

This is a section of [doi:10.7551/mitpress/12686.001.0001](https://doi.org/10.7551/mitpress/12686.001.0001)

# Innovation Matters

## Competition Policy for the High-Technology Economy

By: Richard J. Gilbert

### Citation:

*Innovation Matters: Competition Policy for the High-Technology Economy*

By: Richard J. Gilbert

DOI: 10.7551/mitpress/12686.001.0001

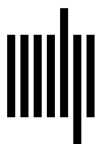
ISBN (electronic): 9780262358637

Publisher: The MIT Press

Published: 2022

### OA Funding Provided By:

The open access edition of this book was made possible by generous funding from Arcadia—a charitable fund of Lisbet Rausing and Peter Baldwin.



The MIT Press

# 9 “Where Is Foundem?”: The Google Shopping Case and Antitrust Policy for Product Designs

Product innovation generally benefits consumers and inflicts harm on competitors, so courts look for evidence of exclusionary or anticompetitive effects in order to distinguish between conduct that defeats a competitor because of efficiency and consumer satisfaction and conduct that impedes competition through means other than competition on the merits.

—*New York v. Actavis PLC*, US Court of Appeals (2015)

## 1 Introduction

This chapter discusses competition policy for product designs and related new product offerings by a dominant firm. I introduce this topic with a discussion of investigations by the US Federal Trade Commission (FTC) and the European Commission (EC) into allegations that Google manipulated search results to benefit some of its proprietary products.<sup>1</sup> The central issue in those investigations was the design of Google search algorithms that allegedly discriminated against independent comparison shopping services (CSS). Comparison shopping websites collect information from participating merchants and the World Wide Web about product prices, features, and reviews, which they monetize with advertising or marketing agreements. They include Foundem, a UK comparison shopping website that gained notoriety as the lead plaintiff in an antitrust suit brought by the EC, and other websites such as NexTag, PriceGrabber, Shopping.com, and Shopzilla.

Google launched a CSS called Froogle at the end of 2002, which it rebranded as Google Product Search and then Google Shopping in 2012. Over the course of these developments, Google made changes to its search algorithms, which order results on its search engine results

page (SERP). Prior to the changes, a product query would deliver links to non-Google CSS websites at or near the top of the SERP. After the algorithm changes, a product query would display Google product listing ads at or near the top of the SERP, complete with images and price data, and links to third-party CSS websites would appear on distant SERPs, if they appeared at all. Hence the title of this chapter: “Where Is Foundem?”

The Google Shopping case proved to be a Rorschach test for antitrust enforcement. The FTC saw a dynamic company that made legitimate product improvements and thus terminated its investigation, with no conditions related to Google’s alleged display bias. The EC, however, saw a dominant firm that excluded rivals. The EC fined Alphabet (Google’s parent) and ordered the company to end its alleged discriminatory practices.

The Google Shopping case is important because it addresses competition policy for product designs in the high-technology economy and does so in the context of a platform market. Section 2 briefly describes the two-sided market for internet search. Section 3 addresses the evaluation of market power for the so-called free side of this market. Consumers do not pay a financial price to query the internet, but their search histories supply Google and other search engines with valuable data that they can use to attract paying advertisers.

Section 4 reviews the disparate outcomes of the FTC and EC investigations in this case. The FTC did not provide a detailed explanation of its decision to absolve Google from antitrust liability for alleged bias in the display of its search results. The EC issued a lengthy decision but did not tether it to general principles that could guide competition policy for product designs or related innovations.

Section 5 discusses general approaches to evaluate product designs and other innovations by a dominant firm that may exclude competition. This section reviews several proposals that have been advanced by courts and antitrust scholars and concludes by supporting a truncated rule of reason approach. The truncation refers to a threshold level of innovation above which a rule of reason balancing is not necessary. Under this truncated rule of reason, product designs and other innovations would escape antitrust condemnation if they were substantial improvements and were not accompanied by other exclusionary conduct that did not have procompetitive benefits. Innovations and product designs that provide only marginal benefits would be examined under the rule of reason to determine whether their benefits com-

pensate for any exclusionary effects. This approach would condemn some product changes that have occurred in the pharmaceutical industry, where the regulatory environment allows the suppliers of patented drugs to exclude rivals by making minor changes to their products. Section 6 offers some concluding remarks for competition policy for innovation and product designs.

## 2 A Brief Primer on Internet Search

Search engines enable consumers to explore the billions of pages of content on the World Wide Web and allow merchants to place ads to attract potential customers. Without a search engine, the web would be like a giant library with no card catalog. An efficient search engine is indispensable to access and utilize the information on the internet. A search engine is also a valuable tool for advertisers to connect with consumers and exploit opportunities for e-commerce.

Google operates a two-sided platform that allows internet users to query billions of web pages without a financial charge (they compensate Google by surrendering valuable personal data to Google), while providing paid services that allow advertisers to place their ads on the SERP or on the pages of website publishers. A Google search query delivers "organic" results (also called "generic" results), which are links to websites that the Google search algorithms conclude are relevant to the query. In addition to organic search results, a query may trigger advertisements that are displayed alongside or nearby the organic results on the SERP. Advertisers compete for favorable placement on the SERP by placing price-per-click bids on query keywords. Google ranks the bids based on the bid prices and the likely number and quality of clicks on the ads, which generate revenue for Google.<sup>2</sup>

For several years, most search engines displayed a combination of organic search results and text ads in response to search queries. But this "ten blue links" model began to change when Google and other search engines evolved from delivering relevant website links to delivering relevant information. Instead of supplying only website links in organic search results in response to a query, Google and other search engines evolved to, in some cases, answering the question itself, along with relevant images and text.<sup>3</sup> Google introduced a functionality called Universal Search in 2007, which integrated specialized displays in search results that can include product shopping listings and other results, such as flight, restaurant, and hotel listings, maps, and news.

The specialized displays, such as Google Maps, are sometimes called “verticals” because they focus on a segment of online content. Verticals may be proprietary products (such as Google Flights), and they may or may not include sponsored (paid) links. For example, a search for “Italian restaurants Boston” may deliver a map that includes restaurant locations, some of which may be sponsored.

Many website publishers and online merchants depend on favorable rankings in Google’s free organic search display for a significant fraction of their traffic. Changes to the Google search algorithms that push more of Google’s specialized content to the top of the SERP necessarily denies to others premium SERP real estate for organic search results. Most internet searchers focus on the first or second pages of search results, and one estimate is that exclusion from the first five pages of search results leads to a 90 percent reduction in organic clicks.<sup>4</sup> Of course, consumers focus on websites that rank high in search results in part because they believe, often correctly, that they are most responsive to their queries.

The Google search engine is not a static product. Google makes numerous changes to its search algorithms. Relatively minor tweaks occur frequently—one estimate is 500–600 changes per year.<sup>5</sup> Sometimes Google makes major changes. A few years after it introduced its Universal Search display, it undertook an effort to identify and demote search results that it believed offered little or low-quality content, including sites that primarily outsource content to third parties or have high ad-to-content ratios. Google formalized this change in the “Panda” update, which went live in early 2011.<sup>6</sup>

The Panda update greatly reduced traffic for CSS websites such as Foundem and related websites that mostly aggregate content from other sources. The update identified these websites as being of low quality because they offered little original content; they were mainly a collection of links to other websites, such as retailers for cameras. After the Panda update, relevant queries no longer returned links to CSS and similar aggregation websites on the first or second SERP. They were more likely to appear on much more distant pages, if at all.

The purported intent of the Panda update was to give greater prominence in organic search results to high-quality websites, which by itself, would seem to benefit internet users.<sup>7</sup> However, the Panda update did not demote Google’s product listing ads despite the fact that they did not offer much original content and in most respects were similar (and arguably inferior) to other CSS. To the contrary, after the Panda update,

Google displayed ads with links to Google Shopping prominently on the first SERP in response to a product-related query.

If Google had relied solely on organic search results to display Google Shopping, the Panda update would have buried Google's own CSS in the hinterland of organic search engine results, along with other aggregation websites that offered little original content. A Google employee wrote:<sup>8</sup>

From a principal perspective it would be good if we [Google] could actually just crawl our product pages and then have the[m] rank organically (...) Problem is that today if we crawl [our product page] will never rank.

Google's preferential treatment for its own comparison shopping vertical prompted many CSS publishers and some other suppliers of specialized web content (such as Yelp and TripAdvisor) to cry foul and complain to the FTC and the EC. Was Google's conduct anticompetitive? And even if it did harm competition, was this an unavoidable consequence of a design change for which Google had a valid business justification?

An investigation into anticompetitive conduct typically begins with an inquiry into whether the defendant has significant market power. Market power is a screen for possible anticompetitive effects; if a firm does not have market power, it does not have the ability to profitably raise prices or exclude competition. Market definition also plays a role in assessing whether Google has anticompetitively extended the market power that it may possess in general internet search into a separate market for CSS. In the two-sided market for internet search, anticompetitive effects can include higher prices paid by advertisers; a reduction in the quality of internet search; or a reduction in innovation or product quality. The next section briefly addresses whether Google has sufficient market power in general search to exclude competition in CSS.

### 3 Does Google Have Market Power in Organic Search?

Google does not charge consumers to search the web (although the company profits from collecting information about consumers' search behavior) and its conduct did not raise the consumer price for search above zero. It is important at the outset to dispel a popular myth that a zero price implies zero consumer harm. Google charges a zero price for search because doing so allows Google to make more money from advertising. Google's conduct can impose a quality cost on consumers if it makes search results less informative. Alternatively, consumers can

be harmed indirectly if the conduct increases the cost of advertising, which consumers ultimately bear. Consideration of the latter indirect harm involves a two-sided analysis.

Google is the most popular search engine by a very large margin. One estimate is that in 2018, searches on Google accounted for more than 87 percent of page views from all platforms (i.e., desktops, mobile devices, and tablets) in the US, and more than 93 percent of page views from all platforms in Europe.<sup>9</sup> Nonetheless, Google maintains that it cannot have market power necessary to lower search quality or exclude competition because “competition is only a click away.”<sup>10</sup> If a consumer is not satisfied with a Google search result, the consumer can easily turn to a different search engine, such as Yahoo!, Bing, or DuckDuckGo, all of which have capacity to respond to additional queries, or the consumer can navigate directly to a relevant website. A further claim that Google lacks market power in search is that the advertising side of the two-sided market for internet search encourages Google to supply high-quality search results. Advertisers pay Google because its search engine identifies relevant potential customers. Advertisers would pay less if Google’s search results were less informative.<sup>11</sup>

These arguments have theoretical appeal, but they do not answer whether Google actually has the incentive and ability to degrade the quality of search results. The company has the ability to degrade internet search results without causing an unprofitable loss of consumers for several reasons. First, internet search has aspects of a credence good, which by definition is a good whose quality is difficult for a consumer to verify.<sup>12</sup> For complex queries, it is difficult for a consumer to know whether Google has returned an accurate result or whether a different search engine would have returned a better result.

Second, Google’s enormous trove of search results and its technological expertise allow it to provide more accurate responses to queries compared to other search engines, even if those responses may be somewhat distorted by financial incentives. The search engine DuckDuckGo touts that it does not track consumers, which arguably implies that it is more interested in consumer privacy than in providing search results that generate advertising revenue. But DuckDuckGo processes only a tiny fraction of search queries compared to Google, which limits the ability of its search algorithms to supply accurate and highly relevant responses when consumers enter queries that require a complex evaluation.<sup>13</sup>

A third reason why Google has the ability to profitably degrade search results for comparison shopping is that a product query is only one of

many categories of queries that consumers enter into a search engine. Google could degrade the quality of search results for products without causing many consumers to become generally dissatisfied with the Google search engine if they place a low value on product queries relative to the total value that they obtain from all other Google search queries.

These reasons support a conclusion that Google has the ability to degrade search results without causing a significant exodus of consumers to rival search engines and that Google's market share reflects significant market power for organic internet search.<sup>14</sup>

Market power gives Google the ability to profitably degrade search results, but does Google have the incentive to do so? Economic theory suggests that firms that have a monopoly on an important input (such as internet search) and compete with other firms in markets that employ the input (such as CSS websites) have incentives to degrade the quality of the input that they supply to their rivals.<sup>15</sup> Organic search results that provide users with the best information do not necessarily maximize a search engine's profit if the search engine has proprietary services (such as a shopping vertical) that compete with desired organic search results or if the search engine can promote organic search results that are likely to direct consumers to websites where the search engine can collect substantial advertising revenues.<sup>16</sup> The incentive for Google to accomplish an anticompetitive end by degrading the quality of its search results can be high because Google does not profit directly from search queries; instead, Google profits from advertisers that respond to search queries and from advertisements on its proprietary services.

A related question is whether there is a separate antitrust market for CSS. The EC concluded that CSS is a separate market for antitrust analysis, while the FTC did not address this issue in its commentary. Given the rapidly evolving nature of internet search, it is questionable whether it is useful to define a narrow market that is limited to a particular type of information, although the US Department of Justice defined a separate market for "comparative flight search services" in its investigation of Google's acquisition of ITA Software.<sup>17</sup> The assumption of a separate market for CSS makes it easier to conclude that Google's conduct harmed competition. If comparison shopping queries were like other queries for the purpose of antitrust analysis, the relevant question would be whether Google harmed competition for general search. That is an unlikely outcome because the publishers of CSS websites are not serious threats to Google's dominance of general internet search.



Google has the ability to display its own Google Shopping vertical service prominently and demote CSS websites without causing a significant exodus of consumers, and it likely has an incentive to demote a CSS because it competes with Google for advertising dollars. Does it follow that Google harmed competition without a procompetitive justification by designing an algorithm that demoted CSS in organic search results, while elevating its own shopping service to the top of the SERP? The EC answered in the affirmative, while the FTC reached the opposite conclusion. After briefly summarizing these outcomes in the next section, the subsequent section turns to general principles to evaluate product changes by dominant firms.

#### 4 Two Antitrust Regimes, Two Different Outcomes

On January 3, 2013, the FTC voted unanimously to close its investigation of Google's search practices without demanding any change in conduct regarding the display of Google search results.<sup>18</sup> The Commission's closing statement emphasized that Google's design choices were an improvement:<sup>19</sup>

The totality of the evidence indicates that, in the main, Google adopted the design changes that the Commission investigated to improve the quality of its search results, and that any negative impact on actual or potential competitors was incidental to that purpose. While some of Google's rivals may have lost sales due to an improvement in Google's product, these types of adverse effects on particular competitors from vigorous rivalry are a common byproduct of "competition on the merits" and the competitive process that the law encourages.

Although the Commission acknowledged that "some of Google's algorithm and design changes resulted in the demotion of websites that could, collectively, be considered threats to Google's search business," it focused on the procompetitive effects from Google's design changes. The Commission stated:

Product design is an important dimension of competition and condemning legitimate product improvements risks harming consumers. Reasonable minds may differ as to the best way to design a search results page and the best way to allocate space among organic links, paid advertisements, and other features. And reasonable search algorithms may differ as to how best to rank any given website. Challenging Google's product design decisions in this case would require the Commission—or a court—to second-guess a firm's product design decisions where plausible procompetitive justifications have been offered, and where those justifications are supported by ample evidence.

The EC continued its investigation after the FTC decision. In June 2017, the Commission held that Google abused its dominant position in general internet search by giving illegal advantage to its own CSS, in violation of European Union (EU) antitrust law. The Commission fined Google's parent 2.42 billion euros (\$2.7 billion at the prevailing exchange rate at the time) and ordered the company to cease discrimination against independent CSS.<sup>20</sup>

The Commission premised its decision on the following findings:

(i) General internet search services and comparison shopping services are separate relevant product markets for the purpose of antitrust analysis.<sup>21</sup>

(ii) Google has a dominant position in general search.<sup>22</sup>

(iii) Google abused its dominant position in general search by conduct that decreases traffic from Google's general search results pages to competing comparison shopping services and increases traffic from Google's general search results pages to Google's own comparison shopping service.<sup>23</sup>

(iv) This conduct is capable of having, or likely to have, anticompetitive effects in the markets for comparison shopping services and general search services.<sup>24</sup>

The EC also rejected justifications that Google advanced for its conduct. These included the consumer benefits from demoting low-quality websites, the value to consumers of providing the most useful and relevant search results, and the importance to Google of being able to monetize space on its SERP. The EC concluded that none of these purported justifications required Google to give preferential treatment to its own CSS.<sup>25</sup>

The EC's decision addressed the responsibility under EU antitrust law for a dominant firm to refrain from conduct that is an abuse of its dominance. Abuse of dominance under EU law encompasses a wide range of behavior other than competition on the merits that can hinder the degree of competition in a market or the growth of that competition.<sup>26</sup> Article 102 of the Treaty on the Functioning of the European Union specifically includes as an abuse of dominance "applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage."<sup>27</sup> It is an understatement to say that this is a weaker standard than US courts have adopted with regard to a monopolist's obligations to deal with rivals.

The EC decision, which exceeded 200 pages, concluded that Google's conduct has the potential to foreclose competing CSS, which may lead to higher fees for merchants and higher prices for consumers. It also concluded that Google's preferential treatment for its own shopping

vertical reduces the incentive of competing CSS to improve the relevance of their existing services and create new types of services, and reduces the incentives of Google to improve the quality of its CSS because it does not need to compete on the merits.<sup>28</sup>

The EC decision emphasized discrimination and paid little attention to whether Google's algorithmic changes to its search displays were improvements. It stated that it "does not object to Google applying rich features to certain results but to the fact that Google applies such rich features only to its own comparison shopping service and not to competing comparison shopping services."<sup>29</sup>

The EC ordered Google to stop its discriminatory practices or else face continuing fines, but the Commission did not specify a remedy. Instead, it stated, "It is for Google and Alphabet, and not the Commission, to make a choice between the several possible lawful ways of positioning and displaying competing comparison shopping services in the same way as Google positions and displays its own comparison shopping service in Google's general search results pages, thereby bringing the infringement to an end."<sup>30</sup> This proved to be easier said than done. The EC rejected several proposals by Google, and the most recent proposal continued to raise Commission concerns as of March 2019.<sup>31</sup>

The Google Shopping case is not unique. Google's algorithms return specialized responses to many search queries. A query for "flights from Boston to Denver" shows the Google Flights specialized service with related booking options, such as hotels and car rentals, and may include sponsored links to other websites. Firms such as Yelp, TripAdvisor, Travelocity, Kayak, OpenTable, and Hotels.com can (and many do) complain that they are excluded from these services and may demand equal visibility for their websites. The EC opened an investigation into the Google Jobs search tool in response to complaints by rival job-search websites.<sup>32</sup> There are practical obstacles to accommodating these demands because there is a limited supply of premium real estate on a SERP.

The focus of this chapter is on the detection of anticompetitive product design rather than the design of appropriate remedies. It is not difficult to see why the FTC and the EC reached different outcomes based on their different legal regimes. The decision by the EC followed the road map described previously to assess abuse of dominance. The FTC decision is consistent with the deference to innovation in US anti-trust law and legal precedents which support an enforcement posture that firms have little obligation to assist their rivals. Neither the FTC nor the EC described a general framework to evaluate the costs and ben-

efits of design changes that have exclusionary consequences. The next section reviews several important antitrust cases in the US that dealt with exclusionary design changes by dominant firms, and discusses general principles that have emerged from these cases and from scholarly debate on this topic.

## 5 Antitrust Policy for Exclusionary Product Designs

US courts tend to defer to design changes that have technical merit if they are not accompanied by other exclusionary conduct.<sup>33</sup> In the words of the court of appeals in *US v. Microsoft*, "As a general rule, courts are properly very skeptical about claims that competition has been harmed by a dominant firm's product design changes."<sup>34</sup> Nonetheless, antitrust challenges to exclusionary product designs have survived, even under the accommodating principles of US antitrust law.

Several general approaches have been proposed to identify innovation and associated conduct that harm competition (sometimes called "predatory innovation"):

- A focus on whether a dominant firm coerces firms or consumers to adopt a new product (a hard switch)
- The profit-sacrifice test and its cousin, the no economic sense test (NEST), which ask whether the alleged conduct could be a rational business strategy if it did not harm competition
- A rule of reason analysis that compares anticompetitive effects and procompetitive justifications

All these approaches have both utility and limitations for evaluating innovation as a possible antitrust offense. I discuss each of them in turn.

### The hard switch

US courts addressed alleged anticompetitive product designs in the early 1970s in a case brought against the Eastman Kodak Company. The case involved, among other issues, the introduction of Kodak's Pocket Instamatic camera and a new color print film, Kodacolor II. The plaintiff, Berkey, competed with Kodak in supplying photofinishing services and cameras. Berkey alleged that Kodak violated the antitrust laws by failing to release advance information about the new film and camera format and by restricting Kodacolor II to the Instamatic format for a period of time, thereby preventing Berkey from providing photofinishing services or competing to sell cameras in the new format. The

court of appeals reversed a jury verdict in favor of Berkey on these issues. The court ruled.<sup>35</sup>

If a monopolist's products gain acceptance in the market, ... it is of no importance that a judge or jury may later regard them as inferior, *so long as that success was not based on any form of coercion.*

Other courts that have addressed allegations of anticompetitive innovation have distinguished between hard and soft switches. A "soft switch" occurs when a firm introduces a new product (such as a new camera format) but does not remove the old product from the market. In a "hard switch," the firm takes aggressive measures to remove the old product from the market or otherwise make it difficult for consumers to purchase the old product. For example, a drug manufacturer may reformulate a drug to make the dosage once a day instead of twice a day and then remove the old drug from the market so that it is no longer available for generic substitution.

Courts have used lack of coercion as a screen to identify innovation that does not raise antitrust concerns, much as they use small market shares as a screen to identify the absence of market power. The principle is that absent coercion, consumers will choose a new product or service only if it is better than alternatives. If there is conduct that facilitates a hard switch, it does not automatically follow that the conduct is anticompetitive. That should be assessed using a more thorough analysis of costs and benefits.

A focus on coercion frees courts from the difficult task of evaluating the merits of design changes; instead, it allows them to evaluate conduct (the hard switch) that may not have procompetitive justifications. However, coercion is a weak test to evaluate product changes because it is neither necessary nor sufficient for anticompetitive innovation. Firms can exclude competition without satisfying the literal test of a hard switch. Pharmaceutical companies spend heavily on research and development (R&D), but many companies spend more on sales, marketing, and administration (see table 9.1).<sup>36</sup> Much of this expense goes toward promotional activity directed to physicians and consumers. Drug manufacturers can switch patients to a new drug by promoting the new drug heavily while abandoning promotion of the old drug. That may not qualify as coercion, but it could have an equivalent effect.<sup>37</sup>

Minor changes to product characteristics can have exclusionary effects in the absence of coercion in some special circumstances. In other circumstances, a hard switch can have procompetitive benefits. When products have strong network effects, firms and consumers can

**Table 9.1**  
Marketing and R&D expenditures by large drug companies (2016 \$ billions).

Company	Sales, Marketing, and Administrative Expenses	R&D
Johnson & Johnson	19.0 <sup>a</sup>	9.1
Novartis	12.0 <sup>b</sup>	9.0
Pfizer	14.8	7.9
GlaxoSmithKine	14.1 <sup>c</sup>	5.4 <sup>c</sup>
Merck	9.8	10.1

<sup>a</sup> Excludes shipping and handling costs

<sup>b</sup> Excludes general and administrative expenses

<sup>c</sup> Converted from British pounds at 1 GBP = 1.5 \$US

Source: Annual Reports.

exhibit excess inertia: They are reluctant to transition to a potentially superior but incompatible new product because they do not benefit unless other firms and consumers make the same adoption decision. On the supply side of the market, economies of scale can make it efficient for a firm to narrow consumer choices. Efforts to compel firms and consumers to adopt a potentially superior product can have procompetitive consequences when markets have these characteristics. Furthermore, some improvements have social values that greatly exceed their private returns.<sup>38</sup> A policy that ignores these spillover benefits and evaluates improvements based solely on their benefits for a narrow set of consumers could deter socially valuable innovation.

The existence of conduct that is unrelated to the product change and affects consumer and firm adoption decisions can aid fact finders in their assessments of harms and benefits. Coercive conduct that allows a dominant firm to maintain or extend monopoly power and has no procompetitive justification can be condemned as anticompetitive. In some cases, however, the presence or absence of coercion is not even an available dichotomy because design or other technological changes require rivals to adjust to the change to remain viable. In the digital economy, some firms supply automatic software downloads that can defeat interoperability.<sup>39</sup> Suppliers of complementary products must reconfigure their products if a firm that controls interoperability protocols implements a different technology. The change to the protocol itself coerces adoption of a new technology.

In the late 1960s, several companies sold devices such as disk drives and printers that were plug compatible with IBM’s highly successful

360 family of mainframe computers. IBM might have welcomed plug-compatible manufacturers (PCMs) because they were complements and could add substantial value to a mainframe computer system. But independent pricing by PCMs interfered with IBM's usage-dependent pricing policies and peripherals were a potential threat to IBM by providing a stepping stone to mainframe system competition.

IBM fought PCMs with price reductions and implemented design changes to controllers and interconnections in its new 370 series of computer systems that had some performance benefits but defeated interoperability between the mainframe and non-IBM peripherals. Several PCMs responded with allegations of antitrust violations. In nearly all these cases, the courts held that where IBM's design changes had technical benefits, they were not anticompetitive.<sup>40</sup>

Four decades after the IBM cases, plaintiffs in the *in re Apple iPod iTunes Antitrust Litigation* made similar allegations regarding product designs that defeated interoperability. The plaintiffs alleged that Apple repeatedly updated its FairPlay encryption protocol to make its iPod media player and songs downloaded from its iTunes music store incompatible with other media players and streaming services, and also refused to license the updates to its rival, RealNetworks.

With regard to the refusal to license, the court cited the Supreme Court's 2004 decision in *Verizon v. Trinko*, with its proposition that a firm has no duty to assist its competitors.<sup>41</sup> As for the FairPlay updates themselves, the court focused on whether they were genuine improvements in response to hackers who had circumvented the FairPlay encryption. It answered in the affirmative for one of the updates and dismissed the charges. With regard to another update, the court could not determine whether it was a genuine product improvement and designated the issue for trial.<sup>42</sup> A jury concluded that the update was a genuine improvement and found no antitrust violation.<sup>43</sup> The court did not address whether coercion was relevant to the antitrust analysis. Apple implemented its FairPlay updates automatically, so consumers had no choice other than to accept the new encryption standards if they wanted to access the iTunes music store. According to the judge and jury, if the updates were improvements, they were sufficient to escape antitrust liability.

These cases imply that legitimate product improvements do not violate US antitrust laws if they are not accompanied by other exclusionary conduct.<sup>44</sup> In *Allied Orthopedic Appliances v. Tyco Health Care Group*, the court stated:<sup>45</sup>

There is no room in this analysis for balancing the benefits or worth of a product improvement against its anticompetitive effects. If a monopolist's design change is an improvement, it is "necessarily tolerated by the antitrust laws," unless the monopolist abuses or leverages its monopoly power in some other way when introducing the product. To hold otherwise "would be contrary to the very purpose of the antitrust laws, which is, after all, to foster and ensure competition on the merits." If a monopolist's design change is an improvement, it is "necessarily tolerated by the antitrust laws."

Although many courts have accepted the principle that that a design change cannot violate the antitrust laws if it is an actual improvement, as a standard to evaluate allegations of anticompetitive innovation it is too permissive. Suppose that IBM made changes to its interoperability protocols in a way that had a trivial technical benefit but excluded PCMs. Or suppose that Apple's FairPlay updates were intended to exclude rival media players and streaming services and there was an alternative encryption protocol that was no less efficient but had no exclusionary effects. Should such changes be presumptively lawful? Scholars and courts have proposed two alternative approaches to this question: profit sacrifice, or the no economic sense test, and the rule of reason.

### **Profit sacrifice/no economic sense test**

Janusz Ordover and Robert Willig suggest an approach to evaluating conduct that has exclusionary effects, including innovation, which does not focus on the distinction between a hard and soft switch.<sup>46</sup> The nub of their approach is the concept of profit sacrifice: Predatory objectives are present if a practice would be unprofitable without the exit that it causes, but profitable with the exit. Conduct that sacrifices profits in order to exclude rivals, and that would not be profitable without that exclusion, is conduct with predatory intent.

Other scholars have built on the notion of profit sacrifice and proposed the no economic sense test (NEST) to identify conduct that falls within the prohibitions of the antitrust laws.<sup>47</sup> NEST advances the principle that conduct that allegedly threatens to create or maintain a monopoly is anticompetitive if, but only if, it makes no business sense for the defendant except for the exclusion of rivals and resulting supra-competitive recoupment. The concept is similar to profit sacrifice, in that a practice that makes no economic sense is a practice that sacrifices profit, but the converse need not hold. Firms can engage in conduct that is marginally less profitable than the conduct that would maximize



profits without the exclusion of rivals, but it can still be conduct that makes economic sense. I focus on NEST in the following discussion because it is difficult for antitrust enforcers to determine whether a firm has engaged in conduct that falls short of maximizing profits. Furthermore, innovation typically requires a firm to make costly investments, which can be erroneously labeled as a profit sacrifice.<sup>48</sup>

NEST is an aid to understanding a firm's intent, but it is an imperfect tool to determine antitrust liability, and it is arguably useless to assess innovation that is not accompanied by some type of exclusionary conduct. Successful innovations exclude rivals and many important innovations would not be profitable if they did not exclude rivals. Recall the quote from Steve Jobs at the beginning of chapter 4: "What's the point of focusing on making the product even better when the only company you can take business from is yourself?"<sup>49</sup> Apple invested billions to invent and improve the iPhone. Some of these investments would have made no economic sense if Apple did not expect its iPhone to displace sales of rival mobile phones. More generally, NEST is not applicable to situations in which it is impossible to isolate the benefits from excluding competition from the benefits that are a consequence of legitimate competition on the merits.

NEST has utility in some circumstances. The FTC accused the Intel Corporation of engaging in discriminatory and deceptive conduct intended to maintain its monopoly in central processing units (CPUs) and create a monopoly for itself in graphics processing units (GPUs), including product designs that intentionally defeated interoperability. The FTC alleged that Intel redesigned its compiler and library software to reduce the performance of competing CPUs, pressured independent software vendors not to label their products as compatible with competitors' microprocessor products, even though those products were compatible, and adopted a new policy to deny interoperability for certain competitive GPUs. According to the complaint, many of Intel's design changes to its software had no legitimate technical benefit and were made only to reduce the performance of competing products relative to Intel's products.<sup>50</sup> Although the FTC did not explicitly reference NEST, its allegations reflect a conclusion that Intel engaged in product designs that made no economic sense other than to exclude competition.

The FTC resolved its Intel complaint with a consent decree. In addition to many other obligations and conditions, the decree (which remains in force until 2020 unless modified by the Commission) prohibits Intel from making any engineering or design change to a product

if that change degrades the performance of a competitor's CPU or GPU without an actual technical benefit to the product.<sup>51</sup>

NEST is generally conservative, because conduct that harms consumers can pass the test. NEST would not challenge a minor technical improvement to interoperability protocols that excludes competition provided that the improvement has some value and does not incur a disproportionate expense. Similarly, NEST would allow an inexpensive change to a drug that defeats generic substitution if the change would generate a small increase in sales if there were no generic rivals.

NEST is also ambiguous because it does not specify how much exclusion is necessary for the test to apply. Foreclosure is not necessary for conduct to be anticompetitive in markets with strong network effects because network effects amplify the harm from behavior that tips the scales against rivals. Furthermore, although NEST is conservative in many circumstances, it can err by condemning conduct that has consumer value, particularly in markets with excess inertia. In such markets, costly actions (such as defeating interoperability) can promote efficient adoption of a new technology, but may not make economic sense unless they prevent consumers or firms from continuing to use an old technology.

Firms often make expensive bets on new technologies that can displace rivals. These bets may fail to realize expectations and consequently may not make economic sense *ex post*. That does not mean that the firm's investment decisions were motivated *ex ante* by the desire to eliminate competition. For these reasons, advocates of NEST argue that it should apply to a firm's expected payoffs, not to realized outcomes,<sup>52</sup> although a firm's expectations are difficult for a court to assess.

Despite these limitations, NEST can provide some insight into whether a firm intends a design change to maintain or extend its dominance for reasons other than competition on the merits. NEST can be a useful tool to identify conduct that has no economic justification, but it is a weak test for conduct that can harm competition. In principle, if not in practice, rule of reason analysis can assess the costs and benefits from product innovations more accurately.

### **The rule of reason**

The court of appeals in *US v. Microsoft* followed a rule of reason analysis to determine whether product designs by Microsoft were anticompetitive. The court first considered the threshold question of whether the challenged design had an anticompetitive effect. If the court concluded

that the design had an anticompetitive effect, it then investigated whether Microsoft had a procompetitive justification. The plaintiff had the burden to demonstrate anticompetitive effects, and the defendant had the burden to demonstrate procompetitive benefits. If both effects were present, the plaintiff had the burden to show that the anticompetitive effects outweighed the procompetitive benefits.

The rule of reason analysis described in *US v. Microsoft* is appealing in some respects and has been followed by other courts. Unlike shortcuts such as the hard/soft switch dichotomy and NEST, the rule of reason framework is similar to a consumer welfare analysis that fully captures costs and benefits and is favored by some antitrust scholars.<sup>53</sup> But there are two fundamental problems with this framework.

First, the question of whether conduct has an anticompetitive effect should be a determination of the analysis, not a threshold assumption.<sup>54</sup> A product design that disadvantages rivals is not inherently anticompetitive. It is important to focus on the purpose of the analysis and not begin with a presumption that a market outcome or conduct is inherently anticompetitive or procompetitive. Take the case of the camera system developed by Kodak and challenged by the plaintiff in *Berkey v. Kodak*. The new system imposed costs on Berkey and other suppliers of cameras and developing services that did not support the new format. These are costs, but it would be premature to call them anticompetitive effects.

A second problem is the difficulty of balancing alleged anticompetitive effects and procompetitive justifications. That was not an issue in *US v. Microsoft* because, as discussed in chapter 8, the court concluded that the challenged product designs either had anticompetitive effects or procompetitive benefits, but not both. If the evidence is not simply one-sided, courts would have to engage in a quantitative balancing of harms and benefits, which they rarely do.<sup>55</sup> Such an exercise would be particularly difficult in cases of significant innovations or important new product designs. Moreover, a proper analysis of costs and benefits should not end with the short-run effects of innovations or design changes on prices and consumer choices; rather, it should also consider long-run effects, including incentives for future innovations and possible spillover benefits.<sup>56</sup> For some conduct, a rule of reason analysis might identify a less restrictive alternative that has comparable benefits, with less harm to competition. That would require courts to second-guess technological decisions, which they are reluctant to do.

Despite these limitations, the rule of reason is useful to assess product designs that have trivial value and significant exclusionary effects. The peculiar circumstances of the industry for patented pharmaceuticals make this fertile ground to apply the rule of reason to evaluate drug changes. Manufacturers of patented drugs have been accused of "product hopping" (also called "line extensions" or "evergreening") by making minor changes to patented drugs on the eve of patent expiration that, when coupled with removing the old drug or aggressively promoting the new drug, defeat generic substitutions. For these very minor changes (such as a change in packaging from a tablet to a capsule), it would not be particularly difficult for courts to weigh the benefits from these changes against their exclusionary effects for generic competition.

I propose a truncated rule of reason, which would ease the burden on courts to undertake a complex analysis of the costs and benefits of innovations and product designs in most situations. Under this approach, an innovation or product design would be presumptively lawful if it is substantial and not accompanied by exclusionary conduct that is separable from the improved product or technology. Modest innovations or changes in product designs would be candidates for a full rule of reason analysis that compares their benefits to their exclusionary effects. Without regard to whether an innovation or product design is substantial, exclusionary conduct that is not necessary for the innovation or product change would require a rule of reason analysis to determine whether it has benefits that more than compensate for any harm to competition. The truncated rule of reason analysis also can admit consideration of less restrictive alternatives that have similar benefits with less of an exclusionary effect.

In most situations, a modest design change or innovation would not have significant exclusionary effects because an alternative is available that has comparable benefits. There are exceptional circumstances, such as a change in the formulation of a drug that defeats generic substitution or a change to an interoperability protocol. In these cases, the truncated rule of reason can reach a conclusion that the design change or innovation is anticompetitive even if it is not accompanied by other exclusionary conduct. Courts could then require the defendant to abandon the change or make commitments to ensure the availability of comparable alternatives, such as by committing to supply and promote the older formulation of a drug or by providing a way for products to interoperate using an older protocol.

The logic of this proposed truncated rule of reason is that substantial innovations or new product designs have societal benefits that are very difficult for courts to quantify and often exceed the private return to the innovator. Judicial scrutiny of substantial innovations or new product designs risks deterring beneficial investment and would consume administrative resources without corresponding benefits for consumers. These types of innovations or design changes should be shielded from antitrust liability if they are not accompanied by other conduct that has exclusionary effects. Modest innovations or new product designs should not benefit from these absolute protections. By their nature, modest improvements are easier to quantify and in some cases can have exclusionary effects that far outweigh their benefits.

Of course, the threshold for a substantial innovation or new product design is a critical factor in this approach. Whether an innovation or a new product design is a substantial improvement should be assessed by the economic benefit the innovation or product design provides for consumers. Although this can be difficult to quantify, courts are familiar with evaluating complex economic testimony regarding costs and benefits; innovations and product designs are not different in this respect. Furthermore, if an innovation or product design has benefits that are so extensive that they cannot be quantified, that should weigh in favor of a determination that the innovation or product design is substantial.

### **How would these principles apply to the Google Shopping case?**

Neither the FTC nor the EC explained its decision in its Google Shopping investigation with specific reference to coercion, NEST, or the rule of reason. The hard/soft switch dichotomy is not very useful to evaluate the Panda update to Google's search algorithms. Like Apple's changes to its FairPlay encryption protocols, the update was inherently a hard switch for rival CSS websites, although the change did not prevent the sponsors of these websites from marketing their services in ways that did not depend on organic search rankings. If Google had procompetitive business reasons to change its display algorithms in a way that demoted rival CSS websites because they made search results more informative, it would be odd to condemn the change as coercion. On the other hand, the Panda update would be coercive without compensating benefits if its only purpose is to suppress competition rather than provide more informative organic search results.

A NEST for the Google Shopping case would have two elements. The first is whether the Panda update had a procompetitive business

justification by making organic search results more informative, or was merely an effort by Google to suppress competition by demoting rival CSS websites. The latter would not pass NEST. A second element is the opportunity cost of Google's favorable placement of its Shopping vertical. The allocation of premium SERP real estate to Google's Shopping vertical would not pass NEST if it cost Google more in foregone advertising revenues than Google could expect to earn from its Shopping vertical. The FTC commented on the first element with its brief statement that Google adopted the design change to improve the quality of its search results, but did not comment on the second element, and the EC's decision did not address either element.

The EC did not specifically object to the Panda update or reach a conclusion about its technological merit. More specifically, the EC did not address whether Foundem and other CSS websites should have scored higher in the list of organic search results on the Google SERP. Rather, it objected to the fact that Google was favoring its own Shopping vertical, while demoting rivals:<sup>57</sup>

The Commission Decision does not object to the design of Google's generic search algorithms or to demotions as such, nor to the way that Google displays or organises its search results pages (e.g. the display of a box with comparison shopping results displayed prominently in a rich, attractive format). It objects to the fact that Google has leveraged its market dominance in general internet search into a separate market, comparison shopping. Google abused its market dominance as a search engine to promote its own comparison shopping service in search results, whilst demoting those of rivals. This is not competition on the merits and is illegal under EU antitrust rules.

The FTC did not offer any details that would inform a rule of reason analysis of Google's conduct. The EC made concluding statements about the effects of Google's conduct on prices and innovation that could be a distillation of a rule of reason analysis. However, the EC provided no quantification of the value of Google's design changes and their exclusionary effects to justify its conclusions.

The rule of reason is a useful tool to evaluate some types of innovations, and in particular to allegations of product hopping in the pharmaceutical industry, in which the product innovations are trivial and the exclusionary effects are very large. It is not a useful tool to evaluate complex and potentially valuable design changes in a dynamic industry such as internet search, unless the product designs at issue are clearly trivial changes. For non-trivial product improvements, these considerations bring us back to the standard applied by many US

courts to evaluate alleged anticompetitive innovation, which is that legitimate innovation does not violate antitrust laws unless it is accompanied by anticompetitive conduct. A related inquiry is whether there might have been a less restrictive alternative to the Panda update that would accomplish the update's asserted procompetitive benefits without demoting rival CSS websites.

In the Google Shopping case, Google's conduct reduces the incentives of rival CSS to improve their products, but it also encourages them to invest in other services, such as providing manufacturers with assistance to advertise their products on the SERP. At the same time, Google's conduct increases the company's incentive to improve the Google Shopping vertical because it has greater exposure to consumers, and hence greater demand from advertisers. Improvements in the quality of search results benefit advertisers, including the merchants that choose to pay for placement in Google Shopping. These longer-lasting effects confound an already difficult analysis.

Following the truncated rule of reason, the FTC would have reached the correct decision if Google's design changes had substantial consumer benefits and if the Panda update that demoted CSS had a valid business justification, provided that there were no less-restrictive alternatives that would have similar benefits without harming competition. On the other hand, Google's prominent placement for its shopping vertical could have been deemed an exclusionary exercise of market power if the design had no significant cognizable technological merit, the Panda update that demoted rival CSS websites had no valid procompetitive business justification, and CSS is a separate relevant product market in which competition or innovation could be harmed. Antitrust liability would require evidence that the exclusionary effects from the design changes more than offset any benefits. That would require more analysis than the evaluation reported in the decision published by the EC.

## 6 Some Concluding Remarks about Different Antitrust Regimes

Antitrust enforcement for product designs that have exclusionary effects is one of the most difficult challenges for competition policy. The outcomes of the FTC and EC investigations into Google's alleged display bias for product comparison shopping reflect markedly different approaches to this problem. The US has evolved a relatively *laissez-faire* policy that does not obligate firms to assist their rivals. EU antitrust

law has evolved in a different direction, prohibiting discrimination for being an abuse of dominance.

Neither policy is appropriate to adequately address concerns in the high-technology economy. The US policy is too permissive, while the EU policy can deter innovation and punish conduct for which there is no practical remedy. Indeed, while prohibiting dominant firms from discriminating against their rivals is a desirable objective, available remedies often do not achieve that objective without miring courts in complex and costly oversight.

US antitrust law has not always held that firms have no duty to assist their rivals.<sup>58</sup> In 1951, the Supreme Court decided *Lorain Journal v. United States*, a case that involved a refusal by a firm to provide services to customers that patronized a rival.<sup>59</sup> *Lorain Journal* was the sole publisher of a newspaper in a small midwestern city at a time when newspapers were an important two-sided platform for information and advertising. In response to the arrival of a local radio station, *Lorain Journal* refused to run ads for advertisers that also ran ads on the radio station. The Supreme Court held that *Lorain Journal's* refusal to deal with these advertisers was an unlawful attempt to maintain its monopoly power.

The *Lorain Journal* case has a bearing on the Google Shopping case, although there are important factual, legal and economic differences. *Lorain Journal* conditioned a refusal to deal on its customers' use of a competing medium. The EC did not allege that Google refused to deal with comparison shopping services or discriminated against CSS rivals that advertised in other media. Furthermore, *Lorain Journal* did not involve a new product design and the newspaper offered no plausible efficiency justification for its refusal to accept ads by advertisers that also advertised on the radio station. Nonetheless, both cases allege that a dominant firm sought to exclude competition by discriminating against a rival, either directly by demoting rival search results or indirectly by refusing to deal with a rival's customers.

In *Otter Tail Power v. United States*, the Supreme Court held that the refusal of an electric power utility to transmit wholesale power to communities that established their own retail power systems was an unlawful exercise of monopoly power.<sup>60</sup> This is another case that preceded *Trinko* in which the Court held that discrimination against a rival can be a basis for a finding of unlawful monopolization. The precedents established in *Lorain Journal* and *Otter Tail* do not imply that Google's alleged suppression of rival CSS websites was anticompetitive. However,



competition policy would be served by paying attention to the guidance in *Lorain Journal* and *Otter Tail* rather than adhering to a principle that dominant firms have no duty to assist their rivals.

Courts have yet to adopt a uniform and economically defensible approach to evaluate innovation and product changes that exclude competition. Neither the rule of reason analysis, NEST, nor the hard/soft dichotomy provides a generally useful framework for antitrust analysis of alleged anticompetitive innovation. The truncated rule of reason analysis suggested in this chapter offers a middle ground that defers to significant innovations if they are not accompanied by avoidable exclusionary conduct. For minor product changes and avoidable conduct that has exclusionary effects, the truncated rule of reason requires that antitrust authorities weigh the exclusionary effects against consumer benefits, and may condemn product changes for which exclusionary effects bear a disproportionate relationship to the value of the change.

Antitrust authorities should avoid extreme positions regarding liability for innovations and product designs that exclude rivals, and adopt a middle ground aided by general principles such as the proposed truncated rule of reason approach. It is likely that other antitrust cases that are forthcoming in the high-technology economy will test alternative ways to deal with these difficult issues.

© 2020 Massachusetts Institute of Technology

This work is subject to a Creative Commons CC-BY-NC-ND license.

Subject to such license, all rights are reserved.



The open access edition of this book was made possible by generous funding from Arcadia—a charitable fund of Lisbet Rausing and Peter Baldwin.



This book was set in Palatino by Westchester Publishing Services.

Library of Congress Cataloging-in-Publication Data

Names: Gilbert, Richard J., 1945- author.

Title: Innovation matters : competition policy for the high-technology economy / Richard J. Gilbert.

Description: Cambridge, Massachusetts : MIT Press, [2020] | Includes bibliographical references and index.

Identifiers: LCCN 2019039525 | ISBN 9780262044042 (hardcover)

Subjects: LCSH: High technology industries. | Competition. | Antitrust law--Economic aspects. | Consolidation and merger of corporations--Law and legislation--Economic aspects.

Classification: LCC HC79.H53 G56 2020 | DDC 338.8/2--dc23

LC record available at <https://lcn.loc.gov/2019039525>