

## Aftermarkets and Ecosystems: The FTC’s Right to Repair Policy and its Implications for Other Markets Featuring Competitor Interdependence

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Nearly thirty years have passed since the United States Supreme Court addressed the application of antitrust law to repair markets in *Kodak v. Image Technical Services*.<sup>2</sup> The *Kodak* case is most frequently discussed for its holdings on market definition, in particular whether an antitrust market can be limited to a single brand of product or service.<sup>3</sup> What is less frequently discussed, but more pertinent today in light of the Federal Trade Commission’s (FTC’s) 2021 announcement that it will “ramp up law enforcement against illegal repair restrictions”<sup>4</sup> is the Court’s analysis of the conduct at issue in *Kodak*, which featured allegations that Kodak excluded independent competitors in repair and service markets for Kodak’s copy machines by:

- refusing to sell repair parts to customers unless they used Kodak for maintenance and repair service;
- entering into exclusive dealing contracts, or otherwise requiring third party manufacturers of repair parts to sell their parts only to Kodak;
- restricting independent repair parts resellers from selling repair parts to independent service organizations (i.e., they could sell directly to customers, but not to independent competitors); and
- restricting availability of used machines.<sup>5</sup>

Kodak asserted business justifications for the restrictions, including (a) promoting competition in the primary market for copy machines by ensuring quality of repairs; and (b) preventing free riding on Kodak’s investments by the independent companies. In denying Kodak’s motion for summary judgment, the Court cast doubt on these justifications. While finding the quality rationale to be cognizable, the Court noted that it was undermined on the record by Kodak’s practice of allowing self-repairs by customers.<sup>6</sup> The Court likewise appeared to hold that preventing free-riding could be a cognizable justification, but rejected Kodak’s particular

framing, which essentially boiled down to an argument that competitors that participate only in the aftermarket are free-riding on Kodak’s investments in the primary market.<sup>7</sup>

The disputes in *Kodak* over the justifications for alleged restrictions are echoed in the FTC’s recent “Nixing the Fix” report to Congress and the Commission’s 2021 policy statement on “Right to Repair” in which repair restrictions and their procompetitive justifications are discussed.<sup>8</sup> As a general matter, the FTC expressed strong concern about the exclusionary impact of repair restraints and found “scant evidence,” at least in the public comment record, to support the justifications offered by commenters for those restraints.<sup>9</sup> Yet the types of conduct cited by the FTC are associated with theories of liability that have historically met with little success in the courts, such as: exclusionary product design, refusals to assist competitors, and defamation.

These recent publications by the FTC thus raise questions about whether antitrust analysis should be different in repair markets than in other markets. If special treatment is warranted, should such treatment also apply in other markets in which competitors sell products or services that are built around another company’s products (i.e., “ecosystem” markets)? This is an important consideration given the proliferation of business models in technology and other nascent industries in which no single company provides an end-to-end solution but, rather, one or more companies develops a platform that third parties use to develop products for consumers.

Part 1 of this piece discusses the repair restrictions identified in the FTC Right to Repair policy, how such restrictions are likely to be analyzed under existing case law, and potential procompetitive justifications for such restrictions. Part 2 addresses the question of whether unique considerations in repair markets should require a special approach to liability and, if so, whether such an approach should be applied in other ecosystem markets. This piece concludes that the FTC should appreciate how competitor interdependence in repair markets and other ecosystems uniquely impacts both sides of the rule of reason analysis, but the FTC should not prejudge the weighing of the balance as a matter of policy and should instead engage in a case-by-case application and, as in *Kodak*, let the evidence determine the result.

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<sup>2</sup> *Eastman Kodak Co. v. Image Technical Servs., Inc.* 504 U.S. 451 (1992).

<sup>3</sup> See, e.g., DOJ/FTC Submission of the United States to OECD, Competition Issues in Aftermarkets (May 26, 2017) (discussing extensive post-*Kodak* case law addressing market definition and market power but limiting the discussion of competitive effects to only a few paragraphs).

<sup>4</sup> Press release, FTC to Ramp up Law Enforcement Against Illegal Repair Restrictions (July 21, 2021), available at [https://www.ftc.gov/news-](https://www.ftc.gov/news-events/news/press-releases/2021/07/ftc-ramp-law-enforcement-against-illegal-repair-restrictions)

[events/news/press-releases/2021/07/ftc-ramp-law-enforcement-against-illegal-repair-restrictions](https://www.ftc.gov/news-events/news/press-releases/2021/07/ftc-ramp-law-enforcement-against-illegal-repair-restrictions).

<sup>5</sup> *Kodak*, 504 U.S. at 458.

<sup>6</sup> See *id.* at 484-485.

<sup>7</sup> *Id.*

<sup>8</sup> Nixing the Fix: An FTC Report to Congress on Repair Restrictions (May 2021); Policy Statement of the Federal Trade Commission on Repair Restrictions Imposed by Manufacturers and Sellers (July 2021).

<sup>9</sup> Nixing the Fix, *supra* note 8, at 6, 39, n.10.



## 1. ANTITRUST ANALYSIS OF THE IDENTIFIED REPAIR RESTRICTIONS

The FTC's Nixing the Fix Report and its Right to Repair Policy identify multiple types of repair restrictions. They are categorized below based on the most likely applicable antitrust theory of liability.

### (a) Exclusionary Product Design:

The FTC's analyses identified several practices that reduce the compatibility, interoperability, quality, or effectiveness of competitors' products or services based on the primary good manufacturer's initial design or subsequent changes to its product design. Among the restrictions listed in the FTC publications that fit in this category are: "designs that make independent repairs less safe;" "imposing physical restrictions (e.g., the use of adhesives);" "software locks and firmware updates;" and using "embedded software."

It is often difficult to prevail on antitrust claims based on exclusionary product design. Generally, courts are hesitant to find antitrust violations in such cases because it is difficult to quantify the consumer benefit of a particular product design and weigh it against its exclusionary potential. Although such claims have been brought in medical device<sup>10</sup> and software markets,<sup>11</sup> one tends to see such claims primarily in the pharmaceutical sector where the extent of exclusion is clearer due to the inability of a generic competitor to avail itself of automatic substitution once the branded manufacturer switches entirely to the new version of the product (i.e., a "hard hop") and where circumstances like an approaching expiration of patent exclusivity (a "patent cliff"), can raise suspicions about the exclusionary intent behind the switch.<sup>12</sup> But even where there is a hard hop, courts often require an additional showing that the product innovation is pretextual for it to be unlawful.<sup>13</sup> If not pretextual, or not associated with some other behavior that raises suspicion, courts are hesitant to condemn the product design change because of the difficulty of balancing the degree of innovation against the effects of competitive exclusion.<sup>14</sup>

In the repair-market context, there can be many procompetitive reasons for the manufacturer to implement a design change that *incidentally* makes it more difficult for competitors to service or repair the product or that make their alternative parts incompatible. For example, competition in the primary market may cause the manufacturer to match or try to beat product improvements made by its primary market rivals.

Similarly, addressing product failures, safety issues, poor data security, or negative customer feedback, might cause a manufacturer to change its design to improve the product. Or the manufacturer may find better third-party inputs or components that require a design change to incorporate those inputs into the product. A manufacturer could also find a more cost-efficient way to make the product, which could require a design change. Software-enabled products, which are becoming increasingly common, are frequently updated to fix bugs in the software. All of these actions could cause the products or services of independent competitors to be less compatible or incompatible. An interpretation of law that would require the manufacturer to maintain backwards compatibility with independent repair or parts competitors could deter innovation, raise costs, and result in wasted resources.

A design change that *intentionally* makes independent repairs more difficult or that reduces compatibility of competitor products would tend to raise greater scrutiny, but nonetheless may be justified. For example, for products that can reasonably be expected to become dangerous if modified in certain ways, it could improve safety to design the product such that it cannot easily be repaired by consumers or by untrained third parties. Product design changes may also intentionally create incompatibility with third party products or services that degrade performance of the product or that drain resources of the manufacturer.

Thus, whether the exclusionary effect is incidental or intentional is not dispositive of whether the design change is procompetitive on balance. And because courts will continue to struggle with weighing the benefit of the change to compare it against the degree of exclusion, courts are likely to fall back on an approach that finds liability only when the product improvement can be shown to be pretextual or a sham.

### (b) Refusals to Deal with or Disadvantaging Rival Repair Services

Many of the repair restrictions identified by the FTC fall into the category of refusing or failing to provide independent competitors the same benefits enjoyed by the manufacturer's vertically owned operations or its authorized partners in the aftermarket. Among these are: "limiting the availability of parts, manuals, diagnostic software, and tools to manufacturers' authorized repair networks;" and "limiting the availability of telematics information (i.e., information on the operation and status of a vehicle that is collected by a system

<sup>10</sup> See, e.g., *Allied Orthopedic Appliances, Inc. v. Tyco Health Care Group LP*, 592 F.3d 991 (9th Cir. 2010).

<sup>11</sup> See, e.g., *United States v. Microsoft Corp.*, 253 F.3d 34, 65-66 (D.C. Cir. 2001).

<sup>12</sup> See, e.g., *New York ex rel. Schneiderman v. Actavis PLC*, 787 F.3d 638 (2d Cir. 2015) ("Namenda").

<sup>13</sup> See, e.g., *Mylan Pharms. Inc. v. Warner Chilcott Pub. Ltd. Co.*, 838 F.3d 421 (3d Cir. 2016) ("Doryx").

<sup>14</sup> See *id.*; see also *Allied Orthopedic*, 592 F.3d at 1000 ("To weigh the benefits of an improved product design against the resulting injuries to competitors is not just unwise, it is unadministrable. There are no criteria that courts can use to calculate the 'right' amount of innovation, which would maximize social gains and minimize competitive injury.").



contained in the vehicle and wirelessly relayed to a central location, often the manufacturer or dealer of the vehicle)[.]”<sup>15</sup>

Generally, there is no duty under antitrust law to assist a competitor, and this applies even when a refusal to deal is intended to exclude a competitor.<sup>16</sup> There is, however, an exception that applies when a defendant harms itself by terminating a prior course of profitable dealing where the only conceivable purpose for that action is to harm a rival.<sup>17</sup> Similarly, in the standard essential patent context, the breach of a company’s promise to license other companies that build products around a standard that incorporates that company’s technology may lead to antitrust liability.<sup>18</sup>

The FTC’s concerns about independent companies obtaining access to parts, manuals, or tools or telematics data presumes that the manufacturer has a duty in the first instance to provide such assistance to its competitors, a proposition that courts may be unwilling to accept. It is true that *Kodak* featured an allegation about a refusal to supply parts to independent competitors, but the thrust of the discussion in that case focused on tying claims as opposed to a refusal to deal. Where the conduct involves only a refusal to supply independent repair companies with parts, tools, data, or manuals, the ability to bring such a claim is not certain. The DOJ and FTC have previously observed that, at least where the aftermarket goods are protected by patents, copyright, or other intellectual property, “U.S. courts have found little room to impose antitrust liability for a unilateral refusal to deal.”<sup>19</sup> And in the FTC’s *Nixing the Fix* report, the Commission acknowledged that:

While the Supreme Court recognizes that a monopolist’s refusal to deal with its rivals under narrowly circumscribed circumstances may constitute exclusionary conduct supporting a violation of Section 2, the Court has cautioned against imposing antitrust liability on firms that would require them to do business with other companies, including rivals or potential rivals. Likewise, the Court has been reluctant to impose antitrust liability on a defendant where competitors are denied access to

an input that is deemed essential, or critical, to competition.<sup>20</sup>

One might attempt to analogize repair markets to a promise to license made in the standard essential patent context, or a reversal of a prior profitable course of dealing. Assume, for example, the manufacturer of the primary good invites independent repair companies to work with the manufacturer to meet the needs of customers for aftermarket repairs and maintenance that the manufacturer would not provide itself because of the capital expenditures associated with building out a repair network. The contributions of the independent repair community thus drive demand for the manufacturer’s primary good, benefiting the manufacturer in the primary market as well as the independent repair companies in the aftermarket as more consumers purchase the primary good that will later need repair. If the manufacturer then reverses course and seeks to capture all aftermarket revenue for itself by vertically integrating, this reversal of a prior profitable course of dealing or broken promise made to invite interoperability might be asserted as the exception to the general rule that one has no duty to assist a competitor. But this argument also has its limitations. Circumstances can change that make a prior course of dealing unprofitable, thus providing a reason for the change other than harm to rivals.<sup>21</sup> Courts are split on whether a broken promise creates only a contract law claim and not an antitrust claim.<sup>22</sup> And third parties may unilaterally decide to enter the repair market without any invitation or promise of assistance or interoperability from the primary good manufacturer.

Separately, there can be procompetitive justifications for refusals to assist independent competitors in the repair market. For example, the manufacturer may wish to reward the investments of authorized partners in meeting the manufacturer’s standards for quality or customer service. How is the manufacturer to do that if it must treat independent rivals just as well as its authorized network? One possible answer is to preference the authorized network with respect to price of parts or on allocation of parts when parts are in short supply, but it is conceivable that such discrimination might also be challenged as exclusionary, perhaps under raising rivals’ costs, self-preferencing, or margin-squeeze type theories.

There may also be legitimate free-riding issues when a manufacturer incurs costs in preparing manuals and training

<sup>15</sup> FTC Policy Statement, *supra* note 8, at 1.

<sup>16</sup> See *FTC v. Facebook, Inc.*, Civil Action No. 20-3590 (JEB), at pp. 34-41 (D.D.C. Jun. 28, 2021) (Dismissing FTC claims that Facebook blocked rival apps from interconnecting with Facebook Blue) (“Facebook I”); *FTC v. Facebook, Inc.*, Civil Action No. 20-3590, at p. 40 (D.D.C. Jan. 11, 2022) (describing the FTC’s repleaded refusal to deal allegations as still “legally infirm.”) (“Facebook II”).

<sup>17</sup> See *Facebook I*, at 36-27 (describing the *Aspen Skiing* exception as a “narrow-eyed needle”).

<sup>18</sup> See *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297 (3d Cir. 2007).

<sup>19</sup> DOJ/FTC OECD Submission, *supra* note 3, at ¶ 25.

<sup>20</sup> *Nixing the Fix*, *supra* note 8, at pp. 14-15.

<sup>21</sup> See *FTC v. Qualcomm, Inc.*, 969 F.3d 974 (9th Cir. 2020) (noting that Qualcomm’s prior course of dealing with component manufacturers was terminated due to a change in the interpretation of the patent exhaustion doctrine).

<sup>22</sup> See *Continental Auto Sys. v. Avanci, LLC*, 485 F. Supp. 3d 712 (N.D. Tex. 2020); Remarks of Assistant Attorney General Makan Delrahim, Antitrust Law and Patent Licensing in the New Wild West (Sept. 18, 2018).





materials, developing best practices and trade secrets, collecting data, developing more efficient tools, and building telematics systems only to be forced to share the benefits with independents. Even if the manufacturer can charge fees to recover some or all of its development costs, the inability of the manufacturer and its authorized network to uniquely appropriate the benefits could deter the manufacturer from making investments in such developments, which can improve quality and responsiveness to customer needs.

There may be additional justifications for a refusal to deal with certain *individual* independent competitors, such as the independent's history of poor quality, poor customer service, unsafe repairs, or other actions that harm the manufacturer's goodwill and brand, or the demand for the manufacturer's products.

**(c) Contractual Restrictions on Customers**

A third category of repair restrictions identified by the FTC pertains to contracts that limit a customer's options for repair services. Examples include: restrictive end user license agreements; voiding warranties if third party services or parts are used; contracts containing aftermarket obligations for parts or servicing; and conditioning access to firmware upgrades on agreeing to maintenance contracts with the manufacturer.<sup>23</sup> The FTC also explained that the embedding of software in products makes it less clear as to whether the consumer owns the product because the consumer must enter into a license agreement for the intangible software even if it has purchased the tangible good.<sup>24</sup>

A challenge to these contractual restraints could also face legal hurdles. For example, when customers have knowledge at the time of the primary purchase that they are choosing to limit themselves to the manufacturer for aftermarket purchases, *and* when the primary good manufacturer has no market power in the primary market, courts will typically find no liability for such contractual restrictions.<sup>25</sup> One key exception are warranties that are voided if customers use third party services or parts, which is expressly prohibited by the anti-tying provisions of the Magnuson Moss Warranty Act.<sup>26</sup> And even this prohibition does not apply when the manufacturer is paying for the parts or services under the warranty.

<sup>23</sup> See Policy Statement, *supra* note 8, at 1.

<sup>24</sup> Nixing the Fix, *supra* note 8, at 24.

<sup>25</sup> See, e.g., *Queen City Pizza v. Domino's Pizza*, 124 F.3d 430, 439 (3d Cir. 1997) (distinguishing *Kodak* because Domino's franchisees could assess potential costs and risks at time of contracting and there was no change in policy).

<sup>26</sup> 15 U.S.C. § 2302(c).

<sup>27</sup> Policy Statement, *supra* note 8, at 1.

**(d) Intellectual Property Enforcement**

The FTC policy identifies "asserting patent rights and enforcement of trademarks in an unlawful, overbroad manner" as a way that manufacturers restrict competition in the aftermarket.<sup>27</sup> The FTC Nixing the Fix report similarly cited to public comments that misuse of design patents on repair parts was blocking competition and increasing prices in repair markets.<sup>28</sup> Neither publication, however, provides any specificity regarding how any manufacturer is misusing or enforcing intellectual property in an overbroad manner.

While sham intellectual property enforcement can violate antitrust law, one would have to show that the assertions were "objectively baseless" such that "no reasonable litigant could reasonably expect success on the merits."<sup>29</sup> Meeting this standard can be difficult.

**(e) Disparaging Statements About Independents**

The final category of repair restraint identified by the FTC focuses on disparaging statements about the quality of independent repairs and non-OEM parts. This can come in the form of warnings about using non-genuine parts or framing them as dangerous.<sup>30</sup> Competitor disparagement, however, is on the fringes of antitrust liability. The Fifth and Seventh Circuits view statements about competitor products, even disparaging ones, as another dimension of competition (competition in advertising), while other Circuits apply a rebuttable presumption that any impact on competition from disparagement is *de minimis*, and yet other Circuits view disparagement on a case-by-case basis and find it to be primarily relevant when there is *other* exclusionary conduct involved.<sup>31</sup> There are separately Lanham Act and other business tort private causes of action for disparagement, but challenging disparagement as an *antitrust* violation would be difficult under the current law.

**2. ARE REPAIR MARKETS SPECIAL? IF SO, WHAT OTHER MARKETS SHARE THESE CHARACTERISTICS?**

The discussion above reveals that the FTC's Right to Repair enforcement policy focuses on conduct for which antitrust liability will be difficult to establish both as a matter of doctrine and because there will frequently be legitimate business justifications for such conduct. Although the FTC's

<sup>28</sup> Nixing the Fix, *supra* note 8, at 22.

<sup>29</sup> See *FTC v. Abbvie Inc.*, 976 F.3d 327 (3d Cir. 2020) ("The Court does not agree with those cases concluding that deception of an SSO constitutes the type of anticompetitive conduct required to support a § 2 claim.")

<sup>30</sup> Nixing the Fix, *supra* note 8, at 22-23.

<sup>31</sup> For a discussion of the three approaches, see Michael A. Carrier, *Don't Die! How Biosimilar Disparagement Violates Antitrust Law*, 115 *Northwestern University Law Review Online* 119 (2020).



Nixing the Fix report casts doubt on the legitimacy of many of the procompetitive justifications, the FTC did not reject those arguments in theory, but rather cited to a lack of evidence provided in the public comment record. Dismissing such justifications on an actual fact record in a case-by-case analysis will not be so easy.

Perhaps implicitly acknowledging the difficulty of challenging repair restraints under antitrust law, the FTC's policy statement envisions using rulemaking authority and perhaps challenging repair restraints as unfair methods of competition under Section 5 of the FTC Act.<sup>32</sup> Crafting bright line rules, however, would be difficult because assessing both the extent of exclusion and the legitimacy of procompetitive justifications requires evidence-based inquiries made on a case-by-case basis.<sup>33</sup>

The FTC's stated desire to rely on Section 5 begs the question as to whether there is some sort of market failure, distorted incentives, or other unique circumstances in repair markets that warrant condemning conduct that is otherwise likely to be upheld under antitrust laws. Are such market failures present in repair markets? And, if so, what does this mean for markets that have similar characteristics such as markets for accessories and ecosystem markets where companies build complementary products that are dependent on another company's platform?

**(a) What is Special About Repair Markets?**

The FTC report and policy statement address both competition and non-competition rationales for enforcement against repair restrictions. Among the traditional competition rationales for prohibiting repair market restraints are preventing higher costs of repairs (price effects), unavailability and increased wait time for repairs (quantity effects), reduced consumer choice (market concentration), and shorter lifetimes for products (quality).<sup>34</sup>

Other concerns are further afield from competition policy, including a policy preference for using products through the end of their useful life instead of replacing them, environmental concerns about electronic products waste, disproportionate burdens on minority communities that rely on smartphones because they lack broadband, the inability of lower-income Americans to purchase new products when products break, the need for repairs to solve supply chain problems or other shortages of new products, and the observation that many independent competitors in repair and

maintenance markets are small businesses, entrepreneurs, and minority-owned businesses.<sup>35</sup>

While it is difficult to take issue with these policy goals, the importance of a product or service to society is not typically a basis for changing the antitrust laws or for condemning conduct that would otherwise be viewed as on balance procompetitive. This is not a situation in which the goals of antitrust policy are somehow at odds with these other goals. Rather, to make an exception, one would typically look for some sort of market failure that explains why competition is not working effectively in these markets to meet traditional antitrust goals or these other policy goals.

Although not addressed in the FTC publications, one conceivable reason for treating repair markets differently is the extent to which market participants depend on the primary good manufacturer for their business. Although competitors in other types of markets may supply each other at times, most competitors operate independently of one another. If there is a need for interoperability or compatibility, it is typically to a third-party standard not owned or controlled by any one competitor. In contrast, in repair markets, independents frequently build their business almost entirely around the primary good manufacturer's product and are thus more vulnerable to exclusion based on decisions of the manufacturer. This increased potential for exclusion can increase the anticompetitive effects side of the rule-of-reason scale.<sup>36</sup>

At the same time, repair markets are characterized by dynamics that impact the balance on the other side of the ledger. For example, actions of the independent competitors in repair markets have externalities, that could be positive or negative, on the primary good manufacturer's goodwill and consumer demand for its products in the primary market. For example, high quality repairs and good customer service by independents can impact demand for the manufacturer's primary good, and poor-quality repairs and poor treatment of customers by independents can harm demand for the manufacturer's primary good. Such externalities typically do not exist in other markets where the actions of one competitor do not affect consumer perception of their competitors' products. The need of the manufacturer to manage these externalities thus can explain the presence of many repair market restraints.

<sup>32</sup> See Policy Statement, *supra* note 8, at 2.

<sup>33</sup> See Nixing the Fix, *supra* note 8, at 10 ("Justifications need to be scrutinized on a case-by-case basis and should be rejected if found to be a mere pretext for anticompetitive conduct.")

<sup>34</sup> *Id.* at 1.

<sup>35</sup> See *id.* at 3-5.

<sup>36</sup> Consumers in repair markets may be more vulnerable to anticompetitive effects because of high switching costs to a different primary good if unsatisfied with competition in the repair aftermarket. But such a consideration of high switching costs is already addressed in the market definition and market power elements of the analysis.



**(b) What Other Markets Share These Characteristics?**

While the unique features of competitor interdependence in repair markets deserve consideration when applying the antitrust rule of reason, it is not apparent why those dynamics should require any change to the fundamental analytical framework or to antitrust doctrine with respect to exclusionary product design, refusals to deal, contractual restraints on customers, intellectual property enforcement, or disparagement. Nor is it apparent why the dynamics of repair markets warrant special rulemaking or application of FTC Act Section 5.

If a special set of rules were devised to deal with aftermarket, it raises a question about what other markets might be implicated by spill-over effects. Markets for accessories are an obvious extension. Like a repair or parts, an accessory is a good purchased separately and typically later in time than the primary good (an “aftermarket” good) and is complementary to the primary good. Accessory markets also feature the same characteristics of competitor interdependence as repair markets, and thus the potential for competitor exclusion is higher and the need for the primary good manufacturer to manage negative externalities is also higher. Not surprisingly, there have already been antitrust cases in accessory markets.<sup>37</sup>

A more significant extension would be to technology ecosystems.<sup>38</sup> Technology markets and other nascent industries increasingly feature business models in which no one participant provides an end-to-end solution for customer needs. Rather, to accelerate the development of the industry, one or more companies compete to offer a platform around which other companies will develop the end products for consumers. For example, while the FTC Right to Repair publications focus on *physical* smartphone devices, smartphones also offer a tech ecosystem in which smartphone companies build operating systems around which other companies develop applications to perform the particular functions desired by smartphone users. Similar ecosystem and platform models can now be found in financial services industries,<sup>39</sup> in robotics,<sup>40</sup> and even in consumer-packaged goods.<sup>41</sup>

In such industries, the third-party developers of end-user functionality are dependent on continued access to the platform and thus, like independent repair companies, are vulnerable to exclusion by product design changes, refusals to deal, contractual restrictions on customers, overbroad intellectual property enforcement, or terms of dealing that favor other competitors, including the platform’s vertically integrated services. And the same potential business justifications for repair restraints are also present. Platform providers are vulnerable to negative externalities from the third parties that develop products on their platforms. Take for example the need of social media platforms to exclude third parties engaging in criminal activity, hate speech, or predatory activity on their platforms. Platforms might also seek to deny access to third party competitors that drain platform resources or present data security problems. Similarly, there are likely to be disputes over how the platform is compensated for its contribution to the end-to-end solution that the platform and its independent developers collectively deliver. This could result in allegations that the platform is charging an extractive fee and counter allegations from the platform that the third party’s attempts to benefit from the platform’s contribution but not pay the platform’s fee is a form of free riding.<sup>42</sup>

Thus, the issues of competitor interdependence that arise in repair markets are not fundamentally different from the issues we are seeing arise in antitrust challenges to tech platform conduct. And as the economy increasingly moves from vertically integrated pipelines to business ecosystems, these same issues are likely to proliferate across many industries. As such, antitrust policymakers should be cautious about creating bright line rules or special treatment for repair markets. Enforcers should instead continue to pursue the case-by-case and evidence-based analysis called for by the antitrust rule of reason while recognizing what makes repair markets and other ecosystem markets unique: (a) the vulnerability of independent competitors to exclusion by actions of the primary competitor; (b) the enhanced need for the primary competitor to manage potentially adverse externalities created by the activity of independent competitors; and (c) the real potential for both extractive business models and also opportunistic free-riding. Enforcers should not take a prejudicial view of how to balance these competing considerations. As in *Kodak*, what matters is the evidence.

<sup>37</sup> See, e.g., *In re Keurig Green Mountain Single-Serve Coffee Litig.*, 383 F. Supp. 3d 187 (S.D.N.Y. 2019) (Denying a motion to dismiss allegations that a manufacturer of single-serve coffee machines and coffee cup inserts for use in the machine engaged in product redesign, contractual restrictions, and disparagement to exclude independent manufacturers of alternative coffee cup inserts).

<sup>38</sup> The FTC Nixing the Fix report also refers to repair markets as “ecosystems.” See *Nixing the Fix*, *supra* note 8, at 39, 43.

<sup>39</sup> See Karen Crosson, *et. al.*, Platform-Based Business Models and Financial Inclusion, BIS Working Papers No. 986 (Jan. 2022).

<sup>40</sup> See, e.g., Boston Dynamics Grows Spot Developer Toolkit (Jan. 23, 2020), available at <https://www.bostondynamics.com/01-23-2020>.

<sup>41</sup> See Kearney, *From Pipes to Platforms* (2019), available at <https://www.jp.kearney.com/web/thefutureconsumer/article/?a/the-platform-imperative>.

<sup>42</sup> See, e.g., *Epic Games, Inc. v. Apple, Inc.*, Case No. 4:20-cv-05640-YGR, (N.D. Cal. Sept. 10, 2021).