Nos. 21-16506 & 21-16695

IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

EPIC GAMES, INC.,

Plaintiff / Counter-Defendant
Appellant / Cross-Appellee,

v.

APPLE, INC.,

Defendant / Counterclaimant
Appellee / Cross-Appellant.

On Appeal From The United States District Court
for the Northern District of California
The Honorable Yvonne Gonzalez Rogers
Case No. 4:20-cv-05640-YGR

BRIEF OF *AMICUS CURIAE* ACT | THE APP ASSOCIATION IN SUPPORT OF APPLE INC.

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CORPORATE DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure 26.1, the App Association states that it does not have a parent corporation and that no publicly held corporation holds 10% or more of its stock.

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INTEREST OF *AMICUS CURIAE*[1]

Founded in 1998, ACT | The App Association ("App Association") is an international not-for-profit grassroots advocacy and education organization representing more than 5,000 small business software application developers and technology firms that create the software applications used on mobile devices and in enterprise systems around the globe. Organization members leverage the connectivity of smart devices to create innovative solutions that make our lives better. Today, the ecosystem the App Association represents is valued at approximately $1.7 trillion and is responsible for 5.9 million American jobs.[2]

As the App Association has explained in comments filed with the FTC and testimony before Congress, mobile platforms solve many of the

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[1] *Amicus* declares that no party's counsel authored this brief in whole or in part; no party or party's counsel contributed money intended to fund preparing or submitting the brief; and no person—other than the *amicus*, its members, or its counsel—contributed money that was intended to fund preparing or submitting this brief. All parties have consented to the filing of this brief.

[2] *State of the U.S. App Economy: 2020*, ACT | The App Association (7th ed. 2020), https://tinyurl.com/nmc8mcwt.

problems that developers faced in the early Internet economy.[3] Before mobile platforms, app developers were forced to pay publishers and other intermediaries and engage in time-consuming marketing campaigns to reach users.[4] These costs imposed formidable barriers to entry, resulting in higher prices and fewer choices for consumers.[5] Mobile software platforms, which provide one-stop shops where developers and consumers transact directly, lower these barriers to entry and thus free up substantial amounts of capital that startups can use to grow their businesses.[6] There are now several hundred thousand companies active in the mobile app market in the United States and more than 2 million apps available on major app platforms.[7]

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[3] *See Comments of ACT | The App Association to the Federal Trade Commission on Competition and Consumer Protection in the 21st Century (Question 3)* (Aug. 20, 2018) at 3–4, (hereinafter "*App Association FTC Comments*") https://tinyurl.com/2p88kb66. *See also* Testimony of Morgan Reed, President ACT | The App Association, Before the U.S. House of Representatives Judiciary Committee, Subcommittee on Antitrust, Commercial and Administrative Law (2019), at 3-6 (hereinafter "Reed Testimony"), https://tinyurl.com/mrxwm6tu.

[4] *See id.*, at 3–4.

[5] *Id.*

[6] *Id.*

[7] Mobile App Download and Usage Statistics, buildfire (2022), https://tinyurl.com/4a952te7.

Today, developers overwhelmingly use mobile platforms—such as the App Store and Google Play—to distribute their applications. A "mutually beneficial" relationship has developed between developers and platform companies.[8] Developers provide useful and enjoyable digital content, which draws consumers to the platform, while the platform provides developers with low overhead costs, simplified market entry, consumer trust, dispute resolution, data analytics, flexible marketing and pricing models, and strengthened IP protections.[9]

The App Association has a keen interest in the proper application of antitrust principles to software platforms. In fact, one of the first *amicus* briefs the App Association ever filed was in *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) (en banc) (per curiam), which involved an effort to break up a company that provided a "platform[] for software applications." *Id.* at 53. The App Association provides this brief to highlight the symbiotic relationship between these

[8] *See App Association FTC Comments*, *supra* n.3, at 2, https://tinyurl.com/2p88kb66.

[9] *Id.*

developers and Apple and to explain how Apple's business model specifically benefits small app developers who use the App Store to reach millions of iPhone users.

INTRODUCTION AND SUMMARY OF ARGUMENT

Although dressed up as an antitrust suit, this case is fundamentally a commercial disagreement between two highly successful companies. Apple requires all developers who wish to distribute apps for the iPhone to do so through the App Store and to use Apple's "IAP" functionality for transactions in digital content, for which Apple charges a commission. Epic, a software developer that reaps hundreds of millions of dollars annually from in-app purchases across a range of game-transaction platforms, seeks to void these requirements (though it does not seek to disturb similar restrictions imposed by other platform providers) so it can distribute apps to iPhone users through its own store and retain 100% of the revenues from in-app purchases its customers make on the iPhone. While that remedy would bolster Epic's bottom line, it would not enhance competition or benefit small app developers. Quite the opposite. A judicially imposed change to Apple's current business model relieving

Epic from all commissions would inevitably raise prices for small developers, resulting in a less valuable platform, less innovation, and decreased app output.

I. Among the many flaws infecting Epic's antitrust claims is its myopic focus on the App Store to the exclusion of the broader iPhone/iOS ecosystem, which provides the backbone of the platform where app developers and consumers meet. Most significantly, Epic ignores the many ways that Apple competes for application developers by investing in this ecosystem. The App Store is but one platform among many, and app developers can also reach iPhone users through the open web and avoid paying any commission. To induce developers to spend their engineering time and resources creating apps for the App Store, Apple has invested *billions of dollars* to improve the iPhone/iOS ecosystem. Developers need these investments to continue.

First and foremost, Apple invests heavily in its hardware, constantly improving the iPhone to provide the cutting-edge functionality developers require. Apple also produces and licenses thousands of application programming interfaces (APIs) and software development

kits (SDKs), which lower the cost of developing apps for the iPhone. Apple provides developers with engineering assistance, training seminars, and promotional support, including editorial content on the App Store. Apple has also spent years creating a secure and stable ecosystem, which allows customers to download apps from the App Store with confidence that those apps will not compromise their privacy or security. This built-in customer trust benefits all developers, and especially small developers who lack name recognition. Apple provides all these benefits to developers for a nominal $99 annual licensing fee regardless of whether they use Apple's IAP functionality or generate any commissions for Apple. That is not the behavior of a monopolist; it is the behavior of a company engaged in fierce competition for developers' services. And the increase in output in creative and useful apps confirms that Apple's conduct is *pro-competitive*.

Epic nevertheless contends that Apple's business model is anticompetitive because Apple supposedly earns supra-competitive margins on the App Store. But that argument ignores economic reality. The *hundreds of millions* of dollars Apple spends annually to improve the

iPhone/iOS ecosystem and make its platform attractive to both developers and consumers may not be attributed to the App Store as an accounting matter, but they are plainly relevant to any analysis of market power—and both economists and the Supreme Court have cautioned against drawing conclusions about market power or anticompetitive conduct by looking only to prices on one side of a multi-sided platform. Because Epic ignores the sizeable investments Apple has made (and continues to make) to attract developers and consumers to the platform, Epic's antitrust arguments based on Apple's supposedly supra-competitive profits are fatally flawed.

II. Epic's underlying gripe is that Apple monetizes these investments in part by charging commissions to developers who generate revenue through paid downloads or in-app purchases—a business model that has been especially profitable to game developers like Epic—while allowing other developers to create and distribute content for a nominal licensing fee. But Apple's commission structure is similar to other platforms, and Apple's pricing is disciplined by competition in the smartphone market. If Apple raises prices on developers, the number and

quality of apps in the App Store will suffer, making the iPhone a less desirable product.

Moreover, there is nothing inherently suspect about charging higher prices to those who derive the most value from a product. In fact, Epic engages in a similar type of price discrimination. Epic gives its games away for free and offers users the opportunity to make purchases within the game as they become more personally invested. Because the high-intensity users who generate most of Epic's revenue subsidize the large number of casual users who play for free, Epic is poorly positioned to complain about Apple's business model.

Epic's proposed remedy would be disastrous for small developers. If Apple is unable to monetize its investments in the iPhone/iOS ecosystem by charging a commission on in-app purchases, it will seek to monetize its investments in other ways. Any of the likely alternatives would harm the millions of developers who, unlike Epic, do not have resources to create their own competing distribution channels. Whether Apple were to raise its yearly licensing fee, charge a per-download fee, or develop proprietary apps that would crowd out third-party apps, small developers

would be the losers. Even if Apple were to seek to recover its costs exclusively from the other side of the market by raising iPhone prices, this would decrease the number of iPhone users and thereby diminish the value of the platform to developers.

Epic wholly disregards the potential harm such changes would inflict on small developers. In fact, Epic's CEO admitted at trial that he does not know (or care) how his requested relief would impact other developers that distribute apps through the App Store. Trial.Tr.vol. 2, 345:19–346:16. This is because, as the district court found, Epic merely seeks to "protect its self-avowed interests in the 'metaverse.'" 1-ER-27. Accordingly, the App Association urges this Court to affirm the district court's rejection of Epic's misguided antitrust claims.

ARGUMENT

I. Epic's Market Analysis Is Detached from the Commercial Realities of Application Development and Ignores the ways in which Apple Competes to Attract Developers to Its Platform.

Epic claims that Apple operates single-brand markets for app distribution and in-app purchase and that it earns excessive margins in these "markets" because the revenue it generates from the App Store

greatly exceeds the costs of operating the store. But Epic's narrow focus on the App Store does not reflect the "commercial realities" of the multi-sided market in which app developers and consumers interact. *Ohio v. Am. Express Co.*, 138 S. Ct. 2274, 2285 (2018) ("*Amex*"); *see also Twin City Sportservice, Inc. v. Charles O. Finley & Co.*, 676 F.2d 1291, 1299 (9th Cir. 1982) ("the relevant market [is] one in wh[ich] commercial reality exists.").

As the Supreme Court explained in *Amex*, multi-sided "platforms differ from traditional markets" because the platform creator's practices and pricing on one side of the market affect the other side. 138 S. Ct. at 2280–81. For example, investments that increase participation or quality on one side of the market create the value that is sought by the other side. "[T]he value of the services that a two-sided platform provides increases as the number of participants on both sides of the platform increases." *Id.* A platform firm must therefore "be concerned not only

with its own quality and advertising, but also that of the vendors who operate over its network."[10]

As even Epic admits, the App Store is a "two-sided" platform where developers and consumers interact. Epic.Br.22. But it was not always this way. "Initially, Apple did not allow third party software on [the] iPhone," preferring instead to create proprietary apps.[11] It reversed that decision in 2008, in response to consumer demand for "quality software from third party service providers," and its decision to allow developers to distribute apps on the App Store helped "fuel[] the success of the iPhone."[12] Today, the App Store features millions of apps created and distributed by thousands of developers.

Epic contends that "Apple controls 100% of both iOS app distribution and payment solutions for in-app purchases of digital goods," Epic.Br.23, but the App Store is not the only software platform in the

[10] Mark Rysman, *The Economics of Two-Sided Markets*, 23 J. Econ. Persp. 125, 136 (2009).

[11] J. Laugesen & Y. Yuan, *What Factors Contributed to the Success of Apple's iPhone?*, 2010 Ninth Int'l Conference on Mobile Business & 2010 Ninth Global Mobility Roundtable (ICMB-GMR) 91, 94–95, https://tinyurl.com/bdhzy2wd.

[12] *Id.*

world, and Apple must compete vigorously to attract both consumers and developers to its platform. *See* 1-SER-51 (describing competitive landscape including Google Play, Samsung's Galaxy Store, and Nintendo's eShop); 1-ER-75 (describing competing platforms in the mobile gaming market). In addition to using other platforms, developers can reach consumers on the open web. For example, iPhone users can play the popular game Wordle through their web browsers without downloading an app. Given the availability of alternative distribution channels, platform providers must compete to induce developers to create apps for their platforms.[13] As the district court recognized, if Apple charged developers excessive prices or otherwise treated them unfairly, developers would either leave the platform or "reallocate[] engineering or marketing resources" to other channels. 1-ER-60.

Apple competes primarily by making the iPhone/iOS ecosystem attractive to developers. Indeed, while developers have at times expressed frustration with various aspects of the App Store, they are

[13] Reed Testimony, *supra* n.3, at 3, https://tinyurl.com/mrxwm6tu.

drawn to the platform because (1) the iPhone offers novel and innovative functionality for apps, (2) Apple makes it easy to create apps for iOS, and (3) Apple's ecosystem protects consumer privacy and security, which builds consumer trust in the platform. Apple's investments in its hardware and software create immense value for both sides of the market, and especially for small developers who, unlike Epic, cannot create standalone distribution channels. The substantial cost of this work must be factored into the antitrust analysis even though it occurs outside the context of the App Store itself.

A. Apple Competes for Developers by Constantly Improving the iPhone with Advanced Functionalities that Developers can Incorporate into their Apps.

One of the primary ways in which Apple competes for developers is by making the iPhone a world-class device on which to run apps. Because the App Store gives developers access to consumers who use only one type of smartphone—unlike the Google Play store, where developers can distribute apps to consumers who use a variety of smartphones—Apple must ensure that its *hardware* is state of the art. Developers will not invest their time and resources to create apps for the App Store if the

iPhone lacks the functionality to run them. Apple invests tens of billions of dollars *annually* into R&D, much of which goes toward improving the functionality and performance of the iPhone. 1-ER-116 ($18.8 billion in 2020 alone). In addition to benefitting iPhone users, these investments *directly benefit developers* by enhancing their ability to create compelling and useful apps.

For example, Apple has integrated a gyroscope that detects motion along a three-dimensional axis so that a user can rotate and turn the iPhone and have that information interface with the software. 1-SER-221. That functionality can be used in racing games by allowing a player to "tilt [the] iPhone along the axis left and right" to steer, lean the iPhone forward to accelerate, and lean it back to break, Trial.Tr.vol.11, 2879:13–17. It can also be employed in mapping, stargazing, and myriad other types of apps. This functionality substantially increases the value of the platform to app developers. Apple's innovations in display technology also benefit developers who require excellent graphics to run games, stream videos, and perform other functions. *Id.* 2879:21–2880:21. Apple also pioneered the Taptic Engine in 2014, which uses haptic technology

to make the iPhone vibrate without a bulky mechanical actuator. *Id.* 2881:7–12. Developers can incorporate haptics into their apps so that when a user presses the screen the iPhone gives physical feedback. *Id.* 2881:14–16. Apple has improved the iPhone's processing capabilities and integrated LiDAR sensors, which assist developers in creating augmented reality apps. *Id.* 2883:11–2884:14. The iPhone has also been engineered to take advantage of developments in data connectivity to support 2G, 3G, 4G, 5G, Bluetooth and Wi-Fi connectivity on a single device. *Id.* 2886:1–2888:10. This capability allows developers to design apps that require a fast and stable web connection.

These are but a few of the *many* ways in which Apple's investments in the iPhone have increased the device's functionalities and expanded the range of creative possibilities for app developers. *See* 4-SER-1054. When app developers incorporate these cutting-edge features into their apps, the iPhone becomes more valuable to end users. Apple's investments in the iPhone thus create value on both sides of the market and demonstrate that Apple is engaged in competition for both consumers *and* developers.

B. Apple Competes for Developers by Producing and Licensing Software that Makes it Easy and Inexpensive to Create Apps for the iPhone.

In addition to its relentless hardware innovation, Apple competes for developers by creating and licensing extensive software tools that developers can use to create apps that run on the iPhone. These software investments benefit developers by enabling them to efficiently create apps for iOS.

Once a developer signs the Developer Program License Agreement ("DPLA") and pays the $99 fee to enroll in Apple's developer program, it receives access to application program interfaces (APIs) and a software development kit (SDK) that it can incorporate into its apps.[14] These APIs and SDKs allow apps to run seamlessly on iOS and unlock various iPhone features, such as location awareness functionality, media applications, video playback, retina display, camera, internet connectivity through 4G and 5G networks, and numerous other tools to enhance the developer's

[14] Even this nominal fee is waived for government institutions, education institutions, and non-profit groups. 2-SER-517.

ultimate product. 1-ER-31. Apple currently produces and distributes over 150,000 APIs and a comprehensive library of SDKs. 1-ER-117.

These APIs and SDKs significantly reduce app development costs. As recognized experts on multi-sided markets have explained, "[s]oftware platforms facilitate a market for applications by reducing duplicative costs. … Rather than each application developer writing the code for accomplishing each task, the software platform producer incorporates code into the platform … through an application program interface. The user benefits from this consolidation as well since it reduces the overall amount of code required on the computer, reduces incompatibilities between programs, and reduces learning costs."[15]

Developers who sign the DPLA also receive access to TestFlight and other tools that assist developers in managing apps on the App Store, running marketing campaigns, and getting data analytics about their apps' performance. 2-ER-429. Developers get access to all these features and Apple's IP regardless of the size of the team, how many apps the

[15] David S. Evans & Richard Schmalensee, *Markets with Two-Sided Platforms*, 1 Issues in Competition Law and Policy 667, 673 (2008).

developer puts on the App Store, or whether they have any prospect of generating commissions for Apple. 2-ER-429–430. Thus far, approximately one million developers have enrolled in the Apple DPLA, and countless App Association small business developers participate in this program today. 2-ER-428.

Apple provides other benefits to developers that further reduce the cost of app development. For example, it runs conferences to educate developers about how to use Apple's APIs and SDKs. 2-SER-517. Apple holds about 200 training sessions per year, and those sessions are videotaped and shared for free with any interested developer. 2-SER-517. Up to 50 million people have viewed some of these streams. 2-SER-518. Apple also provides "hands-on sessions where a developer can literally bring their code on a drive and sit down with an [Apple] engineer and be consulted on how to solve problems or design some new interface." 2-SER-518. Apple is building a facility at Apple Park in Cupertino designed entirely to support developers who need assistance in developing their applications. 2-SER-519. Similar facilities have been created around the world as part of Apple's "Developer Accelerator," where more advanced

developers can take part in programs that help them improve their apps and take advantage of Apple's newer technologies. 2-SER-518–520.

Apple provides all these services—which cost millions of dollars a year—for free. It does not do this out of charity, of course. Rather, Apple gives away APIs, SDKs, and engineering support because it needs developers to create apps for iPhone customers. And while these services are all provided *outside of the App Store*, 2-SER-518–20; 2-SER-525–26, they are plainly relevant to developers' decisions as to whether to create apps for distribution *through the App Store*.[16]

C. Developers Also Derive Substantial Value from Apple's Efforts to Create a Safe and Secure Ecosystem.

One of the core services that platform companies provide developers is "customer trust."[17] Customer trust is "fundamental for competitors in

[16] This is not to say the services Apple provides directly through the App Store are insignificant. They are not. For example, small developers receive free promotional assistance from Apple, including advertising and "spotlighting" on the App Store to help users discover their apps. 1-ER-99. Absent such assistance, small app developers would have to spend significant amounts to market their apps. *See App Association FTC Comments*, *supra* n.3, at 3, https://tinyurl.com/2p88kb66.

[17] *Competition Policy Priorities*, ACT|The App Association, at 1, https://tinyurl.com/b5hjx3c5.

the app economy, especially for smaller firms that may not have substantial name recognition,"[18] because customers will not download and use apps if they cannot confidently "disclose essential information to [the developer]."[19] In the early days of software development, each developer had to earn customer trust itself, but now "platforms are the trusted product," and "Platforms' trusted brands allow developers to clear the critical hurdle of achieving trust from consumer adoption."[20]

Apple's creation of a reliable and secure mobile ecosystem took years and billions of dollars of investment.[21] Today, iPhone users can download millions of apps from the App Store with confidence that these apps will not crash their phones, compromise their confidential

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[18] *Id.* at 2; *see also The Symbiotic Relationship Between App Developers and Platforms: A Ten-Year Retrospective*, ACT|The App Association (July 25, 2018) at 3 (hereinafter "*Symbiotic Relationship*"), https://tinyurl.com/bde65bnm.

[19] *App Association FTC Comments*, *supra* n.3, at 5, https://tinyurl.com/2p88kb66.

[20] *Id.* at 6; *see also Symbiotic Relationship*, *supra* n.18, at 3, https://tinyurl.com/bde65bnm.

[21] *Symbiotic Relationship*, *supra* n.18, at 3 ("Consumer trust requires constant maintenance and vigilance because loss of trust hurts both the platforms and the developers who depend on them."), https://tinyurl.com/bde65bnm.

information, expose their children to inappropriate material, spy on them, or otherwise defraud them. 1-SER-164–65. Developers distributing their apps through the App Store can leverage this "built-in customer trust" to reach a far larger number of consumers than they would otherwise be able to reach.[22] Apple's substantial investments in the following areas thus have the effect of *lowering costs* for app developers:

Privacy and Security. A majority of consumers regard privacy and security as an important aspect in deciding to purchase an iPhone. 1-ER-114. To keep its ecosystem safe, Apple provides a highly effective preliminary layer of defense against malicious apps. Rather than permitting users to download malicious apps in the hope that the last line of defense—iOS itself—will block the app's activities, Apple's app review process screens apps for malware *before* they can be listed in the App Store. 1-SER-169–70. Apple provides further protection by preventing apps from requesting unnecessary permissions that could jeopardize user privacy. *Id.*; 2-SER-575–76.

[22] Reed Testimony, *supra* n.3, at 4, https://tinyurl.com/mrxwm6tu.

Apple's app review process thus solves a collective action problem. Although a few unscrupulous developers might prefer to exploit users' private information for gain, allowing such apps on the App Store would erode consumers' trust in (and willingness to use) the platform. 2-SER-577–78; 3-SER-611–12. To preserve the value of the platform, Apple scrutinizes *all apps* on the App Store to protect users' privacy and security. 3-SER-594–96; 1-SER-179. As the district court found, "Apple proactively requires … measures to protect data security, privacy, data collection and storage" "much to some developers' chagrin." 1-ER-40.

Content Propriety and Safety. Apple also screens out apps that have inappropriate content. This includes not only content that is inappropriate for users of a certain age, 2-SER-332, but also content that encourages illegal or dangerous activity, 2-SER-318; 2-SER-331–33. Without these measures, parents would be less likely to purchase iPhones for their children, which would reduce the size of the app-using population and thereby decrease the value of Apple's platform to developers.

Data Manageability and Migration. Because all apps on the iPhone must be purchased through a consumer's account with the App Store, and all in-app purchases must be made through Apple's in-app payment system, it is easier for consumers to manage their data and subscriptions, including by moving them to new devices, sharing them with family members, reviewing their purchase histories, and implementing parental controls. 1-SER-153; 2-SER-422–23; 2-SER-553. Besides providing convenience, this centralization helps protect consumers against subscription and data fraud and other violations that could result from sharing their financial information with unscrupulous developers. 1-SER-153. Consumers are thus willing to download more apps and spend more money on in-app purchases than they would if they had to manage their data and subscriptions across numerous platforms created by different developers. *Id.*

In short, Apple's rigorous standards, app review process, and in-app payments build "consumer trust," which allows even small app

developers to distribute their apps widely through the App Store.[23] Trial.Tr.vol.13, 3421:14–3422:7 (because users trust the App Store, they are "very free about trying out new software, about trying new apps, about downloading lots of things. And that's helped build this really unprecedented scale of activity for developers"). This built-in consumer trust attracts developers to Apple's platform and has led to consistent growth in the number and quality of apps available on the App Store.[24] The "commercial realities" of the two-sided platform at issue here thus belie Epic's claim of monopolization and anti-competitive conduct.

D. Epic's Contention that Apple Earns Excessive Margins on the App Store Ignores Economic Reality.

Epic asserts that the "supra-competitive" margins Apple supposedly earns on the App store are direct evidence of market power, an error echoed in part by the United States, which suggests that these margins are circumstantial evidence of market power. However, because

[23] Reed Testimony, *supra* n.3, at 4, https://tinyurl.com/mrxwm6tu.

[24] *Number of available apps in the Apple App Store from 2008 to 2021*, Statista, https://tinyurl.com/yck2jmwe (visited March 30, 2022) (hereinafter "App Data"); *see also App Association FTC Comments, supra* n.3, at 5.

Epic's calculations ignore the substantial investments Apple has made on both sides of the market to attract consumers and developers, its calculations of Apple's margin are economically meaningless.

Epic contends that Apple earns a 75% margin on the App Store, which it calculates based only on certain App Store costs while ignoring the broader costs (i.e., investments) that Apple incurs to make the iPhone/iOS ecosystem attractive to developers. *See, e.g.*, Epic.Br.17, 24, 35, 40. Epic concludes, as does the United States, that such accounting margins show market power. Epic.Br.57; U.S.Br.20–24. However, as the leading economists (in work cited in *Amex*) state: "Price equaling marginal cost (or average variable cost) on a particular side is not a relevant economic benchmark for two-sided platforms for evaluating either market power, claims of predatory pricing, or excessive pricing. … [I]t is incorrect to conclude, as a matter of economics, that deviations between price and marginal cost on one side provide any indication of pricing to exploit market power or to drive out competition."[25] Professor

[25] Evans & Schmalensee, *supra* n.15, at 689.

Julian Wright likewise identifies the fallacy of concluding that "a high price-cost margin indicates market power" in the context of a two-side market.[26]

As noted above, Apple has made (and continues to make) substantial investments in the entire ecosystem that support the App Store. *See supra*, Part I.A–C. These investments provide substantial value to app developers, even though they are not attributed to the App Store as an accounting matter. Accordingly, even if it costs Apple relatively little to operate the App Store itself, the substantial costs of *ensuring the competitiveness of the platform* must be factored into the analysis. Epic's flawed calculation of the App Store's margin is thus hardly dispositive to show Apple's alleged market power or show that Apple is engaging in anticompetitive conduct.

[26] Julian Wright, *One-sided Logic in Two-sided Markets*, 3 Rev. Network Econ. 44, 47 (2004) ("[I]t is not true that competition, even perfect competition, will necessarily drive the price charged to each type of user to cost.").

II. Apple's Commission Structure is Subject to Market Discipline and Increases App Output, and Any Court-Ordered Change in Apple's Business Model Would Harm Small Developers

Epic's goal is to *eliminate* the commission Apple charges for in-app purchases. But there is no evidence that most developers share Epic's view that the commission is inherently anticompetitive. 1-ER-39. To be sure, app developers would prefer lower commissions to higher commissions, and they have pressured Apple to lower its rates, which it did temporarily in 2020 through its App Store Small Businesses Program and extended in 2021 through the *Cameron* settlement.[27] But developers recognize that commissions on paid downloads and in-app purchases allow Apple to monetize the investments that make the entire platform possible. For example, the CEO of Snap explained just last year that the company is "happy" to pay Apple its commission "in exchange for all the

[27] *See* Developer Plaintiffs' Mot. for Preliminary Approval of Class Action Settlement with Apple Inc. (Dkt. 396), *Cameron v. Apple Inc.*, No. 4:19-cv-03074, at *1 (N.D. Cal. Aug. 26, 2021).

amazing technology that [Apple] provide[s] to us in terms of the software but also in terms of their hardware advancements."[28]

Moreover, Apple's ability to charge excessive commissions on developers is subject to competitive constraints. If Apple treats developers unfairly, they will turn to other channels to distribute their apps, which will make the iPhone less attractive to consumers and undercut Apple's ability to compete in the smartphone market. Indeed, the fact that app output has exploded over the past decade, as Epic's experts conceded, confirms that Apple's commission structure is not anticompetitive. *See* 2-SER-382–83; 2-SER-468; 2-SER-473.[29] Epic's proposed remedy, by contrast, would harm competition by prompting Apple to change its business model to monetize its investments in other ways that would likely harm smaller developers and reduce output.

[28] Salvador Rodriguez, *Snap CEO Evan Spiegel: We're happy to pay Apple 30%—without Apple we wouldn't exist* (May 21, 2021), https://tinyurl.com/2dmmvawk.

[29] *See also* App Data, *supra* n.**Error! Bookmark not defined.**.

A. Competition on the Consumer Side of the Market Disciplines Apple's Ability to Charge Excessive Commissions.

As the Supreme Court has recognized, there are feedback loops in multi-sided markets that allow one side to impose market discipline on the other. *Amex*, 138 S. Ct. at 2280–81. "Raising the price on side A risks losing participation on that side, which decreases the value of the platform to side B. If participants on side B leave due to this loss in value, then the platform has even less value to side A—risking a feedback loop of declining demand. "Two-sided platforms therefore must take these indirect network effects into account before making a change in price on either side." *Amex*, 138 S. Ct. at 2281.[30] A court analyzing allegations of anti-competitive conduct should not "us[e] one-sided logic in [a] two-sided market[],"[31] but must instead consider the competitive discipline imposed by each side of the market.

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[30] "[T]he effect of an increase in price on one side is a decrease in demand on the first side because of the direct effect of the price elasticity of demand and on both sides as a result of the indirect effects from the externalities." Evans & Schmalensee, *supra* n.**Error! Bookmark not defined.**5, at 674.

[31] Wright, *supra* n.26, at 45.

That insight applies here because Apple faces fierce competition for smartphone customers from other manufacturers that use the Android operating system. 1-SER-128; 2-SER-557–78; 1-ER-54–55, 94. Although Apple's customers are quite loyal, the number of iPhone consumers, over any meaningful period, is not constant.[32] Apple competes in the smartphone market in many ways, including by continuing to improve the iPhone's hardware; maintaining its reputation for stability, security, and privacy;[33] and *increasing the number and variety of high-quality apps available in the App Store*. 1-SER-92, 123, 129, 132; 2-SER-392–93; 4-SER-872; Part I.A-C. Indeed, the "rise of smartphones is inextricably linked to apps because apps give value to platforms on smartphones."[34]

Apple cannot charge developers excessive "prices" without *reducing* the number of high-quality apps available on the App Store. And having

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[32] *See Subscriber share held by smartphone operating systems in the United States from 2012 to 2021*, Statista, https://tinyurl.com/ye2yravk (visited March 30, 2022).

[33] Dwight Silverman, *What's Really Driving Android-to-iPhone Switchers?,* Forbes.com (Aug. 9, 2021), https://tinyurl.com/yck36r33.

[34] *Symbiotic Relationship*, *supra* n.18, at 4, https://tinyurl.com/bde65bnm.

fewer apps available would reduce the value of the iPhone to consumers, thus leading to fewer iPhone purchases. Apple's vigorous competition in the smartphone market therefore imposes a discipline on any harmful actions it might take vis-a-vis developers. *Compare Microsoft*, 253 F.3d at 55–56.

This market discipline also demonstrates why Epic's attempt to fit this case within the *Eastman Kodak* single-brand model is misguided. *See Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451 (1992); Epic.Br.43, 59–63. In *Eastman Kodak*, the Supreme Court reasoned that it might be appropriate to consider a single-brand market for Kodak copiers if purchasers did not engage in lifecycle pricing—*i.e.,* if they did not consider the cost of repair services over the life of the copier when making purchasing decisions—because such pricing would be necessary to constrain Kodak's actions in the repair services aftermarkets. *Cf. id.* at 473-75. But regardless of whether smartphone purchasers explicitly consider the future cost of apps, they consider *the quality and number of apps available* at the time of purchase. *See* 1-SER-92, 123, 129, 132; 2-SER-392–93; 4-SER-872. Apple's pricing on the developer-side of the

market is thus disciplined by its competition on the consumer side. Epic's antitrust theory ignores this central economic feature of multi-sided markets.

B. Apple's Commission Structure Increases Output and Thus is Pro-Competitive.

Apple utilizes a common form of price discrimination to generate revenue from the App Store. Specifically, Apple licenses its IP for a nominal fee to all developers and charges a commission only when developers monetize their applications through paid downloads or in-app purchases.[35] Apple further discriminates by charging a lower commission to developers who generate modest revenue through Apple's IAP,[36] while charging a higher commission to developers whose applications yield greater revenues. Apple generates the majority of its App Store commissions from gaming downloads and in-app purchases on games

[35] Developers have a range of options for monetizing their apps without paying Apple a commission, including selling advertisements that appear within their apps and selling credits through other platforms that purchasers can access when using the app on the iPhone. 1-ER-32–36; 4-SER-1030–32.

[36] Apple charges developers with up to $1 million in revenue a 15% commission. 2-SER-48. Apple agreed to maintain this reduced commission rate for these developers for at least another three years as part of the settlement in *Cameron*. *See supra* n.25.

created by a small handful of successful developers, including Epic. 1-ER-43. This arrangement makes sense because gaming applications use the iPhone's features very intensively and gamers derive substantial value from the iPhone and iOS ecosystem.

There is nothing inherently anticompetitive about price discrimination. All companies—regardless of whether they have monopoly power—would prefer to charge higher prices to those consumers who most highly value their products and services.[37] Such price discrimination strategies can *increase* output by permitting lower value (or lower income) users to enter the market.[38]

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[37] *See generally* Hal R. Varian, *Price Discrimination*, 1 Handbook of Industrial Organization 597, 598-600 (R. Schmalensee & R.D. Willig eds. 1989).

[38] *See*, *e.g.*, Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. Pa. L. Rev. 935, 926 (1979) ("price discrimination is a device by which the monopolist in effect seeks to serve additional consumers, … who might be deterred by the single monopoly price"); Hal R. Varian, *Price Discrimination and Social Welfare*, 75 Am. Econ. Rev. 870 (1985) (price discrimination can increase output and thereby increase total welfare); Lars A. Stole, *Price Discrimination and Competition*, 3 Handbook of Industrial Organization 2221 (2007) (discussing price discrimination and increased output in the context of imperfectly competitive markets).

Epic can hardly complain about Apple's pricing structure, as it uses *the same strategy* to segment the market and charge a premium to high-intensity, high-value users. For example, Epic's *Fortnite* is "free" for the basic game but players can purchase V-bucks, which are used to purchase customizations, and Battle Passes, which unlock rewards based on seasonal play. Epic thus earns the most revenue from users who most enjoy the game and play it most intensely.[39] As the district court recognized, many other game developers use the same model, and consumer spending is "primarily concentrated on a narrow subset of consumers: namely, exorbitantly high spending gamers." 1-ER-46; see also 1-ER-47 (noting that "'game spend is highly concentrated' among certain gaming consumers").

This is the essence of the well-established "freemium" business model, which has been a boon for developers of gaming apps. "Over the

[39] See, e.g., Julia Glum, *How Does Fortnite Make Money? All the Ways the Free Video Game Cashes in on Its 200 Million Players*, Money.com (Jan. 15, 2019), https://tinyurl.com/2p9zbn8z; Ben Gilbert, *There's a Simple, Obvious Reason 'Fortnite' Is the Biggest Game in the World Right Now*, Business Insider (May 3, 2018), https://tinyurl.com/8mj4spmx.

past decade 'freemium'—a combination of 'free' and 'premium'—has become the dominant business model among internet start-ups and smartphone app developers."[40] This model promotes entry by "allow[ing] a new venture to scale up and attract a user base without expending resources on costly ad campaigns or a traditional sales force."[41] Freemium can also enhance consumer value by offering consumers a wide variety of paid options. Like other forms of price discrimination, the freemium model is output enhancing. And digital game transactions on Apple's platform have skyrocketed as gaming developers have adopted it. 2-SER-441–43; 4-SER-1037.

The output-enhancing nature of this pricing model—and Epic's own use of it—should make the Court wary of Epic's claims that Apple's commission structure is anticompetitive. In *Amex*, the Supreme Court explained that "'[m]arket power is the ability to raise price profitably *by restricting output*,'" and it found that Amex's fee structure was not

[40] Vineet Kumar, *Making "Freemium" Work*, Harv. Bus. Rev. (May 2014), https://tinyurl.com/5ak8xcm4.

[41] *Id.*

anticompetitive because it *increased* output. 138 S. Ct. at 2288 (quoting Areeda & Hovenkamp, Fundamentals of Antitrust Law § 5.01 (4th ed. 2017)). As the Court explained, "[w]here … output is expanding at the same time prices are increasing, rising prices are equally consistent with growing product demand." *Id.* (quoting *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 237 (1993)). Here, Apple's prices have *not* risen (on the contrary, they have decreased over time), while output of both apps and gaming transactions has exploded. 1-SER-91, 195, 2-SER-557, 1-ER-39. There is thus no basis for finding that Apple's commission structure is anticompetitive.

C. Any Court-Ordered Change to Apple's Pricing Model Would Likely Harm Small Developers

As *Amicus* has explained, Apple has invested billions to create the iPhone/iOS ecosystem that makes the App Store possible. Apple uses its pricing "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." 1-ER-69. Despite having reaped hundreds of millions of dollars from transactions on Apple's platform,

Epic now seeks to free-load off Apple's investments by keeping 100% of the revenue it generates through in-app purchases for itself.

That result would deprive Apple of its primary revenue stream on the developer side of the market and likely prompt Apple to change the way it monetizes its investments. *See, e.g.*, Apple.Br.99 n.12 (suggesting that Apple may change "its business model … in response to" laws interfering with Apple's IAP requirement). Epic has suggested, for example, that Apple could substantially increase the $99 annual fee for developers or charge all developers a per-download fee. Mot. for Prelim. Injunction (Dkt. 61), *Epic Games, Inc. v. Apple Inc.*, No. 4:20-cv-05640, at *22 (N.D. Cal. Sept. 4, 2020). Those changes would increase barriers to entry and hinder developers' ability to use the output-enhancing freemium model. Alternatively, Apple could focus on developing its own proprietary apps, which would likely crowd out third-party apps. Trial.Tr.vol.16, 4160:20–4161:14; 1-ER-30.

At minimum, Apple might cut back on the many free services it provides to up-and-coming developers, many of which Epic itself has previously enjoyed. For example, after Epic signed the DPLA in 2010,

Apple prominently featured its games at Apple events and invited Epic to take the stage at an iPhone launch to promote its game, *Infinity Blade*, which Epic released on the iPhone because of its "amazing 3D capabilities." 2-ER-310. Apple invited Epic back for the subsequent iPhone event in 2011. Trial.Tr.938:21–25; 3-ER-512. In 2018, Apple collaborated with Epic on a large promotion for *Fortnite* and aggressively marketed the game outside the store. Trial.Tr.939:18–941:14; 1-SER-202. Apple also helped Epic operationalize cross-platform and cross-wallet play, which allows gamers to purchase in-app content from Epic through other platforms (where Apple does not receive a commission) and access that content while playing on the iPhone. 1-SER-218; 2-SER-532–33; 1-ER-16–17, 87, 135. All this promotional and engineering support, which Apple provided for free, Trial.Tr.940:9–11, helped Epic become one of the most recognized names in mobile gaming. Yet after having massively benefited from Apple's business model for over a decade, Epic now seeks to upend that model regardless of the collateral damage such changes would have on smaller developers that have not yet achieved Epic's level of success.

The inevitable result of shifting the costs of the platform onto smaller developers would be a *decrease* in the output of useful apps. The fact that Epic's proposed remedy would reduce output—while Apple's current pricing model has consistently increased output—is strong evidence that Epic's antitrust theory is meritless and that the district court rightly rejected it.

CONCLUSION

For the reasons set forth above, this Court should affirm the district court's judgment on Epic's antitrust claims.

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Respectfully Submitted,

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