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USA: Monopolization of mobile ecosystems –
The decision in *Epic v. Apple*

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ABSTRACT

Apps for smartphones and tablet devices are increasingly important sites of innovation and a basis for monetization for digital platforms. Apple is the sole distributor of apps on iOS and prevents iOS users from downloading apps from any source other than Apple’s own storefront. The App Store. Apple requires all in-app purchases to be made exclusively via Apple’s own proprietary in-app purchase (IAP) system and charges app developers a 30% commission. Apple also restricts developers from informing users of alternative (usually cheaper) purchasing possibilities outside of the app (“anti-steering provisions”). Epic, the creator of the popular online video game Fortnite, brought an antitrust case against Apple in the US district court (California) claiming that the exclusivity and anti-steering provisions amounted to maintenance of a monopoly, denial of an essential facility and unreasonable restraint of trade. This litigation raises broader antitrust questions regarding whether mobile ecosystems can be defined as separate markets and be subject to “monopolization” through the exercise of “intermediation power.” Like an aftermarket, this “lock in” on one side of the market can co-exist with a high degree of competition on the other side of the market.

Les applications pour smartphones et tablettes sont des sites internet source d’innovation de plus en plus importantes. Elles sont à la base de la monétisation des plateformes numériques. Apple est le seul distributeur d’applications sur iOS et empêche les utilisateurs d’iOS de télécharger des applications à partir d’une autre source que sa propre vitrine : l’App Store. Apple exige que tous les achats in-app soient effectués exclusivement via son propre système d’achat in-app (IAP) et facture aux développeurs d’applications une commission de 30%. Apple interdit également aux développeurs d’informer les utilisateurs des autres possibilités d’achat (généralement moins chères) en dehors de l’application (“dispositions anti-basculement”). Epic, le créateur du célèbre jeu vidéo en ligne Fortnite, a interdit une action antitrust contre Apple devant le tribunal de district des États-Unis (Californie), affirmant que les dispositions relatives à l’exclusivité et à l’orientation de l’application équivalaient au maintien d’un monopole, au refus d’une faculté essentielle et à une restriction déraisonnable du commerce. Ce litige soulève des questions antitrust plus larges concernant que si les écosystèmes mobiles peuvent être définis comme des marchés distincts et faire l’objet d’une “monopolisation” par l’exercice d’un “pouvoir d’intermédiation”. Comme pour un marché secondary, ce “verrouillage” d’un côté du marché peut coexister avec un degré élevé de concurrence de l’autre côté du marché.

I. Introduction

1. Apps for smartphones and tablet devices are increasingly important sites of innovation and a basis for monetization for digital platforms. These apps are becoming indispensable for consumers to access services, e-commerce, games and information. Apps are largely only accessible through a storefront on a particular operating system on a smartphone or tablet. Apple’s are available through its App Store, using iOS and iPadOS. Google’s are available through Google Play on Android. Apple is the sole distributor of apps on iOS and prevents iOS users from downloading any apps from any source other than the App Store. These apps are usually monetized through the “freemium model,” where the initial download is “free” but revenue comes from in-app purchases or payments for upgrades. Apple requires all in-app purchases to be made exclusively via Apple’s own proprietary in-app purchase (IAP) system and charges app developers a 30% commission. Apple also restricts developers from informing users of alternative (usually cheaper) purchasing possibilities outside of the app (“anti-steering provisions”).

2. The mobile gaming market is a USD 100 billion industry.1 Gaming apps are highly profitable and account for approximately 70% of all Apple’s App Store revenues, although generated by less than 10% of all App Store customers.2 Eighty-three percent of the apps on the App Store in 2019 were free.3 In the US, Epic, the creator of the popular online video game Fortnite, added its own direct payment processing option as an alternative for in-app purchases made by users of Fortnite on iOS devices and offered a 20% reduction on IAP prices. In response, Apple removed Fortnite from its App Store.4 Epic sought an injunction against Apple’s exclusive IAP system and charges app developers a 30% commission.

2 Ibid. In 2016, despite accounting for only approximately 33% of all app downloads, games accounted for 81% of all App Store billings that year. In 2017 gaming revenues overall accounted for 76% of Apple’s App Store revenues: Epic Games, Inc. v. Apple, Findings of Fact and Conclusions of Law, case No. 4:20-cv-05640-YGR-THS, filed 8 April 2021, 43 (“Epic Findings of Fact”).
3 According to Apple’s internal records and evidence at the US Epic trial, Epic Findings of Fact (n. 2), para. 32.
Apple in the US district court (California),\(^5\) claiming that the exclusivity and anti-steering provisions amounted to maintenance of a monopoly and denial of an essential facility in the iOS app distribution market and the market for in-app payment processing on iOS devices under section 2 of the Sherman Act and constituted unreasonable restraint of trade and tying under section 1 of the Sherman Act.\(^6\) It is argued that these high prices and restrictive conditions, which operate as “walled gardens,” mean that iOS developers are discouraged from innovating and are forced to increase prices to app users.

3. In the EU, the European Commission, in response to a complaint by the music streaming service Spotify, has issued a Statement of Objections to Apple for abuse of dominance under Article 102 of the Treaty on the Functioning of the European Union (TFEU) in the market for the distribution of music streaming apps through its App Store.\(^7\) The Commission has made a preliminary finding that Apple has a dominant position in the market for the distribution of music streaming apps through its App Store. The Commission claims that the fees and mandatory use of the IAP distort competition for the distribution of music streaming apps because music streaming apps compete with Apple’s music streaming app Apple Music.\(^8\)

4. The central antitrust issue in these cases is whether a narrow single-brand market (the Apple App Store), within a “digital ecosystem” intermediated by a digital platform, can be a relevant market for antitrust purposes and be subject to monopolization.\(^9\) There is an ongoing debate in global competition law jurisdictions about the adequacy of current competition laws to deal with the challenges of the abuse of power and data in the digital economy.\(^10\) While these debates have increasingly led to proposals setting out sector-specific regulation and the imposition of ex ante obligations on “gatekeepers,”\(^11\) this paper examines some aspects of the US Epic v. Apple litigation through the lens of traditional competition law analysis.

II. Digital platforms and intermediation power

5. Apps can be downloaded through iOS or Android devices or through other sources such as the app developer’s webpages.\(^12\) The iOS app distribution market operates as a two-sided transaction market comprising app users and app developers where there are strong indirect network effects. There is a positive feedback loop, where users prefer an app store where they can access a large number of apps and app developers wish to write for a platform that has a certain number of app users.\(^13\) The iOS app base is particularly desirable to app developers because there are more than one billion iPhone users (1.5 billion active iOS devices, including both iPhones and iPads) and these users are found to spend twice as much money on apps than Android users,\(^14\) making them an “unavoidable trading partner” for app developers.

6. Apple sets the conditions for access to the App Store and does not permit competition in the iOS app distribution market and the iOS in-app payment processing market. In performing this gatekeeper role, Apple exercises a form of intermediation power. Digital platforms, depending on the business model, perform intermediation roles and control an “ecosystem” of interdependent products or services on multisided

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6 Apple counter sued Epic for breach of its Developer Program License Agreement (DPLA) by enabling features outside of the App Store and its failure to pay the 30% fee to Apple.


8 Ibid.


12 There is also an increasing duopoly in the smartphone market of Android and iOS devices. The US Subcommittee on Antitrust found that “both Apple and Google have durable and persistent market power in the mobile operating system market; iOS and Android run on more than 99% of mobile devices in the U.S. and globally. There are high switching costs in the mobile operating system market and high barriers to entry.” Subcommittee on Antitrust Report (n. 10), 94, cf. 102–105. The US Department of Justice is also claiming that, in certain circumstances, the two companies have cooperated rather than competed. It has accused Google of entering into exclusive agreements with Apple to ensure that Google’s search engine appears as the default for Apple’s Safari browser on its devices, including mobile devices, paying Apple an estimated USD 8–12 billion in advertising revenue each year, amounting to approximately 15–20% of Apple’s worldwide net income: United States v. Google, case No. 1:20-cv-03010 (D.D.C.), filed 20 October 2020, para. 118, https://www.justice.gov/opa/press-release/file/1328941/download. After a 2018 meeting to discuss this arrangement, a senior Apple employee wrote to a Google counterpart: “Our vision is that we work as if we are one company” (ibid., para. 120).

13 Gerardin and Katsifis (n. 9), 510–511.

14 Epic Findings of Fact (n. 2), para. 64.
markets. Market power can arise through the control of narrow proprietary “walled gardens,” where there are direct and indirect network effects, high switching costs, little multi-homing, information asymmetries and a high degree of consumer loyalty or inertia. This can give rise to a form of “economic dependency,” which allows exploitation over an “installed base.” The EU Crémer Report explains: “It is a commonplace in the economics of two-sided platforms that there can be market power even in an apparently fragmented marketplace. ( . . . ) This kind of market power – which is linked to the well-known competition law concept of ‘unavoidable trading partner’ and has, with a view to platforms, sometimes been called intermediary power – is compatible with fierce competition on the ‘monopolistic side’.”

7. The ability to charge “excessive prices” and extract data in these circumstances was identified by the US Subcommittee on Antitrust: “While a firm in a competitive market would lose business if it charged excessive prices for its goods or services because the customer would switch to a competitor, dominant platforms have been able to charge excessive prices or racket up their prices without a significant loss of business. Similarly, certain dominant platforms have been able to extract an ever-increasing amount of data from their customers and users.”

8. The EU Digital Markets Act (DMA) draws on the term “online intermediation services” to denote the specific services that may be restricted by gatekeepers which place conditions on users, limiting inter-platform contestability.

9. These legislative solutions specifically acknowledge the complex market power issues that arise from the exercise of “intermediation power” within digital ecosystems, but this paper asks whether we need to resort to sector-specific legislation or whether intermediation power can be equivalent to monopoly power or dominance under traditional competition law. We commence this analysis by considering whether the App Store can be a relevant separate market.

III. The monopolization of an aftermarket

10. In the US district court, Epic drew on the analysis of the Supreme Court decision in Eastman Kodak,19 which found that a single-brand market, although rare, can be established as an aftermarket in antitrust law. Epic argued that two aftermarkets existed: an aftermarket for the distribution market of iOS apps and an aftermarket for payment processing for iOS apps.20 The foremarket or primary market was argued to be a market for operating systems for smartphones.21 While there is intense competition in the primary market for mobile devices where Apple competes with non-iOS devices, Epic argued that this can co-exist with “lock-in” and exploitation in an aftermarket. It was argued that the iOS app distribution market operates as an aftermarket “where high prices and other abusive terms are not self-correcting”22 and an “installed base” of consumers can be subject to exploitation.

11. Aftermarket cases concern the sale of original equipment such as a car or a computer in a primary, usually competitive market, together with the sale of complementary goods or services such as software, spare parts or repair services in an interdependent aftermarket. The aftermarket may be narrowly defined and contain proprietary spare parts that are not substitutable with generic parts. The question arises whether a firm can monopolize an aftermarket by raising the price for spare parts, refusing to supply, or tying the sale of spare parts to repair services.

12. A majority of the US Supreme Court in Eastman Kodak held that Kodak, which sold photocopiers and micrographic equipment in the primary market, could monopolize the aftermarket for repair parts and service. Kodak, facing competition from independent service operators (ISOs), had changed its practice of selling repair parts to ISOs. Unable to obtain parts, ISOs were forced out of the market. Kodak argued that it could not monopolize the aftermarket because consumers engage in “lifecycle pricing” and take account of the aftermarket prices at the point of purchase of the original equipment. Any attempt to raise price in the aftermarket would be

15 Crémer Report (n. 10), 49 (references omitted).
16 Subcommittee on Antitrust Report (n. 10), 390.
17 DMA proposal (2020) (n. 11), para. 26. The DMA draws on the definition of “online intermediation services” from Regulation (EU) 2019/1150 (Platform to Business—P2B Regulation). It includes services that “allow business users to offer goods or services to consumers, with a view to facilitating the initiation of direct transactions between those business users and consumers, irrespective of where those transactions are ultimately concluded” (Article 2(2)(b)). It applies where the providers of online intermediation services unilaterally determine pre-formulated terms and conditions.
20 Epic v. Apple (n. 1), 44.
21 Ibid.
22 Geradin and Katsifis (n. 9), 533.
restrained by reputational effects, fall in demand and loss of profits in the original equipment market. A majority of the Supreme Court found that a separate market could exist for the parts or service of a single brand of original equipment.23 Lifecycle pricing was considered difficult and costly, and its accuracy varied with each consumer. The court found that competition in the original equipment market could co-exist with market power in aftermarkets where higher aftermarket prices could more than compensate for lost equipment sales. The court found 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.”24 The Eastman Kodak decision demonstrates that section 2 of the Sherman Act may be used to restrain the charging of higher prices in aftermarkets. Subsequent US federal circuit courts have limited the application of Eastman Kodak in the US to circumstances where the aftermarket policy has been changed post-purchase of the original equipment.25

13. Epic argued that the App Store distribution market constituted an aftermarket that was subject to exploitation by Apple. Any attempt to increase the price to app developers and for in-app purchasers would not be constrained by competition in the market for smartphones because consumers do not generally engage in “lifecycle pricing” when they purchase a smartphone.26 This is because it is difficult to calculate and compare the lifecycle costs of smartphones. There is often a complicated cost structure that includes the comparison of features, contract length, the mobile service operator and the device cost, and these are subject to information asymmetries regarding the price of app distribution.27 The cost of distributing apps is low compared to the overall cost of the phone, so even if consumers had better information, it would not likely be a major factor in their choice of mobile phone.28 They are unaware at the time of purchase how much they are likely to spend over the lifecycle of the device. New apps can be developed that were not available at the time of purchase of the device, making cost calculations difficult.29

14. Once purchased, iOS device users also face substantial costs when switching to alternate mobile phones with a different operating system such as Android. These costs include data portability, learning costs and loss of compatibility of devices within the Apple “ecosystem.” Users of Apple’s devices are also very loyal to the brand, with a retention rate of 92%, and they do not switch easily.30

15. Primary equipment sellers can also benefit from feedback, sales and repair information in the aftermarket “as ‘counting devices’ to measure the intensity of customer equipment usage.”31 In the same way, “the app store’s review service remains an important source of value-added for app upgrades in aftermarkets.”32 But unlike the relationship in Eastman Kodak, this value flows more to the Apple App Store as gatekeeper than to the app developer.33 Epic’s lack of direct connection to consumers impacts its ability to obtain real-time feedback on customers’ spending behaviour. Apple’s direct relationship with consumers, however, could impact on consumer privacy where “[l]ittle societal value exists in allowing plaintiff to capitalize on more customer data to exploit customer habits.”34 As Geradin and Katsifis point out, “Apple has detailed information on which apps are successful, and even how much time and money users spend in them. These are commercially sensitive data, which app developers would normally never hand over to their rivals.”35 Apple argues that its control of the whole transaction permits a more efficient collection of the fee and better detection of fraud.36 To the extent, however, that these provisions also permit Apple to take control of the billing relationship with the consumer, they allow unprecedented access to customer data and their purchasing profile.37 The mandatory use of the IAP “disintermediates app developers from their users, deprives them of the data they could use to improve their products and services, but it also deprives app developers from the innovation and tailor-made solutions that could be brought by providers of other in-app payment solutions.”38

16. Apple had argued for a broad market of all digital game transactions (including console gaming on Xbox, PlayStation and cloud-based streaming) because users tend to multi-home and, in this case, play Fortnite on more than one device. The presence of multi-homing and the rise of cross-platform gaming services such as cloud-based streaming services place competitive pressures on platforms providing gaming app transactions and potentially lowers barriers to entry.39 As they are not tied to a single device, gaming through web browsers and on

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23 Eastman Kodak (n. 19), 481–482.
24 Ibid., 476.
25 PSI Repair Services v. Honeywell, 104 F.3d 811 (6th Cir. 1997); Newcal Industries, Inc. v. IKON Office Solution, 513 F.3d 1038 (9th Cir. 2008).
26 Epic Findings of Fact (n. 2), paras. 88, 173.
27 Epic v. Apple (n. 1), 45.
28 Epic Findings of Fact (n. 2), para. 173.
29 Statement of Objections (n. 7).
30 Eastman Kodak (n. 19), 499 (Scalia, J., dissenting).
32 As Cabral et al. point out, the App Store case also differs from the traditional Kodak-type tying case where the producer, not the intermediary, benefits from tied sales: “By contrast, in the app store case the distributor forces the consumer to return to the same store for aftermarket services, not only to the same app producer” (ibid., 18).
33 Epic v. Apple (n. 1), 41.
34 Geradin and Katsifis (n. 9), 560–561.
35 Epic v. Apple (n. 1), 166, 118.
36 Geradin and Katsifis (n. 9), 531.
38 Epic v. Apple (n. 1), 64, 94.
multi-platforms can operate as a form of middleware and threaten the monetization of gaming app transactions. This may explain Apple’s refusal to remove the App Store’s restrictive conditions.

17. The US district court rejected Apple’s broad market definition, however, and found a “market for digital mobile gaming transactions” where Apple had 52–57% market share. The court found that the App Store was a two-sided transaction market. The court rejected the aftermarket theory. It considered the idea of a primary or foremarket for Apple’s iOS operating systems artificial because there cannot be “a market for something (...) not licensed or sold to anyone.” Competition exists for smartphones, which are more than just an operating system. The court rejected Epic’s argument that there was an iOS in-app payment processing aftermarket. It could not find that the IAP, as a collection of software programs, was a separate and distinct product for the purpose of market definition because it was not something that is bought or sold.

18. The court was also critical of the evidence presented by Epic to support switching and information costs. Epic failed to prove that users were subject to high switching costs and were therefore locked in. No original consumer surveys were presented to demonstrate that consumers were unaware of the restrictive conditions before purchasing the smartphone, and the 30% rate had not changed post-purchase. The App Store has always been a closed system, a “walled garden.” The information costs and post-purchase change in policy criteria are, however, not easy to apply in complex markets. In Eastman Kodak, there was a clear linear relationship between the purchase of the original equipment, a photocopier, and the acquisition of unique repair parts and service in the aftermarket. These aftermarket products and services could be identified at the time of purchase of the original equipment, even if the information on price was deficient. The purchase of an iPhone, however, provides access to an ecosystem that allows choice from a myriad of possible apps in the aftermarket. These aftermarket products and service markets, “because of perfect identity between the consumers in each of the subject aftermarkets (those who need replacement parts for Kodak equipment and those who need servicing of Kodak equipment).” But does this hold true when we move away from the simple model in Eastman Kodak, where the App Store has over 2 million apps and consumers are customers of both Apple and the app developer?

IV. The antitrust claims in Epic v. Apple: The 30% fee as exploitation of market power

20. Epic’s claims under section 1 of the Sherman Act that the restrictive terms in the developer agreement amounted to an unreasonable restraint of trade and tying in the iOS distribution market were ultimately rejected. No concerted agreement was established, and on the application of the rule of reason, the US district court rejected the idea of a primary or foremarket for Apple’s iOS operating systems artificial because there cannot be “a market for something (...) not licensed or sold to anyone.” Competition exists for smartphones, which are more than just an operating system. The court rejected Epic’s argument that there was an iOS in-app payment processing aftermarket. It could not find that the IAP, as a collection of software programs, was a separate and distinct product for the purpose of market definition because it was not something that is bought or sold.

39 Ibid., 137.
41 Ibid., 45. The US district court recognized that a single brand could constitute a separate market although considered rate: ibid., 127.
42 Ibid., 45.
43 Ibid., 65–67.
44 Ibid., 48–50.
46 Ibid., 130.
47 There are currently more than 2 million apps available on the App Store: ibid., 36.
48 Ibid., 117.
49 Ibid., 128.
51 Ibid., 51.
52 Ibid., 48.
53 Ibid., 47, noting the important role played by iMessage.
54 Ibid., 48.
55 Eastman Kodak (n. 19), 497 (Scalia, J., dissenting).
56 Ibid., 498.
57 Epic v. Apple (n. 1), 142. An agreement was not established because the requirement that developers distribute their apps through the App Store was found to be unilateral conduct.
court largely accepted Apple’s justifications on security, privacy and intellectual property grounds.58 It also found that the procompetitive justifications could not be achieved by less restrictive alternatives.59 The IAP was also not considered a separate product market for the purposes of a claim for tying.60 Claims under section 2 of the Sherman Act for maintenance of a monopoly and denial of an essential facility in the iOS app distribution market also failed because a 52–57% market share in the mobile gaming market was considered insufficient to sustain a monopoly and the conduct was not found to be anticompetitive under the rule of reason.61

21. The district court did find, however, that the 30% commission rate stemmed from market power62 and that Apple’s app distribution restrictions harmed competition by “precluding developers, especially larger ones, from opening competing game stores on iOS and compete for other developers and users on price.”63 Were these anticompetitive effects sufficiently justified and balanced (under the rule of reason) by the security, privacy and intellectual property concerns presented by Apple?

22. Could the 30% fee have amounted to monopolization? A claim for “excessive pricing” is not actionable in the US, because, as the Supreme Court stated in Trinko, “[t]he mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices—at least for a short period—is what attracts ‘business acumen’ in the first place; it induces risk taking that produces innovation and economic growth.”64

23. The 30% fee may be passed on and result in higher prices to consumers.65 The US Subcommittee on Antitrust noted: “Apple’s monopoly power over app distribution on iPhones permits the App Store to generate supra-normal profits. These profits are derived by extracting rents from developers, who either pass on price increases to consumers or reduce investments in innovative new services. Apple’s ban on rival app stores and alternative payment processing locks out competition, boosting Apple’s profits from a captured ecosystem of developers and consumers.”66

24. The absence of contestability means that these prices are not for a “short period” and may not attract “business acumen,” as envisaged by Trinko. Lock-in may mean that “consumers have no credible alternatives to the products of the dominant firm.”67 The court stated that due to the absence of competition, “it is impossible to say that Apple’s 30% commission reflects the fair market value of its services.”68 The court found that the 30% fee has apparently allowed Apple “to reap supracompetitive operating margins”69 and it “already reflects monopoly levels.”70 The maintenance of its commission rate “stems from market power (…) the operating margins have exceeded 75% for years.”71 Apple’s net revenue from the App Store was projected to be USD 17.4 billion for fiscal year 2020–21.72 Apple receives in excess of USD 100 million in commissions from Epic and Fortnite.73 Apple’s running costs for the entire App Store are estimated at less than USD 100 million.74

25. The 30% commission rate is similar to the commission rates charged by other app and digital game marketplaces.75 This is difficult to justify, however, when only 16% of all apps pay in-app purchases.76 The cost of alternative electronic payment processing tools is considerably less than that charged by Apple.77 Evidence was given in the US Epic case that if Apple allowed third-party app stores it would only charge 15.6% commission.78

26. Large app developers can also exercise countervailing power in the distribution market.79 Apple claimed that developers have many options for distribution and monetization and that prior to Fortnite’s removal from the App Store, Epic had negotiated a greater level of

58 Ibid., 143, 149.
59 Ibid., 147–149.
60 Ibid., 155.
61 Ibid., 152, 159.
62 Ibid., 144.
63 Ibid.
66 Subcommittee on Antitrust Report (n. 10), 339–351; cf. 345.
68 Epic v. Apple (n. 1), 98.
69 Ibid., 92.
70 Ibid.
71 Ibid., 144.
72 Subcommittee on Antitrust Report (n. 10). 344.
74 According to P. Shoemaker, Apple’s former Executive, Subcommittee on Antitrust Report (n. 10), 345. Many of the costs are common to a range of services offered by the mobile ecosystem, which can make it difficult to allocate costs and determine a benchmark: Australian Competition & Consumer Commission, Digital platform services inquiry: Interim report No. 2 – App marketplaces, 28 April 2021, 72 (“ACCC”).
75 Epic Games pay 30% commission across most platforms: Epic v. Apple (n. 1), 13; cf. ACCC (n. 74), 72–73.
77 The average cost for processing outside of iOS was 4.3%: Epic Findings of Fact (n. 2), para. 454.
78 Epic v. Apple (n. 1), 97.
support from Apple. The fee was also reduced for smaller developers. Apple introduced a change from 1 January 2021 to allow any developer who earns less than USD 1 million in annual sales per year from all of their apps to qualify for a reduced App Store commission of 15% on all paid app revenue and in-app purchases. These developers accounted for less than 5% of the revenue Apple collected from apps. The court in Epic concluded that "competition does not appear to have played a role" in the lowering of the commission and "[o]nly rarely has Apple reduced its commission in response to competitive pressure." 84

27. In evidence at the Epic trial, Apple’s CEO Tim Cook stated “[i]t has nothing to do with money.” Apple argues that the 30% is not a processing fee but reflects the value of the App Store to the developer. This includes access to a huge network, Apple’s technology and development tools, marketing efforts and customer service. The marketplace provides privacy, security, and a seamless transaction. Apple claims it requires the "walled garden" to protect their intellectual property and prevent free riding on its success and innovation. It is always difficult, however, to place a value on intangible benefits. The US district court in Epic was critical of Apple’s lack of transparency about the value of its intellectual property. The intellectual property was not correlated to its commission and "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." 89

V. The treatment of the anti-steering rules as unfair competition

28. While the claims under section 1 and section 2 of the Sherman Act ultimately failed in the Epic case, Judge Gonzalez Rogers in the district court found the anti-steering provisions to be anticompetitive under California’s Unfair Competition Law, which prohibits business practices that constitute “unfair competition” and imposed an equitable remedy restraining the practice. The Unfair Competition Law allows the treatment of “incipient” violations of antitrust laws and violations of the policy or spirit of the Sherman Act. “[A] practice may be deemed unfair even if not specially proscribed by some other law” and even if not violating an antitrust statute. These provisions permitted the court the flexibility to tackle new or novel claims that, as we have seen, were not in breach of the Sherman Act. The statute’s broad language permits the application of broad discretion and equitable remedies “to deal with the innumerable new schemes which the fertility of [one’s] invention would contrive.”

29. The evidence “showed anticompetitive effects and excessive operating margins under any normative measure.” The district court found that the lack of information and transparency about policies to allow consumers to find cheaper prices and better quality elsewhere prevented an informed choice among users of the iOS platform. Pricing information and price advertising were a form of “commercial speech” which was vital to the efficient operation of the market.

30. In justifying their anti-steering provisions, Apple relied on the Supreme Court decision in Ohio v. American Express. To avoid the higher fees demanded by American Express (“Amex”) on transactions, merchants attempt to dissuade cardholders from using Amex cards at the point of sale by steering them to lower-fee credit cards such as Visa or Mastercard. To counter this practice, Amex required merchants to sign contracts that contained anti-steering provisions. A majority of the Supreme Court found that these provisions did not infringe section 1 of the Sherman Act.

31. The Supreme Court found that the Amex credit card platform performs intermediation services to two different groups: cardholders and merchants. The platform
exhibits indirect network effects where the value to one group increases with the number of participants in the other group. This may require one side to be charged much more than the other as “platforms must design it so as to bring both sides on board.”

It was found to be a two-sided transaction market, where transactions are jointly consumed by merchants and cardholders. For the agreement to have anticompetitive effects under section 1 of the Sherman Act, it was not enough to show increased prices on one side of the market; both sides had to be considered as a single market. The majority found that output had expanded and quality improved and that “Amex’s increased merchant fees reflect increases in the value of its services and the cost of its transactions, not an ability to charge above a competitive price.”

The anti-steering mechanism was procompetitive as it promoted interbrand competition among competing credit cards. Amex cardholders tended to be wealthier and spend more money and steering prevented free riding which “undermines the investments that Amex has made to encourage increased cardholder spending, which discourages investments in rewards and ultimately harms both cardholders and merchants.”

The anti-steering provisions stem “negative externalities in the credit-card market and promote interbrand competition.”

32. But as the dissenting judgment in American Express pointed out, the majority’s finding of a two-sided transaction platform should not necessarily mean that it should always be treated as part of a single market for all antitrust purposes. Merchants are reluctant to refuse Amex cards altogether because these wealthier customers are attractive to store owners, making Amex an “unavoidable trading partner.” Like the interchange fees imposed by credit card systems, if unconstrained by competition between credit card platforms, merchants can be subject to exploitation. Contrary to the finding of the majority of the Supreme Court, the higher merchant fees are likely to result in overall higher retail prices for all consumers, as merchants try to recover costs. The district court at trial had found that Amex had raised the prices it charged merchants on twenty separate occasions during five years but did not lose market share.

33. The dissenting judgment also rejected the treatment of the non-discrimination provisions as a form of vertical restraint that promoted interbrand competition as they “seek to control the terms on which merchants accept other brands’ cards, not merely American Express’ own.” American Express should not “demand contractual protection from price competition.” Investment in reward and other programmes “are not subject to free-riding, since the network does not incur any cost if the cardholder is successfully steered away from using his or her American Express card.”

To the contrary it may be argued that Amex is free riding on the lower fees charged by competing cards because Amex customers do not fully compensate merchants for the higher merchant fees imposed by Amex cards.

34. In Epic, the anti-steering measures imposed by Apple similarly restrict price competition. The Californian court distinguished the judgment in American Express because Apple’s anti-steering provisions obscured information on a digital platform, as opposed to brick-and-mortar stores. “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.”

35. Transparency and the open flow of information were particularly important in technology markets as “information costs may create ‘lock-in’ for platforms as users lack information about the lifetime costs of an ecosystem” and create the potential for anticompetitive exploitation of consumers.

Apple also used marketing activities such as “push notifications” and “email outreach” to keep users coming back. As Cabral et al. put it, “incomplete information impedes rational consumer decisions and may result in market failure. Apps are

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99 Ibid., 2288.
100 Ibid., 2289.
101 Ibid. A negative externality was thought to arise because if a merchant persuades a shopper not to use Amex in one store, the shopper is less likely to use it at another merchant’s store: ibid., 2303.
102 Ibid., 2300. The dissenting judgment was delivered by Bryer, J., in which Ginsburg, Sotomayor and Kagan, JJ., joined.
103 In “open” credit card platforms such as Visa and Mastercard, an “interchange fee” is charged between issuing and acquiring banks on settlement of card transactions. Interchange fees are distinguished from the “merchant fees,” which are charged to merchants by the acquiring bank but have the effect of inflating the base of the merchant fees. In Mastercard, the European Court of Justice found these interchange fees to be in breach of Article 101(1) TFEU as decisions by an association of undertakings that have as their object or effect the restriction of price competition between acquiring banks to the detriment of merchants and their customers: C-382/12 P, ECLI:EU:C:2014:2201. Agreements for interchange fees may otherwise avoid a claim under Article 101 TFEU if they are found to be indispensable to the creation and administration of the credit card platform, which has consumer benefits. To constrain the potential for the exploitation, a regulatory cap is often imposed on the interchange fees charged by credit card networks: Regulation (EU) 2015/751 (n. 97).
104 United States v. American Express Co., 88 F. Supp. 3d 143, 195–197 (E.D.N.Y. 2015). The judgment at trial in the district court found that the anti-steering provisions were in breach of section 1 of the Sherman Act.
105 Ohio v. American Express (n. 40), 2303.
106 Ibid., 2304.
108 Epic v. Apple (n. 1), 165.
109 Ibid.
110 Ibid., 164.
111 Ibid., citing Eastman Kodak (n. 19), 473–475.
112 Ibid., 163.
experience goods, aftermarket needs are not known at the time of initial purchase and only emerge over time. (.,.) online aftermarket sales are subject to behavioural biases in in-app advertising and to lock-in effects in apps that exhibit social network effects.\textsuperscript{113}

36. The anti-steering provisions threatened “an incipient violation of an antitrust law” by preventing informed choice among users of the iOS platform.\textsuperscript{114}

VI. Divergence in the antitrust treatment in the US and EU

37. Does the dismissal of the antitrust complaints in Epic raise broader concerns about the application of current US antitrust law to digital platforms? Digital platforms perform intermediation roles and are gatekeepers to an “ecosystem” of interdependent products or services on multisided markets. The interpretation of US antitrust provisions may be too narrowly construed to capture the accumulation and abuse of digital platform power. The current interpretation may too readily defer to largely unsubstantiated claims of the contestability, innovative and dynamic nature of these markets and the need to prevent free riding. The court stated, citing Qualcomm, 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.’”\textsuperscript{116} The court went on to note that “[t]he jurisprudence assumes that unilateral conduct may simply be the result of robust competition.”\textsuperscript{117}

38. A different approach has been taken by the EU courts under Article 102 TFEU. In the Google Shopping appeal, Google had argued that penalties were not appropriate when a novel “theory of harm” was identified. The General Court dismissed this approach: “The fact that the precise type of conduct in which Google engaged has not, prior to the contested decision, been examined in a decision applying EU competition rules (...) does not mean that the finding of an infringement by Google, or a penalty, was unforeseeable.”\textsuperscript{118}

39. The equating of the analysis of conduct under section 1 and section 2 of the Sherman Act also arguably diminishes the scrutiny of unilateral conduct by digital networks: “[t]he similarity of the burden-shifting tests under §§ 1 and 2 means that courts often review claims under each section simultaneously.”\textsuperscript{119} The requirement for significant market power under section 2 means that “proving an antitrust violation under § 2 of the Sherman Act is more exacting than proving a § 1 violation.”\textsuperscript{120} But it is always appropriate to apply the rule of reason to section 2 conduct? The rule of reason was principally developed to deal with the pro-competitive aspects of vertical restraints where they may resolve the issue of incomplete contracts, induce the provision of services and avoid free riding. The court in Epic treated the app distribution restrictions as justifiable to achieve interbrand competition.\textsuperscript{121} In American Express, exaggerated claims of possible free riding were used to justify the anti-steering provisions. Is this balancing an appropriate way to deal with the capacity for unilateral abuse arising from the exercise of monopoly power and/or intermediation power of digital networks? As Chief Justice Learned Hand put it in United States v. Alcanium, “size carries with it an opportunity for abuse that is not to be ignored when the opportunity is proved to have been utilized in the past.”\textsuperscript{122} But the idea that a monopolist should have to exercise any special restraint or be held to a higher standard of behaviour than that of other competitors was rejected by Judge Posner in Olympia Equipment: “Forty years ago it was thought that even a firm with a lawful monopoly (...) could not be allowed to defend its monopoly against would-be competitors by tactics otherwise legitimate; it had to exercise special restraint (...). Later, as the emphasis of antitrust policy shifted from the protection of competition as a process of rivalry to the protection of the competition as a means of promoting economic efficiency, it became recognized that the lawful monopolist should be free to compete like everyone else; otherwise the antitrust laws would be holding an umbrella over inefficient competitors. ‘A monopolist, no less than any other competitor, is permitted and indeed encouraged to compete aggressively on the merits...’”\textsuperscript{123}

40. This differs from the approach under Article 102 TFEU where an undertaking in a dominant position has a special responsibility not to allow its conduct to impair genuine undistorted competition in the internal market.\textsuperscript{124} A practice that would be unbearable in

\textsuperscript{113} Cabral (n. 31), 18.

\textsuperscript{114} Epic v. Apple (n. 1), 164, citing Col-Tech (n. 92), 187.


\textsuperscript{116} Epic v. Apple (n. 1), 144, citing FTC v. Qualcomm Inc., 909 F.3d 974, 990–991 (9th Cir. 2020) ("Qualcomm") (emphasis in original) (quoting United States v. Microsoft Corp., 253 F.3d 34, 91 (D.C. Cir. 2001)).

\textsuperscript{117} Ibid., 142.

\textsuperscript{118} GCEU, 10 November 2021, Google and Alphabet v. Commission (Google Shopping), case T-612/17, ECLI:EU:T:2021:763, para. 618.

\textsuperscript{119} Qualcomm (n. 116), 991.

\textsuperscript{120} Ibid., 992, citing United States v. Microsoft Corp., 253 F.3d, at 79.

\textsuperscript{121} Ibid., 992, citing United States v. Microsoft Corp., 253 F.3d, at 79.


\textsuperscript{123} Epic v. Apple (n. 1), 145.

\textsuperscript{124} Ibid., 992, citing United States v. Microsoft Corp., 253 F.3d, at 79.

\textsuperscript{125} Ibid., 992, citing United States v. Microsoft Corp., 253 F.3d, at 79.
normal circumstances may constitute abuse if engaged in by a dominant undertaking. Dominance can also be found under Article 102 for a market share of 50% or more, whereas it must generally be no less than 65% for a prima facie finding of monopoly power under section 2 of the Sherman Act. The court in Epic found that Apple’s market share in mobile gaming transactions of between 52% to 57% was insufficient to make a prima facie finding of monopoly.

41. The EU Commission and courts have also been more willing to accept that aftermarkets can be subject to abuse of dominance. These decisions recognize that exploitation through the imposition of restrictive conditions and high prices in narrow/proprietary aftermarkets can be abusive. The Commission in Pelikan/Kyocera found that dominance and lock-in are only unlikely to occur if a customer “(i) can make an informed choice including lifecycle-pricing (…) (ii) is likely to make such choice accordingly, and that, in case of an apparent policy of exploitation being pursued in one specific aftermarket, a (iii) sufficient number of customers would adapt their purchasing behaviour at the level of the primary market (iv) within a reasonable time.”

42. In Interactive Advertising Bureau France e.a., the French Competition Authority (Autorité de la concurrence) in 2021 considered whether the implementation by Apple of a pop-up window within its iOS operating system, to obtain user permission for the tracking of user activity as part of targeted advertising, was in breach of Article 102 TFEU. In rejecting an order for interim measures, the Autorité found that the Apple App Store could constitute a separate product market from that of app stores operating under the Android operating system. It applied the four criteria in Pelikan/Kyocera to reject Apple’s argument that competition in the primary market for smartphones was sufficient to prevent dominance of an aftermarket. It was possible for lock-in and exploitation to occur in the aftermarket for apps. The Autorité found that a consumer’s choice of a mobile device is primarily influenced by price and the expenditure on the purchase of apps is not a determining factor. It was unlikely that users of iOS would switch to an alternate offering on the primary market because of the importance of interoperability within the Apple ecosystem user experience. They were also unlikely to switch in response to a degradation in the quality of apps in the App Store “since such a change would imply, for some iOS users, the loss of their investment in Apple’s ecosystem. High costs in the event of a change of environment is therefore a strong barrier to switching.”

43. The EU Commission has also been willing to determine narrow digital markets. In Google (Android), non-licensable smart mobile operating systems such as iOS were found not to belong to the same product market as licensable smart mobile operating systems such as Google’s Android. The Commission, in its Statement of Objections in the App Store case, also seems to acknowledge Apple’s gatekeeper and “walled garden” role and stating that “Apple’s devices and software form a ‘closed ecosystem’ in which Apple controls every aspect of the user experience for iPhones and iPads.”

44. The imposition of the 30% fee could also amount to an unfair purchase or selling price as an abuse of dominance under Article 102 TFEU. In the foundational case of United Brands, the European Court of Justice set out a two-limb test for “excessive pricing.” The first limb asks if the price is “excessive” and will examine this on the basis that it “has no reasonable relation to the economic value of the product supplied.” The Court stated that whether the price is “excessive” can be determined “objectively” by “making a comparison between the selling price of the product in question and its cost of production.” If the answer to the first limb is in the affirmative, the second limb of the test asks “whether a price has been imposed which is either unfair in itself or when compared to competing products.”

127 Epic v Apple (n. 1), 135, “[T]he Supreme Court has never found a party with less than 75% market share to have monopoly power,” citing Kolon Indus., Inc. v. E.I. DuPont de Nemours & Co., 748 F.3d 160, 174 (4th Cir. 2014): Epic v. Apple.
128 The court acknowledged that network effects, brand preferences and information barriers to entry could amount to indirect evidence of market power: ibid., 138.
129 The approach in Eastman Kodak has been accepted in a number of decisions under Article 102 TFEU: CJCE, 12 December 1991, Hilti AG v Commission, case T-309/89, ECR 1149; Comm. EC decisions: 22 September 1995, Pelikan/Kyocera, case No. IV-V-34.330, press release IP/97/368 of 10 October 1997. The European Commission accepts an undertaking from Digital concerning information barriers to entry could amount to indirect evidence of market share: T-30/89, ECR 2071 ("United Brands").
130 Pelikan/Kyocera (n. 129), para. 61 (emphasis in original).
131 Fr. NCA, dec. No. 20-2-D-07 of 17 March 2021 regarding a request for interim measures submitted by the associations Interactive Advertising Bureau France, Mobile Marketing Association France, Union des Entreprises de Conseil et Achat Media, and Syndicat des Régies Internet in the sector of advertising on mobile apps on iOS ("Interactive Advertising Bureau France e.a.").
132 Ibid., para. 109.
45. While it is too early to predict how the issues of restrictive agreements and abuse of dominance will be determined by the Commission in the EU proceedings against Apple in the different market context of music streaming, we can already observe some divergences in the treatment of these issues by the US and EU jurisdictions, which may ultimately lead to a different outcome in the EU.

VII. Conclusion

46. Digital platforms often perform intermediation and gatekeeper roles within an “ecosystem” of interdependent products or services in multisided markets. Market power as “intermediation power” can arise from the control of narrow proprietary “walled gardens,” which permits the exploitation of an “installed base.” The issues arising from the Apple App Store litigation exemplify how firms with intermediation power can impose restrictive conditions and excessive prices in circumstances where the consumer has little possibility of switching.

47. Several jurisdictions are considering sector-specific legislation to deal with this conduct. In the US, a bipartisan Open App Markets Act Bill was introduced to the US Congress in August 2021. It specifically targets app stores to prevent self-preferencing and mandating use of their own IAP systems. It will only apply to companies with more than 50 million US users and so specifically targets Google and Apple. In the EU, the DMA is much broader in scope. It will deal with anti-steering by imposing duties on gatekeepers to require the offering of alternate payment system to consumers. Another regulatory solution could be a cap on fees similar to the regulation of credit card interchange fees.

48. Notwithstanding these regulatory solutions, this paper has explored some of these issues within the context of traditional competition law, including its treatment of aftermarkets. Competition law recognizes that a narrow aftermarket can be exploited through the imposition of restrictive conditions and excessive prices and this framework can assist in understanding the competitive constraints in digital markets. While the US Epic decision rejected the aftermarket theory, it also reaffirmed the importance of the admission of cogent evidence to support claims of high switching costs and information deficiencies which may prevent lifecycle pricing. The dismissal of these antitrust complaints in the Epic case also highlights apparent gaps in the current interpretation of US antitrust law as it applies to the accumulation and abuse of digital platform power. This interpretation may too readily dismiss novel theories of harm in preference to largely unscrutinized claims of the contestability of these markets. In contrast, a number of EU decisions have found that narrow single-brand markets can be exploited as aftermarkets. While the European Commission’s case against Apple is still at the Statement of Objections stage, it is argued that a successful case may be made for “excessive pricing” and other possible abuses under Article 102 TFEU.

49. In proposing antitrust solutions, it is also important to recognize that if Apple is forced to reduce its fee or allow alternate payment systems, it would no doubt expect to recoup investments elsewhere within the ecosystem, including higher prices for all app developers and mobile devices. It is also a valid defence to wish to preserve the consumer benefits that flow from a secure and proprietary “walled garden” and interoperable system. But these claims must be subjected to greater scrutiny than the evidence presented in Epic, where the district court was critical of Apple’s lack of transparency about the value of its intellectual property. At the same time, the EU Microsoft case expressed dissatisfaction with conduct where consumers’ choices were diminished by “locking them into a homogeneous Microsoft solution.”

50. There is a final aspect to this discussion which raises important issues for the competition regulation of digital platforms. The US court in Epic finding that the “anti-steering provisions” were in breach of California’s Unfair Competition Law highlights the importance to consumer choice of the flow of accurate and transparent information in digital markets. Intermediation power creates opportunities and incentives for the dissemination of obscure and opaque information. Gaming apps remain a huge source of revenue for Apple, and the threat of competition from middleware through cloud computing and web-based browsers could undermine this important source of monetization. This provides an explanation for Apple’s use of “push notifications” and emails to manipulate consumer attention and its imposition of the “anti-steering provisions” and other restrictive conditions. The European Commission and courts have already demonstrated that they have been willing to incorporate considerations of consumer behaviour such as the role of consumer inertia and “status quo bias” within their discussion of switching costs in the assessment of market power in the Google litigation.

51. There is an ongoing debate in global competition law about the adequacy of current competition laws to deal with the challenges of the abuse of power and data in the digital economy. The US district court bypassed the application of the Sherman Act to use the broad language of California’s Unfair Competition Law to apply an equitable remedy to “innumerable new schemes.” The EU Apple litigation may provide another opportunity to demonstrate the flexibility of EU competition law to regulate novel abuses and complex business models.

142 The Senate Judiciary Committee voted to advance the legislation on 3 February 2022.

143 Article 5(c) of the DMA places a duty on “gatekeepers” to allow the installation of and access to third-party software applications.

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