

Restoring an Open Marketplace for Product Repairs

Introduction

The Open Markets Institute* thanks the Federal Trade Commission for hosting the Nixing the Fix workshop to discuss manufacturers' growing use of repair restrictions on their products. We welcome the opportunity to offer our expertise and perspective on manufacturer control of aftermarkets for parts and services and the FTC's power to protect and restore open, competitive aftermarkets.

Manufacturers of many products have used restraints of trade and monopolistic practices to dominate aftermarkets. Indeed, this manufacturer domination of aftermarkets appears to be the rule, not the exception. Manufacturers in practically every market use numerous tactics to monopolize aftermarket parts and repair services for their products. From cellphones to combines and vehicles to video game consoles, consumers' ability to repair their goods is restricted, at times destabilizing the very notion of ownership. Monopolization of repair markets chokes off opportunities for small businesses, drives up the costs for repairs, increases wait times, and results in the underserving of many communities. Manufacturer control of aftermarkets can discourage or prevent repair altogether, pushing consumers to buy new products and send more goods to landfills.

* The Open Markets Institute is a non-profit organization dedicated to promoting fair and competitive markets. It does not accept any funding or donations from for-profit corporations. Its mission is to safeguard our political economy from concentrations of private power that undermine competition and threaten liberty, democracy, and prosperity. The vigorous enforcement of the antitrust laws against corporate restraints of trade and exclusionary practices is essential to protecting the U.S. economy and democracy from monopoly and oligopoly. The Open Markets Institute regularly provides expertise on antitrust law and competition policy to Congress, federal agencies, courts, journalists, and other members of the public.

IBISWorld estimates that Americans spent \$39 billion repairing heavy machinery and \$22 billion repairing cellphones, computers, and electronics.¹ Competitive repair markets would create opportunities for independent parts manufacturers and repair shops and serve communities with convenient, affordable, personalized, and timely service.

Fortunately for the public, the FTC has the authority to open these repair markets. The Supreme Court has given the FTC and other antitrust enforcers the power to go after restraints of trade and monopolization in aftermarket. The FTC should challenge manufacturers' tying of parts and service, refusal to sell or provide parts, tools, and data, exclusionary product redesigns, and exclusive dealing. Through vigorous use of its legal powers, the FTC can give owners of a wide array of products an effective right to repair.

I. How Manufacturers Monopolize Repair Markets

For manufacturers, restricting repair markets can be highly profitable. For instance, in the case of farm equipment, the profit margin for repair can be five times higher than the margin on selling equipment.²

Controlling or restricting repair can also drive new product sales. Between design features that contribute to premature obsolescence and prohibitively costly repairs, restricting options for repair can push consumers to buy new products. As Gay Gordon-Byrne stated in her testimony, Consumer Reports advised their members in 2014 to buy a replacement product if repairs are more than half the cost of buying new.³ She noted that many “repairs are now roughly

¹ Claire Bushey, *Why Deere and Cat Don't Want Customers to do it Themselves*, CHI. BUS., May 10, 2019, <https://www.chicagobusiness.com/manufacturing/why-deere-and-cat-dont-want-customers-do-it-themselves>.

² *Id.*

³ *Should you repair or replace that product?*, CONSUMER REP., Jan. 2014, <https://www.consumerreports.org/cro/magazine/2014/02/repair-or-replace/index.htm>.

50% or more of the cost to replace the device. It’s almost uniform.” This pushes consumers into the showroom for a new product, with Gordon-Byrne stating, “[T]hat is the main intent.”

Manufacturers have even resorted to intentional impairment of their products to drive sales. The Italian competition authority found that Apple and Samsung degraded the batteries on older phones through software upgrades and fined them for this planned obsolescence.⁴

Manufacturers employ a wide range of tactics to monopolize repair markets. In this letter, Open Markets will focus on business practices that intersect with and implicate antitrust law. Together with other federal policymakers, as well as state legislatures, the FTC should attack exclusionary and other unfair practices that block independent parts and service providers from aftermarkets and deprive customers of the right to repair.

A. Tying of Aftermarket Parts and Service

When manufacturers force consumers to use their repair services, it can function as a bundling of distinct products and services. Manufacturers can lock consumers into their repair networks by bundling the sale of replacement parts with repair services and other products.

Jennifer Larson is the CEO of Vibrant Technologies in Minnesota, which refurbishes and sells used data servers. She highlighted the connection between tying and repair restrictions in her presentation at the FTC. She recounted how some servers cannot be resold without an original manufacturer support or maintenance contract, which can sometimes cost more than it does to fix and sell a machine. This discourages repairs and drives consumers to buy new products that bundle support contracts with the machine.

⁴ Samuel Gibbs, *Apple and Samsung Fined for Deliberately Slowing Down Phones*, GUARDIAN, Oct. 24, 2018, <https://www.theguardian.com/technology/2018/oct/24/apple-samsung-fined-for-slowing-down-phones>.

In a similar vein, the voiding of warranties for using third-party repair parts or service is a form of tying.⁵ The manufacturer ties its warranty to its own aftermarket parts and repair service. Auto manufacturers and their dealers have engaged in this practice. In its comment to the FTC, the Auto Care Association included two surveys that found that a quarter of car buyers were told by the dealer that they must use the dealership for repairs in order to maintain their warranties.⁶

B. Exclusionary Product Design

Repair restrictions often begin with design. Manufacturers can design products to limit third-party repairs or stop repairs entirely. A recent study by Germany's environmental agency suggests that the lifespan of many products is shrinking.⁷ The agency found that the portion of electronics sold to replace defective or obsolete appliances has more than doubled, up from 3.5% of sales in 2004 to 8.3% in 2012.⁸ This is a serious problem for products for which purchasers spend hundreds or thousands of dollars.

Manufacturers increasingly design single use products that cannot be repaired. Consumers are often not aware that they are purchasing a single use product. Take Apple's popular AirPods. The earphones retail for \$160, but their internal rechargeable battery cannot be

⁵ This practice violates the Magnuson-Moss Act unless the manufacturer shows the FTC that the product will properly function only if used with authorized parts or service and obtains a waiver from the FTC. 15 U.S.C. § 2302(c).

⁶ Letter from Aaron M. Lowe, Senior Vice President, Auto Care Association, to Joseph J. Simons, Chairman, Fed. Trade Comm'n (May 6, 2019), <https://www.regulations.gov/contentStreamer?documentId=FTC-2019-0013-0010&attachmentNumber=1&contentType=pdf>.

⁷ Susanna Ala-Kurikka, *Lifespan of Consumer Electronics is Getting Shorter, Study Finds*, GUARDIAN, Mar. 3, 2015, <https://www.theguardian.com/environment/2015/mar/03/lifespan-of-consumer-electronics-is-getting-shorter-study-finds>.

⁸ *Id.*

replaced without destroying their outer casing.⁹ Apple affixes the internal components of an AirPods with strong glue, a common design element in modern electronics that prevents repairs.

When AirPods lose their ability to hold charge, which can happen within the first 18 months of use, consumers must turn to Apple. They have no choice but to buy “battery service” replacements from Apple, which are just new AirPods. Altogether, the difference between the cost of a battery service AirPods replacement set and the cost of a new set is less than \$20.¹⁰

Other exclusionary design tactics include highly specialized or non-interchangeable parts. These include special nuts and bolts that require unique screwheads to open a device or machine. For example, many Apple products have proprietary pentalobe screws. When they were first introduced, independent repair shops had to reverse engineer tools to get inside Apple devices.¹¹

C. Refusal to Sell or Share Parts, Tools, Diagnostics, Manuals, and Firmware

Given the specificity of these parts and accompanying tools, the best parts for repairs, in general, are original equipment manufacturer (OEM) parts. Yet, manufacturers may refuse to sell their original parts or tools. For example, Nintendo only makes some of its video game console parts available for third-party repair shops. Parts like the Nintendo Switch’s thumb stick, for instance, are not made available and thus cannot be replaced, forcing consumers to buy new controllers.¹² A limited or non-existent market for OEM parts also compels third-party repair shops to rely on used or lower quality parts.

⁹ *Shop AirPods*, APPLE, <https://www.apple.com/shop/select-airpods>; *AirPods Teardown*, iFIXIT, Dec. 20, 2016, <https://www.ifixit.com/Teardown/AirPods+Teardown/75578>.

¹⁰ *AirPods Service and Repair*, Apple, <https://support.apple.com/airpods/repair/service>.

¹¹ Kyle Wiens, *You Bought That Gadget, and Dammit, You Should Be Able to Fix It*, WIRED, Mar. 22, 2017, <https://www.wired.com/2017/03/right-to-repair-laws/>.

¹² Nicholas Deleon, *Right-to-Repair Laws Could Make It Easier to Get a Phone or Laptop Fixed*, CONSUMER REP., Mar. 29, 2018, <https://www.consumerreports.org/consumer-protection/right-to-repair-laws-could-make-it-easier-to-get-a-phone-or-laptop-fixed/>.

Manufacturers can also opt not to share or sell product manuals and design specifications to independent repair shops. In the past, physical manuals were a standard accompaniment to appliances, but today corporations can lock their manuals online behind passwords and paywalls, or not make them available at all.¹³ As equipment becomes more computerized, diagnostic software is another important tool for looking into a device and identifying a problem. Some manufacturers withhold this tool as well.

For instance, farmers often do not have access to manufacturers' diagnostic software that can identify issues and fixes in their computerized tractors. As a result, some farmers have resorted to hacking their tractors with a Ukrainian bootlegged version of John Deere's diagnostic software, rather than wait hours or pay hundreds of dollars to haul equipment to a dealership just to identify a glitch.¹⁴

Finally, consumers also need to access the firmware, or embedded software in products, to fix technical glitches once identified. But increasingly, manufacturers of machines, ranging from cars to tractors, have claimed firmware and other embedded product code is proprietary and refused to share it.¹⁵

D. Exclusive Dealing

¹³ Kyle Wiens, *The Shady World of Repair Manuals: Copyrighting for Planned Obsolescence*, WIRED, Nov. 12, 2012, <https://www.wired.com/2012/11/cease-and-desist-manuals-planned-obsolence/>.

¹⁴ Jason Koebler, *Tractor-Hacking Farmers Are Leading a Revolt Against Big Tech's Repair Monopolies*, VICE, Feb. 14, 2018, https://www.vice.com/en_us/article/kzp7ny/tractor-hacking-right-to-repair; Adam Minter, *U.S. Farmers Are Being Bled by the Tractor Monopoly*, BLOOMBERG, Apr. 23, 2019, <https://www.bloomberg.com/opinion/articles/2019-04-23/u-s-farmers-need-a-better-way-to-fix-their-tractors>; Jason Koebler, *Why American Farmers Are Hacking Their Tractors With Ukrainian Firmware*, VICE, Mar. 21, 2017, https://www.vice.com/en_us/article/xykkkd/why-american-farmers-are-hacking-their-tractors-with-ukrainian-firmware.

¹⁵ The Copyright Office ruled that manufacturers of certain products have no right to do this, saying owners buy the right to see code when they purchase a product. Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 80 FED. REG. 65944 (Oct. 28, 2015).

Repair restrictions can function as exclusive dealing between the purchaser and the manufacturer. The manufacturer's tying of parts and service, exclusionary design, and refusal to provide parts and services exclude third-party service providers from aftermarkets. Consequently, a purchaser is compelled to obtain parts and repairs only from the manufacturer.

II. Economic and Environmental Costs of Restricted Repair

Repair restrictions cause a broad number of economic and environmental harms. By blocking and eliminating independent repair shops, manufacturers hoard valuable market opportunities for repair. Entrepreneurs cannot start parts and service shops nor compete for the public's business.

Monopolized aftermarkets reduce choice and raise the price of parts and service for individual and organizational owners of cars, electronic goods, farm equipment, home appliances, and medical devices. Manufacturer domination of aftermarkets also deprives many communities of access to repair services and parts. Rural communities, in particular, are often located far from manufacturer-authorized repair shops or technicians. A farmer or small business owner with time-sensitive work often cannot wait hours or days to fix a computer, tractor, or other piece of critical equipment.

An increase in single use products or prohibitively costly repairs contributes to e-waste. One report estimated that the world produced nearly 50 million tons of e-waste in 2018, or nearly

15 pounds per person.¹⁶ The EPA reported that Americans toss 416,000 cell phones per day.¹⁷ Affordable and accessible repairs can increase product lifespans and recycle functioning product components, reducing the volume of goods sent to landfills.

III. The FTC Has Important Legal Precedents and Authorities for Restoring Open, Competitive Aftermarkets for Parts and Service

The FTC should draw on existing legal precedents and authorities to ensure that aftermarkets are open to all comers and that owners of durable goods, whether iPhones or tractors, have the right to repair their products where they want. The FTC has broad power to stop and undo aftermarket monopolization.

The Supreme Court recognized manufacturers' power to control aftermarkets in a landmark 1992 decision. In *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, the Court opened up the possibility for plaintiffs to sue companies that monopolize aftermarkets for their own product.¹⁸ The Court concluded that competition in the product market for copiers (among Kodak, Xerox, and other manufacturers) did not necessarily protect competition in the aftermarkets for Kodak copier parts and services.¹⁹ Accordingly, an aftermarket for a specific product's parts or services can be a relevant market for antitrust.

¹⁶ *Forecast of electronic waste generated worldwide from 2010 to 2018 (in million metric tons)*, STATISTA, <https://www.statista.com/statistics/499891/projection-ewaste-generation-worldwide/> (last visited Sept. 14, 2019); *Forecast of per capita electronic waste generation worldwide from 2010 to 2018 (in kilograms per capita)*, STATISTA, <https://www.statista.com/statistics/499904/projection-ewaste-generation-per-capita-worldwide/> (last visited Sept. 14, 2019).

¹⁷ Charmaine Crutchfield, *Smartphone Disposal Poses Security Risks, Experts Warn*, USA TODAY, Nov. 10, 2014, <https://www.usatoday.com/story/news/nation/2014/11/10/smart-phone-security-risks/18798709/>; *Cell Phone Recycling*, AT&T (2013), https://www.att.com/Common/about_us/files/csr_2012/cell_phone_recycling.pdf.

¹⁸ 504 U.S. 451 (1992).

¹⁹ *Id.* at 486.

The Court rejected the theoretical claim that, when shopping for durable goods, purchasers compared the lifecycle costs of products and not just the sticker prices of competing options. It stated:

For the service-market price to affect equipment demand, consumers must inform themselves of the total cost of the “package”—equipment, service, and parts—at the time of purchase; that is, consumers must engage in accurate lifecycle pricing. Lifecycle pricing of complex, durable equipment is difficult and costly. In order to arrive at an accurate price, a consumer must acquire a substantial amount of raw data and undertake sophisticated analysis. The necessary information would include data on price, quality, and availability of products needed to operate, upgrade, or enhance the initial equipment, as well as service and repair costs, including estimates of breakdown frequency, nature of repairs, price of service and parts, length of “downtime,” and losses incurred from downtime.²⁰

The Court elevated economic facts and the real limits of human decision-making over theoretical assumptions about human behavior.

The FTC has significant power to combat restrictive and exclusionary practices in aftermarkets. Given the *Kodak* decision, the FTC (along with purchasers and independent repair shops and parts manufacturers) can use the Sherman Act to ensure open, competitive markets for parts and service. The FTC should challenge tying, refusals to deal, exclusionary redesigns, and exclusive dealing that reduce or eliminate competition in product aftermarkets. To the extent the courts have read the Sherman Act narrowly, the FTC has ample room to compensate through use

²⁰ *Id.* at 473.

of its Section 5 unfair methods of competition authority, which reaches conduct outside the scope of the Sherman and Clayton Acts.²¹

A. Tying

To ensure competitive aftermarkets, the FTC should challenge manufacturers' tying of parts with service. Such arrangements can be challenged under the Sherman, Clayton, and Federal Trade Commission Acts.²² Although tying is common and not inherently anticompetitive, it can have severe anticompetitive effects. Tying can involve the use of economic power in the tying market product to leverage into the tied product market, which can subsequently suppress competition in the tied product market.

In *Jefferson Parish Hospital District No. 2 v. Hyde*, the Supreme Court noted that “the essential characteristic of an invalid tying arrangement lies in the seller’s *exploitation of its control over the tying product* to force the buyer into the purchase of a tied product that the buyer either did not want at all, or might have preferred to purchase elsewhere on different terms.”²³ Tying can exclude rival providers of the tied products and thereby deprive both immediate and ultimate purchasers of choice.

The Supreme Court has established a modified per se rule against tying. To trigger this per se rule, the FTC and other plaintiffs must show the existence of four elements:

- 1) Two separate products or services;

²¹ See *FTC v. Sperry & Hutchinson Co.*, 405 U.S. 233, 244 (1972) (“[L]egislative and judicial authorities alike convince us that the Federal Trade Commission does not arrogate excessive power to itself if, in measuring a practice against the elusive, but congressionally mandated standard of fairness, it, like a court of equity, considers public values beyond simply those enshrined in the letter or encompassed in the spirit of the antitrust laws.”).

²² Section 1 of the Sherman Act applies to tying agreements involving either goods or services, while § 3 of the Clayton Act applies only to tying arrangements involving goods—not those involving services. See 15 U.S.C. § 14 (stating “goods, wares, merchandise, machinery, supplies, or other commodities.”).

²³ 466 U.S. 2, 12 (1984) (emphasis added).

- 2) The sale of one of the products conditioned on the purchase of the other product (i.e., coercion);
- 3) The seller has appreciable economic power in the market for the tying product to enable it to restrain trade in the market for the tied product; and
- 4) A “not insubstantial” amount of commerce in the market for the tied product is foreclosed.²⁴

Most courts since *Jefferson Parish* have required a market share in excess of 30% as a minimum threshold to apply the *per se* rule.²⁵

B. Exclusionary Design

Manufacturers can redesign products in minor and major ways to limit the ability of owners and independent shops to repair products. While redesigns can be beneficial, they can sometimes serve exclusionary ends. Specifically, exclusionary design is a modification that “either does not improve the product in any material way or offers only a small benefit, and leads to the exclusion of rivals.”²⁶

²⁴ *Id.* (holding that tying arrangements are *per se* illegal by a 5-to-4 vote but unanimously concluding that the particular tying arrangement at issue was lawful); *see also* *Illinois Tool Works Inc. v. Independent Ink, Inc.*, 547 U.S. 28, 46 (2006) (stating that “in all cases involving a tying arrangement, the plaintiff must prove that the defendant has market power in the tying product”).

²⁵ *See, e.g.*, *Suture Express, Inc. v. Owens & Minor Distribution, Inc.*, 851 F.3d 1029, 1042 (10th Cir. 2017), *cert. denied*, 138 S. Ct. 146 (2017).

²⁶ Jonathan Jacobson et al., *Predatory Innovation: An Analysis of Allied Orthopedic v. Tyco in the Context of Section 2 Jurisprudence*, 23 LOY. CONSUMER L. REV. 1, 1 (2010).

The FTC should challenge exclusionary design choices under the Sherman and FTC Acts.²⁷ To overcome the presumption that design changes are benign,²⁸ courts have held that plaintiffs must show that a product redesign “constitutes an anticompetitive abuse or leverage of monopoly power, or a predatory or exclusionary means of attempting to monopolize the relevant market.”²⁹ By restricting or blocking independent service technicians from repairing products through redesigns, manufacturers reduce customer choice and can raise prices for repair services.³⁰

Two cases show that exclusionary product redesign can violate the antitrust laws. In *New York v. Actavis plc*, the Second Circuit held that a branded pharmaceutical company’s reformulation of a drug and withdrawal of an earlier version violated the Sherman Act.³¹ The court reached this decision because the manufacturer’s strategy had “the dual effect of forcing patients to switch to the new version and impeding generic competition.”³² Similarly, in *Abbott Laboratories v. Teva Pharmaceuticals USA*, a district court concluded that a product redesign can violate the antitrust laws.³³ In *Abbott Laboratories*, branded drug manufacturers “responded

²⁷ *Abbott Labs. v. Teva Pharm. USA, Inc.*, 432 F. Supp. 2d 408, 421 (D. Del. 2006) (“[b]ecause, speaking generally, innovation inflicts a natural and lawful harm on competitors, a court faces a difficult task when trying to distinguish harm that results from anticompetitive conduct from harm that results from innovative competition.”); *Allied Orthopedic*, 592 F.3d at 1000–02 (“[s]tatements of an innovator’s intent to harm a competitor through genuine product improvement are insufficient by themselves to create a jury question under Section 2.”).

²⁸ Ross D. Petty, *Antitrust and Innovation: Are Product Modifications Ever Predatory?*, 22 SUFFOLK U. L. REV. 997, 1017 (1988) (citing *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 287 (2d Cir. 1979)).

²⁹ *Allied Orthopedic*, 592 F.3d at 998, 1000.

³⁰ See *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) (affirming findings that Microsoft used various anticompetitive product design tactics to monopolize the market for Intel-compatible PC operating systems, including designing the “Add/Remove” function in Windows so that it could not be used to substitute systems viewed as a competitive threat. Microsoft prevented effective product substitutions by “significantly reduc[ing] usage of rivals’ products” and thereby “protect[ed] its own operating systems monopoly.” One instance included preventing OEMs from altering the Windows desktop (so they couldn’t for example delete the Internet Explorer icon) or change the initial bootup sequence that a user follows.).

³¹ 787 F.3d 638, 659 (2d Cir. 2015).

³² *Id.*

³³ 432 F. Supp. 2d 408 (D. Del. 2006).

to the threat of generic entry” into the market by changing the formulation of their drugs.³⁴ This conduct was actionable because the branded drug manufacturers sought not to improve the product, but to prevent generic formulations from weakening their market position.³⁵

C. Refusals to Deal

Product manufacturers have refused to provide parts, data, and other essential inputs to independent technicians. In other words, they have refused to deal with certain purchasers and competitors.³⁶ A monopolist’s freedom to deal is subject to important qualifications.³⁷ Refusals to deal in the context of right to repair may be challenged under the Sherman Act and the Federal Trade Commission Act.³⁸

Challenging a refusal to deal requires showing market power.³⁹ A principal consideration when analyzing this conduct is the existence of a prior relationship.⁴⁰ A monopolist can be held liable for terminating an existing relationship, especially if it sacrificed short-term profits in the expectation of subsequent monopoly gains.⁴¹ For instance, if a manufacturer previously sold parts to all purchasers, including independent technicians, its decision to restrict sales only to authorized service providers can be actionable under the Sherman Act. Using Section 5, the FTC

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko*, 540 U.S. 398, 407 (2004).

³⁷ *E.g.*, *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985); *Trinko*, 540 U.S. at 407.

³⁸ *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, *reh'g denied*, 466 U.S. 994 (1984); *Aspen Skiing*, 472 U.S. 585; *FTC v. Texaco, Inc.*, 393 U.S. 223 (1968).

³⁹ *Aspen Skiing*, 472 U.S. 585.

⁴⁰ *Trinko*, 540 U.S. at 409.

⁴¹ *Id.*; *see e.g.*, *Novell, Inc. v. Microsoft Corp.*, 731 F.3d 1064 (10th Cir. 2013) (explaining that the Supreme Court has held that at least two factors must be present for liability: “First, . . . there must be a preexisting voluntary and presumably profitable course of dealing between the monopolist and its rival. . . . Second, . . . the monopolist’s discontinuance of a preexisting course of dealing must ‘suggest[] a willingness to forego short-term profits to achieve an anticompetitive end.’”).

can also challenge refusals to deals that may fall outside the scope of present interpretations of the Sherman Act.

D. Exclusive Dealing

By restricting independent parts manufacturers and service providers from market access, manufacturers can impose effective exclusivity on product owners.⁴² Due to one or more exclusionary practices, customers may have no option but to go to the manufacturer or manufacturer-authorized technician for repairs. In other words, they may have the formal right to go to independent shops and providers but lack the functional right to do so.⁴³

The FTC should challenge exclusive dealing using the Sherman Act. The practice can marginalize existing rivals and raise entry barriers for prospective competitors.⁴⁴ In exclusive dealing cases, market foreclosure is typically the most important factor. In general, the degree of market foreclosure that is sufficient to violate the antitrust laws ranges from 30–40%.⁴⁵

IV. Conclusion

Manufacturers in numerous product lines have restricted customers' right to repair their products on their own or at a provider of their choosing. Manufacturer domination of

⁴² See generally *Tampa Elec. Co. v. Nashville Coal Co.*, 365 U.S. 320 (1961); *ZF Meritor, LLC v. Eaton Corp.*, 696 F.3d 254 (3d Cir. 2012) (“An exclusive dealing arrangement is an agreement in which a buyer agrees to purchase certain goods or services only from a particular seller for a certain period of time.”); *Allied Orthopedic Appliances, Inc. v. Tyco Health Group, L.P.*, 592 F.3d 991 (9th Cir. 2010).

⁴³ *ZF Meritor*, 696 F.3d at 270 (“[T]he law is clear that an express exclusivity requirement is not necessary because de facto exclusive dealing may be unlawful.”).

⁴⁴ See *United States v. Dentsply Int'l, Inc.*, 399 F.3d 181, 187–96 (3d Cir. 2005) (holding that dental product supplier violated Sherman § 2; acquisition and maintenance of substantial market power, combined with creation of high price umbrella, evidenced power to exclude through exclusive dealing arrangements that imposed limitations on dental product dealers, creating artificially high barriers to entry and limiting product choices of both dealers and laboratories), *cert. denied*, 546 U.S. 1089 (2006).

⁴⁵ E.g., *McWane, Inc. v. FTC*, 783 F.3d 814, 837 (11th Cir. 2015) (“Traditionally a foreclosure percentage of at least 40% has been a threshold for liability in exclusive dealing cases. . . . However, some courts have found that a lesser percentage of foreclosure is required when the defendant is a monopolist.”); *ZF Meritor*, 696 F.3d at 286 (noting that the Third Circuit had previously suggested that a 40 to 50% foreclosure percentage was necessary).



aftermarkets for parts and services marginalizes small enterprises, hurts owners of a wide range of durable goods, and contributes to the growing problem of e-waste. The FTC has significant power to address this problem using its antitrust authorities and should put this power to use. By attacking manufacturer practices that limit competition in the aftermarket for parts and service, the FTC, together with other policymakers at the federal and state level, can play an important role in restoring the public's right to repair.