusing to accept bids from ad buying tools for large advertisers (DSPs).

94. Ad networks are unique. They and not interchangeable with publisher ad servers, exchanges, or ad buying tools for large or small advertisers; those products serve different types of customers (e.g., advertisers on the buy-side rather than publishers on the sell-side). They also have vastly different sets of features and price points. A small but significant increase in the price of an ad network does not cause publishers to switch, e.g., to an ad server, an ad exchange, or an ad buying tool, as none of those products provide smaller publishers and advertisers with the features unique to network marketplaces.

95. The relevant geographic market for display ad networks is the United States. Display ad networks available in other countries are not a reasonable substitute for display ad networks available in the United States.

2. **Google has monopoly power in the network market.**

96. Google has monopoly power in the web display ad network market in the United States. Google describes its ad network (GDN) as “the largest ad network marketplace in the world.” GDN reaches more user impressions and websites than any other display network, including over 2 million small online publishers globally. No other display ad network in the United States reaches as many publishers and advertisers. Google has immense scale amongst the long tail of small online publishers.

97. Direct evidence confirms Google’s monopoly power in the display ad network market. GDN charges high double-digit commissions of at least 32 percent on advertising transactions, which, according to public sources, is double the “standard rate” elsewhere in the industry. Internally, Google acknowledges that its fees are very high and that it can demand them because
of its market power. For example, in an internal 2016 conversation, Google executives commented that Google’s ad networks make “A LOT of money” with its commission, and they acknowledged that they do this because, quite simply, “we can.” “Smaller pubs don’t have alternative revenue sources,” explained one Google employee when addressing the lack of viable competing ad networks available to its customers.

98. Significant barriers to entry and expansion protect Google’s display ad network monopoly power. Employing a variety of anticompetitive tactics, Google unilaterally captures a large volume of the transactions otherwise available to competing networks by causing its publisher ad server to preferentially route transactions to its display ad network (as addressed further in the Anticompetitive Conduct section below). Moreover, Google imposes yet another barrier by preferentially routing the bids of advertisers who use Google’s ad buying tool for small advertisers (Google Ads) to its own GDN ad network (through a separate set of anticompetitive conduct addressed below). Scale also operates as a barrier to entry. Ad networks need scale on both the supply and demand sides; natural network effects make it difficult for any new networks to enter and achieve scale.

D. Ad Buying Tools for Large and Small Advertisers

99. Just as publishers use ad servers to advance their own interests (e.g., inventory management and maximizing revenue), advertisers use ad buying tools to advance their own interests (e.g., accessing and purchasing ad inventory appropriate for their campaigns at the lowest prices). Broadly speaking, ad buying tools let advertisers set parameters integral to their purchasing decisions, including details about the types of users they want to target and the maximum bids they are willing to submit for various types of display ad inventory. Ad buying tools then use these parameters to automatically bid (on the advertiser’s behalf) for ad space in exchanges and networks.
100. But there are two distinct types of ad buying tools—those for small advertisers and those for large advertisers—and they are not usually interchangeable with each other. Ad buying tools for small advertisers are, in essence, pared-down analogues of the ad buying tools for large advertisers, which are typically referred to as DSPs (demand-side platforms).

101. These two different types of ad buying tools differ widely in both the features they offer and the pricing and minimum spend requirements they impose. Fundamentally, DSPs serve and are designed for a different type of advertiser than ad buying tools for small advertisers. DSPs offer robust and complex bidding and trading options ill-suited for smaller and less sophisticated advertisers. In fact, DSPs are so complex that they are frequently not used or managed by the actual advertisers (e.g., Ford), but by the advertisers’ specialized ad buying team (e.g., an ad agency or specialized division at an agency called a “trading desk”). Conversely, ad buying tools for small advertisers usually do not meet the transparency, optimization, sophistication, or bidding needs of large advertisers.

102. Furthermore, the different types of ad buying tools are also sold at different price levels. DSPs usually require high minimum monthly spend commitments, sometimes $10,000 or more, whereas ad buying tools for small advertisers can require just a few dollars to get started. For example, Amazon’s DSP requires a monthly commitment of over $35,000, while Google’s buying tool for small advertisers (Google Ads) requires no monthly minimum spend. In 2020, Google Ads had thousands of advertisers that spent less than $250 per month on web display inventory in the United States; none of those advertisers would have been able to switch to Amazon’s DSP or The Trade Desk because each has minimum spend requirements of over $1,000 per month. So while Amazon’s DSP and The Trade Desk compete with Google’s DV360, they do not compete for the small advertisers using Google Ads. Thus, a small but significant increase in price of an ad buying
tool for small advertisers does not cause advertisers to switch to ad buying tool for large advertisers.

1. **Web display ad buying tools for small advertisers in the United States constitute a relevant antitrust market.**

103. The market for web display ad buying tools ("ad buying tools") for small advertisers in the United States is a relevant antitrust market. These tools provide an interface that smaller advertisers (e.g., real estate agents, plumbers, builders, doctors, and car dealerships) can use to bid on and purchase the display ad inventory available on ad exchanges and in ad networks. These tools allow small advertisers to optimize for their own interests, including purchasing the best quality display ad inventory for the lowest prices.

104. As above, ad buying tools for small advertisers are not usually interchangeable with the ad buying tools for large advertisers. Nor are ad buying tools for small advertisers interchangeable with ad servers, ad networks, or ad exchanges; those products do not provide small advertisers with an interface to bid on and purchase ad inventory in exchanges or networks. Those products also differ significantly from ad buying tools for small advertisers insofar as they serve different types of customers, have different features sets, and come with different price and entry points. Those products are not viable alternatives in response to a small but significant price increase because they do not provide small advertisers with the features of an ad buying tool at an affordable price point.

105. The relevant geographic market for display ad buying tools for small advertisers is the United States. Display ad buying tools for small advertisers available in other countries are not a reasonable substitute for the display ad buying tools for small advertisers available in the United States.
2. **Web display ad buying tools for large advertisers in the United States constitute a relevant antitrust market.**

106. The market for web display ad buying tools for large advertisers in the United States is a relevant antitrust market. These tools provide an interface that large advertisers (e.g., Ford or Nike) use to bid on and purchase display ad inventory on ad exchanges and in ad networks. These tools allow large advertisers to optimize for their own interests, including purchasing the best quality display ad inventory on exchanges for the lowest prices.

107. As above, ad buying tools for large advertisers are not usually interchangeable with the ad buying tools for small advertisers. Nor are ad buying tools for large advertisers interchangeable with ad servers, ad networks, or ad exchanges; those products do not provide large advertisers with an interface to bid on and purchase ad inventory in exchanges. Those products also differ significantly from ad buying tools for large advertisers insofar as they serve different types of customers, have different features sets, and come with different price and entry points. Thus, a small but significant increase in price of an ad buying tool for large advertisers, would not cause those advertisers to switch to an ad server, an exchange, or network.

108. The relevant geographic market for display ad buying tools for large advertisers is the United States. Display ad buying tools for large advertisers available in other countries are not a reasonable substitute for the display ad buying tools for large advertisers available in the United States.

3. **Google has monopoly power in the web display ad buying tool market for small advertisers.**

109. Google’s ad buying tool Google Ads has monopoly power in the United States in the web display ad buying tool market for small advertisers. Ad buying tools for small advertisers
serve startups and local businesses such as real estate agents, doctors, dentists, restaurants, automotive repair shops, craftsmen, electricians, hair salons, architects, and landscapers.

110. Google’s records reveal that advertisers using Google Ads purchase at least half of the impressions in Google’s ad exchange (which is the largest ad exchange), and over 60 percent of the impressions on Google’s display network, GDN (which is the largest ad network).

111. The market power of Google Ads is also evidenced by the fact that Google’s exchange charges supra-competitive fees for exclusive access to Google Ads advertisers. Google’s documents confirm as much, describing its exchange’s ability to charge double to quadruple the prices of some of its nearest exchange competitors because of exclusive access to Google Ads advertisers. The ability to extract such rents, dependent on Google Ads exclusivity, demonstrates Google Ads’ monopoly power. Moreover, running sequential auctions allows Google to extract additional non-transparent margins, which it does not disclose to advertisers.

112. Google Ads also has market power over the small advertisers it serves because most rely on a single ad buying tool for a given advertising format (e.g., display ads). These small advertisers tend to single home because using multiple ad buying tools imposes substantial additional costs in terms of the time, effort, training, and expenses that would be necessary to manage campaigns across different ad buying tools. Google Ads also does not permit small advertisers to completely export the data they need to easily switch to another ad buying tool. As a result, while very large advertisers might be able to absorb the costs of using multiple ad buying tools at a time, small advertisers almost always use just one at a time.

113. Google’s market power with Google Ads is protected by at least four critical barriers to entry and expansion. First, Google Ads charges opaque fees and does not let advertisers readily audit the ad inventory Google purchases on their behalf. These act as barriers because they impede
advertisers from switching to, e.g., a lower-cost or higher-quality provider. Second, Google’s practice of withholding YouTube video inventory from rival ad buying tools (addressed below) effectively locks single-homing small advertisers into Google’s ad buying tool. In addition, other providers of ad buying tools indicate that it does not make economic sense to try to compete with Google Ads for small advertisers, because they cannot achieve sufficient scale with smaller advertisers who want to buy display, YouTube, and even search ads, through just one tool. Finally, advertisers use ad buying tools to keep track of the users they have targeted with ads, the users that have made purchases, and the users that they want to keep targeting with more ads. Google Ads limits advertisers from accessing and taking this data with them to another tool. As a result, advertisers are locked in and have high switching costs; switching to a different ad buying tool provider means abandoning the valuable data and intelligence they already gathered in Google Ads and starting over from scratch.

E. YouTube

1. **Instream online video advertising is a relevant antitrust market in the United States.**

114. The market for instream online video advertising in the United States is a relevant antitrust market. Online instream ads occur within the video stream of a video the user is watching (e.g., a video ad before, during, or after a YouTube video), while outstream ads occur when the user scrolls through other content (e.g., a video ad that automatically plays when scrolling through an article). Instream online video advertising is not interchangeable with other types of online advertising, like search or display advertising. Instream online video advertising typically serves distinct campaign goals for advertisers and usually commands significantly higher prices than online display ads, suggesting that online display ads do not constrain the prices of instream online video ads. Instream online video advertising is also not interchangeable with outstream video
advertising since the end-user behavior differs significantly—an end-user passively watches instream video but scrolls through outstream video—leading advertisers to view the ad spaces differently.

2. Google has market power in the instream online video advertising market.

115. YouTube has market power in the instream online video advertising market. YouTube’s share of the overall online video advertising market is at least 43 percent in the United States, and potentially much higher for instream online video advertising. Further, YouTube has immense reach amongst consumers in the United States, reaching approximately 190 million such consumers. Among younger U.S. consumers, 77 percent of U.S. internet users aged 15-25 used YouTube, as measured in Q3 2020. Even amongst older age-groups, YouTube’s reach was at least 67 percent. YouTube’s substantial reach among U.S. consumers makes it a “must-have” source of online instream video inventory for advertisers and is considered a “strategic anchor” by Google for its buying tool DV360. Accordingly, Google wields significant market power in the instream online video ads market, as demand for YouTube content is unique compared to other online video publishers that sell instream online video advertising adjacent to short-form user created video content.

116. The relevant geographic market for online instream video advertising is the United States. Online instream video advertising available in other countries is not a reasonable substitute for the online instream video advertising available in the United States.

VII. Anticompetitive Conduct

117. Google unlawfully forecloses competition in the market for publisher ad servers, in the market for ad buying tools for large advertisers, in the market for ad buying tools for small advertisers, and in the separate markets for ad exchanges and ad networks. Google excludes competition by engaging in conduct unlawful under settled antitrust precedent, including through
unlawful tying arrangements, a pattern and practice of exclusionary conduct targeting actual and potential rivals, and even a market allocation and price fixing agreement with Facebook, its largest potential competitive threat in the publisher ad server and ad network markets.

A. **Google forces publishers to license Google’s ad server and trade in Google’s ad exchange.**

118. Prior to Google’s anticompetitive conduct, the markets for ad exchanges and publisher ad servers were competitive. When Google originally entered the ad exchange market in 2009, publishers and advertisers had been trading in exchanges for some time. Google was late to enter the ad exchange market and faced significant competition from large and well-funded players like Microsoft and Yahoo!. In 2009, the Yahoo! exchange alone, for example, processed nine billion daily ad impressions. After launching that same year, Google’s exchange transacted fewer than 200 million daily impressions. At the time, Google also faced significant competition in the publisher ad server market. Google acquired its publisher ad server from DoubleClick in 2008 but faced competition from companies such as 24/7 Real Media (owned by WPP PLC), aQuantive (owned by Microsoft), and ValueClick (publicly traded).

119. Google, however, quickly began pursuing an unlawful strategy to foreclose competition in both markets. At the time, Google operated an ad buying tool for small advertisers and already had significant power in that market. Nearly one million small advertisers across the country—including restaurants, clothing stores, doctors, and electricians—used Google’s ad buying tool to bid on display ad space. Immediately after acquiring a publisher ad server and launching its exchange in 2009, Google began to require that the small advertisers bidding through Google Ads transact in both Google’s ad network and Google’s ad exchange. Google also required that the large publishers wanting to receive bids from this enormous group of small advertisers trade in Google’s exchange and license Google’s ad server. In essence, Google demanded that it
represent the buy-side, where it extracted one fee, as well as the sell-side, where it extracted a second fee, and it also forced transactions to clear in its own exchange, where it extracted a third fee.

120. Google was able to force publishers and advertisers to trade in Google’s exchange, and publishers to license Google’s ad server, because Google’s ad buying tool for small advertisers has had substantial market power in the United States for at least a decade. Google originally called its product for small advertisers AdWords, but it is now known as Google Ads. In 2009, some 250,000 small and medium advertisers in the United States used this ad buying tool to purchase search and display ads. And since then, the number of advertisers using this tool to purchase display inventory on exchanges has rapidly increased even further. In 2013, the number of advertisers using Google Ads doubled to two million. Today, millions of small- to medium-sized businesses use Google Ads to bid on and purchase display ad space trading in Google’s AdX exchange, and those advertisers do not have alternative tools to use. Other ad buying tools attempting to compete reached far fewer advertisers, and most have now exited the market altogether, leaving advertisers without alternatives to Google’s dominance.

121. Google gained its monopoly in the market for ad buying tools for small advertisers in part due to its monopoly in the display ad network market and its significant scale in search advertising. By 2009, Google’s ad network GDN was the leader in reach (unique visitors to publishers’ sites); Google leveraged this fact by requiring the use Google Ads by any advertiser seeking to purchase ad space through GDN. Similarly, Google required small advertisers to use Google Ads to purchase search ads on Google Search. Google’s relationships with small advertisers seeking to purchase display advertising is based on its enormous scale in search advertising. Having already established a relationship with small advertisers by selling search
advertising, the marginal cost for selling display advertising to those same small advertisers is negligible. Google’s competitors, by contrast, find it uneconomical to reach a sufficient number of small advertisers at scale to offer buying tools to compete with Google Ads.

122. Google Ads also had market power over its small advertisers because those advertisers almost always use just one ad buying tool at a time. When deciding which ad buying tool to use, most advertisers chose Google’s because it was the only way to purchase Google Search ads and display ads on Google’s leading display network, GDN.

123. Google monopolized the exchange and ad server markets by forcing publishers to license Google’s ad server and trade in Google’s exchange in order to receive bids from the more-than one million advertisers using Google’s buying tool, Google Ads. First, Google automatically routed small advertisers’ ad network bids to Google’s exchange. Additionally, Google refused to route advertisers’ bids to non-Google exchanges. Next, Google programmed its exchange to return real-time bids only to those publishers using Google’s new publisher ad server. As Google’s [redacted] wrote in an internal PowerPoint presentation in 2014, “AdX is also the only platform with direct access to the entirety of AdWords demand, one of the world’s largest ad networks.”
124. Through this conduct, Google acted against the best interests of the small advertisers bidding through Google Ads. If Google were serving the interests of the small businesses using Google Ads, Google would have routed their bids to the exchanges that offered the lowest prices for the identical inventory, just as competing ad buying tools did. In a competitive market, advertisers prefer to buy across multiple exchanges in order to reach the largest possible pool of supply at the best possible prices, thereby enabling and fostering competition between the exchanges.

125. Internal Google documents reveal that Google imposed these bid routing restrictions for the express purpose of foreclosing competition. In a Display Strategy document from August 2012, Google noted that they “are artificially handicapping [their] buyside [Google Ads] to boost the attractiveness of [their] sell-side (AdX). Specifically, to limit [Google Ads] to buying only on AdX, an exclusivity that makes AdX more attractive to sellers.”

126. Because publishers are interested in exchanges returning real-time bids for their inventory, Google effectively required publishers to use its ad server in order to work with its exchange. Publishers also only use a single ad server at a time to manage their inventory, so they had to forgo either (a) using any competing ad server or (b) access to the enormous pool of advertisers using Google Ads and bidding into Google’s exchange. From the first days of Google’s AdX exchange, advertisers bidding through Google Ads made up the vast majority of purchases in Google’s exchange: around half of total transactions by revenue within a year of AdX’s launch, 59 percent of total transactions a few years later, and about two-thirds of all transactions today.

127. An article in *The Wall Street Journal* explained Google’s conduct as follows: “Using Google’s [ad server] DoubleClick for Publishers is the only way to get full access to Google’s
AdX exchange, publishers say. For many years, Google’s AdX was the only ad exchange that had access to this fire hose of ad dollars.”

128. Google’s conduct successfully foreclosed competition in the publisher ad server and exchange markets. When Google acquired the DoubleClick ad server in 2008, Google’s share of the publisher ad server market was around 48 to 57 percent, and Google faced competition in both the ad server and ad exchange markets. In the ad server market, Google has now effectively foreclosed publisher ad server competition from companies that included 24/7 Real Media, aQuantive, and ValueClick. As internal Google documents show, by coupling its ad server with its substantial market power on the buy-side, Google prevented publishers from switching to competing ad servers and quickly cornered the remainder of the market. By 2011, approximately 78 percent of publishers in the United States used Google’s ad server, and by 2019, Google’s share of the market increased to over 90 percent of large publishers.

129. Google maintained its monopoly power over ad servers and its stranglehold in the ad exchange market by continuing the same type of exclusionary conduct. In 2016, Google started routing the bids of small advertisers from Google’s buying tool to non-Google exchanges, but significantly and intentionally restrained the routing of bids to non-Google exchanges for the express purpose of continuing to exclude and suppress competition. Google’s exchange also continues to return live bids only to publishers using Google’s ad server. In sum, Google did not want to actually undo its Google Ads—exchange—ad server tie.

130. Google similarly requires publishers seeking access to large advertisers’ bids to trade in Google’s exchange (and pay Google’s exchange fees) and to license Google’s ad server (and pay Google’s ad server license fees). Google’s strategies here are numerous and discussed throughout this Complaint. For instance, Google uses mandatory price floors (discussed below in
paragraphs 273-279) and other auction manipulations like project Bernanke (discussed below in paragraphs 148-154) to force publishers to transact with DV360 advertisers in Google’s exchange. Uniform Price floors are not competition on the merits. Google deployed another project called project Poirot to detect and reduce spending on non-Google exchanges. Finally, Google makes many of the features in DV360 (e.g., affinity audiences targeting) unavailable to advertisers if they participate in exchanges other than Google’s, which results in many advertisers using Google’s exchange even though they would not do so in a competitive market. Because Google’s exchange then only routes live bids to publishers using Google’s publisher ad server, publishers are effectively forced to use Google’s publisher ad server to receive bids from DV360 advertisers. This conduct enables Google to maintain its monopoly power in the publisher ad server market and exclude competition in the exchange market. Google has specifically discussed this “lock in” effect internally.

B. Google uses its control over publishers’ inventory to block exchange competition.

131. In addition to forcing publishers and advertisers to transact in its own exchange, Google used its control over publishers’ inventory and its status as publishers’ agent to foreclose exchange competition through a host of anticompetitive conduct. Google restricted publishers from selling their inventory in more than one exchange at a time, blocked competition from non-Google exchanges under a false pretense, and blocked publishers from accessing and sharing information about their heterogeneous inventory with non-Google exchanges. In doing so, Google foreclosed competition in the exchange market, enabling its exchange to charge very high fees that even Google could not actually justify. Google internally admits that an exchange should be more of “a public good used to facilitate buyers and sellers” and not “an immensely profitable business,” as it is for Google. Google’s anticompetitive conduct, however, ensured that publishers and advertisers could not benefit from competition.
1. **Google blocks publishers from sending their inventory to more than one marketplace at a time.**

132. Around 2009-2010, advertising exchanges (including Google’s AdX) started to compete with one another by submitting real-time bids for publishers’ inventory. As the market migrated to real-time bidding, Google used its new control over publishers’ inventory through its publisher ad server to thwart competition *between* marketplaces. Google accomplished this by forcing publishers to route their ad space to a single exchange, one at a time, rather than all at once. Google foreclosed exchange competition in this manner from 2009 through 2016. The industry referred to this practice as waterfalloing.

133. Waterfalloing reduced publishers’ yields because it blocked competition between exchanges. Routing ad space into multiple exchanges at the same time would permit publishers to benefit from access to greater advertiser demand. One exchange might have an advertiser willing to bid a $2 CPM (cost per thousand) for a publisher’s impression, but another exchange might have a different advertiser willing to bid a $3 CPM. Being forced to route to one exchange at a time deprives publishers of the opportunity to receive these higher bids (and therefore higher sales prices).

134. Waterfalloing also impeded take rate and quality competition *between* exchanges. Competition between exchanges forces exchanges to compete on quality and take rates, regardless of whether they operate in financial markets or, as here, in openly traded online display ads. The sellers and buyers in an exchange measure an exchange’s efficiency using the tightness of the bid-ask spread, i.e., the difference between the bid (the amount for which buyers are willing to sell the instrument) and the ask (the amount for which sellers are willing to sell the instrument). Competition between electronic exchanges leads to pressure on exchange prices and results in
efficiency gains through smaller bid-ask spreads. Google, however, foreclosed exchange competition in this manner from 2009 through 2016.

2. Google blocks competition from non-Google exchanges and deceives publishers about Dynamic Allocation.

135. In addition to blocking real-time competition between exchanges, Google’s ad server foreclosed exchange competition by preferentially routing publishers’ inventory to Google’s new exchange through a process it called Dynamic Allocation.

136. At a high level, Dynamic Allocation granted Google’s exchange a superior right of first refusal on all of the impressions a publisher made available to exchanges. Google’s ad server let Google’s exchange compete for publishers’ impressions by returning live bids, while requiring non-Google exchanges to compete for the same impressions with static non-live bids. Usually, an exchange’s static bid was set to equal the overall price the exchange historically paid for publishers’ impressions. Google’s ad server passed the rival’s static bid to Google’s exchange and permitted Google’s exchange to purchase the impression by paying just one penny more. In other words, Google used its control over publishers’ inventory to let its exchange view a publisher’s valuable impression—like a box seat at a baseball game—and purchase that impression for just a penny more than the average price that a non-Google exchange paid for any old impression—just like the average price for any seat in the stadium.

137. Google’s adoption of Dynamic Allocation in 2010 ended DoubleClick’s neutrality as a seller’s agent. Prior to Google’s acquisition of DoubleClick, DoubleClick operated a publisher ad server but did not have an operational exchange. The DoubleClick publisher ad server also routed publishers’ impressions to exchanges and networks in a neutral manner to maximize publishers’ yield. Under Google’s control, Dynamic Allocation ended the neutrality of the DoubleClick ad server and highlighted the problems with Google’s conflicts of interest.
138. With waterfalling and Dynamic Allocation, Google’s ad server delivered a one-two punch to competition in the exchange market. Google used waterfalling to block other exchanges from competing simultaneously for impressions. Then, through Dynamic Allocation, Google’s ad server passed inside information to Google’s exchange and permitted Google’s exchange to purchase valuable impressions at artificially depressed prices. Competing exchanges were deprived of the opportunity to compete for inventory and left with the low-value impressions passed over by Google’s exchange.

139. Once Google routed publishers’ impressions to Google’s exchange, Google further harmed publishers by foreclosing competition between the bidders in its exchange auction. Google considered, but ultimately decided against “creating a completely neutral platform like the NYSE.” Instead, Google chose to craft a rigged exchange to benefit its own ad buying tools. In other words, Google chose to “stack the deck in favor of Google [demand].” As a result, Google’s exchange suppresses competition in its auction, permitting Google’s ad buying tools (Google Ads and DV360) to win over 80 percent of the auctions in Google’s exchange.

140. Google, mirroring the duties of financial brokers to their clients, promised publishers that its publisher ad server would act in their best interests. Google told publishers, for instance, that Dynamic Allocation maximized their inventory yield; it “maximizes revenue,” Google advertised about its publisher ad server. Google also told publishers that, with Dynamic Allocation, publishers have a “risk-free way to get the highest real-time revenues for all their non-guaranteed impressions.”

141. In fact, Google concealed the nature of its conduct and knew that Dynamic Allocation did not in fact maximize publishers’ yield. Google internally discussed how publishers could make more money selling their inventory if exchanges really competed. Internal Google documents
reveal Google’s knowledge of its own misrepresentations, stating that “the optimal publisher set up includes multiple exchanges in order to capture the largest demand pool and increase RPMs [revenue per impression] through [exchange] competition.” In fact, according to one Google study, competition between exchanges increased publishers’ clearing prices by an average of 40 percent. In other words, Dynamic Allocation had permitted Google’s exchange to clear publishers’ inventory for depressed prices. One industry publication put it succinctly, “[t]he lack of competition was costing pub[s] cold hard cash.”

3. Google restricts information to foreclose competition and advantage itself.

142. Google further foreclosed competition in the exchange and ad buying tool markets by blocking publishers’ ability to access information about their heterogenous inventory. Google’s ad server manages that inventory and promises to maximize publishers’ inventory yield. On behalf of publishers, the ad server is what identifies the site visitors associated with the publishers’ inventory, assigning individual IDs to each visitor. In 2009, Google’s ad server started hashing or encrypting publishers’ ad server user IDs, prohibiting publishers from sharing those IDs with non-Google exchanges and non-Google ad buying tools. Thus, Google strategically prevented publishers’ users from being easily identified, with one critical caveat: Google enables itself to use that very same information for its own trade decisions.

143. At the time of the DoubleClick acquisition, Google made representations to both the FTC and the United States Congress regarding publishers’ control and ownership over their critical ad server data. Google assured Congress that DoubleClick “data is owned by the customers, publishers and advertisers, and DoubleClick or Google cannot do anything with it.” And Google represented to the FTC that “customer and competitor information that DoubleClick collects currently belongs to publishers, not DoubleClick,” and “[r]estrictions in DoubleClick’s contracts with its customers, which those customers insisted on, protect that information from disclosure.”
Google then “committed to the sanctity of those contracts.” In essence, DoubleClick’s contracts rendered publishers’ data confidential and non-public, thereby prohibiting Google from using that data to act against publishers’ interests.

144. In order to sell an ad impression at a price reflective of its true value, publishers (and the exchanges that sell on their behalf) need to be able to adequately identify the user associated with the impression. User IDs permit publishers and their exchanges to understand the value of inventory, cap the number of times users see the same ad, and effectively target and track online advertising campaigns. When exchanges cannot identify users in auctions (e.g., through cookies), the prices of impressions on exchanges can fall by about 50 percent, according to one Google study.

145. However, despite the representations made during its acquisition of DoubleClick, in 2009, Google started restricting publishers’ ability to access and share their ad server user IDs. Google accomplished this by hashing or encrypting the user IDs differently for each publisher using Google’s ad server (e.g., John Connor = user QWERT12345), as well as for each advertiser bidding through Google’s ad buying tools (e.g., John Connor = user YUIOP67890). This change interfered with publishers’ ability to share consistent user IDs with non-Google exchanges and networks. As a result, publishers, along with their advertisers, exchanges, and networks, could not easily know that two different user IDs actually belonged to the same user.

146. While Google blocked publishers from accessing and sharing these user IDs with non-Google exchanges and networks, Google shared the same raw IDs with Google’s own network and exchange, as well as with Google’s own ad buying tools (DV360 and Google Ads). So for Google’s network, exchange, and ad buying tools, John Connor is always HJKLM54321. In other words, the only way for publishers and advertisers to easily know that two different user IDs
actually related to the same individual was to use Google’s ad buying tools and trade in Google’s exchange.

i. Information asymmetry causes publishers and advertisers to trade on non-Google exchanges at their own risk.

147. The restrictions Google imposed on publishers’ access to ad server user IDs meant that publishers and advertisers trading on non-Google exchanges did so at their own risk. By blocking publishers’ ability to access and share their ad server user IDs, Google’s exchange would always have better information about publishers’ heterogenous inventory. As a result, advertisers bidding through a non-Google ad buying tool or exchange could not efficiently know if they are bidding on valuable impressions, cap the frequency that consumers see their same ads, target audiences, or avoid bidding against themselves in second-price exchange auctions. But, of course publishers and advertisers could simply transact in Google’s exchange using Google’s ad buying tools and thereby avoid all of these harms Google artificially created. In essence, by scrambling the DoubleClick ad server user IDs, Google created a “heads I win, tails you lose” scenario.

ii. Google forecloses competition by using inside information to win auctions.

148. Google is able to further exploit its monopoly in ad servers to the detriment of publishers. Google’s next step was to begin using its exclusive access to publishers’ raw ad server user IDs to develop a number of internal non-transparent auction programs that exclude competition in both the exchange and ad buying tool markets. Google uses its artificial information advantage to engage in various forms of price discrimination and opportunity allocation, engineering auction outcomes that are different than those that would result from a free and open bid process. These programs ensured that publishers’ impressions, especially the high value ones, would transact through Google’s exchange and ad buying tools. So while Google publicly says its
products and product features are good for publishers and advertisers, they are not. Behind the scenes, Google manipulates the bidding process to maximize its own profits, rather than to maximize the profits of individual publishers and advertisers.

149. Google’s New York-based quantitative team “gTrade” designed one such program called Reserve Price Optimization (“RPO”). Google’s RPO program uses exclusive access to publishers’ user IDs to dynamically adjust the price floors in Google’s exchange on a per-buyer basis depending on what Google knows a particular buyer will actually pay. For example, if a publisher had set its floor price to a $10 CPM, RPO can increase the floor price to just below a buyer’s predicted willingness to pay, e.g., a $14.50 CPM; this would force advertisers in Google’s second-price exchange auctions to pay the RPO floor set by Google, as opposed to the amount bid by the auction’s second-highest bidder. In other words, Google would manipulate the bid belonging to a small business advertiser (e.g., a local doctor) from one price to another higher price (e.g., from $8 CPM to $14.50), without disclosing the manipulation to the advertiser. By adjusting floors in this manner, Google ensures that its own exchange transacts publishers’ most valuable impressions, even though an advertiser in a non-Google exchange would have otherwise won. Competing exchanges cannot similarly adjust their floors because Google blocks publishers from accessing and sharing their ad server user IDs.

150. Google’s gTrade team launched another program called Dynamic Revenue Share (DRS) that leverages exclusive access to publishers’ ad server user IDs to exclude exchange competition in a second way. Google automatically opted publishers into the DRS program under the misrepresentation that it would make publishers more money. DRS dynamically adjusts the take rate that Google’s exchange charges in order to win more impressions, most particularly the high-value impressions. For example, if a publisher offers an impression for sale in Google’s
exchange, but the highest bid cannot clear the publisher’s price floor due to Google’s take rate, DRS can dynamically lower Google’s take rate to ensure that the impression will still transact in Google’s exchange. In order to know when and by how much Google should vary its take rate with DRS, Google must be able to accurately determine the value of impressions, which depends upon its access to publishers’ ad server user IDs. Google forecloses competition in the exchange market by blocking publishers from sharing their ad server user IDs with non-Google exchanges.

151. In 2013, Google’s gTrade team designed Project Bernanke, yet another program to exclude competition. Named after the former Federal Reserve Chairman, Project Bernanke uses privileged access to detailed information regarding what advertisers historically bid to help advertisers using Google Ads beat the advertisers bidding through competitors’ ad buying tools. The Bernanke program helped advertisers bidding through Google’s ad buying tool win publishers’ valuable impressions in Google’s exchange. The Bernanke program is designed so that it is not transparent to publishers.

152. To illustrate how Bernanke works, suppose an advertiser using Google Ads (e.g., a local doctor) bids a $10 CPM for a USA Today ad impression targeted to John Connor. And suppose a different advertiser (e.g., Ford) bids a $12 CPM through The Trade Desk ad buying tool. Both ad buying tools then route the advertisers’ bids to Google’s exchange. In the absence of the Bernanke program, Ford’s $12 bid would win and Google would extract only one fee (its exchange fee). But the Bernanke program changes the outcome. Bernanke effectively manipulates the doctor’s bid without their knowledge (or anyone’s knowledge) before routing it to Google’s exchange, ensuring that the doctor nonetheless wins the impression targeted to John Connor. In this situation with Bernanke, Google will extract both its exchange fee and a second ad buying
tool fee. In this regard, Bernanke excludes competition from advertisers using non-Google ad buying tools.

153. According to internal Google documents, prior to Bernanke’s introduction, advertisers bidding through competitors’ ad buying tools were actually beating the advertisers bidding through Google’s ad buying tools. Google’s idea with Bernanke was to trade on inside information to help Google reverse this trend. The program permitted Google to radically influence the amount of trading executed through Google Ads and in Google’s exchange. Google looked back at the Bernanke program’s success as follows: “In the last year, the team launched Project Bernanke, which uses novel trading strategies to increase GDN’s win rate on AdX by +20%, reversing a worrisome 2013 trend of AdX buyers growing at GDN’s expense.” In just the first year of launch, the Bernanke program alone swelled trading in Google’s exchange enough to increase annual revenue by $230 million.

154. The preceding gTrade programs represent an illustrative but incomplete sample of the sophisticated auction programs Google uses to exclude competition in the exchange and ad buying tool markets. Google’s gTrade team developed other programs, including Bell and Elmo, that also use inside information to privilege Google’s exchange over rival exchanges. These programs
depend on Google cutting off access to publishers’ ad server user IDs and rendering access to those IDs exclusive for Google. The programs create inefficiencies in the allocation of impressions and reduce competitors’ ability to compete on price.

155. Moreover, these programs account for substantial additional Google revenue at the direct expense of harm to competition. RPO alone accounts for an additional $250 million dollars of annual recurring revenue, while various other auction programs shift substantial additional revenue to Google: DRS ($250m), Bernanke ($230m), Bell ($140m), and Elmo ($220m). In short, Google uses its monopoly power to manipulate auctions through algorithms that modify the exchange architecture in order to extract hundreds of millions of dollars in additional revenue and harm consumers by foreclosing competition.

iii. While Google cites “privacy” as the justification for restricting access to user IDs, Google does not actually care about privacy.

156. Google’s publicly stated reason for its publisher ad server cutting off publishers’ ability to share their ad server user IDs with non-Google exchanges is the purported protection of users’ privacy. But Google does not actually care about users’ privacy. Rather, Google wants to prevent companies from creating deeper and more comprehensive user profiles by combining different sets of user data. However, Google’s ad server shares those very user IDs with Google’s exchange and buying tools. Google then does what it wants to prevent others from doing: it combines the data sets to create more comprehensive user profiles and deliver more targeted advertising.

157. To be clear, this meant that contrary to Google’s privacy justifications, Google prevented consumers from having similar privacy benefits when a publisher or advertiser used Google’s network, or Google’s exchange, or when an advertiser used Google’s ad buying tools. At the same time, Google fails to provide consumers with benefits derived from allowing publishers to maximize competition for their ad space on all exchanges. The higher advertising
revenue publishers make from exchanges permits publishers to offer consumers better quality content and lower-priced or free access to their content.

158. Furthermore, the egregious ways that Google violates users’ privacy further evidence the pretextual nature of Google’s purported concerns for privacy. Indeed, Google knowingly failed to disclose the lack of privacy of its Google Drive service, and it has also met secretly with competitors to “slow down” efforts to enhance user privacy.

(a) Google violates the privacy of 750+ million Android users.

159. Google’s violation of the privacy of 750+ million Android users illustrates the pretext of Google’s privacy concerns. Around July of 2015, Google, through its cloud back up service Google Drive, entered into an exclusive agreement with Facebook’s private messaging service WhatsApp. As provided in that agreement, starting around October 2015, WhatsApp users on Google-Android devices were presented with the option to back up their WhatsApp messaging history, photos, video, and audio files to Google Drive.

160. Users at the time were led to believe that their WhatsApp messages were private and not accessible to third parties such as Google or Facebook. WhatsApp started encrypting users’ WhatsApp messages in 2013, completed end-to-end encryption on Android users’ messages in 2014, and completed all end-to-end encryption in 2016.

161. WhatsApp prominently marketed the fact the messages that users sent and received using WhatsApp and through its encryption protocol were not accessible by third parties. The WhatsApp website in 2016 and 2017 read: “Many messaging apps only encrypt messages between you and them, but WhatsApp's end-to-end encryption ensures only you and the person you're communicating with can read what is sent … messages are secured with a lock, and only the recipient and you have the special key needed to unlock and read them.”
The privacy of communications from third party access was not a minor issue. Many consumers demanded communications applications that ensured their communications were walled off from anyone else from having access.

Media reports reinforced the idea that no third party had access to users’ WhatsApp communications, including those backed up to Google Drive. For example, Mike Isaac with The New York Times wrote in 2016, “WhatsApp, the messaging app owned by Facebook and used by more than one billion people, on Tuesday introduced full encryption for its service, a way to ensure that only the sender and recipient can read messages sent using the app.” In a similar vein, a 2016 report from Lifehacker, a technology site launched by Gawker Media, stated: “WhatsApp can also backup your messages to Google Drive, though they’re encrypted so that shouldn’t be that big of a deal. Even if law enforcement requested it from Google, they wouldn’t be able to read it.”

However, this was not true. Conceding this fact in a June 2016 memo, Google wrote that “when WhatsApp media files are shared with 3rd parties such as Drive, the files are no longer encrypted by WhatsApp.” The memo continued, “For clarity, all of the [WhatsApp] data stored in Drive is currently encrypted with Google holding the keys.” What this meant was that Google, as a third party, could in fact access the photos, videos, and audio files, that users thought they had shared privately on WhatsApp.
165. Google knew users were misled about the privacy of their communications. The same June 2016 memo acknowledges: “WhatsApp’s current messaging around end-to-end encryption is not entirely accurate.” The memo also states: “WhatsApp currently markets that all communications through its product are end-to-end encrypted, with keys that only the users possess. They have failed to elaborate that data shared from WhatsApp to 3rd party services does not get the same guarantee. This includes backups to Google Drive.”

166. Google also knew that it was important for Google Drive users to know the truth: that Google as a third party had access to their communications. The same June 2016 Google memo memorialized, “It’s important for users to know that when WhatsApp media files are shared with 3rd parties such as Drive, the files are no longer encrypted by WhatsApp.”

167. But Google did nothing to correct this misunderstanding. Rather, it failed to disclose the relevant information to its customers, with the intent to sign up more users of Google Drive. For example, in an October 7, 2015 Google blog post explaining the WhatsApp-Google Drive partnership to consumers, Google affirmed that users’ WhatsApp backups were private backups: “WhatsApp for Android lets you create a private backup of your chat history, voice messages, photos, and videos in Google Drive.” In addition, the Google Drive website, the Google Drive mobile application, and the Google Drive Terms and Privacy policy all failed to disclose to users that Google as a third party had access to their WhatsApp communications. The Google Drive terms of service at the time even permitted Google the ability to use its access to users’ private WhatsApp communications in Google Drive to sell advertising.

168. Google also concealed the fact that it could access users’ WhatsApp communications. Normally, users can log into their Google Drive account and view their files contained there. But according to an internal Google memo, Google was “opaquely” backing up users’ WhatsApp
communications to Google Drive. As a result, users could not log into Google Drive to discover that Google had access to their decrypted WhatsApp communications.

169. Google’s privacy affirmations, omissions, and concealment resulted in increased demand for Google’s backup service. Users rapidly signed up for Google Drive backup of WhatsApp communications. By June of 2016, about 434 million WhatsApp users backed up approximately 345 billion WhatsApp files to Google Drive, netting for Google Drive about a quarter of a billion new Google Drive customers. By May of 2017, Google Drive had gained approximately 750 million new WhatsApp backup accounts. In short, Google had no problem violating the privacy of almost a billion users if it helped them to grow their business.

(b) Google secretly met with competitors to discuss competition and forestall consumer privacy efforts.

170. The manner in which Google has actively worked with Big Tech competitors to undermine users’ privacy further illustrates Google’s pretextual privacy concerns. For example, in a closed-door meeting on August 6, 2019 between the five Big Tech companies—including Facebook, Apple, and Microsoft—Google discussed forestalling consumer privacy efforts. In a July 31, 2019 document prepared in advance of the meeting, Google memorialized: “we have been successful in slowing down and delaying the [ePrivacy Regulation] process and have been working behind the scenes hand in hand with the other companies.”

171. Google also sought a coordinated effort to forestall and diminish child privacy protections in proposed regulations by the FTC and in proposed legislation by Senators Markey and Hawley. According to the same July 31, 2019 document, Google wanted to use the upcoming meeting with the other Big Tech firms to “find areas of alignment and narrow gaps in our positions and priorities on child privacy and safety.” Google expressed particular concern that Microsoft was taking child privacy more seriously than Google and sought to rein in Microsoft. “Whether at
this meeting or at another forum, we may want to reinforce that this is an area of particular importance to have a coordinated approach,” read the memo.

172. Not unlike concerns for defections in a price-fixing cartel, Google expressed frustration that companies like Facebook were not aligning with Google to reduce users’ privacy. “We’ve had difficulty getting FB to align on our privacy goals and strategy, as they have at time[s] prioritized winning on reputation over its business interest in legislative debates,” said Google, referring to Facebook.

173. Google also sought to encourage Microsoft to not compete on privacy and to stop increasing “subtle privacy attacks” against Google and other Big Tech companies, which Google described as “their industry colleagues.” “We have direction from Kent [Walker] to find alignment with MSFT where we can but should be wary of their activity [in promoting privacy] and seek to gain as much intel as possible.”

174. In addition to outlining discussions that Google wanted to have to forestall privacy efforts, the June 31, 2019 memo also outlined that Google wanted to discuss “competition” and “ways we can work together.”

175. Google presents a public image of caring about privacy, but behind the scenes Google coordinates closely with the Big Tech companies to lobby the government to delay or destroy measures that would actually protect users’ privacy. Of course, effective competition is concerned with both price and quality, and the fact that Google coordinates with its competitors on the quality metric of privacy—one might call it privacy fixing—underscores Google’s selective promotion of privacy concerns only when doing so facilitates its efforts to exclude competition.
4. Google blocks competing exchanges from accessing publishers’ high-value inventory and reaps the benefits for itself.

176. Google foreclosed exchange competition for publishers’ valuable impressions through a program called Enhanced Dynamic Allocation (“EDA”). Historically, publishers sold their best impressions to advertisers directly for premium prices. With EDA, Google’s ad server let Google’s exchange compete for and purchase valuable impressions that the ad server would previously allocate to publishers’ premium direct deals. Google blocked non-Google exchanges from competing for those same impressions.

177. Before EDA, when a publisher sold their inventory to an advertiser through a direct deal for premium prices, Google’s ad server made it a priority to allocate impressions to that direct deal. But with EDA, Google would evaluate each impression’s value and then, based on that value, decide whether to allocate the impression towards meeting a direct deal’s reservation goal or to instead re-direct it to an exchange auction.

178. In a review of revenue and impressions on AdX in the United States, Google found that the vast majority—80 percent—of web publishers’ ad revenue is generated from a much smaller percent—just 20 percent—of impressions. Google refers to this internally as “cookie concentration.”

179. As a result of this “cookie concentration” dynamic, EDA made it so only Google’s exchange could trade publishers’ most valuable inventory. However, competition in the exchange market depends on being able to trade both volume and valuable impressions. By blocking non-Google exchanges from competing against Google’s exchange, Google foreclosed competition in the exchange market and shielded Google’s exchange from competition.

180. At the same time, EDA permitted Google’s exchange to purchase publishers’ impressions for depressed prices. Specifically, Google’s ad server permitted its exchange to
purchase impressions for one penny more than the reserve price floor it instituted and called the “temporary competing price.” If Google had set this price to a $7 CPM, but a competing exchange would have returned a $14 CPM bid, Google let itself nonetheless win for $7.01. In other words, EDA let Google’s exchange acquire publishers’ impressions at depressed and non-competitive prices.

181. EDA also excluded competition from publishers’ direct sales channel (direct deals). Google’s ad server let its exchange cherry pick the valuable impressions and then funnel lower-value impressions to publishers’ direct deals. Advertisers who paid high prices for premium inventory through direct deals unknowingly received publishers’ lower quality inventory in return. Over time, as a consequence of this behavior, the value of direct-sold inventory declined and advertisers re-allocated spending towards Google’s exchange (where they must pay Google’s high exchange fees).

182. Similar to Google’s strategy with Dynamic Allocation, Google invited publishers to enable EDA under a false pretense. Wearing their publisher ad server hat, Google falsely told publishers that EDA “maximizes yield.” EDA did not, however, maximize publishers’ yield. Internally, Google understood that the EDA program was a scheme to let Google’s exchange simply “cherry-pick [publishers’] higher-revenue impressions.” In fact, cherry-picking the best impressions under EDA helped Google make an additional $150 million per year.

183. To make matters worse, Google’s practice of scrambling user IDs (discussed above in paragraphs 142-147) concealed the true nature of Google’s conduct. Publishers could not easily know that, with EDA, Google was cherry-picking impressions. By scrambling the IDs differently for publishers and advertisers, publishers could not easily work with advertisers to confirm that
advertisers were receiving the valuable impressions (e.g., ads shown to users with high net worth) as opposed to the low value ones (e.g., ads shown to a 10-year-old child with no purchasing power).

184. In summary, Google’s actions at issue here—including waterfalling and Dynamic Allocation, the encryption of IDs for users that consent to ID sharing, and EDA—were all unlawful schemes to exclude competition. Without being able to compete for publishers’ impressions or receive full information about their inventory, non-Google exchanges could not compete on quality (volume) or price (take rate). As a result, even large and powerful companies like Microsoft and Yahoo! exited the market. By blocking competition outright, Google is able to charge very high 19-22 percent commissions on transactions, which is two to four times higher than the commissions charged by competing exchanges. These extra costs invariably are passed onto American consumers, who are harmed through higher prices and lower-quality goods and services.

C. A new industry innovation called “header bidding” promotes exchange competition; Google wants to kill it.

185. In 2014, publishers rapidly adopted a new innovation called “header bidding” (also known as “HB”) that permitted them to route inventory to multiple exchanges. Publishers, advertisers, and exchanges quickly adopted the method to facilitate exchange competition. Google, however, did not welcome the competition. Instead, Google wanted to “kill” header bidding. First, Google introduced an alternative that secretly routed publishers’ inventory back to Google’s exchange, even when another exchange returned a higher bid. In time, Google’s goal became to destroy header bidding entirely. In an October 13, 2016 meeting, Google employees discussed “options for mitigating growth of header bidding infrastructure.” One Google employee, [REDACTED], proposed the “nuclear option” of reducing Google exchange fees down to zero. Another employee, [REDACTED], rejected even that idea: “problem is that this doesn’t kill HB.”
1. **Header bidding facilitates competition among ad exchanges.**

186. Header bidding involves a creative piece of code that publishers could insert into the header section of their webpages to facilitate competition between exchanges. When a user visited a page, the code enabled publishers to direct a user’s browser to solicit real-time bids from multiple exchanges, before Google’s ad server could prevent them from doing so. Instead of being subject to the restraints of Google’s ad server, header bidding shifted routing from the ad server to the browser. Publishers then sent the highest exchange bid in header bidding into their Google ad server. In short, header bidding created a technical workaround for publishers to circumvent Google’s efforts to foreclose competition in the exchange market.

187. So, header bidding became quite popular. Some of the biggest tech companies (including, e.g., Amazon) participated in header bidding, and by 2015, publishers and advertisers alike were rapidly adopting the innovation. By 2016, approximately 70 percent of major publishers in the United States were using header bidding to route their inventory to multiple exchanges, sometimes as many as twenty.

188. Publishers in particular adopted the protocol because they came to realize what Google already knew. Waterfalling, Dynamic Allocation, and EDA did not actually maximize publishers’ yield. Instead, as Google discussed behind closed doors, “pitting multiple exchanges against one another fostered price competition, which was good for [publishers’] business.” In fact, it was incredibly good for publishers. With header bidding, publishers saw their ad revenue jump overnight simply because exchanges could actually compete. One Google employee conceded internally how ending exclusivity with Google’s exchange caused the ad revenues of Weather.com to jump by 30 percent. Some publishers’ revenue jumped by 40 to over 100 percent.

189. Header bidding was also a positive development for advertisers and consumers. For advertisers, header bidding allowed them to transact through an exchange of their choosing,
including exchanges imposing less than Google’s monopolistic 19-22 percent fees. Internally, Google conceded its fees were supra-competitive and not “likely justified by value.”

190. Moreover, consumers benefited by virtue of the increased revenue realized by publishers as well as the fees saved by advertisers. With more ad revenue, publishers produce more content and better subsidized content access. Lower exchange take rates also reduced deadweight costs that advertisers ultimately pass on to consumers. Consumers benefit through higher-quality and lower-priced goods and services.

191. Based on a review of Google’s internal documents, Google wanted to quash this header bidding innovation for three basic reasons: avoiding price competition, permitting itself to continue to trade on inside information, and foreclosing competition against its publisher ad server monopoly.

192. First, Google wanted to eliminate header bidding in order to protect its high exchange take rates from competition. As Google discussed internally, “20% for just sell-side platform/exchange isn’t likely justified by value.” Google employee _______ emailed internally in November 2017 that she thought exchange “margins will stabilize at around 5 percent. Maybe it will happen by this time next year or in early 2019. This creates an obvious dilemma for us. AdX is the lifeblood of our programmatic business. … What do we do?” Such a dramatic reduction to Google’s exchange take rates toward competitive rates was an obvious threat posed by header bidding competition.

193. Second, Google wanted to destroy header bidding because the innovation threatened Google’s practice of trading on inside information. Secretly, Google’s ad server shared competing bids on publishers’ inventory with Google’s ad buying tools (DV360 and Google Ads), thereby allowing those tools to use the information to win auctions. This is similar to a form of insider
trading, whereby Google is the only one able to bid with knowledge of others’ bids. As Google discussed the predicament internally, header bidding caused Google to “lose[] visibility” into the “prices on a per-competitor basis,” which are “important data pieces of our own optimization.”

194. Finally, Google wanted to eliminate header bidding to foreclose competition with its publisher ad server monopoly. The companies involved with header bidding would have a foothold on a key function of Google’s ad server: routing publishers’ inventory to exchanges. With that, a major player like Amazon or Facebook using header bidding would be well-positioned to eventually compete directly with Google’s monopoly ad server. Without control over publishers’ inventory, Google would lose the ability to block exchange competition and tilt trading towards itself.

195. Google discussed how competition was a problem and deliberated over what to do about it. Rather than compete with other exchanges on price or quality, Google adopted a long list of overt and anticompetitive acts with the express purpose to “kill HB.”

2. **Google creates an alternative to header bidding that secretly stacks the deck in Google’s favor.**

196. Google tried to eliminate competition from exchanges in header bidding by creating an alternative that secretly stacked the deck in Google’s favor. Google’s ad server started to let publishers route their inventory to more than one exchange at a time with a new program Google marketed as Exchange Bidding, later renamed to Open Bidding. However, Google secretly devised the program in a way to foreclose exchange competition and codenamed it “Jedi.” Google measured Jedi’s success not by financial targets or output increases, but by how much it stopped publishers from using header bidding.

197. Google devised Exchange Bidding to exclude competition from exchanges in at least four ways. First, Google diminished the ability of non-Google exchanges to return competitive
bids by further decreasing their ability to identify users associated with publishers’ ad space in auctions. Header bidding let each exchange access a cookie on the user’s page, which permitted those exchanges to recapture some information about the user’s identity. Google’s new program prohibited exchanges from directly accessing the user’s page. As a result, they identified users in auctions even less often, causing them to bid and win less often.

198. Second, Google foreclosed exchange competition by charging publishers an additional 5 to 10 percent penalty fee for selling inventory in a non-Google exchange. The fee made advertisers’ bids through rival exchanges less competitive than advertisers’ bids through Google’s exchange—because Google’s exchange did not pay the additional fee. As Google understood it, because publishers and advertisers measure an exchange’s performance in part based on its take rate, this gave Google’s exchange a “‘moat’ in performance” when competing against competing exchanges.

199. Third, Google foreclosed exchange competition by forcing its publisher ad server customers to use Google’s exchange. When publishers chose to route their ad space from Google’s ad server directly to multiple exchanges at the same time, Google’s new program required them to route that inventory through Google’s exchange, even if they did not want to do so.

200. Fourth, Google foreclosed exchange competition by secretly rigging the Exchange Bidding program to let Google win. Google designed Exchange Bidding to provide Google’s exchange a special “prioritization,” which Google kept secret. Google made it so its own AdX exchange won publishers’ inventory even over another exchange’s higher bid. In the following email, Google employee [redacted] explained how the Exchange Bidding program returned results that were “suboptimal for pubs yield”: a Google AdX bid of $6 would win even though another exchange (“EB SSP”) submitted a higher $8 bid.
On Tue, Sep 27, 2016 at 12:40 PM [redacted] wrote:

**First Issue: EB demand fully competing with AdX**
In the current EB implementation, AdX PA/PD have priority over the
tall demand from EB SSPs (OA+Deals).
That generates suboptimal yields for publishers and serious risks of negative media coverage if exposed externally.

Below the scenario
AdX OA - $4
EB SSP - $8 (this can be a deal or not, we don’t know)
AdX PA/PD - $6
Outcome: AdX would win at $6, that is a suboptimal for pubs yield
The winner should have been EB SSP for $8

201. Internally, Google employees grappled with the fact that Google was falsely telling publishers that Google’s header bidding alternative enabled competition and improved yield, since in reality, Google created a program that advantaged itself at the expense of publishers. As one senior Google employee observed, Exchange Bidding’s deliberate design is to avoid price competition, which “generates suboptimal yields for publishers and serious risks of negative media coverage if exposed externally.”

202. Despite the risk of Google’s deceptive moves, Google was eager to kill header bidding and force publishers back into the control of Google’s ad server. This was an effort that Google executives described as the “holy grail.” Google feared that its injuries from header bidding could be more than just a flesh wound.

**D. Facebook helps Google “kill” header bidding with an unlawful agreement.**

203. Google unlawfully excluded competition from header bidding by getting its largest Big Tech rival, Facebook, to stop supporting the technology. After months of signaling followed by drawn-out negotiations, the two giants reached an illegal agreement. Facebook curtailed its involvement with header bidding in return for Google giving Facebook a leg up in publishers’ web display and in-app ad auctions, allocating a portion of the wins to Facebook, and helping Facebook’s ad network FAN beat the competition. Facebook also fully understood the implications
of the deal for Google. Internal Facebook communications reveal that Facebook knew Google’s motivation for the deal was to “kill” header bidding. “They want this deal to kill header bidding,” wrote Facebook deal executive [REDACTED] to other Facebook executives in an October 30, 2017 email.

204. The principal impetus for this deal began many months before, in March 2017, when Facebook publicly announced it would support header bidding. By doing so, Facebook would enable web and mobile app publishers and advertisers to bypass the fees associated with transacting through Google’s ad server. When bidding into Google’s ad server’s Open Bidding (f/k/a Exchange Bidding) program, Google required networks (e.g., Facebook’s network FAN) to bid into exchanges. And on these transactions, publishers had to pay exchange fees. But Google’s exchange fee was very high, about 19-22 percent of the value of the transaction. Because header bidding cost nothing, Facebook’s use of header bidding would let web publishers, mobile app publishers, and advertisers save on these fees altogether.

205. Google feared that Facebook’s support of header bidding would crack Google’s publisher ad server monopoly and unlock exchange competition. Google executive [REDACTED] outlined that Google’s priorities for 2017 included stopping Facebook from supporting header bidding. In a company deck, he outlined the “top priorities” for 2017, writing, “Need to fight off the existential threat posed by Header Bidding and FAN. This is my personal #1 priority. If we do nothing else, this need[s] to [be] an all hand[s] on deck approach.”

206. The wider industry also thought Facebook was prepared to challenge Google’s monopoly. The same day as Facebook’s March 2017 header bidding announcement, industry publication AdAge wrote that Facebook was poised to execute a “digital advertising coup against
rival Google and its DoubleClick empire.” A Business Insider headline the same day read: “Facebook made an unprecedented move to partner with ad tech companies – including Amazon – to take on Google.”

207. Google started monitoring Facebook’s initiative in header bidding. According to metrics posted in Facebook’s public blog, Facebook was helping publishers and advertisers match two to three times more users in auctions and increase third-party publishers’ revenue by 10-30 percent. As part of its internal monitoring efforts, Google referenced this blog post in an email circulated amongst the management team.

208. These cost efficiencies for publishers and advertisers were not welcome news to Google. Even before Facebook’s March 2017 announcement, Google was concerned about large entrants supporting header bidding. Internal Google documents show that Google’s mandate at the time was to stop its competitors from supporting header bidding, to forestall innovation around header bidding, and to consider aggressive options. In an October 5, 2016 presentation to senior Google executives, a Google employee expressed concern about Amazon, Criteo, and Facebook enabling the growth of header bidding, stating “to stop these guys from doing HB we probably need to consider something more aggressive.” The presentation plainly asserted that Google’s “goal/mandate” was to “[f]orestall major industry investment in HB & HB wrapper infrastructure.”

209. Conversely, internal Facebook communications indicate that Facebook’s March 2017 announcement was mainly intended to signal Facebook’s willingness to compete with Google in the markets for publisher ad servers and ad networks. Facebook knew that Google would see its participation in header bidding as a major threat. Evidently, Facebook was merely executing a planned long-term strategy—“18 month ‘header bidding’ strategy to minimize “[the Open
Bidding] tax”—by threatening to expose the hidden costs Google charges publishers. In other words, Facebook wanted to draw Google in.

210. Facebook’s maneuvers proved successful when Google made the first move. According to internal Facebook communications, Google tried to bring Facebook to the negotiating table as early as June 6, 2016. In one email, a Facebook employee noted that Google had made a general outreach but that Google had indicated it was unsure of Facebook’s appetite: “Google’s product team would be interested in talking about broader/larger options, but uncertain as to our appetite.”

211. Within months of Facebook’s official header bidding announcement, Google and Facebook began formal negotiations. According to an internal Google presentation from November 2017 discussing a potential Facebook partnership for Google's “Top Partner Council,” Google stated that their endgame was to “collaborate when necessary to maintain status quo.” Google documented internally that it was interested in a collaboration and the status quo.

212. Facebook clearly understood Google’s motivations. In an October 30, 2017 email, senior Facebook executive discussed the deal and explained to another Facebook executive, “they want this deal to kill header bidding.” Facebook knew Google’s intent was to cut a deal to get Facebook to curtail its support of header bidding.

213. At this time, and extending into 2018, Google and Facebook were engaged in high-stakes brinksmanship. A truce between the two advertising giants was by no means guaranteed. In an August 9, 2018 internal Google presentation, one slide averred that if Google could not “avoid competing with FAN,” then it would instead collaborate with Facebook to “build a moat.” Google was interested in using Facebook to build a moat.
214. Facebook was highly interested in a successful outcome to these negotiations between horizontal competitors in the ad network market and potential competitors in the publisher ad server market. As internal Facebook documents reveal, Facebook “believed strongly” that partnering with Google was “relatively cheap compared to build/buy and compete in zero-sum ad tech game.” Facebook did not want to play zero-sum games.

215. Facebook’s [redacted] was explicit that “[t]his is a big deal strategically” in an email thread that included Facebook [redacted]. When the economic terms had taken their form, the team sent an email addressed directly to [redacted] “We’re nearly ready to sign and need your approval to move forward.” In making the case to [redacted], the team outlined that Facebook had four options: to “invest hundreds more engineers” and spend billions of dollars to lock up inventory to compete, exit the business, or do the deal with Google. [redacted] wanted to meet with [redacted] and his other executives before making a decision.

216. The companies’ collective efforts to avoid competition were successful. Facebook chose to cut a deal with Google. The ultimate outcome of the negotiations was a September 2018 Google-Facebook agreement signed by Philipp Schindler, the head of Google advertising sales and operations, and [redacted], Facebook’s [redacted] and member of Facebook’s Board of Directors, and who [redacted] was one-time head of [redacted].

217. Google internally used the code phrase “Jedi Blue” to refer to the 2018 Google-Facebook agreement. This phrase was a twist on the reference to Star Wars. Google generally kept this code phrase secret and non-public. Google does not use code words to uniquely refer to any other Open Bidding or Network Bidding agreement.
218. As a result of their bidding agreement, Facebook significantly curtailed its header bidding initiatives and would instead bid through Google’s ad server. In return, Google agreed to give Facebook a leg up in its auctions. In an internal Google memo titled “FAN deal discussion,” Google memorialized that “FAN requires special deal terms, but it is worth it to cement our value.” The parties agreed up front on when and how often Facebook would bid in auctions, and when and how often Facebook would ultimately win.

1. **Google gives Facebook a leg up in its auctions in return for Facebook backing off from header bidding.**

219. Facebook agreed to shift from routing bids through header bidding to routing bids through Google’s ad server in exchange for a number of special auction advantages. Traditionally, when bidding into Google’s ad server through Open Bidding, networks for web inventory like FAN had to bid into exchanges and pay exchange fees. But with the Jedi Blue agreement, Google made Facebook a large-scale concession and let FAN circumvent exchanges and bid directly into Google’s ad server. Instead of paying exchange fees, Google charged Facebook a lower 5 to 10 percent fee and prohibited Facebook from speaking publicly about its special lower pricing terms. Publishers and advertisers measure the efficiency of trading through buy-sell spreads. The lower fees Google imposes on some marketplaces (like FAN) puts those marketplaces at an advantage when competing against the marketplaces with higher fees.
220. Google also provided Facebook with a speed advantage in auctions. Google subjects other marketplaces competing for publishers’ inventory in Open Bidding to 160 millisecond timeouts. Competitors have actively complained that 160ms is not enough time to recognize users in auctions and return bids before they are excluded. By comparison, Google nearly doubled timeouts, extending them to 300 milliseconds, for Facebook. These longer timeouts granted by Google were presumably designed to aid FAN in winning more auctions to abide by the spirit of the Jedi Blue agreement.

221. Google further induced Facebook to help Google “kill HB” by letting Facebook have direct billing and contractual relationships with publishers. This term was advantageous to Facebook because Google prohibits other exchanges and networks in Open Bidding from having such direct relationships. In fact, Google’s policies with other exchanges and networks in this regard are so strict that Google has prohibited marketplaces from even discussing pricing with publishers. The inability to discuss pricing and terms constrains marketplaces’ ability to operate and compete. One advertising competitor compared Google’s business term to a “gag order.”

222. On top of special pricing, longer timeouts, and a direct billing relationship exception, Google further induced Facebook to help it shut down competition from header bidding by informing Facebook which impressions are likely targeted to spam (e.g., impressions targeted to bots, rather than humans). Facebook does not have to pay for those impressions. Other networks have asked Google for the same information, but Google has refused. So now Facebook has a further leg up over the competition in Google auctions: Facebook knows which impressions sold through Google are fake and worthless.

223. In the Jedi Blue agreement, Google also promised to use “commercially reasonable efforts” to help Facebook recognize the identity of users in publishers’ auctions. The parties agreed
to benchmark “match rate” commitments, i.e., the percent of users Facebook could identify in auctions over the percent of bid requests received. Google promised Facebook an 80 percent match rate in auctions for mobile inventory and a 60 percent match rate in auctions for web inventory (excluding Safari). Bidders in advertising auctions generally only bid when they recognize the identity of the user. As a result, the Jedi Blue benchmark match rates allow Facebook to bid and win more often in auctions, providing FAN yet another advantage over other bidders.

224. Indeed, since signing the agreement, Google and Facebook have been working closely in an ongoing manner to help Facebook recognize users in auctions and bid and win more often. For example, Google and Facebook have integrated their software development kits (SDKs) so that Google can pass Facebook data for user ID cookie matching. They also coordinated with each other to harm publishers through the adoption of Unified Pricing rules, discussed in paragraphs 273-279 below. The companies also have been working together to improve Facebook’s ability to recognize users using browsers with blocked cookies, on Apple devices, and on Apple’s Safari browser, thereby circumventing one Big Tech company’s efforts to compete by offering users better privacy. For instance, according to an April 2, 2019 discussion between Facebook employees, Facebook was having trouble matching users on Apple’s Safari browser. Google shared that Facebook’s match rates were about the same that Google saw for other auction participants. Facebook employees noted, however, that Google was ready to “initiate a detailed discussion with Product and Legal to allow FB to collect signals on the client (using a javascript) and G passing it to the bid request.” Google offered to help Facebook better identify users using JavaScript on publisher properties. By helping Facebook to better identify users in ad auctions, Google helps Facebook’s network FAN bid and win more often than other bidders in Google’s auctions.
225. Google also provided Facebook an advantage when it came to Google using Facebook’s inside information to beat Facebook in auctions. In entering the agreement, Facebook was wary that Google would use information about Facebook’s bids to manipulate auctions. As a result, Facebook was explicit in demanding that Google be prohibited from using Facebook’s bid data for the purpose of advantaging itself. Dan Rose, Facebook Vice President of Partnerships, explained in an email to Mark Zuckerberg that Facebook had “exerted pressure on Google to change their auction so that Google is no longer able to advantage their own demand. With these changes, we will be able to bid on publisher inventory served by Google on a level playing field.” Facebook was big enough to extract this concession from Google, whereas no other auction participant has the scale to demand or achieve the same. Thus, in the Jedi Blue agreement, Google committed not to use Facebook’s inside information—its bids—to manipulate auctions in its favor by adjusting its bids or publisher floors in real time. As discussed in this Complaint, Google competes against other auction participants using their inside and non-public information. If Google abides by the terms of the Jedi Blue agreement, the exception for Facebook allows FAN to win more auctions relative to other bidders.
Screenshot of contractual terms that prohibit Google from trading using Facebook’s inside information (e.g., information about Facebook’s bids):

6.5. **Additional Restrictions on Google’s use of Bid Response Data.** Google will not use Bid Response Data to: (a) transfer or otherwise disclose in Real-Time such Bid Response Data to any Google system other than the system conducting the auction for the applicable Ad Inventory; (b) adjust or otherwise influence in Real-Time the bid response of another bidder (including Google) in the auction for the applicable Ad Inventory; (c) adjust or otherwise influence in Real-Time the computation of any price floor, price reserve, or other pricing parameter for the applicable Ad Inventory; (d) reverse engineer, or otherwise derive the underlying algorithms, strategies, models, or approach of Facebook’s bidding logic (e.g., Google will not use Bid Response Data to improve Google’s own bidding strategy as a bidder); or (e) associate any Bid Response Data (including any bid amounts) with any data related to Ads or Creatives (other than for the purposes set forth in the second sentence of Section 6.4 or (d) of the first sentence of Section 2.1(e)). Notwithstanding the foregoing, the immediately preceding sentence does not apply to the following data, as long as such data is not preferentially shared with DoubleClick Bid Manager or the Google Display Network as compared to all other bidders or other demand sources in an auction: (a) the amount of the second-highest bid (which may be disclosed to the winning bidder or other demand source) or (b) the amount of the highest bid (which may be disclosed to all bidders or other demand sources in the same auction). Google may retain event-level Bid Response Data for no longer than 18 months, except for certain event-level Bid Response Data (e.g., buyer identity, bid price, trading location, time stamp, etc.) which may be kept indefinitely as required by Google’s reasonable and standard business practice solely for archival and record-keeping purposes (e.g., financial reporting, audit purposes, or dispute resolution).

2. **Google and Facebook agree in the Jedi Blue agreement to a secret “Win Rate.”**

226. In the auctions for publishers’ inventory that are the subject of the Jedi Blue agreement, Google and Facebook compete head-to-head as bidders. Specifically, Google’s GDN ad network and AdMob bid against Facebook’s ad network FAN in these auctions. In this context, Google and Facebook compete against each other. Google internally discussed this “head-to-head competition.”

227. The Google and Facebook ad networks for web display and in-app mobile inventory (collectively, GDN, AdMob, and FAN) are the largest ad networks in the United States. They are frequently the largest competitors for publishers’ inventory in auctions hosted by Google’s ad server.

228. In the Jedi Blue agreement, Google and Facebook agreed to manipulate publisher auctions in Facebook’s favor through secret bid, spend, and win commitments. For example, the agreement outlines that Facebook will use “commercially reasonable efforts” to bid on at least 90
percent of auctions in which Facebook recognizes the end user. The agreement also outlines that, starting in the fourth year of the agreement, Facebook must spend at least $500 million in its auctions annually.

229. Google and Facebook also agreed in the Jedi Blue agreement to a “Win Rate.” The agreement defines the term “Win Rate” as the number of auctions that Facebook wins divided by the number of auctions in which Facebook competes (by submitting a bid response), multiplied by 100. The parties agreed up front on what Facebook’s Win Rate in auctions would be. The Jedi Blue agreement specifies that Facebook would have a Win Rate of at least equal to 10 percent. The agreement terms require Facebook to bid high enough to win the minimum percent quota of 10 percent, irrespective of how high others in the auctions bid.

230. When Facebook “wins” one of these auctions, Facebook is not purchasing ad space for the purpose of advertising Facebook’s own products or services. Rather, Facebook’s network FAN is acquiring impressions for the purpose of re-selling those impressions to small business advertisers across America who buy advertising from Facebook. Some of these advertisers do not even know that Facebook delivers their ads on non-Facebook websites and apps.

231. The Jedi Blue agreement allocates markets, and therefore fixes prices, between Google and Facebook as competing bidders in the auctions for publishers’ web display and in-app advertising inventory. The agreement allocated a portion of publishers’ auction wins to Facebook, subverting the free operation of supply and demand. Furthermore, the bid rate, win rate, and spend commitments were designed to meet a “high monthly minimum to ensure volume” that spans several years. Facebook is locked in and cannot change its mind and switch back to header bidding to compete against Google in the publisher ad server market.
232. By providing Facebook with what Google called “special deal terms,” combined with pre-agreed bid and win rates, Google further manipulated publishers’ auctions. Google already manipulates publishers’ auctions by giving Google bidders information and speed advantages. In 2019, these advantages helped them win the overwhelming majority of publishers’ auctions hosted by Google: about 81 percent of Google AdMob auctions for U.S. mobile app inventory, and about 71 percent of Google ad server auctions for mobile inventory. Now Google offered Facebook a Win Rate, information advantages, speed advantages, and other prioritizations, to the detriment of other auction participants.

233. As one would expect with a market allocation agreement, Google and Facebook do not disclose their secret match rate, bid rate, or win rate agreements to other auction participants. Rather, Google publicly misrepresents that all bidders in publishers’ auctions compete on equal footing. “All participants in the unified auction, including Authorized Buyers and third-party yield partners, compete equally for each impression on a net basis,” Google publicly markets on its website. This, of course, is patently false. It is false not only because of the special terms in the Facebook agreement, but also because Google used algorithms to systematically manipulate auction outcomes and repeatedly traded on inside information to win auctions.

234. Given the scope and extensive nature of cooperation between the two companies, Google and Facebook were highly aware that their agreement could trigger antitrust violations. So they discussed, negotiated, and memorialized how they would cooperate with one another should a government entity in the United States or globally start to investigate the agreement under antitrust laws. The Jedi Blue agreement permits the parties to terminate the agreement for regulatory inquiries, material document requests, a formal antitrust investigation, or a commenced antitrust action. If neither party executed those termination options, the agreement permits
termination “immediately” after either party exhausts its right to appeal. The agreement also requires the parties to coordinate on antitrust defenses, such that Facebook must approve any and all arguments that Google presents relating to their illegal agreement in its answer to this Complaint. The word “antitrust” is mentioned no fewer than twenty times throughout the Jedi Blue agreement.

Screenshot of the Jedi-Blue agreement specifying regulatory and antitrust cooperation:

7. Regulatory Cooperation.

7.1. To the extent permitted by applicable law, and subject to Section 7.2 below, each of Google and Facebook agrees to use its reasonable best efforts to:

(a) cooperate and assist each other in responding to any Antitrust Action, Data Protection Action, or any inquiry or investigation relating to the Agreement by any Governmental Authority, and in defending the Agreement against any Antitrust Action, Data Protection Action, or any inquiry or investigation relating to the Agreement by any Governmental Authority;

(b) promptly and fully inform the other Party of any Governmental Communication relating to the Agreement (provided that, to the extent appropriate, any Party may designate such information as attorneys’ or outside counsel only);

(c) allow the other Party a reasonable time to review and consider in good faith the views of the other with respect to any Governmental Communication (provided that, to the extent appropriate, any Party may designate such information as attorneys’ or outside counsel only);

(d) not advance arguments in connection with any Antitrust Action, Data Protection Action, or any inquiry or investigation relating to the Agreement by any Governmental Authority (other than litigation between the Parties) over the objection of the other Party that would reasonably be likely to have a substantial adverse effect on that other Party; and

(e) consult with the other Party in advance, to the extent practicable, and give the other Party and its counsel reasonable notice and, to the extent not prohibited by law or the relevant Governmental Authority, an opportunity to attend and participate in any meeting or discussion with any Governmental Authority relating to any Antitrust Action, Data Protection Action, or any inquiry or investigation relating to the Agreement by any Governmental Authority.
E. Google forces market participants to re-route trading through Google.

235. In its efforts to kill header bidding and competition in the exchange market, Google went further than colluding with its largest competitor. Google worked tirelessly to stop the innovation of header bidding entirely. Google deceived exchanges to use Google’s ad server instead of header bidding. Google employees sometimes deceived publishers who chose to use header bidding, falsely telling one major online publisher that it should cut off a rival exchange in header bidding because of a strain on servers. After the exchange uncovered Google’s act, Google employees discussed playing a “jedi mind trick” on the industry and “get[ting] publishers to come up with the idea to remove exchanges … on their own.” Google also crippled publishers’ ability to measure the efficiency of exchanges in header bidding, limited publishers’ use of exchanges in header bidding, and punished publishers and advertisers that used header bidding in Google search rankings, where Google has significant scale.

1. Google trades ahead of bid orders to foreclose exchange competition.

236. Google first excluded competition from header bidding, and in the exchange market, by trading ahead of the bid orders submitted by header bidding exchanges. A publisher like USA Today would route their inventory to multiple exchanges through header bidding, then route the winning exchange bid into their Google ad server. Google programmed its ad server to let its exchange displace the winning header bidding exchange bid by paying one penny more. Put another way, Google’s ad server let Google’s exchange peak at the winning header bidding exchange’s bid, then displace the trade. Industry participants called this Google’s “Last Look.” Other industries call analogous conduct by intermediaries “insider trading” and “front running.”

237. With Last Look, and Google’s absolute monopoly in the ad server market, Google successfully foreclosed competition in the exchange market and ensured a system where Google always prevailed. Google’s exchange cherry picked the best impressions, leaving rival exchanges
the low value impressions left behind by Google’s exchange. According to a confidential Google study, Last Look significantly re-routed trading to Google’s exchange and Google’s ad buying tools, protecting Google’s market power in both. Google’s internal documents also explain that Last Look ensured that header bidding exchanges lose to Google’s exchange. The exception was when a publisher set a higher floor for Google’s exchange, a feature that Google would later remove from publishers’ control.

2. **Google deceives exchanges to forgo header bidding.**

238. Google unlawfully excluded competition from header bidding and in the exchange market by tricking non-Google exchanges to migrate from header bidding to Exchange Bidding. In March 2017, Google stated that its exchange would no longer trade ahead of other exchanges that bid through Google’s Exchange Bidding program. Market participants cheered Google for giving up its “Last Look auction advantage.”

239. However, Google did not actually stop trading ahead of exchanges. Internal documents reveal that Google simply replaced one version of Last Look for another by using a new technique that allowed Google to continue to jump ahead of rival exchange bids. Specifically, Google deployed a bid optimization scheme based on predictive modeling.

With this new bid optimization, Google abandoned Last Look as that term was understood. However, Google re-engineered its ability to trade ahead of its rivals.

240. Google’s new manipulation permitted Google to give up Last Look, as such, but still win just the same—revenue neutral for DV360 (+2 percent) and Google Ads (-1 percent). Non-Google exchanges cannot compete with similar bid optimization schemes because Google’s ad server restricts publishers from accessing and sharing their user IDs. Truly giving up Last Look
would have cost Google too much; Google predicted a 10 percent hit to DV360’s revenue and at least a 30 percent decrease in Google Ads’ revenue.

3. **Google deceives publishers to disable rival exchanges in header bidding.**

241. Internal communications between Google employees reveal how Google engaged in deception to undermine header bidding and foreclose competition in the exchange market. In one instance, the OpenX exchange noticed their auction transactions and revenue in header bidding plummet. When OpenX reached out to a publisher to diagnose the problem, the publisher explained that Google employees told the publisher to remove the OpenX exchange from header bidding to solve a “strain on its servers” and improve the publisher’s yield. However, a senior Google employee worried its misrepresentations would make it difficult “to convince [companies] to trust us.” Another employee conceded it gave Google a “bad look.” Google employees agreed that, in the future, they should find ways to convince publishers to act against their interest and remove competing exchanges in header bidding on their own.
From: [Blacked out]
To: [Blacked out]
Subject: Re: Prebid Looks Off - URGENT PUB INTEL RE EBDA
Cc: [Blacked out]

OK..so sounds like we need to create a jedi mind trick plan that get's the ecosystem talking about why SSPs and DSPs are willing to do things that are NOT in the publisher's best interests... said he's on it...not sure what that means...but trust it will work.

On Wed, Oct 18, 2017 at 9:14 AM, [Blacked out] wrote:
+1

On Wed, Oct 18, 2017 at 14:03 [Blacked out] wrote:

It's likely that OX prefers to keep existing prebid integrations when they exist for a bunch of reasons:
• OX gets to decide when a billable event occurs
• OX pays the pub directly
• no EB fee
• cookie matching opportunities on each page load
• not wanting pub to feel they totally wasted Eng time on prebid at OX's request

We do want pubs to remove these integrations, but when the suggestion comes from Google then OX feels we're not collaborating in good faith. Risk is that this causes them to rethink how strongly they want to support EB vs also investing in non-Google alternatives to diversify. Other holdouts like Rubicon will also hear about this, and that makes it very tough for us to convince them to trust us.

On Wed, Oct 18, 2017 at 1:23 PM, [Blacked out] wrote:

I don't believe it would be a bad outcome for Exchanges buying through EB to be pulled from PreBid but I don't think the optics of the email chain are great. We need the Exchanges to to support EB and see Google as partner. We should figure out how to get publishers to come up with the idea to remove exchanges from PreBid on their own.

4. **Google cripples publishers' ability to measure the success of rival exchanges in header bidding.**

242. Beginning in 2018, Google's ad server started redacting various data fields from the consolidated auction records it shared with publishers. These redactions make it nearly impossible for publishers to compare the relative performance of exchanges in header bidding with the performance of exchanges going through Google's ad server. Consequently, Google now renders the entire reason publishers use header bidding—increasing yield through head-to-head exchange competition—unobservable and unmeasurable.
5. **Google obstructs publishers’ use of header bidding through caps.**

243. Google also throttles publishers’ use of header bidding by capping the number of permissible “line items”—a feature in Google’s ad server that publishers must use to receive bids from exchanges in header bidding. Many publishers requested that Google increase the number of permissible line items so that they could properly utilize header bidding. Internally, Google discussed charging publishers for increasing line items or keeping line items limits in place as “the only tool we have to fight [header bidding].” Google consistently rejected publishers’ requests for more line items, or at best, would provide only temporary and limited increases. As one employee explained to others, “[w]e need to push these pubs to using Jedi – if imposing more limits pushes them more to Jedi – then we should keep those limits in place.”

244. In a competitive market, an ad server would help publishers use header bidding because it will better optimize publisher yield. The OpenX publisher ad server takes this approach, permitting publishers’ liberal use of exchanges in header bidding. Instead of increasing line items to enhance publishers’ yield, Google’s ad server undermines its own clients’ revenue yield.

6. **Google uses its scale in search to punish publishers that use header bidding.**

245. Google also started using its economies of scale in the search market to strongarm publishers and advertisers to stop using header bidding and re-route trading through Google’s ad server. Header bidding is only possible if publishers can insert JavaScript code into the header section of their webpages. To respond to the threat of header bidding, Google created Accelerated Mobile Pages (“AMP”), a framework for developing mobile web pages, and made AMP essentially incompatible with JavaScript and header bidding. Google then used its power in the search market to effectively force publishers into using AMP.

246. Although Google claims that AMP was developed as an open-source collaboration, AMP is actually a Google-controlled initiative. Google originally registered and still owns AMP’s
domain, ampproject.org. In addition, until the end of 2018, Google controlled all AMP decision-making. AMP relied on a governance model called “Benevolent Dictator For Life” that vested ultimate decision-making authority in a single Google engineer. Since then, Google has transferred control of AMP to a foundation, but the transfer was superficial. Google controls the foundation’s board and debates internally whether AMP communications should come from Google or the Google-controlled AMP board.

247. Google ad server employees met with AMP employees to strategize about using AMP to impede header bidding, addressing in particular how much pressure publishers and advertisers would tolerate. First, Google restricted the AMP code to prohibit publishers from routing their bids to, or sharing their user data with, more than a few exchanges a time, thereby severely limiting AMP’s compatibility with header bidding. However, Google made AMP fully compatible with routing to exchanges through Google’s ad server. Google also designed AMP to force publishers to route rival exchange bids through Google’s ad server so that Google could continue to peek at their bids and trade on inside information. Third, Google designed AMP so that users loading AMP pages would directly communicate with Google cache servers rather than publishers’ servers. This enabled Google’s access to publishers’ inside and non-public user data. AMP pages also limit the number of ads on a page, the types of ads publishers can sell, and the variety of enriched content that publishers can have on their pages.

248. After crippling AMP’s compatibility with header bidding, Google went to market falsely telling publishers that adopting AMP would enhance page load times. But Google employees knew that AMP only improves the “median of performance” and AMP pages can actually load slower than other publisher speed optimization techniques. In other words, the ostensible benefits of faster load times for a Google-cached AMP version of a webpage were not
true for publishers that designed their web pages for speed. Some publishers did not adopt AMP because they knew their pages actually loaded faster than AMP pages.

249. The speed benefits Google marketed were also at least partly a result of Google’s throttling. Google throttles the load time of non-AMP ads by giving them artificial one-second delays in order to give Google AMP a “nice comparative boost.” Throttling non-AMP ads slows down header bidding, which Google then uses to denigrate header bidding for being too slow. “Header Bidding can often increase latency of web pages and create security flaws when executed incorrectly,” Google falsely claimed. Internally, Google employees grappled with “how to [publicly] justify [Google] making something slower.”

250. Despite the speed benefits Google falsely touted, publishers did not want to use AMP because AMP pages caused their advertising revenue to decline: publishers make less money selling advertising on AMP pages than they do on their regular web pages. AMP also degraded quality by restricting content and ad types.

251. Just as publishers have the freedom to make their webpages mobile or desktop compatible, publishers still have the freedom to decide whether to build their pages using the AMP framework. However, Google uses its scale in search to punish publishers that do not chose AMP. Specifically, Google Search ranks non-AMP pages lower in search results and reserves the top placements in the “Search AMP Carousel”—the top search results placements with pictures—to publishers using AMP.
Google gave publishers a Faustian bargain: (1) publishers who used header bidding would see the traffic to their site drop precipitously from Google suppressing their ranking in search and re-directing traffic to AMP-compatible publishers; or (2) publishers could adopt AMP pages to maintain traffic flow but forgo exchange competition in header bidding, which would make them more money on an impression-by-impression basis. Either option was far inferior to the options available to publishers before Google introduced AMP. Just how inferior? According to Google’s internal documents, 40 percent less revenue on AMP pages.

7. **Google’s ad server gives exchanges that forego header bidding a leg up.**

253. Google’s ad server excludes competition in the exchange market by withholding critical ad server data, called “minimum bid to win,” from exchanges in header bidding. The “minimum bid to win” data is the price an auction participant would have had to bid to win a particular completed auction; Google’s ad server shares this data with exchanges in Google’s Open
Bidding program at the conclusion of each auction. Exchanges in Open Bidding use this data to adjust their bidding strategy in order to beat exchanges returning bids through header bidding. In other words, exchanges in header bidding will lose more while those bidding in Open Bidding win more.

8. **Google excludes competition through “nontransparent pricing.”**

254. Google excludes competition by purposefully keeping its auction mechanics, terms, and pricing, opaque and “nontransparent.” When marketing its exchange to publishers and advertisers, Google has explained that an ad exchange is “just like a stock exchange, which enables stocks to be traded in an open way.” However, Google’s exchange is not open at all.

255. Google’s non-transparent pricing strategy includes obfuscating the take rate that publishers and advertisers pay Google. Google tells the small advertisers who use Google Ads to bid the price they pay Google for ad space, but not the price the inventory actually cleared for in Google’s exchange, the revenue the publisher receives, or the markup Google keeps. In a discussion between Google employees about Google Ads’ fees, one employee asked: “Buyers don’t know that [we] take a 15 percent fee? I didn’t realize that.” Another clarified that the fee “is not transparent.” Even Google employees don’t understand Google’s fees for small advertisers.

256. Google also obfuscates price transparency for publishers. Overall, evidence suggests that publishers selling inventory through Google receive approximately 70 percent of advertising revenue paid by advertisers, and in some cases that amount is as low as 58 percent. In other words, Google’s take rate is approximately 30 percent and in some cases is as high as 42 percent.

257. The lack of transparency decreases competitive pressure at different points in the supply chain and increases opportunities for rent-seeking and arbitrage. As one senior Google employee put it, “[b]y charging non-transparently on both sides, we give ourselves some flexibility to react and counteract market changes. If we face tons of pricing pressure on the buy-side, we can...
fall back on the sell-side, and vice-versa.” In other words, Google can charge higher fees at points
in the supply chain where there is little competition and the lack of transparency around fees
impedes other firms from coming in and competing with Google by offering the same services at
lower prices.

258. The lack of transparency also forecloses competition because it impedes potential and
actual competitors from assessing a possible return on investment and entering the market to
compete.

259. Overall, the lack of transparency prevents more efficient competition that would drive
greater innovation, increase the quality of intermediary services, increase output, and create
downward pricing pressure on intermediary fees.

9. Google is trying to foreclose competition and create a “walled garden” on the
open web.

260. Google is excluding competition from header bidding, and in the exchange and ad
buying tool markets, by trying to create a “walled garden”—a closed ecosystem—out of the
otherwise-open internet. Specifically, Google’s aim is to limit publishers’ ability to identify and
track users, and to position itself as the arbiter of identification and targeting on the open web. To
then sell targeted ads, publishers will be required to lean even more into Google. Google has
advanced two different projects to achieve this anticompetitive end-goal: the first is Project NERA,
and the second, Privacy Sandbox. With both, Google’s objective stands in stark contrast to the
open internet that Google claims to protect.

i. Project NERA

261. Project NERA was Google’s original plan to create a closed ecosystem out of the open
internet. Google documents reveal that Google’s motive was to “successfully mimic a walled
garden across the open web [so] we can protect our margins.” For Google, Project NERA’s walled
garden meant two things: controlling the design of publishers’ ad space, then forcing those publishers to sell their ad space exclusively through Google’s products. According to internal Google documents, this strategy would permit Google to extract even higher intermediation fees. A Google employee aptly described Google’s ambition for Project NERA by acknowledging that Google wants to “capture the benefits of tightly ‘operating’ a property … without ‘owning’ the property and facing the challenges of building new consumer products.” Google’s nickname for this walled garden plan was “not-owned-but-operated,” or “NOBO” for short. In other words, Google wanted to be able to control and close off independent websites like The Dallas Morning News just as Google can control and close off its own sites like YouTube.

262. To get publishers to give Google exclusive access over their ad inventory, Google set publishers up for a lose/lose scenario. First, Google started to leverage its ownership of the largest web browser, Chrome, to track and target publishers’ audiences in order to sell Google’s advertising inventory. To make this happen, Google first introduced the ability for users to log into the Chrome browser. Then, Google began to steer users into doing this by using deceptive and coercive tactics. For example, Google started to automatically log users into Chrome if they logged into any Google service (e.g., Gmail or YouTube). In this way, Google took the users that choose not to log into Chrome and logged them in anyways. If a user tried to log out of Chrome in response, Google punished them by kicking them out of a Google product they were in the process of using (e.g., Gmail or YouTube). On top this, through another deceptive pattern, Google got these users to give the Chrome browser permission to track them across the open web and on independent publisher sites like The Dallas Morning News. These users also had to give Google permission to use this new Chrome tracking data to sell Google’s own ad space, permitting Google to use Chrome to circumvent reliance on cookie-tracking technology. The effect of this practice is
to rob publishers of the exclusive use of their audience data (e.g., data on what users read on *The Dallas Morning News*), thereby depreciating the value of publishers’ ad space and benefitting ad sales on Google’s properties (e.g., YouTube).

263. Chrome is the leading computer browser in the United States with almost 60 percent market share. Chrome has power over publishers because it controls a captive segment of their online users; consequently, publishers do not have alternative ways to reach the users that access the internet using Google’s browser.

264. After using Chrome to track publishers’ users, Google turned around and offered to give publishers the ability to tap into Google’s now-deeper trove of user data in exchange for the publishers’ agreement to give Google exclusive control over their ad space. If publishers did not agree to the new exclusivity terms, Google would continue to use Chrome to collect data about their users to sell more Google ads at the expense of the publishers’ ad space. For Google, Project NERA represented a win-win.

ii. Privacy Sandbox

265. As regulatory scrutiny around Google and other Big Tech firms increased globally, Google transitioned from Project NERA to “Privacy Sandbox.” Regulators around the world were increasingly concerned about the extent to which firms like Google tracked consumers. Of any company on the internet, Google was number one in the world when it came to tracking users online through cookies. The leader in cookie-based tracking needed a way to deflect any potential regulation of its business. To address these concerns, Google would take a new approach to building a walled garden out of the open web and ground that approach in privacy language.

266. Google’s new scheme is, in essence, to wall off the entire portion of the internet that consumers access through Google’s Chrome browser. By the end of 2022, Google plans to modify Chrome to block publishers and advertisers from using the type of cookies they rely on to track
users and target ads. Then, Google, through Chrome, will offer publishers and advertisers new and alternative tracking mechanisms outlined in a set of proposals that Google has dubbed Privacy Sandbox. Overall, the changes are anticompetitive because they raise barriers to entry and exclude competition in the exchange and ad buying tool markets, which will further expand the already-dominant market power of Google’s advertising businesses.

267. Google’s new scheme is anticompetitive because it coerces advertisers to shift spend from smaller media properties like The Dallas Morning News to large dominant properties like Google’s. Chrome is set to disable the primary cookie-tracking technology almost all non-Google publishers currently use to track users and target ads. A small advertiser like a local car dealership will no longer be able to use cookies to advertise across The Dallas Morning News and The Austin Chronicle. But the same advertiser will be able to continue tracking and targeting ads across Google Search, YouTube, and Gmail—amongst the largest sites in the world—because Google relies on a different type of cookie (which Chrome will not block) and alternative tracking technologies to offer such cross-site tracking to advertisers. By blocking the type of cookies publishers like The Dallas Morning News currently use to sell ads, but not blocking the other technologies that Google relies on for cross-site tracking, Google’s plan will pressure advertisers to shift to Google money otherwise spent on smaller publishers.

268. Google’s new scheme is also anticompetitive because it forecloses competition in the exchange and ad buying tool markets while simultaneously providing Google with a workaround. Non-Google ad buying tools rely primarily on the type of cookies that Chrome is set to block in order to track users and target them with ads. Google’s ad buying tools, however, partially circumvent reliance on the same type of cookies because Google grants them exclusive access to user data from Chrome and Google’s Android mobile operating system. As a result of these
impending changes, some advertisers are already in the process of preparing to shift their spend from competing ad buying tools to Google’s. In addition to increasing its already dominant market positions on the buy-side, because Google’s ad buying tools favor Google’s exchange, the upcoming changes will further entrench Google’s exchange monopoly.

269. Google’s new scheme limits competitors’ ability to compete with Google and the massive amount of user data that it has accumulated. For over ten years, Google has been the single largest tracker of online users using the very type of cookies that Google will now block. Google has already amassed massive quantities of user data and associated them with individual profiles. Moving forward, Google is also uniquely positioned to continue collecting vast troves of data on individual users: Google will continue individually tracking users on their major properties (e.g., Google Search, Google Maps, YouTube) and through various workarounds (e.g., via Chrome and Android).

270. In addition to excluding competition in these ways, Google’s new walled garden scheme poses a systemic risk to online advertising markets in the United States: it blocks publishers and advertisers from transacting through intermediaries that do not have conflicts of interest. By blocking cookies, and through proposals in Privacy Sandbox, Google forcibly inserts itself in the middle of publishers’ business relationships with non-Google advertising companies, cutting off publishers’ ability to transact with rivals without also going through Google. As internal Google documents make clear, some of the largest advertisers in America actively try to avoid working with Google because of its conflicts of interest. Google operates on the buy-side and the sell-side, runs an exchange, and participates in the market as a buyer and as a seller. The equivalent in financial markets would be working with a broker that also represents the counterparty, runs the exchange, and has a proprietary trading desk—all without ethical walls between business divisions.
to protect its customers’ welfare. In advertising, a lack of transparency exacerbates advertiser concerns: Google does not permit adequate third-party audits for things like ad fraud, measurement (e.g., render rates), or circulation. Google’s upcoming changes will force market participants to rely even more on Google, a conflicted intermediary, as the arbiter of ad transactions.

271. To summarize, Google’s upcoming cookie changes in the name of privacy are a ruse to further Google’s longstanding plan to advantage itself by creating a closed ecosystem out of the open web. Project NERA was Google’s first scheme; then, to deflect growing regulatory concern over its own privacy and intrusive cookie practices with consumers, Google launched “Privacy Sandbox,” new plans to wall off the internet accessed through Chrome. Google’s aim is to further squeeze competition in the exchange and ad buying tool markets by restricting competitors’ ability to track users and target ads.

272. At the same time, Google is trying to hide its true intentions behind a pretext of privacy. Google does not actually put a stop to user profiling or targeted advertising—it puts Google’s Chrome browser at the center of tracking and targeting. Google does not put a stop to Google’s tracking of users on Chrome; it does not put a stop to Google’s tracking of users through cookie workarounds; it does not put a stop to Google’s tracking of users across the largest sites in the world. In fact, the new Google Chrome tracking groups create something akin to a Google social credit score based on group identity. As The Electronic Frontier Foundation recently summarized: “Today, trackers follow you around the web, skulking in the digital shadows in order to guess at what kind of person you might be. In Google’s future, they will sit back, relax and let your browser do the work for them. …. The Sandbox isn’t about your privacy. It’s about Google’s bottom line. At the end of the day, Google is an advertising company that happens to make a browser.”

273. Many publishers would prefer to apply higher price floors to Google’s AdX exchange than they apply to other exchanges, since the informational and other disadvantages Google creates for other exchanges often mean that AdX is willing to bid more than others. Those higher price floors for Google (or the lower price floors for others) require Google to compete more vigorously, i.e., bid more, for purchasing impressions. One of Google’s initial efforts to avoid this heightened competition came in June 2019, when Google manipulated its core search algorithm to punish publishers utilizing higher price floors. It caused some publishers’ search traffic to plummet, with one publisher losing half of its search traffic in a single day. Nevertheless, Google repeatedly misrepresented to publishers that it was not manipulating search traffic results to punish publishers who set higher price floors for Google. But in the end, Google would address the issue more directly by imposing Unified Pricing rules, which eliminated differential price floors altogether. In effect, Google used its ad server monopoly to exclude competition in the exchange market.

274. In 2019, Google’s ad server started prohibiting publishers from setting different price floors for different exchanges and ad buying tools. As a result, publishers can no longer route their ad space to an exchange like AppNexus at a price floor lower than the price floor they apply when routing the same impression to Google’s exchange. Nor can a publisher give one bidder (e.g., Google Ads) a higher price floor (e.g., $10 CPM), while giving another (e.g., The Trade Desk) a lower price floor (e.g., $8 CPM). Google calls these new ad server restrictions Unified Pricing.

275. Unified Pricing prohibits publishers from using price floors to generate competition between Google and non-Google exchanges and ad buying tools. Historically, publishers set different price floors for Google in order to generate competition from non-Google exchanges and ad buying tools. After Google acquired DoubleClick, Google’s ad server restricted publishers from sharing their raw and non-scrambled DoubleClick ad server users IDs with non-Google exchanges.
and ad buying tools. At the same time, Google’s ad server shares those user IDs with Google’s exchange and ad buying tools. Consequently, Google’s exchange and ad buying tools had a distinct information advantage about publishers’ heterogeneous inventory. Non-Google intermediaries’ corresponding information disadvantage caused them to bid lower for impressions; for instance, they must sometimes bid “blind,” unable to adequately evaluate the value of the impression. To create bid competition in their auctions from non-Google ad buying tools, publishers would set their price floors higher for Google. But Google’s Unified Pricing rules now block publishers from charging Google a rational information risk premium, and they also effectively preclude publishers from generating competition from bidders unable to match Google’s information advantages.

276. Google’s blocking of competition via Unified Price rules has resulted in Google’s exchange and buy-side winning an increasing portion of publishers’ impressions, even though they pay lower prices. Publisher auction records reveal that Google’s exchange grew its share of exchange impressions by 20 percent after the introduction of Unified Pricing rules. For some publishers, the Unified Pricing restrictions caused their Google ad server to sell twice as much of their inventory to Google’s exchange for half as much as what Google’s exchange historically paid. Records also show that Unified Pricing rules result in Google’s ad buying tools tripling and quintupling the share of impressions they win. In sum, Google’s Unified Price rules have been extremely effective at blocking and reducing competition from non-Google exchanges and ad buying tools.

277. Unified Pricing rules not only prohibit publishers from discriminating between exchanges and bidders based on price and yield, but also on non-price criteria like ad quality. Publishers cannot favor exchanges and ad buying tools that return higher quality ads.
278. The Unified Pricing rules also result in Google’s exchange winning more because they coerce publishers to transact with Google ad buying tools in Google’s exchange. In other words, they require publishers to use Google’s exchange in order to do business with Google’s ad buying tools. Previously, publishers could choose to transact with DV360 only in non-Google exchanges by increasing DV360’s price floors in Google’s exchange. Unified Pricing rules ended this practice and forced publishers to transact with DV360 and Google Ads in Google’s exchange. Forcing publishers to transact with Google’s ad buying tools only if they also transact in Google’s exchange was one of Google’s main aims with Unified Pricing.

279. Google misrepresented to publishers its reasons for adopting Unified Pricing. Externally, Google falsely declared that abolishing price floors benefited publishers. Privately, however, Google recognized that Unified Pricing was “extremely self-serving” and revealed that the true objective was to allow “Google buyside and Facebook (after FAN integrates through Open Bidding) get access to the same 1\textsuperscript{st} Price auction dynamics.” According to an internal Google memorandum summarizing a May 2, 2019 meeting between Google and Facebook, the parties discussed publisher pricing floors, and Facebook told Google it would rather publishers not have the ability to set price floors. These discussions helped Google later decide to prohibit publishers from setting lower price floors for non-Google (or non-Facebook) exchanges, networks, and ad buying tools. The Unified Price rules further the collusion between Google and Facebook.

F. Google forces advertisers to use Google’s ad buying tools.

1. Google conduct that excludes competition in the exchange market also excludes competition in the ad buying tool markets.

280. The artificial information disadvantages that Google’s ad server and exchange generate for non-Google ad buying tools (e.g., cutting off access to publishers’ ad server user IDs) foreclose competition in the ad buying tool markets.
281. The various Google programs discussed in paragraphs 148-154, including the Bernanke program, foreclose competition in the ad buying tool markets for small and large advertisers.

282. Likewise, the Unified Pricing rules discussed in paragraphs 273-279 foreclose competition and protect Google’s monopoly in the ad buying tool markets. Before Unified Pricing, publishers could set different price floors to facilitate competition between Google and non-Google ad buying tools.

283. Google’s Last Look conduct, as well as Google’s new replacement scheme, discussed in paragraphs 236-240, forecloses competition in the ad buying tool markets.

2. Google excludes competition in the market for ad buying tools by cutting YouTube off from competing ad buying tools.

284. Google unlawfully maintains its monopoly power in the ad buying tool markets by cutting YouTube inventory off from competing ad buying tools. Cutting off YouTube access forces advertisers to use Google’s ad buying tools because YouTube, as the leading provider of video inventory in the United States, is a “must-have” source of online instream video inventory for advertisers.

285. Google did not always require advertisers to use a Google ad buying tool to purchase YouTube ad inventory. Indeed, advertisers could previously purchase YouTube inventory through many non-Google ad buying tools.

286. However, in 2013, Google noticed that its ad buying tool for large advertisers DV360 was falling behind the competition. Google started to consider withholding YouTube inventory from non-Google ad buying tools for the express purpose of pressuring advertisers to use DV360 and Google Ads. In an internal 2014 Google document, Google strategized that “[e]xclusivity of access to YouTube will likely be a significant driver of DBM Video adoption.”
287. Google also recognized that withholding YouTube from competing ad buying tools would give Google’s DV360 and Google Ads power as buyers’ agent to steer advertisers’ budgets back to Google’s properties (e.g., Google Search). A 2013 strategy conversation makes this clear: “If advertisers feel like they don’t have to work with Google directly to access video inventory—including YouTube—we will lose our ability to influence decisions about budget allocation.” In other words, if YouTube inventory were available exclusively through Google’s ad buying tools, advertisers would have to use those tools, which would empower Google to then steer budgets back to Google properties (e.g., Search and YouTube).

288. Rather than competing in the market on the basis of price or quality, Google decided to withhold YouTube inventory from non-Google ad buying tools in order to force advertisers to use Google’s tools.

289. By restricting non-Google ad buying tools from selling YouTube inventory, Google also acted against YouTube’s interest. Restricting the pool of buyers for YouTube inventory lowered the demand and revenue for YouTube content creators.

290. The harm to competing ad buying tools is magnified because advertisers (and ad agencies) prefer to minimize the number of ad buying tools they use. Advertisers and ad agencies bear significant costs and inefficiencies when using more than one ad buying tool for an ad campaign. For example, using multiple tools increases the rate at which they inadvertently bid against themselves on exchanges, thereby driving up their own advertising costs. As Google knows, advertisers can either use more than one ad buying tool (and increase their costs) or use just Google’s tools and avoid these inefficiencies altogether.
291. Cutting off access to YouTube foreclosed competition in the ad buying tool markets and protected Google’s market power in these markets. Many DSPs stopped growing, many others went out of business, and the market overall has been closed to entry.

VIII. ANTICOMPETITIVE EFFECTS

292. Google’s exclusionary conduct has caused a wide range of anticompetitive effects, including the exit of rival firms and limited and declining entry rates in the relevant antitrust markets (despite the significant profits enjoyed by Google in those markets). Google’s harm to competition deprives advertisers, publishers, and consumers of improved quality, greater transparency, greater innovation, increased output, and lower prices.

293. Google’s anticompetitive conduct described throughout this Complaint has adversely and substantially affected the Plaintiff States’ economies and the general welfare in the Plaintiff States. Google’s illegal conduct has reduced competition, raised prices, lowered quality, and reduced output in each of the Plaintiff States. This conduct has harmed the Plaintiff States’ respective economies by depriving the Plaintiff States and the persons within each Plaintiff State of the benefits of competition.

294. Google has unlawfully maintained monopolies by using its market power to disadvantage the process of competition via tying, exclusionary conduct, and other conduct in at least the following ways:

i. Substantially foreclosing competition in the exchange market by interfering with and cutting off access to inventory and advertiser demand;

ii. Substantially foreclosing competition in the publisher ad server market by tying its ad server with its market dominant exchange;

iii. Substantially foreclosing competition in the market for publisher ad servers and using market power in the publisher ad server market to harm competition in the exchange
market, the market for display ad buying tools for small advertisers, and the market for display ad buying tools for large advertisers;

iv. Substantially foreclosing competition in the markets for display ad buying tools for small advertisers and display ad buying tools for large advertisers;

v. Increasing barriers to entry in the markets for publisher ad servers, exchanges, display ad buying tools for small advertisers, and display ad buying tools for large advertisers;

vi. Harming innovation which would otherwise benefit publishers, advertisers, and consumers;

vii. Harming publishers’ ability to effectively monetize their content, reducing publishers’ revenues, and thereby reducing output;

viii. Maintaining opacity on margins and selling processes, harming competition in the exchange and display ad buying tool markets;

ix. Increasing advertisers’ costs to advertise and reducing the effectiveness of their advertising, thereby harming businesses’ ability to deliver their products and services and reducing output; and

x. Improperly shielding Google’s products from competitive pressures, thereby allowing it to continue to extract high margins and avoid the pressure to innovate.

295. This section outlines the effect of Google’s conduct on competition in the publisher ad server market, the exchange market, the market for ad buying tools for small advertisers, and the market for ad buying tools for large advertisers, as well as the effects on publishers, advertisers, businesses, and the general public.

A. **Anticompetitive Effects in the Publisher Ad Server Market**

296. Google’s exclusionary conduct has foreclosed competition in the publisher ad server market and created artificial barriers to entry and expansion. Google’s exclusionary conduct in this
market includes the tying of its ad server to its exchange (and network and ad buying tools), as well as its unlawful bid rigging agreement with Facebook. Competing publisher ad servers have consequently exited or significantly scaled back their offerings, leaving publishers with little to no choice but to license Google’s ad server. Several large public advertising technology firms, including Microsoft, Yahoo!, WPP, and OpenX, once competed in this market; all four firms have since exited the market. Moreover, the entry of new competition has been remarkably weak for a decade, and new entrants are thwarted, because of the Google-created barriers to entry and expansion. For instance, Google thwarted Facebook’s potential entry into this market by giving Facebook secret auction quotas.

297. Google’s harm to the competitive process has harmed customers in this market, i.e., online publishers. An ad server is an inventory management system that serves a publisher’s interest. In a competitive market, publishers would benefit from ad servers competing on price and quality (e.g., the extent to which ad servers maximize publishers’ inventory yield). Google’s exclusionary conduct and entry barriers have permitted its ad server to charge supra-competitive fees (e.g., a 5 to 10 percent fee on gross transactions executed in non-Google exchanges and networks) and lower quality below competitive levels (e.g., blocking and interfering with competition from non-Google exchanges that increase publishers’ yield).

298. Leading, long-established, and high-quality news publications have faced challenges monetizing via digital advertising, despite large readership and growing subscriber bases. Digital publishers were built on the expectation of fast growth in advertising sales, but that expectation has remained largely unrealized. In 2019, industry commentary described a pattern of struggling publishers heralding the “accelerating deterioration of the sector.” Struggling to meet advertising revenue targets, many publishers have had to resort to the downsizing of their workforces and the
production of less content. By reducing the revenue potential for publishers, Google reduces publishers’ incentives and resources to produce content, lowering output in this relevant market.

299. Google’s harm to the competitive process in the ad server market has also harmed publishers’ customers, i.e., individual consumers. Publishers use revenue generated from selling ad space to improve the quality of their content, offer more content, and offer more subsidized content access (i.e., less expensive subscriptions or free content access). Because Google’s ad server charges supra-competitive prices and depresses publishers’ inventory yield, publishers offer consumers less content (lower output of content), lower-quality content, less innovation in content delivery, more paywalls, and higher subscription fees.

B. Anticompetitive Effects in the Exchange Market

300. Google’s exclusionary conduct has foreclosed competition in the exchange market and created artificial barriers to entry and expansion. Google’s exclusionary conduct in this market includes deceptively blocking, interfering with, and obstructing exchange competition, cutting off non-Google exchange access to publishers’ user IDs, manipulating advertiser bids and exchange price floors (i.e., manipulating the auction), tying of its ad server to its exchange, ad network, and ad buying tools (requiring publishers and advertisers to trade in Google’s exchange), an unlawful agreement with Facebook to rig publishers’ auctions with advantages and quotas for Facebook, and a long list of conduct that Google pursued with the purpose to “kill” header bidding. Competing exchanges have consequently exited the market and new entrants are unable to effectively compete. Over ten years ago, Microsoft, Yahoo!, and top Silicon Valley venture funds competed in the exchange market, with the AdECN, AdBrite, and ADSDAQ exchanges; all three of these exchanges have since exited the market. Competition from new entrants has been weak because of the barriers and obstructions to entry Google has created. For instance, competing exchanges have tried for market share to compete by lowering their take rates to half and even a
quarter of Google’s exchange take rates. However, competition is not working: effectively, due to
Google interference, lowering prices does not permit exchanges to gain market share.

301. Google’s harm to the competitive process has harmed customers in this market, i.e.,
online publishers and advertisers. In a competitive market, publishers and advertisers would
benefit from exchanges competing on take rates and quality. Competition would lead to lower take
rates, benefiting publishers and advertisers. Publishers would retain a greater share of their
advertising revenue, permitting them to create more content, higher-quality content, and more
subsidized content access. Advertisers would pay less to purchase ad space, permitting them to re-
invest those cost savings into providing consumers with higher-quality and lower-priced goods
and services. Google’s foreclosure of competition in the exchange market has permitted its
exchange to charge supra-competitive fees (~19-22 cut on gross transactions) and lower quality
below competitive levels. Furthermore, Google’s high take rate does not reflect the magnitude of
Google’s anticompetitive harm because of the inefficiency Google creates in the allocation of
impressions. Google has consequently reduced output in the exchange market.

C. Anticompetitive Effects in the Network Market

302. Google’s exclusionary conduct has foreclosed competition in the display ad network
market and the in-app mobile ad network market and created artificial barriers to entry and
expansion. Google’s exclusionary conduct in these markets includes Google Ads routing
advertisers’ bids on display ads to only Google’s network, then deceptively re-routing those
advertisers’ bids to Google’s exchange; it also includes the terms of the Jedi Blue agreement, which
provide Facebook’s in-app network FAN with “Win Rate” quotas in auctions for publishers’ in-
app inventory. Competing display and in-app networks have exited the market and new entrants
are unable to effectively compete. Whereas competition in these markets used to be vigorous,
today, Google and Facebook control these markets.
303. Google’s harm to the competitive process has harmed customers in this market, i.e., small publishers and advertisers. In a competitive market, small publishers and advertisers would benefit from networks competing with each other on take rates and quality. Competition would lead to lower take rates, benefiting publishers and advertisers. Small publishers would retain a greater share of their advertising revenue, permitting them to create more content, higher-quality content, and more subsidized content access. Advertisers would pay less to purchase ad space, permitting them to re-invest those cost savings into providing consumers with higher-quality and lower-priced goods and services. Google’s foreclosure of competition in the network market has permitted its display network GDN to charge high double-digit take rates exceeding 32 percent. Google’s foreclosure of competition in the in-app network market, per the terms of the Jedi Blue agreement, allocates a minimum fixed percent of auctions for publishers’ inventory to Facebook’s in-app network FAN irrespective of how high other networks might bid in the same auctions. Market allocation through quotas subverts competition between networks for publishers’ in-app inventory and fixes prices in the market. Consequently, Google reduces output in these markets.


304. Google’s exclusionary conduct has foreclosed competition in the ad buying tool markets for both small and large advertisers and created artificial barriers to entry and expansion. Google’s exclusionary conduct in these separate markets includes the tying of its ad server to its exchange, ad network, and ad buying tools (requiring publishers and advertisers to trade in Google’s exchange), cutting off non-Google ad buying tools’ access to publishers’ ad server user IDs, manipulating advertiser bids and exchange price floors (i.e., manipulating the auction), and the tying of YouTube with its ad buying tools. Consequently, competing ad buying tools have exited the market and new entrants are unable to effectively compete. Competition in the ad buying
tool markets for small and large advertisers used to be robust; today, Google Ads is effectively the
only remaining choice for small advertisers wishing to purchase display ad space from exchanges.
And many large advertisers have no choice but to use DV360 because they single home (to reduce
bidding risk) and because DV360 has exclusive access to YouTube ad inventory, which is a “must
have.”

305. Google’s harm to the competitive process has harmed customers in these markets, i.e.,
both small and large advertisers. Ad buying tools, whether for small or large advertisers, are
supposed to advance advertisers’ best interests (e.g., buying identical ad space for the lowest
price). In a competitive market, advertisers would benefit from ad buying tools competing on price
and quality (e.g., the extent to which the tools maximize advertisers’ best interests). Google’s
exclusionary conduct has permitted its ad buying tool for small advertisers to charge supra-
competitive fees and lower quality below competitive levels (e.g., charging non-transparent fees,
manipulating advertisers’ bids to purchase ad space for higher prices trading on Google’s exchange
and network, and arbitraging small advertisers’ bids to extract higher fees). Similarly, Google’s
exclusionary conduct has permitted Google’s ad buying tool for large advertisers to charge supra-
competitive fees and lower quality below competitive levels (e.g., the lack of adequate auditing of
Google conflicts of interests and fraudulent impressions). Google’s conduct has consequently also
lowered output in these markets.

306. Google’s harm to the competitive process in the ad buying tool markets has also harmed
advertisers’ customers, i.e., consumers. The fees advertisers would save on ad buying tools and ad
purchases in the absence of Google’s anticompetitive conduct would result in reduced deadweight
costs that advertisers would ultimately pass on to consumers. Consumers would benefit through
better quality and lower priced goods and services. Advertising also allows consumers to learn of
the range of competitors in a market, their prices, and the nature of the products and services offered. When advertising effectiveness is reduced, competition between products and services is reduced, and consumers are harmed.

E. **Harm to Innovation**

307. In each of the relevant product markets, Google’s exclusionary conduct has resulted in harm to innovation. A critical example of this is how, for many years, Google’s publisher ad server depressed publishers’ inventory yields by blocking real-time competition from non-Google exchanges. When publishers found a way to work around the restrictions imposed by Google’s ad server using header bidding, publishers’ yields jumped by 30+ percent, sometimes even over 100 percent. It was not until 2018, about 8 years after the invention of real-time bidding, that Google’s ad server finally permitted publishers to route their inventory to multiple exchanges in real time. In other words, the lack of competition caused by Google’s foreclosure of competition and entry permitted Google’s ad server to get away with significantly depressing publishers’ inventory yields for almost ten years.

308. Google’s response to header bidding has further harmed innovation in the exchange and publisher ad server markets. Google has used its market power in the publisher ad server market and exchange markets to “kill” header bidding, rather than competing on the merits. Header bidding helped publishers make more money by enhancing exchange access to and competition for publishers’ impressions. By crippling interoperability with this new and beneficial invention, Google stifles rather than promotes beneficial innovation in the market.
IX. CLAIMS


309. Plaintiff States repeat and reallege every proceeding allegation as if fully set forth herein.

310. Google wrongfully acquired and unlawfully maintained monopoly power in the market for publisher ad servers, unlawfully acquired or maintained monopoly power in the ad exchange market and ad network markets, unlawfully acquired or maintained monopoly power in the market for ad buying tools for small advertisers, and unlawfully acquired or maintained monopoly power in the market for ad buying tools for large advertisers.

311. Google has willfully maintained and abused its monopoly in the ad server market and adjacent markets to, inter alia, restrict publishers from routing inventory to multiple exchanges, preferentially route publisher inventory to Google’s exchange, provide Google’s exchange exclusive access to high-value inventory, provide information advantages to harm competition, structure key aspects of the exchange market to minimize transparency, trade ahead of header bidding exchanges, use its data advantages to trade on inside information, deceive publishers to encourage them to disable header bidding, cripple publishers’ ability to measure header bidding yield, reduce line item capabilities to impede header bidding, redesign how web content is presented to make header bidding incompatible, withhold data from header bidding, enter into agreements with horizontal competitors to entrench its monopoly position, and exclude competition through Unified Pricing.

312. Google has used its economies of scale in search and search advertising to create and maintain a monopoly in the markets for ad buying tools and exchanges.
313. Google has willfully maintained and abused its monopoly power in the instream online video advertising market to force advertisers to use Google’s ad buying tools for both small and large advertisers.

314. Plaintiff States have sustained antitrust injury as a direct and proximate cause of Google’s unlawful conduct, in at least the following ways: (1) substantial foreclosure of competition in the market for publisher ad servers, and the use of market power in the publisher ad server market to harm competition in the exchange market; (2) substantial foreclosure of competition in the exchange market via foreclosure of rivals’ access to publisher inventory and advertiser demand; (3) substantial foreclosure of competition in the markets for ad buying tools by the creation of information asymmetries and unfair auctions enabled by Google’s market dominance in the publisher ad serving tools and exchange markets; (4) increased barriers to entry and expansion in the publisher ad server, exchange, and demand-side buying tools markets; (5) decreased innovation, which would otherwise benefit publishers, advertisers, and competitors; (6) harm to publishers’ ability to effectively monetize their content, reductions to publishers’ revenues, reduced output, and the resulting harms to consumers; (7) reduced advertiser demand and participation in the market from opacity on margins and selling process, and harm to rival exchanges and buying tools; (8) increased advertisers’ costs to advertise and reduced effectiveness of advertising, which thereby harms businesses’ return on the investment in delivering their products and services, reduces output, and further harms consumers; (9) protection of Google’s products from competitive pressures, thereby allowing it to continue to extract high margins while avoiding competitive pressures to innovate.

315. For the reasons set forth above, Google has violated Section 2 of the Sherman Act, 15 U.S.C. § 2.
316. The Plaintiff States are entitled to equitable relief as appropriate to cure Google’s unlawful conduct and restore competition in the relevant markets. Consumers in the Plaintiff States are regular users of products in the relevant markets and will continue to purchase such products and suffer further injury if Google’s unlawful monopolies are not ended.


317. Plaintiff States repeat and reallege every proceeding allegation as if fully set forth herein.

318. As detailed above, Google has monopoly power, or at a minimum, a dangerous probability of acquiring monopoly power, in the relevant online display advertising markets, including the market for publisher ad servers, the ad exchange and ad network markets, and in the markets for ad buying tools for large and small advertisers.

319. Google has willfully, knowingly, and with specific intent to do so, attempted to monopolize the relevant online display advertising markets, including the market for ad servers, the ad exchange and ad network markets, and the markets for ad buying tools for large and small advertisers.

320. Google has attempted to monopolize the ad server market and adjacent markets to, *inter alia*, restrict publishers from routing inventory to multiple exchanges, preferentially route publisher inventory to Google’s exchange, provide Google’s exchange exclusive access to high-value inventory, provide information advantages to harm competition, structure key aspects of the exchange market to minimize transparency, trade ahead of header bidding exchanges, use its data advantages to trade on inside information, deceive publishers to encourage them to disable header bidding, cripple publishers’ ability to measure header bidding yield, reduce line item capabilities to impede header bidding, redesign how web content is presented to make header bidding
incompatible, withhold data from header bidding, and enter into agreements with horizontal competitors to entrench its monopoly position, and exclude competition through Unified Pricing.

321. Google has attempted to monopolize the markets for ad buying tools and exchanges.

322. Google has attempted to monopolize in the instream online video advertising to force advertisers to use Google’s ad buying tools for both small and large advertisers.

323. Plaintiff States have sustained antitrust injury as a direct and proximate cause of Google’s unlawful conduct, in at least the following ways: (1) substantial foreclosure of competition in the market for publisher ad servers, and the use of market power in the publisher ad server market to harm competition in the exchange market; (2) substantial foreclosure of competition in the exchange market via foreclosure of rivals’ access to publisher inventory and advertiser demand; (3) substantial foreclosure of competition in the markets for ad buying tools by the creation of information asymmetries and unfair auctions enabled by Google’s market dominance in the publisher ad serving tools and exchange markets; (4) increased barriers to entry and expansion in the publisher ad server, exchange, and demand-side buying tools markets; (5) decreased innovation, which would otherwise benefit publishers, advertisers, and competitors; (6) harm to publishers’ ability to effectively monetize their content, reductions to publishers’ revenues, reduced output, and the resulting harms to consumers; (7) reduced advertiser demand and participation in the market from opacity on margins and selling process, and harm to rival exchanges and buying tools; (8) increased advertisers’ costs to advertise and reduced effectiveness of advertising, which thereby harms businesses’ return on the investment in delivering their products and services, reduces output, and further harms consumers; (9) protection of Google’s products from competitive pressures, thereby allowing it to continue to extract high margins while avoiding competitive pressures to innovate.
324. For the reasons set forth above, Google has violated Section 2 of the Sherman Act, 15 U.S.C. § 2.

325. The Plaintiff States are entitled to equitable relief as appropriate to cure Google’s unlawful conduct and restore competition in the relevant markets. Consumers in the Plaintiff States are regular users of products in the relevant markets and will continue to purchase such products and suffer further injury if Google’s unlawful monopolies are not ended.


326. Plaintiff States repeat and reallege every proceeding allegation as if fully set forth herein.

327. Google’s contractual arrangements and other conduct force publishers and others to use Google’s ad server (DFP) if they use Google exchange (AdX).

328. Google’s DFP and Google AdX are separate products in separate markets.

329. Google AdX has sufficient market power in the exchange market to coerce publishers and others to use DFP even if they would prefer not to do so.

330. Google’s tying arrangements affect a significant volume of interstate commerce and have the effect of substantially foreclosing competition in the publisher ad server market by virtue of reducing the number of publishers and others for whom other ad servers can effectively compete. Moreover, these tying arrangements allow Google to maintain supra-competitive prices for AdX that are ultimately passed on to publishers and others, who are also harmed by virtue of having fewer options available at lower prices because of Google’s conduct.

331. Google’s tying arrangements have caused competing ad servers substantial damages as a direct and proximate cause of this unlawful conduct because Google has foreclosed other ad servers from competing for potential publishers and others and has deprived ad servers of other
business for reasons having nothing to do with the merits of Google DFP or other ad server products.

332. Google’s contractual arrangements and other conduct force advertisers and others to use Google’s ad buying tools, DV360 or Google Ads, if they seek to purchase ad inventory on YouTube.

333. Ad inventory on YouTube and Google’s ad buying tools (DV360 and Google Ads) are separate products in separate markets.

334. YouTube has sufficient power in the online video inventory market to coerce advertisers and others to use Google’s ad buying tools (DV360 and Google Ads) even if they would prefer not to do so.

335. Google’s tying arrangements affect a significant volume of interstate commerce and have the effect of substantially foreclosing competition in the ad buying tools markets by virtue of reducing the number of advertisers and others for whom other ad buying tools can effectively compete. Moreover, these tying arrangements allow Google to charge supra-competitive prices for ad buying tools that are ultimately passed on to advertisers and others, who are also harmed by virtue of having fewer options available at lower prices because of Google’s conduct.

336. Google’s contractual arrangements and other conduct force small advertisers and others to use Google’s network (GDN) and Google’s exchange (AdX), or at least to not use competing networks and exchanges, if they use Google Ads.

337. Google Ads, Google GDN, and Google AdX are separate products in separate markets.
338. Google Ads has sufficient power in the market ad buying tools for small advertisers to coerce advertisers and others to use Google GDN and Google AdX even if they would prefer not to do so.

339. Google’s tying arrangements affect a significant volume of interstate commerce and have the effect of substantially foreclosing competition in the network market and ad exchange market by virtue of reducing the number of small advertisers and others for whom other networks and exchanges can effectively compete. Moreover, these tying arrangements allow Google to maintain supra-competitive prices for GDN and AdX that are ultimately passed on to advertisers and others, who are also harmed by virtue of having fewer options available at lower prices because of Google’s conduct.

340. Google’s tying arrangements have caused competing networks and exchanges substantial damages as a direct and proximate cause of this unlawful conduct because Google has foreclosed other networks and exchanges from competing for potential small advertisers and others, and deprived networks and exchanges of other business for reasons having nothing to do with the merits of Google’s network or exchange products.

D. COUNT IV – UNLAWFUL AGREEMENT IN VIOLATION OF SECTION I OF THE SHERMAN ACT, 15 U.S.C. § 1

341. Plaintiff States repeat and reallege every proceeding allegation as if fully set forth herein.

342. Google, by and through its officers, directors, employees or other representatives, entered into an unlawful agreement with its co-conspirator Facebook in restraint of trade and commerce in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1, in which they agreed to allocate display ad auction wins and to fix display ad prices, as described in this Complaint.
343. Google’s conduct is a *per se* violation that restrains trade and harms competition through an unlawful agreement in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1.

344. Google’s anticompetitive acts have had harmful effects on competition and consumers.

E. **Count V – Supplemental State Law Antitrust Claims**

345. Plaintiff State of Texas repeats and realleges every preceding allegation as if fully set forth herein.

346. The aforementioned practices by Google were and are in violation of Texas Business and Commerce Code § 15.01 *et seq.*, including § 15.05(b).

347. Plaintiff State of Alaska repeats and realleges each and every preceding allegation as if fully set forth herein. The aforementioned acts or practices by Google violate the Alaska Restraint of Trade Act (“ARTA”), AS 45.50.562 *et seq.*

348. Google engaged in and is engaging in unlawful conduct in the course of trade or commerce within the meaning of AS 45.50.562 *et seq.* This conduct has harmed and is harming Alaska and its citizens, residents, businesses, and consumers.

349. As provided for under ARTA, Alaska seeks a civil penalty of up to $50,000,000, injunctive relief, damages and penalties, disgorgement, and costs and attorney’s fees.

350. The State of Alaska seeks relief on behalf of itself, as provided for in ARTA, and as parens patriae on behalf of its persons, as provided for in AS 45.50.577, as well as under Alaska common law.

351. Plaintiff State of Arkansas repeats and realleges each and every preceding allegation as if fully set forth herein.

353. Plaintiff State of Arkansas seeks and is entitled to maximum civil penalties allowed by law, injunctive relief, disgorgement, attorney’s fees, costs, investigative expenses, expert witness expenses, and such other relief as this Court deems just and equitable.

354. Plaintiff the State of Florida repeats and realleges each and every preceding allegation as if fully set forth herein. The aforementioned acts or practices by Google violate the Florida Antitrust Act, Fla. Stat. § 542.15 et seq.

355. The State of Florida seeks remedies available under The Florida Antitrust Act including:

a) Injunctive and other equitable relief pursuant to Fla. Stat. § 542.23;

b) Civil penalties pursuant to Fla. Stat. § 542.21, which provides that any person other than a natural person is subject to a penalty of up to $1 million and that “[a]ny person who knowingly violates any of the provisions . . . or who knowingly aids in or advises such violation, is guilty of a felony, punishable by a fine not exceeding $1 million if a corporation”; and

c) Costs and attorneys’ fees pursuant to Fla. Stat. § 542.23.

356. Plaintiff State of Idaho repeats and realleges each and every preceding allegation as if fully set forth herein.

357. Google has engaged in Idaho commerce, as that term is defined by Idaho Code § 48 103(1).

358. Google’s actions as alleged herein violate the Idaho Competition Act, Idaho Code § 48 105, in that such actions constitute monopolization, an attempt to monopolize, and/or a combination or conspiracy to monopolize lines of Idaho commerce, as that term is defined by Idaho Code § 48 103(1).
359. Google’s actions as alleged herein violate the Idaho Competition Act, Idaho Code § 48-104, in that they have the purpose and/or the effect of unreasonably restraining Idaho commerce, as that term is defined by Idaho Code § 48-103(1).

360. For each and every violation alleged herein, Plaintiff State of Idaho is entitled to all legal and equitable relief available under the Idaho Competition Act, Idaho Code §§ 48-108 and 48-112, including, but not limited to, declaratory judgment, injunctive relief, civil penalties, divestiture of assets, disgorgement, expenses, costs, attorneys’ fees, all monetary relief that the Attorney General of the State of Idaho is entitled to recover, as parens patriae, on behalf of persons of the State of Idaho for any injury directly or indirectly sustained because of each and every violation of the Act, and such other and further relief as this Court deems just and equitable.

361. Plaintiff State of Indiana repeats and realleges every preceding allegation as if fully set forth herein.

362. The aforementioned practices by Google were and are in violation of Ind. Code §§ 24-1-2-1 and -2.

363. Plaintiff State of Louisiana repeats and re-alleges each and every preceding allegation as if fully set forth herein.

364. The Attorney General of the State of Louisiana is authorized to bring this action on behalf of the people of the State of Louisiana for injunctive relief, restitution, and civil penalties pursuant to the Louisiana Monopolies statute, La. Rev. Stat. Ann. § 51:121, et seq.

365. La Rev. Stat. Ann. § 51:123 states that no person shall monopolize, or attempt to monopolize, or combine, or conspire with any other person to monopolize any part of the trade or commerce within this state.
366. Google’s continuing and systematic business practices as alleged herein meant to control or manipulate the digital advertising industry constitute a contract, combination, or conspiracy in restraint of trade or commerce in the state of Louisiana in violation of Louisiana Monopolies statute, La. Rev. Stat. Ann.§ 51:122.

367. Google’s continuing and systematic business practices as alleged herein meant to control or manipulate the digital advertising industry constitute an attempt to monopolize to conspire to monopolize trade or commerce in the state of Louisiana in violation of Louisiana Monopolies statute, La. Rev. Stat. Ann.§ 51:123.


369. Plaintiff the Commonwealth of Kentucky hereby reincorporates by reference all other paragraphs of this Complaint.

370. Plaintiff the Commonwealth of Kentucky repeats and realleges each and every preceding allegation as if fully set forth herein.


372. Google engaged in and is engaging in unlawful conduct in the course of trade or commerce, within the meaning of Ky. Rev. Stat. § 367.175, that has harmed and is harming the Commonwealth and its persons.

373. The Commonwealth of Kentucky seeks the following remedies under Kentucky law for violations of Ky. Rev. Stat. § 367.175:

c) Civil penalties pursuant to Ky. Rev. Stat. § 367.990(8);
e) Other remedies as the court may deem appropriate under the facts and circumstances of the case.

374. Plaintiff State of Mississippi repeats and realleges each and every preceding allegation as if fully set forth herein.

375. Google’s acts violate Miss. Code Ann. § 75-21-1 et seq., and Plaintiff State of Mississippi is entitled to relief under Miss. Code Ann. § 75-21-1 et seq.

376. Pursuant to Miss. Code Ann. § 75-21-1 et seq., Plaintiff State of Mississippi seeks and is entitled to relief, including but not limited to injunctive relief, damages, restitution, disgorgement, civil penalties, costs, attorney fees, and any other just and equitable relief which this Court deems appropriate.

377. Plaintiff State of Missouri repeats and realleges every preceding allegation as if fully set forth herein.

378. The aforementioned practices by Google were and are in violation of the Missouri Antitrust Law, Mo. Rev. Stat. §§ 416.011 et seq.

379. Plaintiff State of Montana repeats and realleges every preceding allegation as if fully set forth herein.

380. The aforementioned acts and practices by Google were and are in violation of Montana’s Unfair Trade Practices and Consumer Protection Act, Mont. Code Ann. § 30-14-101 et
seq., including, but not limited to, § 30-14-103, and Unfair Trade Practices Generally, Mont. Code Ann. § 30-14-201 et seq., including §§ 30-14-205(1), 30-14-205(2), and 30-14-222.


382. As repeatedly alleged supra, Google engaged in and is engaging in unlawful conduct that produced, and continues to produce, harm across the Plaintiff States, including in Nevada. Google’s unlawful conduct has occurred in the course of trade or commerce, within the meaning of Nev. Rev. Stat. §598A.020.


384. Plaintiff State of North Dakota repeats and realleges every preceding allegation as if fully set forth herein.

385. The aforementioned practices by Google were and are in violation of North Dakota Century Code (N.D.C.C.) § 51-08.1-01 et seq., Uniform State Antitrust Act, including §§ 51-08.1-02 and 51-08.1-03.

386. Plaintiff State of South Carolina repeats and realleges each and every preceding allegation as if fully set forth herein.
387. The Attorney General of South Carolina is bringing this action in the name of the State pursuant to S.C. Code § 39-5-50(a).

388. At all times described herein, Google was engaged in conduct which constitutes “trade” and “commerce” as defined in S.C. Code § 39-5-10(b).

389. Google’s acts or practices regarding South Carolina consumers as alleged herein are capable of repetition and affect the public interest.


391. Google’s acts or practices alleged herein are offensive to established public policy, immoral, unethical, or oppressive.

392. At all times Google knew or should have known that its conduct violated S.C. Code § 39-5-20 and therefore is willful for purposes of S.C. Code § 39-5-110, justifying civil penalties.

393. Plaintiff State of South Carolina seeks all remedies available under the South Carolina Unfair Trade Practices Act (SCUTPA) including, without limitation, the following:

a) Injunctive and other equitable relief pursuant to S.C. Code § 39-5-50(a);

b) Civil penalties in the amount of $5,000, pursuant to S.C. Code § 39-5-110(a), for every willful violation of SCUTPA;

c) Costs and attorneys’ fees pursuant to S.C. Code § 39-5-50(a) and S.C. Code § 1-7-85; and

d) Other remedies as the court may deem appropriate under the facts and circumstances of the case.

394. Plaintiff Commonwealth of Puerto Rico repeats and realleges every preceding allegation as if fully set forth herein.
395. The aforementioned practices by Google were in violation of Puerto Rico Law No. 77 of June 25, 1964, also known as “Puerto Rico’s Antitrust and Restrictions of Commerce Law,” 10 P.R. Laws Ann. §§ 257 et seq., and 32 P.R. Laws Ann. § 3341.

396. Accordingly, the Commonwealth of Puerto Rico is entitled remedies available under Puerto Rico’s Antitrust and Restrictions of Commerce Law and 32 P.R. Laws Ann. § 3341, including injunctive relief, civil penalties, and any other appropriate relief.

397. Plaintiff State of South Dakota repeats and realleges every preceding allegation as if fully set forth herein.

398. The aforementioned practices by Google constitute separate and multiple violations of South Dakota statutes §§ SDCL 37-1-3.1 and 37-1-3.2.

399. For each and every violation alleged herein, Plaintiff State of South Dakota is entitled to all legal and equitable relief, and all costs and fees, available under SDCL §§ 37-1-3.1 et seq. Such relief includes injunctive relief and civil penalties for the State, as authorized by SDCL § 37-1-14.2, and monetary relief, as parens patriae on behalf of persons of the State, for injuries sustained, directly or indirectly, because of Google’s violations of South Dakota law, as authorized by SDCL §§ 37-1-23, 37-1-24, and 37-1-32.

400. Plaintiff State of Utah repeats and realleges each and every preceding allegation as if fully set forth herein.

401. Google’s acts violate the Utah Antitrust Act, Utah Code § 76-10-3101, et seq. (the “Act”) and Plaintiff State of Utah is entitled to all relief available under the Act for those violations, including, but not limited to, injunctive relief, civil penalties, disgorgement, attorneys’ fees, and costs.

F. COUNT VI – SUPPLEMENTAL STATE LAW DECEPTIVE TRADE PRACTICES CLAIMS

402. Plaintiff State of Texas repeats and realleges every preceding allegation.
403. At all times described herein, Google has engaged in conduct which constitutes “trade” and “commerce” defined in § 17.45(6) of the DTPA.

404. Plaintiff State of Texas has reason to believe that Google has engaged in, and will continue to engage in, the unlawful practices set forth herein, has caused and will cause adverse effects to legitimate business enterprises which lawfully conduct trade and commerce in this State, and will cause damage to the State of Texas and to persons in the State of Texas. Therefore, the Consumer Protection Division of the Office of the Attorney General of the State of Texas believes and is of the opinion that this matter is in the public interest.

405. As alleged in more detail above, Google has engaged in false, deceptive, or misleading acts or practices in connection with each of its roles within the ad tech stack. In each such role, Google at least implicitly misrepresents that it is operating in the best interest of its customer, fails to disclose its conflicts of interest, and misrepresents the many ways that Google operates to disadvantage its customers.

406. For example, in its role as an ad server, Google led publishers to believe that it was acting in the publisher’s best interest and would help them maximize revenue, when Google does not seek to maximize the publisher’s revenue, but its own.

407. Similarly, in its roles as an ad exchange and ad network, Google misleads both publishers and advertisers regarding the actual price of advertisements. Google is deliberately opaque and nontransparent in its pricing terms, fails to disclose the fee it collects, and generally causes confusion regarding the mechanics, terms, and pricing of its ad exchange and ad network.

408. Google has also engaged in false, deceptive, or misleading acts or practices in its efforts to discourage publishers, ad exchanges, and advertisers from participating in header bidding and to manipulate them into participating in Google’s products. Such acts included misrepresenting to
publishers that including rival exchanges in header bidding would negatively affect the publisher (e.g., by putting a strain on the publisher’s servers), falsely telling publishers that the DRS program would increase their revenue, manipulating advertisers’ bids and publishers’ floors without advertisers’ knowledge or consent, misrepresenting to publishers that Open Bidding would benefit them through exchange competition, falsely telling publishers that adopting AMP would enhance load times, falsely claiming that header bidding increased latency, falsely representing that abolishing price floors in Unified Pricing benefited publishers, misrepresenting that it does not manipulate search traffic results to favor publishers where Google makes more ad money, misrepresenting that all bidders in Google’s exchanges compete on an equal footing, and misrepresenting that Google had removed its Last Look advantage and would not trade ahead of their bids.

409. Google also misrepresents to participants in the ad tech stack and its users alike that Google encrypts user IDs in order to protect users’ privacy, when in fact, Google continues to infringe on users’ privacy by continuing to access such information in its own ad tech stack products.

410. As alleged in more detail above, Google has engaged in false, deceptive, or misleading acts or practices by misrepresenting that it will never sell users’ personal information to anyone and by misrepresenting, causing confusion and misunderstanding, and failing to disclose how Google uses the information and data of its consumers.

411. Google has also engaged in false, deceptive, or misleading acts or practices by falsely promising users that their WhatsApp messages remained private, by publicly misrepresenting that Google did not have decryption keys, and by failing to disclose to users that backing up to Google Drive would give Google access to users’ private WhatsApp communications.
412. Through its false, deceptive, or misleading acts, Google has violated § 17.46(a) of the DTPA, including by engaging in conduct specifically defined to be false, deceptive, or misleading by § 17.46(b) such as:

a) Representing that services have sponsorship, approval, characteristics, ingredients, uses, benefits, or quantities which they do not have or that a person has a sponsorship, approval, status, affiliation, or connection which he does not have, in violation of DTPA § 17.46(b)(5);

b) Representing that services are of a particular standard, quality, or grade, if they are of another, in violation of DTPA § 17.46(b)(7);

c) Advertising goods or services with the intent not to sell them as advertised, in violation of DTPA § 17.46(b)(9);

d) Representing that an agreement confers or involves rights, remedies, or obligations which it does not have or involve, or which are prohibited by law, in violation of DTPA § 17.46(b)(12); and

e) Failing to disclose information concerning goods or services which was known at the time of the transaction with the intent to induce the consumer into a transaction into which the consumer would not have entered had the information been disclosed in violation of § 17.46(b)(24).

413. By means of the foregoing unlawful acts and practices, Google has acquired money or other property from persons to whom such money or property should be restored.

414. Plaintiff the State of Alaska repeats and realleges each and every preceding allegation as if fully set forth herein, specifically including all allegations in Count VI of this Complaint. The
aforementioned acts or practices by Google violate the Alaska Unfair Trade Practices and Consumer Protection Act ("AUTPCPA"), AS 45.50.471 et seq.

415. Google engaged in and is engaging in unlawful conduct in the course of trade or commerce, within the meaning of AS 45.50.471, that has harmed and is harming the State of Alaska, its citizens, residents, businesses, and consumers.

416. Specifically, Google violated AS 45.50.471(b)(11) and (b)(12) by misleading, deceiving, and damaging Alaskans. Among other things, Google omitted material facts, namely their anti-competitive conduct, knowing this would harm Alaskans. Plaintiff State of Alaska is entitled to relief for these violations under AS 45.50.501, .537, and .551, including injunctive relief, civil penalties of between $1,000 and $25,000 for each violation, and costs and attorney’s fees.

417. Further, the State of Alaska seeks restitution to Alaska and/or disgorgement pursuant to its statutory and common law.

418. The State of Alaska seeks relief on behalf of itself and as parens patriae on behalf of its persons.

419. Plaintiff State Arkansas repeats and realleges each and every preceding allegation as if fully set forth herein.


421. Plaintiff the State of Florida repeats and realleges each and every preceding allegation as if fully set forth herein. The aforementioned acts or practices by Google constitute unfair

422. In addition, Google’s actions offend established public policy and are immoral, unethical, oppressive, unscrupulous, or substantially injurious to consumers in the State of Florida in violation of Fla. Stat. § 501.204 et seq.

423. The State of Florida seeks all remedies available under The Florida Deceptive and Unfair Trade Practices Act, including, without limitation, the following:

a) Damages pursuant to Fla. Stat. § 501.207;

b) Disgorgement and restitution pursuant to Fla. Stat. § 501.204 et seq.;

c) Injunctive and other equitable relief pursuant to Fla. Stat. § 501.207;

d) Civil penalties pursuant to Fla. Stat. § 501.2075, which provides that anyone who engages in a willful violation “is liable for a civil penalty of not more than $10,000 for each such violation.”

e) Costs and attorneys’ fees pursuant to Fla. Stat. § 501.2105.

424. Plaintiff State of Idaho repeats and realleges every preceding allegation, including the allegations above in Count VI of this Complaint.

425. The above-mentioned acts and practices by Google violate the Idaho Consumer Protection Act (ICPA), Idaho Code title 48, chapter 6, and the Idaho Rules of Consumer Protection, IDAPA 04.02.01.000 et seq., which prohibit unfair and deceptive acts and practices in the conduct of trade or commerce and which provide efficient and economical procedures to secure the public’s protection from unlawful business practices.

426. At all times described herein, Google has engaged in conduct that constitutes “trade” and “commerce” under Idaho Code § 48-602(2) and IDAPA 04.02.01.020.
427. The Attorney General of the State of Idaho is authorized to bring an action in the name of the State against any person who is using, has used, or is about to use any method, act, or practice declared unlawful by the ICPA. Idaho Code § 48-606. The Attorney General of Idaho has reason to believe that Google has used and is using the acts and practices set forth in this Complaint, which violate the ICPA; that Google has caused and will cause adverse effects for the business enterprises of the State of Idaho that lawfully conduct trade and commerce; and that Google has caused and will cause damage to the State of Idaho and to the persons of the State of Idaho. The Attorney General of Idaho therefore believes that this action is in the public interest.

428. Through its unfair or deceptive acts and practices, Google has violated the ICPA, including by engaging in conduct specifically defined to be unfair or deceptive by Idaho Code § 48-603. For example, Google knows, or in the exercise of due care should know, that it was and is:

a) Representing that goods or services have sponsorship, approval, characteristics, ingredients, uses, benefits, or quantities that they do not have or that a person has a sponsorship, approval, status, affiliation, connection, qualifications, or license that he does not have, in violation of Idaho Code § 48-603(5);

b) Representing that goods or services are of a particular standard, quality, or grade, if they are of another, in violation of Idaho Code § 48-603(7);

c) Advertising goods or services with the intent not to sell them as advertised, in violation of Idaho Code § 48-603(9); and

d) Engaging in any act or practice that is otherwise misleading, false, or deceptive to consumers, such as making any claim or representation, or omitting any material or relevant fact, concerning goods or services that directly, or by implication, has the capacity,
tendency, or effect of deceiving or misleading a consumer acting reasonably under the circumstances, in violation of Idaho Code § 48-603(17) and IDAPA 04.02.01.030.

429. Google’s unfair or deceptive acts and practices, as alleged above, constitute separate and multiple violations of Idaho Code §§ 48-603(5), 48-603(7), 48-603(9), and 48-603(17), and IDAPA 04.02.01.030. Google’s separate and multiple violations of these provisions subject Google to the remedies outlined in Idaho Code §§ 48-606 and 48-607.

430. The Attorney General finds that the purpose of the ICPA would be substantially and materially impaired by delay in bringing, at this time, these claims under the ICPA. Accordingly, he has determined to file these claims, pursuant to Idaho Code § 48-606(3), without first providing Google notice of these proceedings or allowing Google an opportunity to appear before the Attorney General and to execute an assurance of voluntary compliance or a consent judgment under the ICPA.

431. Plaintiff State of Indiana repeats and re-alleges each and every preceding allegation as if fully set forth herein. Acts alleged in Count VI of this Complaint also constitute violations of the Indiana Deceptive Consumer Sales Act, Ind. Code § 24-5-0.5-1 et seq., including knowing violations and incurable deceptive acts. Plaintiff State of Indiana seeks all remedies available under the Indiana Deceptive Consumer Sales Act.

432. Plaintiff State of Louisiana repeats and re-alleges each and every preceding allegation as if fully set forth herein.


436. Google engages in “trade” or “commerce” within the meaning of La. Rev. Stat. Ann. § 51:1402(9). Google’s unfair and deceptive acts or practices in the conduct of its trade or commerce are offensive to established public policy.

437. Each and every act in the conduct of trade or commerce by Google that is deemed to be unfair or deceptive constitutes a separate violation of the act.


440. Plaintiff the Commonwealth of Kentucky hereby reincorporates by reference all other paragraphs of this Complaint.
441. Plaintiff the Commonwealth of Kentucky repeats and realleges each and every preceding allegation as if fully set forth herein, specifically including all allegations in Count VI of this Complaint.

442. The aforementioned acts or practices by Google, in addition to the following acts, constitute violations of Ky. Rev. Stat. § 367.170.

443. Google engaged in and is engaging in unlawful conduct in the course of trade or commerce, within the meaning of Ky. Rev. Stat. § 367.170, that has harmed and is harming the Commonwealth and its persons.

444. The above-described conduct has been and is willful within the meaning of Ky. Rev. Stat. § 367.990.

445. The Commonwealth states that the public interest is served by seeking a permanent injunction to restrain the acts and practices described herein. The Commonwealth and its persons will continue to be harmed unless the acts and practices complained of herein are permanently enjoined pursuant to Ky. Rev. Stat. § 367.190.

446. The Commonwealth of Kentucky seeks the following remedies under Kentucky law for violations of Ky. Rev. Stat. § 367.170:


   d) Civil penalties pursuant to Ky. Rev. Stat. § 367.990(2);

f) Other remedies as the court may deem appropriate under the facts and circumstances of the case.

447. Plaintiff State of Mississippi repeats and realleges each and every preceding allegation as if fully set forth herein.

448. The aforesaid conduct was not only anti-competitive but was also unfair and deceptive to the consumers of the State of Mississippi, therefore Google’s acts violate the Mississippi Consumer Protection Act, Miss. Code Ann. § 75-24-1, et seq., and Plaintiff State of Mississippi is entitled to relief under the Mississippi Consumer Protection Act, Miss. Code Ann. § 75-24-1, et seq.

449. Pursuant to the Mississippi Consumer Protection Act, Miss. Code Ann. § 75-24-1, et seq., Plaintiff State of Mississippi seeks and is entitled to relief, including but not limited to injunctive relief, damages, restitution, disgorgement, civil penalties, costs, attorney fees, and any other just and equitable relief which this Court deems appropriate.

450. Plaintiff State of Missouri repeats and realleges every preceding allegation as if fully set forth herein.

451. The aforementioned practices by Google were and are unfair and deceptive practices in violation of Missouri’s Merchandising Practices Act, Mo. Rev. Stat. §§ 407.010 et seq., as further interpreted by 15 CSR 60-8.010 et seq. and 15 CSR 60-9.01 et seq.

452. Plaintiff State of Montana repeats and realleges each and every preceding allegation as if fully set forth herein, specifically including all allegations in Count VI of this Complaint. The forgoing acts and practices by Google were and are in willful violation of Montana’s Unfair Trade

453. Google has engaged in and is engaging in trade and commerce within the meaning of Mont. Code Ann. § 30-14-102(8) and unfair methods of competition and unfair or deceptive acts or practices within the meaning of Mont. Code Ann. § 30-14-103 and *Rohrer v. Knudson*, 203 P.3d 759 (Mont. 2009).

454. Google’s unlawful conduct was willful, and Plaintiff State of Montana is entitled to all legal and equitable relief pursuant to, without limitation, Mont. Code Ann. §§ 30-14-111(4); 30-14-131; and, 30-14-142(2).

455. Plaintiff the State of Nevada repeats and realleges each and every preceding allegation as if fully set forth herein.

456. As alleged in Section VII of this Complaint, and further described in Texas’s allegations in Count VI of this Complaint, Google’s conduct was and is directed at consumers nationwide, including in Nevada, and was overtly deceptive, not merely anticompetitive.

457. As repeatedly alleged herein, Google has engaged in false, deceptive, or misleading acts, practices and/or omissions in connection with each of its roles within the ad tech stack. In all such cases, the alleged acts, practices and omissions were, and are, in violation of the Nevada Deceptive Trade Practices Act, Nev. Rev. Stat. §598.0903, *et seq.*, and specifically the following:

a) NRS 598.0915(5), a person engages in a deceptive trade practice by representing that services have characteristics, ingredients, uses, benefits, alterations or quantities which they do not have, or that a person has a sponsorship, approval, status, affiliation, or connection which he does not have;

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b) NRS 598.0915(7), a person engages in a deceptive trade practice by representing that services are of a particular standard, quality, or grade, if they are of another standard, quality or grade;

c) NRS 598.0915(9), a person engages in a deceptive trade practice by advertising goods or services with the intent not to sell them as advertised;

d) NRS 598.092(8), a person engages in a deceptive trade practice by misrepresenting the legal rights, obligations or remedies of a party to a transaction; and

e) NRS 598.0923(2), a person engages in a deceptive trade practice by failing to disclose a material fact in connection with the sale of goods or services.

458. At all times, the above-described conduct has been and is willful within the meaning of Nev. Rev. Stat. §598.0999.

459. Accordingly, the State of Nevada seeks all available relief under the Nevada Deceptive Trade Practices Act and common law, including but not limited to: disgorgement, injunctions, restitution, civil penalties, damages, and its costs and attorney’s fees pursuant to Nev. Rev. Stat. §§ 598.0963, 598.0973, and 598.0999.

460. Plaintiff State of North Dakota repeats and realleges every preceding allegation as if fully set forth herein.

461. The aforementioned practices by Google were and are in violation of N.D.C.C. § 51-15-01 et seq., Unlawful Sales or Advertising Practices, including § 51-15-02.

462. The Attorney General of North Dakota is authorized to bring an action in the name of the State against any person who has engaged in, or is engaging in, any practice declared to be unlawful by N.D.C.C. § 51-15-01 et seq. The Attorney General has reason to believe that Google has engaged in and continues to engage in such practices, constituting separate and multiple
violations of North Dakota law; that Google has caused and will cause adverse effects for the
business enterprises of the State; and that Google has caused and will cause damage to the State
and to the persons of the State.

463. Google’s separate and multiple violations of N.D.C.C. § 51-15-01 et seq. subject

464. Plaintiff State of South Carolina repeats and realleges each and every preceding
allegation as if fully set forth herein.

465. The Attorney General of South Carolina is bringing this action in the name of the State
pursuant to S.C. Code § 39-5-50(a).

466. At all times described herein, Google was engaged in conduct which constitutes “trade”
and “commerce” as defined in S.C. Code § 39-5-10(b).

467. Google’s acts or practices regarding South Carolina consumers as alleged herein are
capable of repetition and affect the public interest.

468. Google’s acts or practices alleged herein constitute “unfair or deceptive acts or
practices” under S.C. Code § 39-5-20. Every unfair or deceptive act or practice by Google

469. Google’s acts or practices alleged herein are offensive to established public policy,
immoral, unethical, or oppressive.

470. At all times Google knew or should have known that its conduct violated S.C. Code §
39-5-20 and therefore is willful for purposes of S.C. Code § 39-5-110, justifying civil penalties.

471. Plaintiff State of South Carolina seeks all remedies available under the South Carolina
Unfair Trade Practices Act (SCUTPA) including, without limitation, the following:

a) Injunctive and other equitable relief pursuant to S.C. Code § 39-5-50(a);
b) Civil penalties in the amount of $5,000, pursuant to S.C. Code § 39-5-110(a), for every willful violation of SCUTPA;

c) Costs and attorneys’ fees pursuant to S.C. Code § 39-5-50(a) and S.C. Code § 1-7-85; and
d) Other remedies as the court may deem appropriate under the facts and circumstances of the case.

472. Plaintiff Commonwealth of Puerto Rico repeats and realleges each and every preceding allegation as if fully set forth herein.

473. The aforesaid conduct was not only anti-competitive but was also unfair and deceptive to the consumers of the Commonwealth of Puerto Rico, therefore Google’s acts violate 10 L.P.R.A. § 259.

474. Plaintiff State of South Dakota repeats and realleges every preceding allegation as if fully set forth herein.

475. The aforementioned practices by Google were and are in violation of South Dakota statute SDCL § 37-24-6(1).

476. The Attorney General of the State of South Dakota is authorized to bring an action in the name of the State against any person who is using, has used, or is about to use any act or practice declared unlawful by SDCL § 37-24-6. The Attorney General has reason to believe that Google has used and is using the acts and practices set forth in this Complaint, which violate SDCL § 37-24-6; that Google has caused and will cause adverse effects for the business enterprises of the State; and that Google has caused and will cause damage to the State and to the persons of the State. The Attorney General therefore finds that this action is in the public interest.

477. Plaintiff State of Utah, by and through its attorney general who is acting as counsel to the Utah Division of Consumer Protection to enforce the Utah Consumer Sales Practices Act, Utah
Code §§ 13-11-1 et seq., repeats and realleges every preceding allegation as if fully set forth herein.

478. The aforesaid conduct was not only anticompetitive, but also constituted unconscionable and deceptive practices to the consumers of the State of Utah, therefore Google’s conduct violated the Utah Consumer Sales Practices Act. Utah Code §§ 13-11-1, 4, et seq., and Plaintiff the State of Utah, Division of Consumer Protection, is entitled to relief under the Utah Consumer Sales Practices Act, Utah Code §§ 13-11-1, et seq.

479. At all times described herein, Google was a “supplier” engaged in “consumer transactions” pursuant to Utah Code §§ 13-11-3(2), (6).

480. Pursuant to the Utah Consumer Sales Practices Act, Utah Code §§ 13-11-1, et seq., Plaintiff the State of Utah, Division of Consumer Protection, is entitled to relief including, but not limited to, injunctive relief, damages, fines determined after considering the factors in Utah Code § 13-11-17(6), costs, attorneys’ fees, and any other just and equitable relief which this Court deems appropriate. Utah Code §§ 13-11-17, 17.2.

X. **PRAYER FOR RELIEF**

481. Accordingly, the Plaintiff States request that the Court:

a) Adjudge and decree that Google has committed violations of Section 2 of the Sherman Act, 15 U.S.C. § 2;

b) Adjudge and decree that Google has committed violations of Section 1 of the Sherman Act, 15 U.S.C. § 1;

c) Order injunctive relief to restore competitive conditions in the relevant markets affected by Google’s unlawful conduct;

d) Order structural relief to restore competitive conditions in the relevant markets affected by Google’s unlawful conduct;

e) Enjoin and restrain, pursuant to federal and state law, Google and their officers, directors, partners, agents, and employees, and all persons acting or claiming to act on their behalf or
in concert with them, from continuing to engage in any anticompetitive conduct and from adopting in the future any practice, plan, program or device having a similar purpose or effect to the anticompetitive actions set forth above;

f) Order Google to disgorge all sums, monies, and value unlawfully taken from consumers by means of deceptive trade practices, together with all proceeds, interest, income, profits, and accessions thereto; making such disgorgement for the benefit of victimized consumers and Plaintiffs;

g) Order Google to disgorge and return all data and information unlawfully taken from consumers by means of deceptive trade practices; making such disgorgement and return for the benefit of victimized consumers and Plaintiffs;

h) Adjudge and decree that Google has committed separate and multiple violations of each of the state laws enumerated in Counts V and VI;

i) Order Google to pay civil fines pursuant to § 15.20(a) of the Texas Business and Commerce Code;

j) Enjoin and restrain, pursuant to the DTPA and/or other State law, Google and its officers, directors, partners, agents, and employees, and all persons acting or claiming to act on its behalf or in concert with it, from continuing to engage in any false, deceptive, or misleading acts or practices and from adopting in the future any acts or practice having a similar purpose or effect to the false, deceptive, or misleading actions set forth above;

k) Order Google to pay civil penalties of up to $10,000.00 per violation for each and every violation of the DTPA as authorized by Tex. Bus. & Com. Code § 17.47(c)(1);

l) Order Google to pay all costs of Court, costs of investigation, and reasonable attorneys’ fees pursuant to Section 17.47 of the DTPA and Tex. Govt. Code Ann. § 402.006(c);

m) Order Google to pay damages to the State of Alaska under its parens patriae authority and common law;

n) Order Google to pay disgorgement and restitution pursuant to Alaska statutes and common law;

o) Order injunctive and other equitable relief pursuant to ARTA and AUTPCPA, including a permanent injunction prohibiting Google from engaging in anticompetitive conduct described in this Complaint and unfair, false, misleading, or deceptive, conduct described in this Complaint violating AS 45.50.471;

p) Order Google to pay civil penalties pursuant to AS 45.50.551 and AS 45.50.578;
q) Order Google to pay costs and attorneys’ fees as permitted by Alaska statutes, court rules, and common law.

r) Order injunctive and other equitable relief as the Court deems appropriate pursuant to Ark. Code Ann. §§ 4-75-212 and 4-75-315;

s) Order Google to pay civil penalties to the State of Arkansas of up to $1,000 per violation of Ark. Code Ann. § 4-75-212;

t) Order Google to pay civil penalties to the State of Arkansas of up to $1,000 per violation of Ark. Code Ann. § 4-75-315;

u) Order Google to pay civil penalties to the State of Arkansas of up to $10,000 per violation for each and every violation of Ark. Code Ann. § 4-88-113;

v) Order Google to pay to the Attorney General of Arkansas all of the State’s expenses, costs, and attorneys’ fees, pursuant to Ark. Code Ann. §§ 4-75-212, 4-75-315, and 4-88-113;

w) Order injunctive and other equitable relief pursuant to Fla. Stat. § 542.23;

x) Order payment of civil penalties pursuant to Fla. Stat. § 542.21;

y) Order payment of costs and attorneys’ fees pursuant to Fla. Stat. § 542.23;

z) Order payment of damages for consumers under parens patriae authority, pursuant to Fla. Stat. § 501.207;

aa) Order disgorgement and restitution payments pursuant to The Florida Deceptive and Unfair Trade Practices Act, Fla. Stat. § 501.204 et seq.;

bb) Order injunctive and other equitable relief pursuant to Fla. Stat. § 501.207;

cc) Order payment of civil penalties pursuant to Fla. Stat. § 501.2075;

dd) Order payment of costs and attorneys’ fees pursuant to Fla. Stat. § 501.210;

ee) Order Google to pay civil penalties to the Attorney General of Idaho of up to $50,000 per violation for each and every violation of the Idaho Competition Act, as authorized by Idaho Code § 48-108(1)(d);

ff) Order Google to pay all monetary relief authorized by Idaho Code § 48-108(2) to the State of Idaho as parens patriae on behalf of persons of the State of Idaho for any and all injury directly or indirectly sustained because of each and every violation by Google of the Idaho Competition Act;
gg) Order Google to pay to the Attorney General of Idaho all of the State’s expenses, costs, and attorneys’ fees, as authorized by Idaho Code §§ 48-108(1)(d) § 48-108(2)(a);

hh) Grant such further relief to the Attorney General and the State of Idaho as provided for by law or equity, including by Idaho Code § 48-112(4), or as the Court deems appropriate and just;

ii) Order Google to pay civil penalties to the Attorney General of Idaho of up to $5,000 per violation for each and every violation of the ICPA and the Idaho Rules of Consumer Protection, as authorized by § 48-606(1)(e);

jj) Order Google to pay to the Attorney General on behalf of consumers actual damages or restitution of money, property, or other things received from such consumers by Google in connection with each and every violation of the Idaho Consumer Protection Act and the Idaho Rules of Consumer Protection, as authorized by Idaho Code § 48-606(1)(c);

kk) Order Google to pay to the Attorney General of Idaho all of the State’s expenses, costs, and attorneys’ fees, as authorized by Idaho Code §§ 48-606(1)(f);

ll) Grant such further relief to the Attorney General and the State of Idaho as provided for by law or equity, including by Idaho Code § 48-607, or as the Court deems appropriate and just;

mm) Order injunctive and other equitable relief pursuant to Ind. Code § 24-5-0.5-4(c)(1);

nn) Order Google to pay restitution pursuant to Ind. Code § 24-5-0.5-4(c)(2) for money unlawfully received through violations of the Indiana Deceptive Consumer Sales Act;

oo) Order Google to pay costs pursuant to Ind. Code § 24-5-0.5-4(c)(4);

pp) Order Google to pay civil penalties pursuant to Ind. Code § 24-5-0.5-4(g) for knowing violations of the Indiana Deceptive Consumer Sales Act;

qq) Order Google to pay civil penalties pursuant to Ind. Code § 24-5-0.5-8 for incurable deceptive acts done as part of a scheme, artifice, or device with intent to defraud or mislead;

rr) Order injunctive relief to restrain, enjoin and prohibit Google from engaging in any activity in violation of the Louisiana Monopolies statutes, La. Rev. Stat. Ann. § 51:121, et seq., including, but not limited to, the unfair methods of competition and unfair or deceptive acts or practices alleged herein;

ss) Order injunctive relief and other equitable relief, pursuant to La. Rev. Stat. Ann. § 51:1401 restraining, enjoining and prohibiting the Google from engaging in any acts that violate LUTPA, including, but not limited to, the unfair methods of competition and unfair or deceptive acts or practices alleged herein;
tt) Order that Google pay restitution to all consumers who have incurred a loss due to the conduct of the Google through any manner deemed practicable by the Court;


zz) Order Google to pay civil penalties pursuant to Ky. Rev. Stat. § 367.990(2);

aaa) Order Google to pay civil penalties pursuant to Ky. Rev. Stat. § 367.990(8);


ccc) Enjoin and restrain, pursuant to Miss. Code Ann. §§ 75-21-1; 75-21-3; 75-24-9; 75-24-11 and/or other State law, Google and its officers, directors, partners, agents, and employees, and all persons acting or claiming to act on its behalf or in concert with it, to correct, prevent and deter the recurrence of the anticompetitive actions set forth above, to restore and preserve fair competition, and to prevent false, deceptive, or misleading acts or practices;

ddd) Order Google to pay the Attorney General of Mississippi on behalf of consumers restitution pursuant to Miss. Code Ann. § 75-24-11 and the Attorney General’s parens patriae authority;

eee) Order Google to pay the Attorney General of Mississippi disgorgement pursuant to Miss. Code Ann. §§ 75-24-11 and 75-24-23 and as an equitable remedy pursuant to common law;

fff) Order Google to pay the Attorney General of Mississippi civil penalties of up to ten thousand dollars ($10,000) per violation for each and every violation of the MCPA pursuant to Miss. Code Ann. § 75-24-19(b);
ggg) Order Google to pay the Attorney General of Mississippi’s costs and attorneys’ fees pursuant to Miss. Code Ann. § 75-24-19(1)(b) and pursuant to common law;

hhh) Other remedies as the court may deem appropriate under the facts and circumstances of the case and pursuant to Miss. Code Ann. §§ 75-24-23 and 11-45-11;

iii) Order structural and other injunctive relief to enjoin, restrain, and prevent and deter the recurrence of the anticompetitive actions set forth above and to restore and preserve fair competition per Mo. Rev. Stat. §§ 416.011 et seq.;

jjj) Order Google to pay civil penalties in an amount of up to $1,000 for each act in connection with each sale or advertisement of merchandise in violation of Mo. Rev. Stat. §§ 407.010 et seq.;

kkk) Order structural and other injunctive relief to enjoin, restrain and prevent, and deter the recurrence of the unlawful merchandising practices set forth above, including an order to disgorge all revenues, profits and gains achieved in whole or in part through violations of Mo. Rev. Stat. §§ 407.010 et seq.;

lll) Order an award of restitution, payable to the State of Missouri, to restore all persons in Missouri suffering loss as a result of Google’s unlawful merchandising practices in violation of Mo. Rev. Stat. §§ 407.010 et seq., and order additional award equal to 10% of such restitution, payable to the State of Missouri to the credit of the Missouri Merchandising Practices Revolving Fund, as provided in Mo. Rev. Stat. § 407.140, and to pay all costs, including fees, of investigation and prosecution of these claims pursuant to Mo. Rev. Stat. § 407.130 and § 416.121;

mmm) Order Google to pay civil fines of up to $10,000 for each willful violation of Mont. Code Ann. § 30-14-103, pursuant to Mont. Code Ann. § 30-14-142;

nnn) Order structural, injunctive, and all available legal and equitable relief pursuant to Mont. Code Ann. § 30-14-101 et seq. and § 30-14-201 et seq.;

ooo) Order payment of Plaintiff State of Montana’s costs and attorney fees pursuant to Mont. Code Ann. § 30-14-131;

ppp) Order Google to pay (i) treble damages for injury to the business or property of the State or its agencies pursuant to Nev. Rev. Stat. §598A.200, and treble damages as provided by Nev. Rev. Stat. § 598.0999, (ii) all direct and indirect damages sustained by natural and non-natural persons, sought by the Attorney General of Nevada under his parens patriae authority pursuant to Nev. Rev. Stat. §598A.160, (iii) all direct or indirect damages to the general economy of the State of Nevada pursuant to Nev. Rev. Stat. §598A.160;

rrr) Order injunctive and other equitable relief pursuant to Nev. Rev. Stat. §598A.070 and Nev. Rev. Stat. §598.0963, including a permanent injunction prohibiting Google from engaging in the anticompetitive conduct described in this Complaint;

sss) Order Google to pay civil penalties pursuant to (i) Nev. Rev. Stat. §598A.170, which provides that the Attorney General may recover a civil penalty “not to exceed 5 percent of the gross income realized by the sale of commodities or services sold by such persons in this state in each year in which the prohibited activities occurred,” (ii) under Nev. Rev. Stat. §598.0999 of not more than five thousand dollars ($5,000) per violation, and (iii) Nev. Rev. Stat. §598.0973, a civil penalty of not more than twelve thousand dollars five hundred ($12,500) per violation where the defendant's conduct is directed at a person aged sixty (60) or older, or a disabled person;


uuu) Order Google to pay civil penalties of not more than fifty thousand dollars ($50,000) for each violation of N.D.C.C. § 51-08.1-01 et seq., pursuant to N.D.C.C. § 51-08.1-07;

vvv) Award the State of North Dakota the costs of this action and its preceding investigation, including reasonable attorneys’ fees and costs, as provided for in the Clayton Act and applicable state law, including N.D.C.C. § 51-08.1-08;

www) Order Google to pay civil penalties of not more than five thousand dollars ($5,000) for each violation of N.D.C.C. § 51-15-01 et seq. pursuant to N.D.C.C. §§ 51-15-11;

xxx) Order Google to pay reasonable attorney’s fees, investigation fees, costs, and expenses pursuant to N.D.C.C. § 51-15-10;

yyy) Order Google to pay to the Attorney General of North Dakota, on behalf of persons of the State, all damages, compensation, or restitution necessary to restore to such persons any money or property that may have been acquired by Google in connection with each and every violation of N.D.C.C. § 51-15-01 et seq., pursuant to N.D.C.C. § 51-15-07;

zzz) Grant such further relief to the Attorney General and the State of North Dakota as provided for by law or equity, including by N.D.C.C. § 51-15-07, or as the Court deems appropriate and just;

aaaa) Order injunctive and other equitable relief, civil penalties of up to $5,000 per violation, and any other appropriate relief pursuant to Puerto Rico Law No. 77 of June 25, 1964, also known as “Puerto Rico’s Antitrust and Restrictions of Commerce Law,” 10 P.R. Laws Ann. §§ 257 et seq., and 32 P.R. Laws Ann. § 3341;

bbbb) Order injunctive and other equitable relief, civil penalties of up to $5,000 per, and any other appropriate relief pursuant to 10 L.P.R.A. § 259, 10 L.P.R.A. 10 L.P.R.A. § 269; 32 P.R.
Laws Ann. § 334, as well as the payment of all costs of Court, costs of investigation, and reasonable attorneys’ fees;

cccc) Permanently enjoin Google, pursuant to S.C. Code § 39-5-50(a) from engaging in any acts that violate SCUTPA, including, but not limited to, the unfair methods of competition and unfair or deceptive acts or practices alleged herein;

dddd) Order Google to pay civil penalties in the amount of $5,000, pursuant to S.C. Code § 39-5-110(a), for each and every willful violation of SCUTPA;

eeee) Order Google to pay attorneys’ fees and costs pursuant to S.C. Code § 39-5-50 and S.C. Code § 1-7-85 for violations of SCUTPA;

ffff) Order Google to pay civil penalties to the State of South Dakota of up to $50,000 per violation for each and every violation of SDCL §§ 37-1-3.1 et seq., pursuant to SDCL § 37-1-14.2;

gggg) Order Google to pay all monetary relief authorized by SDCL §§ 37-1-23, 37-1-24, and 37-1-32 to the State of South Dakota as parens patriae on behalf of persons of the State for any and all injury directly or indirectly sustained because of each and every violation by Google of SDCL §§ 37-1-3.1 et seq;

hhhh) Order Google to pay to the Attorney General of South Dakota all of the State’s expenses, costs, and attorneys’ fees, as authorized by SDCL § 37-1-24;

iiii) Order Google to pay civil penalties to the State of South Dakota of up to $2,000 per violation for each and every violation of SDCL § 37-24-6, as authorized by SDCL § 37-24-27;

jjjj) Order Google to grant all relief to the State of South Dakota authorized by SDCL § 37-24-29 to restore to any person in interest all monies or property, real or personal, that Google has acquired by each and every violation of SDCL § 37-24-6;

kkkk) Order Google to pay to the Attorney General of South Dakota all of the State’s expenses, costs, and attorneys’ fees, as authorized by SDCL § 37-24-23;

llll) Grant such further relief to the Attorney General and the State of South Dakota as provided for by law or equity, including by SDCL § 37-24-29, or as the Court deems appropriate and just;

mmmm) Grant declaratory judgment that Google has engaged deceptive acts and practices as contemplated by Utah Code § 13-11-4, and as permitted by Utah Code § 13-11-17;

nnnn) Order Google to pay civil penalties determined after considering the factors in Utah Code § 13-11-17(6);
Order Google to pay Plaintiff the State of Utah, Division of Consumer Protection, an award of reasonable attorneys’ fees, court costs, and costs of investigation (Utah Code § 13-11-17.5);

Order other equitable relief as may be appropriate;

Grant leave to amend the Complaint to conform to the evidence produced at trial; and

Direct such other and further relief as the Court deems just and proper.

XI. DEMAND FOR A JURY TRIAL

Pursuant to Federal Rule of Civil Procedure 38(b), the Plaintiff States demand a trial by jury of all issues properly triable to a jury in this case.

Respectfully submitted,

September 9, 2021
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117TH CONGRESS
1ST SESSION
H. R. 3825

To promote competition and economic opportunity in digital markets by eliminating the conflicts of interest that arise from dominant online platforms’ concurrent ownership or control of an online platform and certain other businesses.

IN THE HOUSE OF REPRESENTATIVES
JUNE 11, 2021
Ms. JAYAPAL (for herself, Mr. GOODEN of Texas, Mr. CICILLINE, Mr. BUCK, and Mr. NADLER) introduced the following bill; which was referred to the Committee on the Judiciary

A BILL
To promote competition and economic opportunity in digital markets by eliminating the conflicts of interest that arise from dominant online platforms’ concurrent ownership or control of an online platform and certain other businesses.

Be it enacted by the Senate and House of Representa-
tives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.
This Act may be cited as the “Ending Platform Mo-
noplies Act”.

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SEC. 2. UNLAWFUL CONFLICTS OF INTEREST.

(a) VIOLATION.—As of the date an online platform is designated as a covered platform under subsection 6(a), it shall be unlawful for a covered platform operator to own, control, or have a beneficial interest in a line of business other than the covered platform that—

(1) utilizes the covered platform for the sale or provision of products or services;

(2) offers a product or service that the covered platform requires a business user to purchase or utilize as a condition for access to the covered platform, or as a condition for preferred status or placement of a business user’s product or services on the covered platform; or

(3) gives rise to a conflict of interest.

(b) CONFLICT OF INTEREST.—For purposes of this section, the term “conflict of interest” includes the conflict of interest that arises when—

(1) a covered platform operator owns or controls a line of business, other than the covered platform; and

(2) the covered platform’s ownership or control of that line of business creates the incentive and ability for the covered platform to—

(A) advantage the covered platform operator’s own products, services, or lines of business
on the covered platform over those of a competing business or a business that constitutes nascent or potential competition to the covered platform operator; or

(B) exclude from, or disadvantage, the products, services, or lines of business on the covered platform of a competing business or a business that constitutes nascent or potential competition to the covered platform operator.

SEC. 3. ENFORCEMENT.

(a) IN GENERAL.—The Commission and the Department of Justice shall enforce this Act in the same manner, by the same means, and with the same jurisdiction, powers, and duties as though all applicable terms and provisions of the Federal Trade Commission Act (15 U.S.C. 41 et seq.) or the Clayton Act (15 U.S.C. 12 et seq.), as appropriate, were incorporated into and made a part of this Act.

(b) UNFAIR METHODS OF COMPETITION.—A violation of this Act shall also constitute an unfair method of competition under section 5 of the Federal Trade Commission Act (15 U.S.C. 5).

(e) CIVIL PENALTIES.—Any person, or any individual who is an officer, director, partner, or employee of a person, who fails to comply with any provision of this Act
within two years of the Commission or Department of Justice designating a covered platform under section 6(a), shall be liable to the United States for a civil penalty in an amount not more than the greater of—

(1) 15 percent of the total average daily United States revenue of the person for the previous calendar year; or

(2) 30 percent of the total average daily United States revenue of the person in any line of business affected or targeted by the unlawful conduct during the period of the unlawful conduct.

(d) COMMISSION INDEPENDENT LITIGATION AUTHORITY.—If the Commission has reason to believe that a covered platform violated this Act, the Commission may commence a civil action, in its own name by any of its attorneys designated by it for such purpose, to recover a civil penalty and seek other appropriate relief in a district court of the United States against the covered platform operator.

SEC. 4. LIMITATIONS ON BOARD MEMBERSHIP AND OTHER SERVICE.

(a) IN GENERAL.—An individual who is an officer, director, employee, including an agent, representative, or contractor, of a covered platform or who has control over the covered platform may not serve at the same time as
an officer, director, employee, or other institution-affiliated party, including as an agent, representative, or contractor, of a formerly affiliated person.

(b) TERMINATION OF SERVICE.—Any individual whose service violates subsection (a) as of the date an online platform is designated as a covered platform under subsection 6(a), shall terminate such service as soon as is practicable and in no event, later than the end of the 60-day period beginning on the date the online platform is designated as a covered platform.

SEC. 5. DEFINITIONS.

For purposes of this Act:

(1) ANTITRUST LAWS.—The term “antitrust laws” has the meaning given the term in subsection (a) of the first section of the Clayton Act (15 U.S.C. 12).

(2) BENEFICIAL INTEREST.—The term “Beneficial Interest” means with respect to a person, having access to competitively sensitive information or the ability to affect the person’s strategic decisions.

(3) COMMISSION.—The term “Commission” means the Federal Trade Commission.

(4) CONTROL.—The term “control” with respect to a person means—
(A) holding 25 percent or more of the stock of the person;

(B) having the right to 25 percent or more of the profits of the person;

(C) having the right to 25 percent or more of the assets of the person, in the event of the person’s dissolution;

(D) if the person is a corporation, having the power to designate 25 percent or more of the directors of the person;

(E) if the person is a trust, having the power to designate 25 percent or more of the trustees; or

(F) otherwise exercises substantial control over the person.

(5) COVERED PLATFORM.—The term “covered platform” means an online platform—

(A) that has been designated as a “covered platform” under section 6(a); or

(B) that—

(i) at the time of the Commission’s or the Department of Justice’s designation under section 6(a), or any of the twelve months preceding that time, or in any of the 12 months preceding the filing of a
complaint for an alleged violation of this Act—

(I) has at least 50,000,000 United States-based monthly active users on the online platform; or

(II) has at least 100,000 United States-based monthly active business users on the platform;

(ii) is owned or controlled by a person with net annual sales, or a market capitalization greater than $600,000,000,000 at, adjusted for inflation on the basis of the Consumer Price Index, the time of the Commission’s or the Department of Justice’s designation under section 6(a) or any of the two years preceding that time, or at any time in the 2 years preceding the filing of a complaint for an alleged violation of this Act; and

(iii) is a critical trading partner for the sale or provision of any product or service offered on or directly related to the online platform.

(6) COVERED PLATFORM OPERATOR.—The term “covered platform operator” means a person
that, directly or indirectly, owns or controls a covered platform.

(7) Critical trading partner.—The term “critical trading partner” means an entity that has the ability to restrict or impede—

(A) the access of a business user to its users or customers; or

(B) the access of a business user to a tool or service that it needs to effectively serve its users or customers.

(8) Business user.—The term “business user” means a person that utilizes or plans to utilize the covered platform for the sale or provision of products or services.

(9) Formerly affiliated person.—The term “formerly affiliated person” means a person that was owned or controlled by a covered platform prior to termination of the affiliation described in section 3.

(10) Online platform.—The term “online platform” means a website, online or mobile application, operating system, digital assistant, or online service that—
(A) enables a user to generate content that can be viewed by other users on the platform or to interact with other content on the platform;

(B) facilitates the offering, sale, purchase, payment, or shipping of goods or services, including software applications, between and among consumers or businesses not controlled by the platform; or

(C) enables user searches or queries that access or display a large volume of information.

(11) PERSON.—The term “person” has the meaning given the term in subsection (a) of section 1 of the Clayton Act (15 U.S.C. 12).

SEC. 6. IMPLEMENTATION.

(a) COVERED PLATFORM DESIGNATION.—

(1) The Commission or Department of Justice shall designate whether an entity is a covered platform for the purpose of implementing and enforcing this Act. Such designation shall—

(A) be based on a finding that the criteria set forth in paragraph (5)(B)(i)–(iii) of section 5 are met;

(B) be issued in writing and published in the Federal Register; and
(C) will apply for years from its issuance regardless of whether there is a change in control or ownership over the covered platform unless the Commission or the Department of Justice removes the designation pursuant to subsection (b).

(b) REMOVAL OF COVERED PLATFORM DESIGNATION.—The Commission or the Department of Justice shall—

(1) consider whether its designation of a covered platform pursuant to subsection (a) should be removed prior to the expiration of the 10-year period if the covered platform operator files a request with the Commission or the Department of Justice, which shows that the online platform is no longer a critical trading partner;

(2) determine whether to grant a request submitted under paragraph (1) not later than 120 days after the date of the filing of such request; and

(3) obtain the concurrence of the Commission or the Department of Justice, as appropriate, before granting a request submitted under paragraph (1).

SEC. 7. JUDICIAL REVIEW.

(a) IN GENERAL.—Any party that is subject to a covered platform designation under section 6(a) of this Act,
a final order issued in any district court of the United
States, or a final order of the Commission issued in an
administrative adjudicative proceeding may within 30 days
of the issuance of such designation or order, petition for
review of such designation or order in the United States
Court of Appeals for the District of Columbia Circuit.

(b) TREATMENT OF FINDINGS.—In a proceeding for
judicial review of a covered platform designation under
section 6(a) of this Act or a final order of the Commission,
the findings of the Commission or the Department of Jus-
tice as to the facts, if supported by evidence, shall be con-
elusive.

SEC. 8. RULES OF CONSTRUCTION.

Nothing in this Act shall be construed to limit any
authority of the Attorney General or the Federal Trade
Commission under the antitrust laws, the Federal Trade
Commission Act (15 U.S.C. 45), or any other provision
of law or to limit the application of any law.

SEC. 9. SEVERABILITY.

If any provision of this Act, or the application of such
provision to any person or circumstance, is held to be un-
constitutional, the remainder of this Act, and the applica-
tion of the remaining provisions of this Act to any person
or circumstance shall not be affected.
H. R. 3826

To promote competition and economic opportunity in digital markets by establishing that certain acquisitions by dominant online platforms are unlawful.

IN THE HOUSE OF REPRESENTATIVES

JUNE 11, 2021

Mr. JEFFRIES (for himself, Mr. BUCK, Mr. CICILLINE, Mr. NADLER, and Mr. GOODEN of Texas) introduced the following bill; which was referred to the Committee on the Judiciary

A BILL

To promote competition and economic opportunity in digital markets by establishing that certain acquisitions by dominant online platforms are unlawful.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Platform Competition and Opportunity Act of 2021”.

SEC. 2. UNLAWFUL ACQUISITIONS.

(a) VIOLATION.—It shall be unlawful for a covered platform operator to acquire directly or indirectly—
(1) the whole or any part of the stock or other
share capital of another person engaged in com-
merce or in any activity or affecting commerce; or

(2) the whole or any part of the assets of an-
other person engaged in commerce or in any activity
affecting commerce.

(b) EXCLUSION.—An acquisition shall not be unlaw-
ful under subsection (a) if the acquiring covered platform
operator demonstrates by clear and convincing evidence
that—

(1) the acquisition is a transaction that is de-
scribed in section 7A(c) of the Clayton Act; or

(2) the acquired assets or the issuer of the ac-
quired stock do not—

(A) compete with the covered platform or
with the covered platform operator for the sale
or provision of any product or service;

(B) constitute nascent or potential com-
petition to the covered platform or the covered
platform operator for the sale or provision of
any product or service;

(C) enhance or increase the covered plat-
form’s or the covered platform operator’s mar-
ket position with respect to the sale or provision
of any product or service offered on or directly related to the covered platform; or

(D) enhance or increase the covered platform’s or covered platform operator’s ability to maintain its market position with respect to the sale or provision of any product or service offered on or directly related to the covered platform.

(e) User Attention.—For purposes of this Act, competition, nascent competition, or potential competition for “the sale or provision of any product or service” includes competition for a user’s attention.

(d) Role of Data.—For purposes of this Act, an acquisition that results in access to additional data may, without more, enhance, increase, or maintain a covered platform’s market position.

SEC. 3. DEFINITIONS.

(a) Antitrust Laws.—The term “antitrust laws” has the meaning given the term in subsection (a) of section 1 of the Clayton Act (15 U.S.C. 12).

(b) Commission.—The term “Commission” means the Federal Trade Commission.

(e) Control.—The term “control” with respect to a person means—
(1) holding 25 percent or more of the stock of the person;

(2) having the right to 25 percent or more of the profits of the person;

(3) having the right to 25 percent or more of the assets of the person, in the event of the person’s dissolution;

(4) if the person is a corporation, having the power to designate 25 percent or more of the directors of the person;

(5) if the person is a trust, having the power to designate 25 percent or more of the trustees; or

(6) otherwise exercises substantial control over the person.

(d) COVERED PLATFORM.—The term “covered platform” means an online platform—

(1) that has been designated as a “covered platform” under section 4(a); or

(2) that—

(A) at the time of the Commission’s or the Department of Justice’s designation under section 2(d), or any of the twelve months preceding that time, or in any of the 12 months preceding the filing of a complaint for an alleged violation of this Act—
(i) has at least 50,000,000 United States-based monthly active users on the online platform; or

(ii) has at least 100,000 United States-based monthly active business users on the platform;

(B) is owned or controlled by a person with net annual sales, or a market capitalization greater than $600,000,000,000, adjusted for inflation on the basis of the Consumer Price Index, at the time of the Commission’s or the Department of Justice’s designation under section 4(a) or any of the two years preceding that time, or at any time in the 2 years preceding the filing of a complaint for an alleged violation of this Act; and

(C) is a critical trading partner for the sale or provision of any product or service offered on or directly related to the online platform.

(e) Covered Platform Operator.—The term “covered platform operator” means a person that, directly or indirectly, owns or controls a covered platform.

(f) Critical Trading Partner.—The term “critical trading partner” means an entity that has the ability to restrict or impede—
(1) the access of a business user to its users or
customers; or

(2) the access of a business user to a tool or
service that needs to effectively serve its users or
customers.

(g) BUSINESS USER.—The term “business user”
means a person that utilizes or plans to utilize the covered
platform for the sale or provision of products or services.

(h) ONLINE PLATFORM.—The term “online plat-
form” means a website, online or mobile application oper-
ating system, digital assistant, or online service that—

(1) enables a user to generate content that can
be viewed by other users on the platform or to inter-
act with other content on the platform;

(2) facilitates the offering, sale, purchase, pay-
ment, or shipping of goods or services, including
software applications, between and among con-
sumers or businesses not controlled by the platform;
or

(3) enables user searches or queries that access
or display a large volume of information.

(i) PERSON.—The term “person” has the meaning
given the term in subsection (a) of section 1 of the Clayton
SEC. 4. IMPLEMENTATION.

(a) COVERED PLATFORM DESIGNATION.—

(1) The Federal Trade Commission or Department of Justice shall designate whether an entity is a covered platform for the purpose of implementing and enforcing this Act. Such designation shall—

(A) be based on a finding that the criteria set forth in section 3(d)(2)(A)–(C) are met;

(B) be issued in writing and published in the Federal Register; and

(C) will apply for 10 years from its issuance regardless of whether there is a change in control or ownership over the covered platform unless the Commission or the Department of Justice removes the designation pursuant to subsection (b).

(b) REMOVAL OF COVERED PLATFORM DESIGNATION.—The Commission and the Department of Justice shall—

(1) consider whether its designation of a covered platform pursuant to subsection (a) should be removed prior to the expiration of the 10-year period if the covered platform operator files a request with the Commission or the Department of Justice, which shows that the online platform is no longer a critical trading partner;
(2) determine whether to grant a request submitted under paragraph 1 not later than 120 days after the date of the filing of such request; and

(3) obtain the concurrence of the Commission or the Department of Justice, as appropriate, before granting a request submitted under paragraph (1).

SEC. 5. ENFORCEMENT.

(a) ENFORCEMENT PROCEEDING.—The Commission, Department of Justice, and any attorney general of a State subject to the requirements in subsection (d) shall enforce this Act in the same manner, by the same means, and with the same jurisdiction, powers, and duties as though all applicable terms and provisions of the Federal Trade Commission Act (15 U.S.C. 41 et seq.) or the Clayton Act (15 U.S.C. 12 et seq.), as appropriate, were incorporated into and made a part of this Act.

(b) UNFAIR METHODS OF COMPETITION.—A violation of this Act shall also constitute an unfair method of competition under section 5 of the Federal Trade Commission Act (15 U.S.C. 5).

(c) COMMISSION INDEPENDENT LITIGATION AUTHORITY.—If the Commission has reason to believe that a covered platform violated this Act, the Commission may commence a civil action, in its own name by any of its attorneys designated by it for such purpose, to recover a
civil penalty and seek other appropriate relief in a district
court of the United States against the covered platform
operator.

(d) PARENS PATRIAE.—Any attorney general of a
State may bring a civil action in the name of such State
for a violation of this Act as parens patriae on behalf of
natural persons residing in such State, in any district
court of the United States having jurisdiction of the de-
defendant, and may secure any form of relief provided for
in this section.

SEC. 6. ENFORCEMENT GUIDELINES.

(a) IN GENERAL.—Not later than 1 year after the
date of enactment of this Act, the Commission and the
Assistant Attorney General of the Antitrust Division shall
jointly issue guidelines outlining policies and practices, re-
lating to agency enforcement of this Act, with the goal
of promoting transparency and deterring violations.

(b) UPDATES.—The Commission and the Assistant
Attorney General of the Antitrust Division shall update
the joint guidelines issued under subsection (a), as needed
to reflect current agency policies and practices, but not
less frequently than once every 4 years beginning on the
date of enactment of this Act.

(c) OPERATION.—The Joint Guidelines issued under
this section do not confer any rights upon any person,
State, or locality, nor shall operate to bind the Commission, Department of Justice, or any person, State, or locality to the approach recommended in such Guidelines.

**SEC. 7. SUITS BY PERSONS INJURED.**

(a) **IN GENERAL.**—Except as provided in subsection (b), any person who shall be injured in his business or property by reason of anything forbidden in this Act sue therefor in any district court of the United States in the district in which the defendant resides or is found or has an agent, without respect to the amount in controversy, and shall recover threefold the damages by him sustained, and the cost of suit, including a reasonable attorney’s fee. The court may award under this section, pursuant to a motion by such person promptly made, simple interest on actual damages for the period beginning on the date of service of such person’s pleading setting forth a claim under the antitrust laws and ending on the date of judgment, or for any shorter period therein, if the court finds that the award of such interest for such period is just in the circumstances. In determining whether an award of interest under this section for any period is just in the circumstances, the court shall consider only—

(1) whether such person or the opposing party, or either party’s representative, made motions or asserted claims or defenses so lacking in merit as to
show that such party or representative acted intentionally for delay, or otherwise acted in bad faith;

(2) whether, in the course of the action involved, such person or the opposing party, or either party’s representative, violated any applicable rule, statute, or court order providing for sanctions for dilatory behavior or otherwise providing for expeditious proceedings; and

(3) whether such person or the opposing party, or either party’s representative, engaged in conduct primarily for the purpose of delaying the litigation or increasing the cost thereof.

(b) Amount of Damages Payable to Foreign States and Instrumentalities of Foreign States.—

(1) Except as provided in paragraph (2), any person who is a foreign state may not recover under subsection (a) an amount in excess of the actual damages sustained by it and the cost of suit, including a reasonable attorney’s fee.

(2) Paragraph (1) shall not apply to a foreign state if—

(A) such foreign state would be denied, under section 1605(a)(2) of title 28, United States Code, immunity in a case in which the
action is based upon a commercial activity, or
an act, that is the subject matter of its claim
under this section;

(B) such foreign state waives all defenses
based upon or arising out of its status as a for-
eign state, to any claims brought against it in
the same action;

(C) such foreign state engages primarily in
commercial activities; and

(D) such foreign state does not function,
with respect to the commercial activity, or the
act, that is the subject matter of its claim
under this section as a procurement entity for
itself or for another foreign state.

SEC. 8. JUDICIAL REVIEW.

(a) IN GENERAL.—Any party that is subject to a cov-
ered platform designation pursuant to section 4(a) of this
Act, a decision in response to a request to remove a cov-
ered platform designation pursuant to section 4(b), a final
order issued in any district court, or a final order of the
Commission issued in an administrative adjudicative pro-
ceeding may within 30 days of the issuance of such des-
ignation, decision, or order, petition for review of such des-
ignation or order in the United States Court of Appeals
for the District of Columbia Circuit.
(b) **TREATMENT OF FINDINGS.**—In a proceeding for judicial review of a covered platform designation pursuant to section 4(a) of this Act or a final order of the Commission, the findings of the Commission or the Department of Justice as to the facts, if supported by evidence, shall be conclusive.

(c) **INJUNCTIVE RELIEF.**—Any person, firm, corporation, or association shall be entitled to sue for and have injunctive relief, in any court of the United States having jurisdiction over the parties, against threatened loss or damage by a violation of this Act, when and under the same conditions and principles as injunctive relief against threatened conduct that will cause loss or damage is granted by courts of equity, under the rules governing such proceedings, and upon the execution of proper bond against damages for an injunction improvidently granted and a showing that the danger of irreparable loss or damage is immediate, a preliminary injunction may issue: Provided, That nothing herein contained shall be construed to entitle any person, firm, corporation, or association, except the United States, to bring suit for injunctive relief against any common carrier subject to the jurisdiction of the Surface Transportation Board under subtitle IV of title 49. In any action under this section in which the plaintiff substantially prevails, the court shall award the
cost of suit, including a reasonable attorney’s fee, to such plaintiff.

SEC. 9. RULES OF CONSTRUCTION.

Nothing in this Act shall be construed to limit any authority of the Attorney General or the Federal Trade Commission under the antitrust laws, the Federal Trade Commission Act (15 U.S.C. 45), or any other provision of law or to limit the application of any law.

SEC. 10. SEVERABILITY.

If any provision of this Act, an amendment made by this Act, or the application of such provision or amendment to any person or circumstance is held to be unconstitutional, the remainder of this Act and of the amendments made by this Act, and the application of the remaining provisions of this Act and amendments to any person or circumstance shall not be affected.
To promote competition and reduce gatekeeper power in the app economy, increase choice, improve quality, and reduce costs for consumers.

IN THE SENATE OF THE UNITED STATES

AUGUST 11 (legislative day, AUGUST 10), 2021

Mr. BLUMENTHAL (for himself, Mrs. BLACKBURN, and Ms. KLOBUCHAR) introduced the following bill; which was read twice and referred to the Committee on the Judiciary

A BILL

To promote competition and reduce gatekeeper power in the app economy, increase choice, improve quality, and reduce costs for consumers.

1 Be it enacted by the Senate and House of Representa-
2 tives of the United States of America in Congress assembled,

3 SECTION 1. SHORT TITLE.

4 This Act may be cited as the “Open App Markets
5 Act”.

6 SEC. 2. DEFINITIONS.

7 In this Act:

8 (1) App.—The term “App” means a software
9 application or electronic service that may be run or
directed by a user on a computer, a mobile device, or any other general purpose computing device.

(2) App Store.—The term “App Store” means a publicly available website, software application, or other electronic service that distributes Apps from third-party developers to users of a computer, a mobile device, or any other general purpose computing device.

(3) Covered Company.—The term “Covered Company” means any person that owns or controls an App Store for which users in the United States exceed 50,000,000.

(4) Developer.—The term “developer” means a person that owns or controls an App or an App Store.

(5) In-App Payment System.—The term “In-App Payment System” means an application, service, or user interface to process the payments from users of an App.

(6) Non-Public Business Information.—The term “non-public business information” means non-public data that is—

(A) derived from a developer or an App or App Store owned or controlled by a developer,
including interactions between users and the App or App Store of the developer; and

(B) collected by a Covered Company in the course of operating an App Store or providing an operating system.

SEC. 3. PROTECTING A COMPETITIVE APP MARKET.

(a) Exclusivity and Tying.—A Covered Company shall not—

(1) require developers to use an In-App Payment System owned or controlled by the Covered Company or any of its business partners as a condition of being distributed on an App Store or accessible on an operating system;

(2) require as a term of distribution on an App Store that pricing terms or conditions of sale be equal to or more favorable on its App Store than the terms or conditions under another App Store; or

(3) take punitive action or otherwise impose less favorable terms and conditions against a developer for using or offering different pricing terms or conditions of sale through another In-App Payment System or on another App Store.

(b) Interference With Legitimate Business Communications.—A Covered Company shall not impose restrictions on communications of developers with the
users of the App through an App or direct outreach to
a user concerning legitimate business offers, such as pric-
ing terms and product or service offerings.

(c) Non-Public Business Information.—A Covered
Company shall not use non-public business informa-
tion derived from a third-party App for the purpose of
competing with that App.

(d) Interoperability.—A Covered Company that
controls the operating system or operating system configu-
ration on which its App Store operates shall allow and pro-
pvide the readily accessible means for users of that oper-
ating system to—

(1) choose third-party Apps or App Stores as
defaults for categories appropriate to the App or
App Store;

(2) install third-party Apps or App Stores
through means other than its App Store; and

(3) hide or delete Apps or App Stores provided
or preinstalled by the App Store owner or any of its
business partners.

(e) Self-Preferencing in Search.—

(1) In General.—A Covered Company shall
not provide unequal treatment of Apps in an App
Store through unreasonably preferencing or ranking
the Apps of the Covered Company or any of its business partners over those of other Apps.

(2) CONSIDERATIONS.—Unreasonably preferring—

(A) includes applying ranking schemes or algorithms that prioritize Apps based on a criterion of ownership interest by the Covered Company or its business partners; and

(B) does not include clearly disclosed advertising.

(f) OPEN APP DEVELOPMENT.—Access to operating system interfaces, development information, and hardware and software features shall be provided to developers on a timely basis and on terms that are equivalent or functionally-equivalent to the terms for access by similar Apps or functions provided by the Covered Company or to its business partners.

SEC. 4. PROTECTING THE SECURITY AND PRIVACY OF USERS.

(a) IN GENERAL.—Subject to section (b), a Covered Company shall not be in violation of a subsection of section 3 for an action that is—

(1) necessary to achieve user privacy, security, or digital safety;

(2) taken to prevent spam or fraud; or
(3) taken to prevent a violation of, or comply
with, Federal or State law.

(b) REQUIREMENTS.—Section (a) shall only apply if
the Covered Company establishes by clear and convincing
evidence that the action described is—

(1) applied on a demonstrably consistent basis
to Apps of the Covered Company or its business
partners and to other Apps;

(2) not used as a pretext to exclude, or impose
unnecessary or discriminatory terms on, third-party
Apps, In-App Payment Systems, or App Stores; and

(3) narrowly tailored and could not be achieved
through a less discriminatory and technically pos-
sible means.

SEC. 5. ENFORCEMENT.

(a) ENFORCEMENT.—

(1) IN GENERAL.—The Federal Trade Commiss-
ion, the Attorney General, and any attorney general
of a State subject to the requirements in paragraph
(4) shall enforce this Act in the same manner, by
the same means, and with the same jurisdiction,
powers, and duties as though all applicable terms
and provisions of the Federal Trade Commission Act
12 et seq.), as appropriate, were incorporated into
and made a part of this Act.

(2) **Unfair Methods of Competition.**—A
violation of this Act shall also constitute an unfair
method of competition under section 5 of the Fed-

(3) **Federal Trade Commission Independent Litigation Authority.**—If the Federal
Trade Commission has reason to believe that a Cov-
ered Company violated this Act, the Federal Trade
Commission may commence a civil action, in its own
name by any of its attorneys designated by it for
such purpose, to recover a civil penalty and seek
other appropriate relief in a district court of the
United States against the covered platform operator.

(4) **Parens Patriae.**—Any attorney general of
a State may bring a civil action in the name of such
State for a violation of this Act as parens patriae on
behalf of natural persons residing in such State, in
any district court of the United States having juris-
diction of the defendant, and may secure any form
of relief provided for in this section.

(b) **Suits by Developers Injured.**—

(1) **In General.**—Any developer who shall be
injured by reason of anything forbidden in this Act
may sue therefor in any district court of the United
States in the district in which the defendant resides
or is found or has an agent, without respect to the
amount in controversy, and shall recover threefold
the damages by him sustained, and the cost of suit,
including a reasonable attorney’s fee. The court may
award under this subsection, pursuant to a motion
by such developer promptly made, simple interest on
actual damages for the period beginning on the date
of service of such developer’s pleading setting forth
a claim under this Act and ending on the date of
judgment, or for any shorter period therein, if the
court finds that the award of such interest for such
period is just in the circumstances. In determining
whether an award of interest under this subsection
for any period is just in the circumstances, the court
shall consider only—

(A) whether such developer or the opposing
party, or either party’s representative, made
motions or asserted claims or defenses so lack-
ing in merit as to show that such party or rep-
resentative acted intentionally for delay, or oth-
erwise acted in bad faith;

(B) whether, in the course of the action in-
volved, such developer or the opposing party, or
either party's representative, violated any applicable rule, statute, or court order providing for sanctions for dilatory behavior or otherwise providing for expeditious proceedings; and

(C) whether such developer or the opposing party, or either party's representative, engaged in conduct primarily for the purpose of delaying the litigation or increasing the cost thereof.

(2) INJUNCTIVE RELIEF.—Any developer shall be entitled to sue for and have injunctive relief, in any court of the United States having jurisdiction over the parties, against threatened loss or damage by a violation of this Act, when and under the same conditions and principles as injunctive relief against threatened conduct that will cause loss or damage is granted by courts of equity, under the rules governing such proceedings, and upon the execution of proper bond against damages for an injunction improvidently granted and a showing that the danger of irreparable loss or damage is immediate, a preliminary injunction may issue. In any action under this paragraph in which the plaintiff substantially prevails, the court shall award the cost of suit, including a reasonable attorney's fee, to such plaintiff.
SEC. 6. RULE OF CONSTRUCTION.

Nothing in this Act shall be construed to limit any authority of the Attorney General or the Federal Trade Commission under the antitrust laws (as defined in the first section of the Clayton Act (15 U.S.C. 12)), the Federal Trade Commission Act (15 U.S.C. 41 et seq.), or any other provision of law or to limit the application of any law.

SEC. 7. SEVERABILITY.

If any provision of this Act, or the application of such a provision to any person or circumstance, is held to be unconstitutional, the remaining provisions of this Act, and the application of the provision held to be unconstitutional to any other person or circumstance, shall not be affected thereby.
S. 2992

To provide that certain discriminatory conduct by covered platforms shall be unlawful, and for other purposes.

IN THE SENATE OF THE UNITED STATES

OCTOBER 18, 2021

Ms. KLOBUCHAR (for herself, Mr. GRASSLEY, Mr. DURBIN, Mr. GRAHAM, Mr. BLUMENTHAL, Mr. KENNEDY, Mr. BOOKER, Ms. LUMMIS, Ms. HIRONO, Mr. WARNER, Mr. HAWLEY, and Mr. DAINES) introduced the following bill; which was read twice and referred to the Committee on the Judiciary

A BILL

To provide that certain discriminatory conduct by covered platforms shall be unlawful, and for other purposes.

Be it enacted by the Senate and House of Representa-
tives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “American Innovation
and Choice Online Act”.

SEC. 2. UNLAWFUL CONDUCT.

(a) VIOLATION.—It shall be unlawful for a person op-
erating a covered platform, in or affecting commerce, if
it is shown, by a preponderance of the evidence, that the person has engaged in conduct that would—

(1) unfairly preference the covered platform operator’s own products, services, or lines of business over those of another business user on the covered platform in a manner that would materially harm competition on the covered platform;

(2) unfairly limit the ability of another business user’s products, services, or lines of business to compete on the covered platform relative to the covered platform operator’s own products, services, or lines of business in a manner that would materially harm competition on the covered platform; or

(3) discriminate in the application or enforcement of the covered platform’s terms of service among similarly situated business users in a manner that may materially harm competition on the covered platform.

(b) UNLAWFUL CONDUCT.—It shall be unlawful for a person operating a covered platform, in or affecting commerce, if it is shown, by a preponderance of the evidence, that the person has engaged in conduct that would—

(1) materially restrict or impede the capacity of a business user to access or interoperate with the same platform, operating system, hardware or soft-
ware features that are available to the covered plat-
form operator’s own products, services, or lines of
business that compete or would compete with prod-
ucts or services offered by business users on the cov-
ered platform;

(2) condition access to the covered platform or
preferred status or placement on the covered plat-
form on the purchase or use of other products or
services offered by the covered platform operator
that are not part of or intrinsic to the covered plat-
form itself;

(3) use non-public data that are obtained from
or generated on the covered platform by the activi-
ties of a business user or by the interaction of a cov-
ered platform user with the products or services of
a business user to offer, or support the offering of,
the covered platform operator’s own products or
services that compete or would compete with prod-
ucts or services offered by business users on the cov-
ered platform;

(4) materially restrict or impede a business user
from accessing data generated on the covered plat-
form by the activities of the business user, or
through an interaction of a covered platform user
with the business user’s products or services, such as
by establishing contractual or technical restrictions
that prevent the portability of the business user’s
data by the business user to other systems or appli-
cations;

(5) unless necessary for the security or func-
tioning of the covered platform, materially restrict or
impede covered platform users from un-installing
software applications that have been preinstalled on
the covered platform or changing default settings
that direct or steer covered platform users to prod-
ucts or services offered by the covered platform op-
erator;

(6) in connection with any covered platform
user interface, including search or ranking
functionality offered by the covered platform, treat
the covered platform operator’s own products, serv-
dices, or lines of business more favorably relative to
those of another business user than they would be
treated under standards mandating the neutral, fair,
and non-discriminatory treatment of all business
users; or

(7) retaliate against any business user or cov-
ered platform user that raises concerns with any law
enforcement authority about actual or potential vio-
lations of State or Federal law.
(c) Rule of Construction.—Subsections (a) and (b) shall not be construed to require a covered platform operator to divulge, license, or otherwise grant the use of the covered platform operator’s intellectual property, trade or business secrets, or other confidential proprietary business processes to a business user.

(d) Affirmative Defenses.—

(1) In General.—Subsection (a) shall not apply if the defendant establishes by a preponderance of the evidence that the conduct described in subsections (a) was narrowly tailored, was nonpretextual, and was necessary to—

(A) prevent a violation of, or comply with, Federal or State law;

(B) protect safety, user privacy, the security of non-public data, or the security of the covered platform; or

(C) maintain or enhance the core functionality of the covered platform.

(2) Unlawful Conduct.—Subsection (b) shall not apply if the defendant establishes by a preponderance of the evidence that the conduct described in subsection (b)—

(A) has not resulted in and would not result in material harm to the competitive process
by restricting or impeding legitimate activity by
business users; or

(B) was narrowly tailored, could not be
achieved through less discriminatory means,
was nonpretextual, and was necessary to—

(i) prevent a violation of, or comply
with, Federal or State law;

(ii) protect safety, user privacy, the
security of non-public data, or the security
of the covered platform; or

(iii) maintain or enhance the core
functionality of the covered platform.

(e) COVERED PLATFORM DESIGNATION.—The Fed-
eral Trade Commission and Department of Justice may
jointly, with concurrence of the other, designate a covered
platform for the purpose of implementing and enforcing
this Act. Such designation shall—

(1) be based on a finding that the criteria set
forth in clauses (i) through (iii) of subsection (h)(4)
are met;

(2) be issued in writing and published in the
Federal Register; and

(3) apply for 7 years from its issuance regard-
less of whether there is a change in control or own-
ership over the covered platform unless the Commis-
sion or the Department of Justice removes the designation under subsection (f).

(f) REMOVAL OF COVERED PLATFORM DESIGNATION.—The Commission or the Department of Justice shall—

(1) consider whether its designation of a covered platform under subsection (e) should be removed prior to the expiration of the 7-year period if the covered platform operator files a request with the Commission or the Department of Justice, which shows that the online platform no longer meets the criteria set forth in clauses (i) through (iii) of subsection (h)(4);

(2) determine whether to grant a request submitted under paragraph (1) not later than 120 days after the date of the filing of such request; and

(3) obtain the concurrence of the Commission or the Department of Justice, as appropriate, before granting a request submitted under paragraph (1).

(g) REMEDIES.—The remedies provided in this subsection are in addition to, and not in lieu of, any other remedy available under Federal or State law.

(1) CIVIL PENALTY.—Any person who is found to have violated subsections (a) or (b) shall be liable to the United States or the Commission for a civil
penalty, which shall accrue to the United States
Treasury, in an amount not more than 15 percent
of the total United States revenue of the person for
the period of time the violation occurred.

(2) INJUNCTIONS.—The Assistant Attorney
General of the Antitrust Division, the Commission,
or the attorney general of any State may seek, and
the court may order, relief in equity as necessary to
prevent, restrain, or prohibit violations of this Act.

(3) REPEAT OFFENDERS.—If the fact finder
determines that a person has engaged in a pattern
or practice of violating this Act, the court shall con-
sider requiring, and may order, that the Chief Exec-
utive Officer, and any other corporate officer as ap-
propriate to deter violations of this Act, forfeit to
the United States Treasury any compensation re-
ceived by that person during the 12 months pre-
ceding or following the filing of a complaint for an
alleged violation of this Act.

(h) DEFINITIONS.—In this section:

(1) ANTITRUST LAWS.—The term “antitrust
laws” has the meaning given the term in subsection
(a) of section 1 of the Clayton Act (15 U.S.C. 12).

(2) BUSINESS USER.—The term “Business
User” means a person that utilizes or is likely to
utilize the covered platform for the sale or provision
of products or services, including such persons that
are operating a covered platform or are controlled by
a covered platform operator.

(3) COMMISSION.—The term “Commission”
means the Federal Trade Commission.

(4) COVERED PLATFORM.—The term “covered
platform” means an online platform—

(A) that has been designated as a covered
platform under section 2(e); or

(B) that—

(i) at any point during the 12 months
preceding a designation under section 2(e)
or at any point during the 12 months pre-
ceeding the filing of a complaint for an al-
eged violation of this Act—

(I) has at least 50,000,000
United States-based monthly active
users on the online platform; or

(II) has at least 100,000 United
States-based monthly active business
users on the online platform;

(ii) at any point during the 2 years
preceding a designation under section 2(e)
or at any point during the 2 years pre-
ceeding the filing of a complaint for an alleged violation of this Act, is owned or controlled by a person with United States net annual sales or a market capitalization greater than $550,000,000,000, adjusted for inflation on the basis of the Consumer Price Index; and

(iii) is a critical trading partner for the sale or provision of any product or service offered on or directly related to the online platform.

(5) Critical trading partner.—The term “critical trading partner” means a person that has the ability to restrict or materially impede the access of—

(A) a business user to its users or customers; or

(B) a business user to a tool or service that it needs to effectively serve its users or customers.

(6) Person.—The term “person” has the meaning given the term in subsection (a) of section 1 of the Clayton Act (15 U.S.C. 12).

(7) Data.—
(A) IN GENERAL.—Not later than 6 months after the date of enactment of this Act, the Commission shall adopt rules in accordance with section 553 of title 5, United States Code, to define the term “data” for the purpose of implementing and enforcing this Act.

(B) DATA.—The term “data” shall include information that is collected by or provided to a covered platform or business user that is linked, or reasonably linkable, to a specific—

(i) user or customer of the covered platform; or

(ii) user or customer of a business user.

(8) ONLINE PLATFORM.—The term “online platform” means a website, online or mobile application, operating system, digital assistant, or online service that—

(A) enables a user to generate content that can be viewed by other users on the platform or to interact with other content on the platform;

(B) facilitates the offering, sale, purchase, payment, or shipping of products or services, including software applications, between and
among consumers or businesses not controlled
by the platform operator; or

(C) enables user searches or queries that
access or display a large volume of information.

(9) **CONTROL.**—The term “control” with re-
spect to a person means—

(A) holding 25 percent or more of the
stock of the person;

(B) having the right to 25 percent or more
of the profits of the person;

(C) having the right to 25 percent or more
of the assets of the person, in the event of the
person’s dissolution;

(D) if the person is a corporation, having
the power to designate 25 percent or more of
the directors of the person;

(E) if the person is a trust, having the
power to designate 25 percent or more of the
trustees; or

(F) otherwise exercises substantial control
over the person.

(10) **STATE.**—The term “State” means a State,
the District of Columbia, the Commonwealth of
Puerto Rico, and any other territory or possession of
the United States.
(i) ENFORCEMENT.—

(1) IN GENERAL.—Except as otherwise provided in this Act—

(A) the Commission shall enforce this Act in the same manner, by the same means, and with the same jurisdiction, powers, and duties as though all applicable terms of the Federal Trade Commission Act (15 U.S.C. 41 et seq.) were incorporated into and made a part of this Act;

(B) the Attorney General shall enforce this Act in the same manner, by the same means, and with the same jurisdiction, powers and duties as though all applicable terms of the Sherman Act (15 U.S.C. 1 et seq.), Clayton Act (15 U.S.C. 12 et seq.), and Antitrust Civil Process Act (15 U.S.C. 1311 et seq.) were incorporated into and made a part of this Act; and

(C) any attorney general of a State shall enforce this Act in the same manner, by the same means, and with the same jurisdiction, powers and duties as though all applicable terms of the Sherman Act (15 U.S.C. 1 et seq.) and the Clayton Act (15 U.S.C. 12 et seq.)
were incorporated into and made a part of this Act.

(2) **UNFAIR METHODS OF COMPETITION.**—A violation of this Act shall also constitute an unfair method of competition under section 5 of the Federal Trade Commission Act (15 U.S.C. 45).

(3) **COMMISSION INDEPENDENT LITIGATION AUTHORITY.**—If the Commission has reason to believe that a person violated this Act, the Commission may commence a civil action, in its own name by any of its attorneys designated by it for such purpose, to recover a civil penalty and seek other appropriate relief in a district court of the United States.

(4) **PARENS PATRIAE.**—Any attorney general of a State may bring a civil action in the name of such State for a violation of this Act as parens patriae on behalf of natural persons residing in such State, in any district court of the United States having jurisdiction of the defendant, and may secure any form of relief provided for in this section.

(j) **EMERGENCY RELIEF.**—

(1) **IN GENERAL.**—The Commission, Assistant Attorney General of the Antitrust Division, or any attorney general of a State may seek a temporary injunction requiring the covered platform operator to
take or stop taking any action for not more than
120 days and the court may grant such relief if the
Commission, the United States, or the attorney gen-
eral of a State proves—

(A) there is a claim that a covered plat-
form operator took an action that would violate
this Act; and

(B) that action impairs the ability of busi-
ness users to compete with the covered platform
operator.

(2) EMERGENCY RELIEF.—The emergency re-
lief shall not last more than 120 days from the filing
of the complaint.

(3) TERMINATION.—The court shall terminate
the emergency relief at any time that the covered
platform operator proves that the Commission, the
United States, or the attorney general of the State
seeking relief under this section has not taken rea-
sonable steps to investigate whether a violation has
occurred.

(4) OTHER EQUITABLE RELIEF.—Nothing in
this subsection prevents or limits the Commission,
the United States, or any attorney general of any
State from seeking other equitable relief as provided
in subsection (g) of this section.
(k) Statute of Limitations.—A proceeding for a violation of this section may be commenced not later than 6 years after such violation occurs.

SEC. 3. JUDICIAL REVIEW.

(a) In General.—Any party that is subject to a covered platform designation under section 2(e) of this Act, a decision in response to a request to remove a covered platform designation under section 2(f) of this Act, a final order issued in any district court of the United States under this Act, or a final order of the Commission issued in an administrative adjudicative proceeding under this Act may within 30 days of the issuance of such designation, decision, or order, petition for review of such designation, decision, or order in the United States Court of Appeals for the District of Columbia Circuit.

(b) Treatment of Findings.—In a proceeding for judicial review of a covered platform designation under section 2(e) of this Act, a decision in response to a request to remove a covered platform designation under section 2(f) of this Act, or a final order of the Commission issued in an administrative adjudicative proceeding under this Act, the findings of the Commission or the Assistant Attorney General as to the facts, if supported by evidence, shall be conclusive.
SEC. 4. ENFORCEMENT GUIDELINES.

(a) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, the Commission and the Assistant Attorney General of the Antitrust Division shall jointly issue guidelines outlining policies and practices, relating to agency enforcement of this Act, including policies for determining the appropriate amount of a civil penalty to be sought under section 2(g)(1) of this Act, with the goal of promoting transparency, deterring violations, and imposing sanctions proportionate to the gravity of individual violations.

(b) UPDATES.—The Commission and the Assistant Attorney General of the Antitrust Division shall update the joint guidelines issued under subsection (a), as needed to reflect current agency policies and practices, but not less frequently than once every 4 years beginning on the date of enactment of this Act.

(c) OPERATION.—The Joint Guidelines issued under this section do not confer any rights upon any person, State, or locality, nor shall they operate to bind the Commission, Department of Justice, or any person, State, or locality to the approach recommended in such Guidelines.

SEC. 5. RULE OF CONSTRUCTION.

(a) Notwithstanding any other provision of law, whether user conduct would constitute a violation of section 1030 of title 18 of the United States Code is not dis-
positive of whether the defendant has established an affirmative defense under this Act.

(b) An action taken by a covered platform operator that is reasonably tailored to protect the rights of third parties under sections 106, 1101, 1201, or 1401 of title 17 of the United States Code or rights actionable under sections 32 or 43 of the Lanham Act (15 U.S.C. 1114, 1125), or corollary state law, shall not be considered unlawful conduct under subsection 2(a) or (b) of this Act.

(c) Nothing in this Act shall be construed to limit any authority of the Attorney General or the Commission under the antitrust laws, the Federal Trade Commission Act (15 U.S.C. 45), or any other provision of law or to limit the application of any law.

SEC. 6. SEVERABILITY.

If any provision of this Act, an amendment made by this Act, or the application of such provision or amendment to any person or circumstance is held to be unconstitutional, the remainder of this Act and of the amendments made by this Act, and the application of the remaining provisions of this Act and amendments to any person or circumstance shall not be affected.