

CHAPTER IV: THE STRUCTURE AND CONTENT OF THE DIGITAL PLATFORM ACT (DPA).

In this section, I set out the proposed structure of sector-specific regulation of digital platforms, with one critical exception. I will touch only briefly on the question of whether to create a new agency, or to expand the jurisdiction of an existing agency such as the FCC or FTC. Too much distracting debate in policy circles has focused on this question already, usually advanced by stakeholders principally concerned with how the answer maximizes their private interest. Rather, modelling after the Communications Act (and, to a certain degree, other comprehensive sector regulation such as the Federal Power Act), I propose to address the following subjects:

1. The general goals of the statute and problems the statute seeks to address.
2. The competitive framework. This consists of three separate but interrelated sections: competition between platforms, competition using the platform, and competition in the marketplace of ideas.
3. Consumer protection and public safety.

A. DPA Title I: Purpose and Public Interest.

The statement of purpose and how it defines the public interest in the context of comprehensive statute is not merely a hortatory expression of congressional intent (or worse, PR spin embedded in the statute). Rather, this statement of the specific public-interest goals supports the design and interpretation of the statute's substance, and provides the metric by which to measure the statute's success. As established above, sector-specific regulation of digital platforms has become necessary because these platforms have become integral to our lives. That has not happened because these technologies or the companies maintaining them are intrinsically bad. To the contrary, their overall value and utility is what make them part of our critical infrastructure. The purpose of comprehensive regulation is to align private incentives with the public interest to promote social welfare and prevent social harms. Doing so therefore requires a decent understanding of what, exactly, we mean by these lofty phrases in this context.

1. How Statement of Purpose Shapes the Entire Structure of the Statute.

Why does this matter? Consider the following contrasting formulations of the public interest and the goals of the statute. K. Sabeel Rahman sees the problem as involving the dangers of concentration of private power over vital services and infrastructure (Rahman 2018). Accordingly, he

proposes that regulation concentrate on “firewalling” (limiting the exercise of private power to stifle competition or abuse consumers), “public obligations” (negative or positive commands to ensure neutral and affordable access), and “public options” (basic versions of the critical service offered by the state or by a state-controlled entity). By contrast, former FCC Chairman Tom Wheeler frames the necessary regulation under social contract theory and posits the existence of a “network compact” in network infrastructure industries (Wheeler 2019; Wheeler 2014). This conceptualization focuses on creating greater mutuality between provider and public, where the goal is to promote positive feedback between the one and the other and ensure that benefits are equitably distributed to society as a whole. These conceptualizations are not mutually exclusive by any means, and both strive to limit abuses of private power while promoting social benefit for all. Rahman’s conceptualization, however, requires heavy and significant government involvement and an emphasis on constraining rather than incenting firms. Wheeler’s conception is more likely to rely on market incentives and treat the government’s role as providing oversight and requiring accountability by private actors, rather than depending on the government to set terms or provide services (although these remain options of last resort where necessary).

My point here is not to debate these specific approaches or argue which is superior. My point is to illustrate how the overall conception of the statute is foundational in shaping its structure and approach rather than merely a decorative flourish. It is the beginning of the analysis, not a *post hoc* rationalization for predetermined solutions.

As discussed above, the evolution of technology has forced us repeatedly to reconsider the overall goals of regulation in light of our fundamental values. Traditionally, we regulated telephone networks and other means of telecommunications to achieve universal access at affordable rates, protect consumers, and promote the use and utility of the network for commerce, education, and delivery of public services (such as public safety). As a society, we valued the network for what it *enabled us to do*. Accordingly, our regulation focused on ensuring equitable provision of services and network neutrality in providing services. We encouraged competition and innovation to further enable end users. We focused first on promoting competition using the platform, for example ensuring that anyone wanting to start taking business orders for flowers or mail-order catalogs or burglar alarms could have access to a toll-free number or other necessary components of the network on equal terms with any other provider, including the network operator itself. Only later did we begin to promote competition in different segments of the platform itself, such as long distance or local voice service.

By contrast, the regulation of mass media focused on values fundamental to our conception of democracy and self-governance. We valued the network for what it *provided to us* as passive users. Accordingly, the expression of our fundamental values in media regulation focused primarily

on trying to affirmatively promote “good” content (local news, children’s educational programming, representation for traditionally excluded and marginalized communities) and police “bad” content (deceptive programming of various types, advertising to children). Regulation also focused heavily on preventing control over the “marketplace of ideas,” either directly by the government (by prohibiting censorship and making license-renewal decisions subject to judicial review) or through a concentration of broadcast licenses in private hands. Regulations designed to stimulate the production of independent and local programming included requirements that broadcasters forgo any financial interest in their programming, that broadcasters make an hour of prime-time viewing available for non-network programming,⁵⁴ and that broadcasters maintain a local studio even if they primarily relied on network programming (Federal Communications Commission 2017).

Just as the expression of our fundamental values varied significantly between telecommunications and mass media, certain problems were prevalent on one platform but non-existent on the other. For example, broadcasting rules almost never addressed rate regulation because broadcast services were free, and competition among broadcasters moderated the cost of local advertising.⁵⁵ Telephone regulation, while extensively concerned with rates, never addressed issues of content moderation or content creation — a primary focus of media regulation. Regulation of telecommunications as a “common carrier” incapable of discriminating based on either content or customer identity solved many problems (such as encouraging competition by unrelated businesses using the platform) but left other problems unsolved. For example, it did nothing to prevent people from using telephones for harassment, or to commit fraud. Rather than compromise the neutrality of the platform or the privacy of users by requiring the platform to police conversations, Congress criminalized harmful behavior and created legal processes for telephone providers to cooperate with law enforcement.

Digital platforms combine aspects of both traditional communications and traditional mass media. We value them both for what they enable us to do **and** for what they provide to us as passive audiences or traditional consumers of goods and services. We seek to encourage competition between platforms (where possible) and competition by service providers using the platform. This is particularly true for social media. Like broadcast media (and cable) before it, social media enormously magnifies the power to amplify “good” content or “bad” content. Over the last five years we have seen the power of social media to spotlight police brutality and enable

⁵⁴ *Mt Mansfield Television, Inc. v. FCC*, 442 F.2d 470 (2nd Cir. 1971) This ruling affirmed both the Prime Time Access Rule (PTAR) and Financial Syndication Rule (Fin Syn). Fin Syn was not a complete prohibition on any form of ownership, but limited financial interest and other mechanisms of control a network could exercise over the distribution of its programming.

⁵⁵ The one exception is regulation of rates governing advertising by federal candidates, which imposes a common carrier-like obligation on broadcasters to offer advertisements on equal terms to qualified federal candidates if the broadcaster chooses to take advertising from any candidates. See 47 U.S.C. §315.

organization of a powerful social movement to fight it (Feld 2018c) go hand-in-hand with the power of social media to enable genocide and ethnic cleansing (BSR 2018).

I therefore recommend a public-interest statement and overall structure for the statute that draw on both these traditions. In keeping with Wheeler’s “network compact” approach, the statute should rely principally on aligning the interests of private actors with the public interest. The cornerstone of the proposed Digital Platform Act (as suggested by the name) is to promote (not merely protect) competition and embrace competitive market mechanisms. At the same time, drawing on Rahman’s conception as primarily limiting private power over critical infrastructure, the proposed DPA would include stringent and mandatory regulation of dominant firms and contain prophylactic regulation designed to prevent the accumulation of private power over critical infrastructure.

The fatal flaw in the efforts to promote competition through the Communications Act was the belief that deregulation was not a means to an end but an end in itself. Policy became obsessed with the danger of precluding potential “efficiencies” while tolerating ever increasing levels of concentration and the accumulation of private power. To use an analogy, every medical professional will tell you that eating healthily and exercising consistently contributes to a higher quality of life than employing *post hoc* remedies such as arthroscopic surgery for blocked arteries. The consistent evidence of network economics and the history of networked industries show a natural tendency to concentration in either monopoly or a handful of firms. Regulators’ insistence that “efficiencies” require problems to be clear and manifest before they can even begin to consider possible structural or behavioral rules has proven as damaging as the decision to wait to begin a healthy diet until after your first heart attack because you might accidentally miss out on a really delicious bacon burger.

Accordingly, the prophylactic and structural measures embedded in the statute (and the remedies authorized for future enforcement) should reverse the modern presumption that “first do no harm” means “take no action.” We should presume that concentrations of power — particularly over platforms essential to democracy and self-governance — are inherently problematic. This includes entrenching market power via vertical integration and extension by dominant firms into adjacent markets. Furthermore, whatever flexibility may be necessary for economic regulation, structural protections designed to affirmatively promote competition in the marketplace of ideas should not phase out over time or be subject to any kind of “effective competition” test. Certainly, the agency charged with implementing and enforcing the act should have the power to make exceptions and update regulations when evidence so dictates. But we should not expect that the market forces that created the current environment will have an expiration date beyond which structural regulation and ongoing oversight will no longer be required.

2. Specific Statement of Purpose of the DPA.

With all this in mind, I propose the following language for Section 1 of the DPA:

“For the purpose of providing to all Americans, regardless of race, sex [etc.] access to digital platforms for the purposes of enhancing opportunities for civic engagement, expressive freedom, economic and educational opportunities;

“For the purpose of promoting access to government services, and specifically to promote public safety;

“For the purpose of promoting competition so as to encourage the creation of new services and innovation generally to enhance the public welfare, and expressly to reduce existing unhealthy levels of concentration and prevent further or future accumulation of private power over critical digital infrastructure;

“For the purpose of promoting a robust and competitive marketplace of ideas with a diversity of views and production of the quality journalism and local information on which democracy and self-governance depend; and,

“For the purpose of protecting consumers from deceptive, unfair, unjust or unreasonable practices by operators of digital platforms or users of digital platforms, and to ensure the right of all Americans to use digital platforms without fear of threats of violence or harassment consistent with our rich tradition of freedom of expression and protection for controversial speech;

“Does Congress enact this Digital Platform Act.”

This language makes abundantly clear that the primary goal is to continue to preserve the value of digital platforms primarily for what they enable us to do, rather than reducing users to passive consumers of goods, services and content. This empowerment of end users to occupy the role of both creator and consumer is critical not merely to the social value of digital platforms, but to their continued economic growth and well-being.⁵⁶ At the same time, we recognize both the danger

⁵⁶ Defenders of deregulation often find it difficult to believe that markets may actually function more efficiently with regulation than without. A simple example, however, will suffice. We could allow market negotiation to determine whether to have a mechanism to regulate traffic on roadways. Cars would collide with each other until they developed a common set of recognized voluntary protocols to signal each other and resolve disputes over rights of way. Or we can require by regulation that traffic stop at particular intersections and signal this requirement with highly visible signs in an unusual shape and bright color, or through an automatic device rotating through a series of lights going from green (“proceed”) through yellow (“caution”) to red (“stop”). Nearly

of concentrating power in the platforms themselves, and the reality that the qualities that allow platforms to enable users also enable both good and bad behavior. It is the role of government, however, not the role of privately operated platforms, to determine what speech or activity is or is not permissible. This is not to say that platform operators have *no* role in protecting users. But the same moral, economic and practical concerns that motivate us to limit concentrations of economic power apply even more strongly to limitations on private police power.

3. Implementation: Creating the Competition Tool Kit.

Below, I outline a comprehensive set of regulatory mechanisms for inclusion in the proposed Digital Platform Act. Critical to understanding my proposed structure is understanding that this is **a set of tools** rather than a list of affirmative commandments and proscriptions applicable to every digital platform in every case. At the same time, however, we must recognize that these tools often work best when used in a complementary fashion. They are not intended to be substitutes for one another. Each proposed regulatory tool addresses a particular type of anticompetitive behavior or incorporates a rule historically found to enhance competition. Just as a screwdriver is not a substitute for a saw, the statutory tools to promote competition described in this section are not substitutes for one another.

This is not to say that Congress or the enforcing agency should not consider how these provisions potentially interrelate. Rather, Congress should make sure that the DPA contains all the tools needed to promote competition, while providing appropriate direction to the enforcing agency. To assure that the enforcing agency has all the necessary tools at its disposal to address a field as diverse, dynamic, and essential to our economy as digital platforms, Congress should make the **authority** of the agency to consider even the most draconian solutions crystal clear. History has shown that redundancy is far less a concern in statutory drafting than under-inclusiveness, and that agencies are more often reluctant to use their full statutory powers for fear of judicial reversal or political backlash than they are to overreach.⁵⁷

all drivers agree that imposing “rules of the road” by regulatory fiat has proven less costly and more efficient over time than negotiating voluntary “industry-based” standards at each intersection.

⁵⁷ As an advocate with two decades’ experience in the field of telecommunications and media regulation, I can say from personal observation that the hoary cliché in public choice theory that regulators seek to expand their regulatory authority as a means of accumulating power and perks — whatever truth it may have had decades ago — has little merit in today’s world. To the contrary, the backlash that follows every controversial decision — such as threatened or actual budget cuts, endless oversight hearings and congressional inquiries, and agency resources diverted to defend the decision from inevitable litigation — all work to persuade the rational, self-interested actor to keep as low a profile as possible. Nothing may be more telling than the statement of Ander Crenshaw (R-FL), then chairman of the House Appropriations Committee, to then-FCC Chairman Tom Wheeler in July of 2016: “This committee has held the FCC’s funding at a flat level since 2012, because we believe that the commission can and should do less with less. We believe you all should do a better job of managing your resources and focusing on your core operations. Unfortunately, the commission seems to be pursuing politically charged issues, rather than the mission-critical work of the FCC.” [<https://www.govinfo.gov/content/pkg/CHRG-114hrg97181/pdf/CHRG-114hrg97181.pdf>] To the extent that public choice theory genuinely employs rational actor theory rather than magical thinking about regulatory boogeymen, it should reflect the actual environment

B. Competition Between Platforms and Competition on the Platform.

When analyzing the question of competition using digital platforms, it is important to consider competition among platforms providing the same type of service (e.g., between Google Search and other general search providers such as Bing), competition between the platform and some subset of services (e.g., between Google Search and specialized “vertical” search platforms such as Yelp), and competition among businesses using the platform (e.g., two businesses selling goods through the Facebook Marketplace). This last category can also include competition against a vertical affiliate of the platform itself (e.g., between retailers and Amazon’s competing retail products). I call the first type of competition “between platforms competition,” and the second type “on platform competition.” This distinction is primarily useful for determining how to implement the competition-promoting tools discussed below.

A form of this debate has been a feature of U.S. telecommunications policy debate since former FCC Chairman Michael Powell distinguished between competition through overbuilding as *intermodal* competition and competition through resale of unbundled network elements as *intramodal* competition (Blevins 2009). Champions of intermodal competition argue that allowing rivals access to the dominant provider’s platform keeps these rivals from building their own competing platform. They also claim this creates a disincentive to investment by the dominant platform. Apparently, they believe the suggestion in rational-actor theory that businesses will seek to take advantage of any revenue opportunity applies only to hypothetical competitors rather than actual incumbents.

The evidence in Europe and the United States contradicts the purely intermodal approach for telecommunications. Comparison of both retail rates and investment in infrastructure supports the theory that regulation creating intramodal competition confers broad benefits to consumers and does not, in fact, create disincentives to investment in network upgrades (Benkler 2010). But even if we assume the validity of the intermodal competition argument in physical networks, there appears to be no reason to suppose that it applies to digital platforms. Additionally, as in telecommunication, nondiscrimination and neutrality are important tools to ensure competition on the provider side of the two-sided market — even in the presence of competition between platforms.

The primary importance of the distinction will come with implementation of the competition mechanisms outlined below. Some of these, such as data portability, are more useful in encouraging intermodal competition between platforms. By contrast, nondiscrimination is usually a concern only

confronted by regulators: consistent unremitting hostility to regulation whose goal is to protect the public interest at the expense of powerful incumbents.

for entities using a specific platform to compete against one another or against a subsidiary of the platform.⁵⁸ Policy makers should therefore be clear if they intend these tools to promote a particular type of competition or to promote all types of competition.

Tim Wu has identified a basic framework for using regulation to promote competition (Wu 2017b). He identifies a taxonomy for regulatory tools that is useful here. I generally adopt this taxonomy with some modification.

Separation or Quarantine Rules — designed to break longstanding ties or bundles.

Switching Cost Reducers — designed to prevent lock-in and to facilitate customers' ability to move from one platform to another.

Cost of Entry Reducers — In addition to making it easier for customers to switch from one platform to another, regulatory regimes can reduce the cost of entry in other ways. This may include what Wu calls "pro-competitive deregulation," such as eliminating rules that significantly raise the cost of entry. I have expanded this category beyond deregulation to recognize that the explicit goal is to encourage new entrants and facilitate competition. This may mean explicitly waiving rules for new entrants as opposed to generally deregulating.

Equalizers — Rules designed to equalize the conditions of competition, such as common carriage. Wu breaks out Patent Reducers as a separate category, but reducing the ability to exclude or raise the cost to rivals through control of essential patents (or of other intellectual property, such as copyright over exclusive "must-have" content) is basically a form of equalization.

Information Transparency Regimes — As discussed in Section I, the ability of a platform to control the information available to both sides of a transaction on a multi-sided platform is one feature of digital platforms. Consumers' inability to clearly associate higher cost or negative experiences with the platform, rather than with the other party or parties to the transaction taking place on the platform, is a significant barrier to consumers "voting with their feet."

As noted above, and as also observed by Wu, the best mechanisms for promoting competition are the most straightforward and, to the greatest extent possible, self-executing. This should not obscure the fact that creating such solutions may require considerable regulatory effort.

⁵⁸ There can be other reasons for nondiscrimination. For example, we prohibit discrimination on the basis of race or sex in places of public accommodation as an expression of social values rather than to enhance economic competition. Indeed, one reason to mandate some form of nondiscrimination may be to prevent manipulation of news or suppression of speech.

For example, development of the standard telephone jack following the *Carterfone* decision took years of rulemaking and required additional regulations to prohibit other forms of discrimination against competing services. Telephone number portability, another significant pro-competitive innovation that is seamless from the perspective of the user, required creation of an entirely new management system for telephone numbers (which, in turn, has given rise to its own set of issues, such as number spoofing). We must therefore recognize that while simplicity of use and ease of implementation are important design elements for rules designed to promote competition, creating these systems may take considerable initial regulatory oversight and enforcement. At the same time, we must not lose sight of the fact that when the systems are in place, they should be as simple as possible for competitors and consumers to use and to enforce.

Using the Wu framework, we can identify the following statutory provisions to promote competition between platforms, and on platforms where appropriate. Some regulations will serve multiple purposes, whereas others will only be relevant in discrete situations.

DESCRIPTION	TYPE OF REGULATION	HOW IT WORKS	Potential Problems	Solution
Data portability	<i>Switching Cost Reducer</i>	Allows consumers to move data from one service to another easily, enhancing choice and enhancing social graph knowledge of rival.	Privacy of those connected to switching customer. Originating service retains information.	Limit use of social graph. Permit deletion of information by customers or third parties whose privacy is potentially compromised
Fair Reasonable and Nondiscriminatory (FRAND) licensing terms for Standard Essential Patents (SEP)	<i>Equalizer, Entry Cost Reducer</i>	Prevents lockout of rivals or artificially raising rivals' costs.	Difficulty in determining which standards are essential and what are "fair" and "non-discriminatory" terms.	Agency oversight using criteria established by Congress. Self-executing with defense of FRAND/SEP available against infringement claims. Mandatory arbitration by adjudicatory panel or by selection of parties.
Open Application Programming Interface	<i>Equalizer, Switching Cost Reducer</i>	Allows rivals to access/replicate necessary elements/functions, Reduces switching cost by creating interoperability among rivals.	Commodification of product. Stagnation in industry. Potentially creates cybersecurity vulnerabilities.	Apply only to firms capable of imposing significant cost of exclusion (COE). Mandatory cybersecurity standards and practices to reduce risk.

Customer Proprietary Network Information	<i>Equalizer, Switching Cost Reducer</i>	Allows firms to interconnect and exchange necessary information without exposing proprietary information to rivals. Allows customers to switch easily between parties.	Can be difficult to enforce.	Audits. Structural Separation. Arbitration and private rights of action.
Limits on Vertical Integration/ Horizontal Cap (including possible break ups)	<i>Equalizer, Separation and Quarantine</i>	Prevents concentration of power, or extension of power into related markets.	Difficult/impossible to control organic growth, especially in global markets. Lines of related business very blurry. “Starfish” problem. Situations when vertical expansion necessary or has clearly demonstrable benefits beyond “efficiencies.”	Permit organic growth subject to agency oversight. Agency review of acquisitions under industry specific criteria (“public interest standard”). Clear definition of “core” function where possible.
Product Unbundling/Structural Separation	<i>Separation and Quarantine</i>	Prevents tying/lock in. Allows for development of multiple competing product markets. Creates benchmarks to verify nondiscrimination.	May be cumbersome and difficult to enforce. May create security issues.	Careful design, but recognize there will be trade-offs.
Nondiscrimination	<i>Separation and Quarantine, Equalizer</i>	Prevents platforms with COE from favoring own products on the platform, capturing new related markets, or extorting rents in exchange for access.	Platforms often must inherently “discriminate” to perform their functions. Difficult to detect/police.	Limit nondiscrimination to harmful economic discrimination. Establish criteria for “black box” testing. Right to audits conducted by agency or third-party testers.
Privacy By Design	<i>Information Transparency, Separation and Quarantine, Equalizer</i>	Limits stockpiling of information to what is necessary to provide the product or service. Prevents “cross-subsidy” of services and cross-marketing.	Line-drawing as to what constitutes information necessary to provide the service. Possible loss of valuable historic data. Limits research into new product design and research. May degrade customer experience. Policing and discovery.	Permit customer information audits. Liability for breaches and liquidated damages for stockpiling “unnecessary” information or improper sharing. Permit aggregate data collection and clear exceptions for research.

Due Process Rights	<i>Information Transparency</i>	Ensures that rivals cannot be cut off or suffer unreasonable discrimination. Ensures rivals using essential inputs from a dominant platform of sufficient stability to conduct business	Can be cumbersome, must be administered.	Multiple due process regimes already exist. Limit application to entities with COE.
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Not every one of these mechanisms will apply in every circumstance. Although digital platforms are definable by common characteristics, they represent a highly diverse field in terms of business case, size, and market power. Rules important to constrain the market power of a massive online retailer such as Amazon will not be necessary for the vast majority of much smaller platforms trying to compete with Amazon. To the contrary, since the goal is to facilitate competition, there are often excellent reasons to exempt or more narrowly tailor application of specific rules to smaller, competing firms.⁵⁹

At the same time, a number of these rules must apply to all digital platforms to achieve the goals of the statute. In the telecommunications arena, for example, number portability and mandatory interconnection apply to all providers. Congress must determine in the first instance which rules are necessarily universal to create a competitive and consumer-friendly landscape, and which are necessary to curb specific instances of market power. Congress must then empower the enforcing agency to take the necessary steps, guided by the statutory language and the goals of the statute. Granting an administrative agency discretion does create a degree of risk. While the frequent criticism of agencies as subject to industry capture or other elements of public choice theory have an outsized influence on public policy, they do contain some truth. Nevertheless, especially in a field as diverse and central to the economy as digital platforms, granting the enforcing agency some degree of discretion is critical.

⁵⁹ Indeed, legislators should regard the “level playing field” arguments frequently made by incumbents with considerable suspicion. The entire point of imposing greater regulatory oversight on dominant firms is to mitigate the real-world advantages incumbent firms enjoy, so as to advance competition and the overall goals of the statute. Similarly, the argument that this is “picking winners and losers” is absurd. Our national critical infrastructure is not supposed to be a game of Monopoly in which a single winner triumphs. If we agree that a competitive market is, in fact, the goal of the statute, then the statute must be designed to create a competitive marketplace that remains competitive. It is as harmful for the market to produce a single dominant winner or winning oligopoly as it would be for the government to anoint one by regulatory fiat.

In short, the statutory remedies listed here are tools to achieve the ends of the statute. They are not ends in themselves. But even if a tool is rarely used, it must still be included in the statutory toolbox for those times when it is needed.

1. Data Portability.

Numerous advocates have proposed allowing users to transfer their personal data, particularly the “social graph” information about their interactions with others. Doing so would reduce switching cost between platforms and help equalize competition among platforms (especially for digital advertising). Data—particularly individualized profiles — is important to platform size and revenue, and hence important to creating possible competitors to the largest platforms. Social graph portability, and data portability generally, are often compared to telephone number portability — an innovation of the Telecommunications Act of 1996 that allows customers to transfer their existing phone numbers to a new carrier. This analogy is somewhat misleading, however, since the seamlessness from the consumer perspective today (it was not seamless when initiated, and carriers were permitted 10 days to port a number to another carrier) often leads people to underestimate the effort and expense required to enable portability.

Developing the system to support telephone number portability was involved and complicated. It required a complete restructuring of how telephone numbers were administered, and how the telephone system routes calls. It also enabled an unanticipated new realm of services that have both useful and nefarious purposes, such as “burner phones” with temporary phone numbers. This is important to appreciate in light of one of the chief objections to mandating data portability. It sounds good, but it is difficult to engineer and potentially expensive to engineer. Additionally, opponents raise concerns about privacy — particularly if the contacts of the transferor do not wish to have their information exposed to whichever third-party service the transferor wishes to receive the social graph.

It is therefore useful to recall that similar issues were raised with regard to number portability and were overcome — with enormous benefits to competition. Indeed, the better comparison to data portability is not necessarily number portability, which required massive changes to the entire call routing system, but data portability for telecommunications services. Beginning in the 1970s, the FCC mandated that carriers must make a customer’s information available to rivals at the direction of the customer, including providing sufficient technical information to enable interconnection with customer premise equipment (CPE). These rules evolved into the comprehensive scheme in 47 U.S.C. § 222 and FCC regulations.⁶⁰ Of relevance here, Customer Proprietary Network Information

⁶⁰ I will discuss CPNI in considerably more detail below.

(CPNI) regulations limit both the purposes for which the receiving carrier can use the information and the purposes for which the *transferring* carrier can use the information.

It is easy to overlook the importance of this last feature. Consider a platform aware of a request for a data transfer that uses the fact of the request to try to retain the customer or to guess which services the new platform offers. The “losing” platform will also be aware of the ability of the “winning” platform to market to other customers based on the newly received social graph and may try to interfere with these marketing efforts. Similar restriction on the use of information provided to enable a data port, including the fact of the request itself, should be included in mandatory data portability regimes.

It should be noted that several of the largest platforms are engaged in a voluntary standard-setting exercise for data portability through the Data Transfer Project (Data Transfer Project 2018). While industry-led standard-setting in response to regulatory mandates for interoperability has yielded positive results in the past (for example the development of the standard phone jack), history shows it also has significant dangers of which regulators must be wary. Cable operators have consistently thwarted implementation of device interoperability through means such as onerous licensing terms (Bergmayer 2007); including complex, expensive and otherwise consumer-unfriendly requirements for interoperability to function; or, as a last resort, simply refusing to participate in the standards-setting process (FCC 2016). Any statute should therefore address these concerns. For example, the statute should clearly prohibit the behaviors described above, as well as any other means of forestalling adoption and implementation of an effective standard. The statute should also require the relevant agency to approve any industry standard, authorize the agency to make any changes in the standard necessary to achieve the purpose of easy consumer data portability, and create a private right of action for competing platforms or consumers encountering deliberate obstruction in application of the data portability mandate. Congress should also consider requiring a relevant federal agency to create a default standard and permitting the agency charged with enforcement to approve additional privately developed standards that meet the statutory criteria.⁶¹

Portability of the social graph differs from traditional data portability in fields such as healthcare and financial services because it inherently includes the personal data of others. I may wish a new social network to know who my friends are and how often I communicate with them. My friends, on the other hand, may not want yet another platform to know about their existence at all,

⁶¹ Voluntary standards may become tools for dominance if they gain sufficient power through network effects or other means to become the industry default (Hein 2013). If private standards are permitted, the agency must have the obligation to ensure that these standards do not become means for limiting competition or extracting monopoly rents.

never mind glean whatever information it can from their association with me. This problem becomes especially acute for the individual wishing to be let alone who has multiple friends joining a platform. As more of my contacts transfer data to a new platform, that platform learns more about me. This is the very nature of “big data,” and is the reason that transfer of the social graph enhances competition for targeted advertising dollars and minimizes switching cost by moving my preferences and dislikes to the new platform.

Part of the solution to this problem, of course, is generally applicable strong privacy laws. But adoption of data portability should not wait on a global solution. The new statute should limit the use to which the receiving platform can put the information. It should prevent the receiving platform from selling the acquired third-party information to others, or from using that information for any purpose unrelated to providing the service to the transferring party. The receiving platform could use the information for targeted advertising to the transferor (subject to strong, generally applicable privacy protections), but not for marketing to the third party. Additionally, the receiving platform (or the originating platform) should notify the third party about the information transfer and provide the third party the opportunity to delete information about itself acquired by the receiving platform within some reasonable time frame. These requirements strike a suitable balance between a general interest in competition and the legitimate desire of individuals to retain reasonable control of their data.

As an additional means of enhancing competition, the right to transfer data should be coupled with a customer’s right to require the “losing” platform to delete the customer’s social graph. Unlike the situation where a customer moves a phone number from one carrier to another, the “losing” platform still has access to all the previously gained customer information. This presents two dangers to competition. First, to the extent acquisition of massively outsized databases of personal information confers a competitive advantage, allowing the losing platform to retain the customer’s information safeguards the losing platform’s advantage, even if the competing platform now also has the information. While this provides some boost to competitors, it would further enhance competition if the departing customer could actually “take” their information with them rather than simply copy it onto an additional platform.⁶²

The second reason involves a trade-off in policy between temporary consumer advantage versus the long-term benefit of promoting competition. In the telecommunications world, the losing carrier may not use the request to port a phone number to another carrier as an opportunity to

⁶² This is an important distinction in the telecom universe between how number portability works and how customer proprietary network information (CPNI) works. When a customer ports a number, that number is transferred from one carrier to another. By contrast, when a customer requires a carrier to transfer information to a different provider, the carrier still has the information and retains the customer as a network subscriber.

dissuade the customer from switching. Prohibiting this behavior, called “customer retention,” represents a determination that the long-term advantages to consumers of promoting a competitive marketplace are more valuable than any short-term benefit a consumer may accrue in a tug-of-war between competing carriers. Congress should consider, or empower the implementing agency to consider, whether the value of enhancing competition overall by permitting customers to “take” their information from the losing carrier outweighs the potential benefits to consumers of allowing platforms to use the customer’s social graph to engage in targeted advertising or other customer retention efforts.

2. Open APIs.

Achieving data portability will require development of common application programming interfaces (APIs). APIs provide the points of interconnection needed for interoperability and other kinds of interaction with the platform (Riley 2017; Palfrey and Gasser, 2012). Open APIs enhance competition by preventing lock-in and by providing third parties access to those elements of the platform necessary to compete with the platform and with one another. This is similar to the ways network unbundling facilitated competition by third-party providers or competition on the platform, and development of the standard phone jack permitted competition in the device market.

“Open” in this context can mean several different things (Whitt 2018). It is sometimes used to mean non-proprietary software or hardware. For example, anyone can use the standards developed by the Internet Engineering Taskforce (IETF) without agreeing to a licensing agreement. It can also mean “non-proprietary” subject to certain conditions. For example, the GNU General Public License imposes certain conditions on anyone using software. “Open” can also mean proprietary but generally available to anyone willing to agree to the licensing conditions. This last definition of “open” creates significant concerns for competition. Facebook, for example, has “open” APIs subject to changes in the licensing agreement, and critics have alleged that Facebook uses these terms to limit competition (House of Commons 2018). In the communications realm, cable operators have used licensing agreements in “open” proprietary standards developed by CableLabs, the industry’s standard-setting organization, to render them essentially unworkable for potential competitors (FCC 2016; Dunne 2008).

At the same time, mandating that all APIs must be open creates significant security concerns in both development and implementation (Riley 2018; Palfrey and Gasser 2012). It is not that open standards are inherently less secure than proprietary standards, as some have claimed. Rather, as discussed by Palfrey and Gasser, mandating universal interoperability creates risks as well as benefits. This may include granting unauthorized access to information or systems. It also creates a

danger common to monocultures: A single vulnerability may affect the entire sector using the same API.

There is a critical difference between interconnection in telecommunications and open APIs for platforms. Telecommunications is a commodity service. It is designed to transmit information of the sender's choosing to a point of the sender's choosing without any alteration or interference. Providers compete on the basis of price and quality of service. Platforms, by contrast, might offer commodity services such as messaging, but also strive to create unique goods and services. Mandating open APIs may enhance competition by creating common, easy-to-use interfaces that reduce switching cost by preventing the need for users to learn entirely new operating systems. But it may also stifle the positive benefits of competition, such as innovation, if taken too far.

These dangers are often exaggerated in policy debates and declared by incumbents to be insuperable barriers and/or unacceptable costs of regulatory action. The history of success in standardized interfaces and interoperability, both when voluntarily adopted by the market and when mandated by government, belies the argument that open standards and interoperability invariably impose costs. Indeed, as demonstrated by Palfrey and Gasser and Mozilla's Chris Riley, interoperability frequently enhances innovation and reduces overall costs. Oversensitivity to these exaggerated concerns makes regulators too timid. So, while the statute should recognize potential costs, it should be more focused on requiring regulators to be sufficiently aggressive than on obsessing about regulatory restraint.

The statute should strike a balance between mandating interoperability in some cases, and authorizing the enforcing agency to take additional steps to encourage or require interoperability where necessary. Nevertheless, since proprietary APIs can provide important benefits, such as security, the statute should not prohibit proprietary APIs as a general matter. Rather, the statute should explicitly authorize the enforcing agency to require that platforms adopt open APIs when doing so would further the statutory goals of competition (including competition in the marketplace of ideas) and consumer protection. This should include clear authority to require non-proprietary APIs. In the case of proprietary APIs subject to licensing, the agency should have the power to set license terms, prohibit certain types of terms, and alter any specific licensing agreement as necessary to further the goals of the statute. This should include explicit authorization to ensure that licensing fees are just and reasonable, and to prohibit licensing terms that are unjust or unreasonable or that unjustly or unreasonably discriminate.

3. Intellectual Property as “Essential Facility:” FRAND, SEP and Other Types of IP Bottlenecks.

We may expand the problem of licensing terms beyond APIs to other forms of intellectual property, such as patents and copyright. As a general matter, society promoted innovation by providing inventors with the exclusive rights to their inventions and authors with the exclusive right to their writing. As software has become increasingly dependent on both patents and copyrights, firms have found ways to use their intellectual property to thwart competition in ways the patent and copyright statutes never intended.⁶³ This problem is particularly acute when an industry standard, even if generally open, incorporates a patent or patents held by a dominant firm. This problem is generally known as “standard essential patents,” or SEP. Over the years, antitrust authorities have addressed anti-competitive practices with regard to SEP by requiring fair, reasonable, and non-discriminatory licensing terms (FRAND) for the patents necessary to implement the standard (Li 2016).

Antitrust has focused on patents, particularly standard essential patents, because they have become the most obvious means by which firms can establish dominance through the standard-setting process rather than by developing superior products or otherwise winning in the competitive marketplace. Additionally, the enormous number of patents in any complex device or application, combined with the problem of patent holders threatening infringement suits over dubious patents, have made control of patents a common tool in a number of industries to erect and maintain barriers to competition. Patents as part of industry standards are not the only tool that may be leveraged in an anticompetitive fashion (Lemley, Richardson, and Oliver 2017). For this reason, the power of the enforcement agency to require licensing on fair and reasonable terms should not hinge on whether the patent is part of an industry standard, or otherwise meets the definition of “standard essential patent.” This is particularly important when a patent holder uses its control over patents to delay entry by potential rivals, particularly in related markets. For example, if Amazon were to acquire a portfolio of patents related to “home networks/digital assistants,” it could use them to threaten potential retailers of rival systems. Even if the claims of infringement are weak, history shows that many would-be retailers (especially small businesses) will simply avoid the cost and risk of litigation rather than carry a potentially infringing product.

⁶³ It is not my intent in this paper to review the debate on the role of intellectual property in innovation and competition generally. It is merely my intention to focus on the generally accepted view that there have been cases where firms used their control over intellectual property to thwart competition, and that antitrust authorities and regulators have, on occasion, addressed this problem without seeking to debate how rare or widespread the problem is. It has been particularly true in the worlds of telecommunications and mass media, where Marconi used his patents to delay the entry of competing radio equipment manufacturers, Edison used his patents to attempt to cartelize the early movie industry (Wu 2010), and cable operators used their control over programmers to thwart the entry of competitors such as Direct Broadcast Satellite (DBS) (Feld 2010).

Nor should the ability of the enforcement agency to set licensing terms or otherwise prevent abuse of intellectual property be limited to patents. As just discussed, control over copyrights — both for software and for “must-have” content — can be used to thwart competition and consumer choice (Dunne 2008). Antitrust authorities and regulators have also addressed abuse of copyrights through similar mechanisms. In some cases, such as music licensing for streaming services, a royalty board sets a rate for a mechanical license (FMC 2016). In other cases, such as cable programming, the statute prohibits “unfair” methods of preventing rivals from obtaining programming. For a limited time it also required licensing of programming affiliated with incumbent cable operators on reasonable terms (47 U.S.C. §548). In addition to general remedies, media competition has recognized the concept of “must-have” programming, *i.e.*, programming essential to attracting sufficient viewers to compete with dominant providers (Feld 2017b).

To prevent platforms from using intellectual property to thwart competition, the statute should expressly empower the enforcing agency to require licensing of any patent or copyright on reasonable and non-discriminatory terms, including express authorization to conduct rate hearings or prohibit unjust and unreasonable licensing conditions. The act should also make available a private right of action, which would include the ability to recover triple damages (as permitted under antitrust law) on a finding that a firm abused a standard essential patent or copyright. To assist in compliance and enforcement, the statute should set explicit criteria to guide both the enforcing agency and the courts in determining whether the patent or copyright is “essential.”

4. Customer Proprietary Network Information (CPNI).

Consumer privacy in electronic communications predates the Communications Act of 1934. Specific provisions such as 47 U.S.C. §605 (prohibition on publishing or intercepting any electronic communication) and the Cable Privacy Act, codified at 47 U.S.C. §551, reflect traditional concerns that people and businesses need to have confidence that their private communications will remain genuinely private. In some situations the very existence of a communication, let alone the address information or information about contents, can be personally or commercially sensitive.

CPNI is not merely designed to protect consumer privacy and proprietary business information generally. In the 1970s and 1980s, in an apparently unrelated trend, the FCC began opening up the traditional telephone network to competition on multiple levels. This included requiring incumbent local carriers to interconnect with rival carriers, deliver calls from a competing network to the incumbent’s customers (and vice versa), and generally let these competitors access customers on a carrier’s own physical network. In addition, in a set of orders called the “Computer Inquiries,” the FCC required the telephone companies to provide wholesale access to their networks for providers of “enhanced services” (Candeub 2018).

Whether or not the telephone company offered a competing “enhanced service,” nothing prevented the carrier from learning everything about the enhanced services offered over its networks and then offering its own competing services (with the additional ability to favor its own offering over that of the unaffiliated enhanced service provider). To take an example, suppose I want to start an alarm service that will send a signal to an alarm center and call the police or fire department if a burglar alarm or smoke alarm is triggered in the customer’s house. To do that, I have to have access to the customer’s phone wiring. I need to plug my system into the phone network and have the phone network send the call to the alarm center when the alarm goes off. This is impossible without the cooperation of the phone company. Furthermore, in order to integrate with the phone system, I not only have to reveal to the phone company that this telephone user subscribes to an alarm service, but I also may have to reveal to the telephone company all kinds of details about how my alarm technology works.

As an alarm company, I regard all this information as proprietary — and with good reason. The phone company can add up alarm companies’ customers on its system and determine whether or not there is sufficient demand to start its own alarm service. By learning details about how the alarm-company technology and network routing work, which the alarm company often must share to ensure compatibility with the network, the phone company can easily replicate this for its own rival service. It can then use its knowledge of which network subscribers already subscribe to an independent alarm service to offer them special deals to sign up for its own service. Indeed, the phone company doesn’t even have to wait for the rival to start serving the customer. Once a rival tells the phone company, “I need to connect a customer at this address using this phone number,” the phone company knows that this subscriber is interested in the service and can market directly to the customer even before the rival starts providing service. Alternatively, if a rival is seeking customer information to pull a customer away from the carrier (say, to transfer their phone service to my competing voice service), the carrier can reach out to try to prevent the customer from switching. Even if the carrier does not start its own service, it can sell this information to rival alarm companies or otherwise warp competition.

The FCC created the precursor to the CPNI rules to address this issue (Feld *et al.* 2016). The rules prohibited a carrier from using the information revealed to it by another carrier or enhanced service provider if the new competitor revealed that information in order to provide service to a carrier’s customer in the first place. Basically, the rules prevent a carrier like Verizon from acting on information provided by a competing carrier, like AT&T, or another business, like ADT Security, that relies on the phone carrier's network. Additionally, a carrier is required to provide information to a competitor when so directed by the customer. In other words, if I tell the phone company, “I’ve

decided to go with a competing alarm company, so give them my phone information so they can provide me with service,” the FCC requires the phone company to honor my request.

The CPNI regime proved so useful that Congress in the Telecommunications Act of 1996 made it mandatory by statute.⁶⁴ It has also been included in the telecommunications chapter of multiple trade agreements so as to facilitate competitive entry by American carriers in foreign markets. The DPA must include CPNI protections for providers using the platform to reach customers, and for direct competitors with the platform — as touched on in the section on data portability. This does not, of course, mean simply replicating the existing telecommunications regime. Rather, the DPA should incorporate the following two principles derived from the success of CPNI in the telecommunications world:

i. Distinguish between what the platform needs to know to provide service and what the platform “knows.”

One of the key insights of CPNI is to regulate the *use* of information rather than the collection of information. This recognizes that a network operator is not an individual human being who either “knows” something or doesn’t. It is quite possible to build systems that do not share information with each other, limiting access to those systems and purposes permitted by law and consistent with privacy. An example: Apple creates encryption for its iPhones that Apple cannot break without hacking the phone. Apple has set up this phone encryption so that the iPhone “knows” the user password in the sense that when the user enters the password the phone makes the appropriate functions or information accessible. But Apple itself doesn’t “know” the password because the iPhone is designed to prevent Apple from having access to that information. Once Apple makes and implements the design choice, it doesn’t matter what Apple wants going forward, even when pressured by law enforcement. No one at Apple can access the password without hacking the phone unless the customer shares the password (Feld 2018).

Similarly, we can require companies to structure their networks so that they collect information necessary to provide the service (or provide other functions, such as targeted advertising) but lack the ability to share this information with other systems or with any actual persons. Mark Zuckerberg’s testimony before various congressional committees illustrates how Facebook does this now. As Zuckerberg testified, he cannot personally discover a specific person’s geolocation or other personal information because the system is not designed to allow him to collect and organize the information that way. This does not stop Facebook from “knowing” a customer’s location and delivering a very specific targeted advertisement, or stop Facebook from

⁶⁴ Congress also used the opportunity to enhance customer privacy, but that is not relevant to the discussion here (Feld *et al.* 2016).

giving others access to customer information by interconnecting directly with Facebook’s data collection system. (These third parties can then analyze and organize the information as they choose, subject to law or contractual agreements.) Well-drafted legislation can require platforms to structure their systems so as to prevent such third-party access — or permit it if the customer so directs.

Legal protections are valueless without some means of enforcement. It is next to impossible for a platform user to know whether a platform is compliant with the law. Fortunately, this is not a new problem. Whether as a matter of contractual enforcement, or as a matter of regulation, a number of solutions to this problem have been tested in the real world. This includes a right for platform users and regulators to audit the information a company holds about them and how it uses it. For individual users, this would be modelled on the Cable Privacy Act, which requires the cable operator to provide at the customer’s request a copy of all personal information collected, the purpose for which it is collected and how it is used.⁶⁵ The FCC requires telecommunications carriers subject to CPNI regulations to provide certified reports of compliance.⁶⁶ Penalties for violation must be substantial enough to act as a genuine deterrent. This includes a private right of action with a sufficiently large liquidated damages clause.⁶⁷

ii. *Limit the ability to collect information from third-party providers of content or services that use the platform to reach customers.*

As I stressed above, a critical aspect of CPNI is often overlooked. CPNI affirmatively promotes competition by protecting the information that potential competitors must provide to the carrier in order to reach the carrier’s subscriber and provide the service. This does not prevent the carrier from “knowing” the information for acceptable purposes. For example, if the carrier collects payment for the third party by putting the fee on the subscriber’s bill, the carrier certainly “knows” all the information necessary to collect from the customer and remit to the third-party provider. But it cannot use that information *for any other purpose*.

The EU Antitrust Authority has launched an investigation into whether Amazon uses the information it collects as part of its third-party vendor program to develop its own line of competing products (White 2018). Application of a CPNI regime would prevent Amazon and any other digital platform from using third-party information to promote its own products or unfairly compete with third parties using its platform. Nothing about this would prevent the digital platform from policing third-party content, products, or services to prevent anything dangerous, nasty, inappropriate, or

⁶⁵ 47 U.S.C. §551.

⁶⁶ 47 C.F.R. §64.2009.

⁶⁷ A liquidated damages clause provides for a minimum remedy without the need to prove actual damages.

contrary to the policy of the platform. Again, the critical distinction is between the information the platform collects and can use only for limited purposes (what the platform “knows”) versus giving the platform unlimited discretion to use the information it collects (what the platform “knows it knows”).

iii. CPNI is a complement to consumer privacy protection, and must be compatible with broader privacy protections.

Although the Communications Act has several provisions designed to protect consumer privacy, CPNI is unique in combining both consumer protection provisions and competition enhancement (Feld *et al.* 2016). As a consequence, this has sometimes generated confusion, and occasional conflict, over whether CPNI is primarily about protecting consumer privacy or enhancing competition. For example, the easier to obtain CPNI, the easier it is for the consumer to purchase a competing enhanced service. At the same time, however, it becomes easier for scammers, stalkers, and other bad actors to gain access to the information (FCC 2007). Alternatively, as demonstrated in recent debates with regard to the FCC’s role in protecting consumer privacy, decision makers may focus entirely on the consumer protection role of CPNI to the exclusion of its role in promoting competition (Feld 2018). The ongoing effort to draft comprehensive consumer privacy protection at the state and federal levels increases the possibility of confusion and conflict over the role of a CPNI-like statute in promoting both competition and consumer protection.

Congress and the relevant agency should be aware of this confluence and potential conflict in drafting and implementing legislation. It should be clear that whatever CPNI-like provision is adopted to regulate platforms, it is intended to work in a complementary fashion with other consumer privacy safeguards. This will require some inherent flexibility in the statute, with a clear statement of congressional intent aimed at limiting the discretion of both the relevant agency and any reviewing court: Platform-specific CPNI is not intended to preempt other generally applicable laws or regulations protecting consumer privacy. This may sometimes require the duty to enhance competition to yield to the broader interest of protecting consumer privacy. This is therefore a case where it is better to require Congress to recalibrate the balance by design where necessary than to leave the matter open to agency discretion.

5. Horizontal Caps and Limitations on Vertical Integration — Including Possible Breakups of Existing Platforms.

As discussed above in Chapter I, antitrust does not impose a single defined limit on how large a firm may grow or impose a specific limit on the ability of firms to move into vertical markets. Sector-specific regulation, particularly regulation of electronic media, generally does. This

addresses not simply the question of “monopoly” but of “monopsony” — a situation where a single buyer becomes large enough to exert unhealthy influence on the market (Kahn 2017). Additionally, the structure of many markets lends itself to “duopoly,” a situation where two firms control the market and can either avoid competing with each other or limit competition in ways that would otherwise benefit consumers, or to “oligopoly,” control by a small number of dominant firms able to avoid intense competition on price and other factors. Standard antitrust attempts to capture these possible dangers through various metrics, but because of its general nature, antitrust does not provide a maximum limit applicable in all cases (DOJ FTC 2010; Galston and Hendrickson 2018).⁶⁸

By contrast, sector-specific regulation lends itself quite well to setting specific limits on size. Because sector-specific regulation addresses one defined area of the market, Congress or the delegated regulator can study the market or its submarkets and determine whether concentration above a specific level might undermine the public interest goals identified by Congress in the relevant statute. In these situations, regulators set “caps” on a firm’s size as a percentage of the market, whether by acquisition or by organic growth.⁶⁹ This has been particularly true for regulation of electronic media, where Congress and the FCC have prohibited levels of horizontal concentration far below those generally considered acceptable by antitrust, in order to encourage the production of news and perspectives from diverse and antagonistic sources.⁷⁰ For the same reasons, both Congress and the FCC have imposed limits on vertical expansion, sometimes referred to in the regulation of electronic media as “cross-ownership limits.”

Indeed, in the communications sector Congress and the FCC have sometimes gone so far as to require divestiture of horizontal or vertical assets without any evidence of an antitrust violation in order to promote an important public-interest goal. For example, when the market for daily newspapers collapsed in the 1960s and 1970s, the FCC imposed a “cross-ownership” limit on ownership of a broadcast license and a daily newspaper in the same market. Despite having initially favored cross-ownership of broadcast licensees by newspapers to encourage production of quality news, the FCC determined that the change in the market required a change of policy. As part of this change in policy, the FCC required divestment of broadcast licensees by local daily papers in

⁶⁸ As discussed in Chapter I, traditional antitrust has used a number of presumptions over time. This is different from setting a specific numeric limit on horizontal growth or on vertical expansion.

⁶⁹ It is important to note that Congress and agencies, for a variety of reasons, may decide not to impose divestiture even when setting a horizontal or vertical limit on an existing market. Additionally, Congress or agencies may sometimes permit organic growth but prohibit growth by acquisition (although, as we shall see, the case for permitting organic growth is far stronger in the vertical context than in the horizontal context). In all cases, it is important not to confuse the question of horizontal caps with the question of dominance. A firm may be at or under the ownership cap, but still have sufficient market power (either on its own or in combination with other firms) to warrant regulation as a dominant firm. Imposition of a specific limit on market share is only one tool to limit monopsony power.

⁷⁰ See *Turner II* (“Federal policy, however, has long favored preserving a multiplicity of broadcast outlets regardless of whether the conduct that threatens it is motivated by anti-competitive animus or rises to the level of an antitrust violation”). I shall discuss the history and importance of this “diversity principle” in greater detail in Chapter V.

approximately 20 markets. The Supreme Court affirmed this demand for divestiture in the absence of any antitrust violation as a reasonable exercise of agency discretion aimed at encouraging diverse and antagonistic sources of news in every major local market.⁷¹

i. What Do “Horizontal Caps” Mean in Cyberspace?

Traditionally in communications, the FCC and Congress have imposed limits on the number of subscribers a company may have or may serve. For example, in broadcasting, Congress in the 1996 act set the maximum audience reach of any entity holding FCC licenses at 35 percent of the national population. Setting a horizontal ownership cap works to avoid levels of concentration considered uniquely dangerous for the industry, as distinct from general levels of antitrust concern. This is particularly important in two-sided markets and markets subject to network effects. In both cases, the platform’s value (and therefore the cost of exclusion) is directly proportional to the number of customers on the platform.

The nature of platforms makes it difficult to apply horizontal ownership limits through a cap. For communications industries, a cap on customers or audience reach can be enforced by limiting the firm to a specific geographic area and prohibiting further expansion. This permits organic growth within the license area. But digital platforms are delivered via the internet and potentially serve global audiences. It is difficult to limit subscribers without harming the basic functionality and value of many digital platforms.

Horizontal ownership caps for digital platforms may be possible by acting to limit the vendor side, rather than the customer side, of the platform. This would essentially limit the share of the relevant market a platform can control before it is prohibited from acquiring any additional direct competitors. Some may argue that existing limits imposed by antitrust law make this redundant. To the contrary, such a horizontal limit would provide a necessary backstop to existing antitrust law, particularly in the wake of *Ohio v. American Express*.⁷⁷ A hard limit on acquisitions would express congressional judgment as to what constitutes a dangerous level of concentration without needing to prove a negative impact on consumer welfare to an increasingly skeptical judiciary.

This is particularly important in light of the concern that dominant firms prevent the emergence of competitors by purchasing them when still small. Because the firm being acquired has extremely small market share, the acquisition does little to change the absolute level of concentration as measured by the Herfindahl-Hirschfeld Index (HHI), the standard measure used by U.S. antitrust agencies (DOJ FTC 2010). Although the antitrust statute does not mandate the use of

⁷¹ *FCC v. National Citizens’ Committee for Better Broadcasting*, 436 U.S. 775 (1978).

⁷⁷ 585 U.S. ____ (2018).

HHI, it is difficult to persuade antitrust enforcers — and for them to persuade a federal court — to block a merger where a horizontal transaction does not directly result in a substantial increase in concentration as measured by HHI.

Furthermore, as noted in Chapter I, the peculiar nature of digital platforms makes it difficult to measure their market power using traditional metrics. Not only can it be difficult to define the relevant market, but the lack of obvious barriers to entry or significant switching cost can mitigate the argument for blocking a merger. Current antitrust law considers not merely existing competition, but the relative ease of entry of new competitors (a factor called “contestability”). This reflects the theory that potential competition keeps an existing monopsonist from abusing its market power as effectively as actual competition. Under this theory, if competition is waiting in the wings and can enter the market with relative ease, a monopsonist seeking to raise prices will simply attract new competitors anxious and eager to take advantage of its greed and poor judgment (Wu 2018).

This theory has been subject to considerable criticism, notably that markets are rarely as contestable as merger applicants and regulators assume (Baker 2015; Caves and Singer 2018). Nevertheless, merging firms continue to justify their steps to create highly concentrated markets by pointing to other companies that do not at the moment provide competition but appear likely to do so. Some courts have continued to find these arguments persuasive despite all experience to the contrary.⁷² As a consequence, antitrust law alone does not reliably prevent dangerous levels of concentration.⁷³ This is particularly worrisome in the case of social media. It has long been the policy of the United States to prevent levels of concentration in media far below those considered a violation of the antitrust laws.⁷⁴

The history of the caps on national broadcast ownership and cable horizontal ownership illustrates why it would be safest for Congress to set a specific limit. In both cases, aggressive judicial decisions by the D.C. Circuit struck down FCC efforts to maintain the broadcast cap⁷⁵ and effectively prevented the FCC from ever establishing a cable horizontal ownership limit.⁷⁶ Because of the deference owed to congressional line-drawing, a limit set by Congress has a greater likelihood of withstanding judicial scrutiny. But this creates some difficulty. The concept of “digital platform” covers numerous areas of commerce ranging from retail sale of goods to social media. A single horizontal ownership limit is unlikely to make sense for all digital platforms. Indeed, because

⁷² *United States v. AT&T*, 310 F. Supp. 3rd 161 (D.D.C. 2018).

⁷³ Indeed, acceptance of this “contestability” argument has the perverse result of making the emergence of this potential new competition even less likely, given the resulting market power concentrated in the merged firm.

⁷⁴ *Turner II*.

⁷⁵ *Fox Television Broadcasting Stations v. FCC*.

⁷⁶ *Comcast Corp. v. FCC*, 579 F.3d 1.

the limit will not apply to subscribers or customer reach, it will need to be specifically tailored to the seller side of the multi-sided market.

Congress could establish a numeric horizontal limit on a specific market by legislative fiat, in the same way that it established a 35 percent audience reach for broadcasting in the 1996 act. To use digital advertising as an example, Congress could say that, as a matter of law, no business may control more than 30 percent of the total digital advertising market. This approach addresses the range of platforms that compete with each other for digital advertising. The 30 percent limit reflects the traditional metric of market power in antitrust established in *Philadelphia Bank* and reflected in the current Herfindahl-Hirschfeld Index (which assumes a market is highly concentrated at HHIs of 2500). Although this metric is frequently mitigated by other factors in U.S. antitrust analysis, it is still used in more rigorous antitrust regimes, including Europe's. Because the goal is to establish a horizontal limit that affirmatively promotes competition, adoption of the 30 percent limit as a matter of congressional line-drawing is rational and appropriate in this case.

As this example demonstrates, however, even the apparent simplicity of a legislative limit on market share raises numerous questions (Verveer 2018). For example, how do we define the "online advertising" market? What does it mean to "control" 30 percent of it? Should the prohibition simply be on growth by acquisition, or on organic growth as well. To return to the broadcast television "audience reach" test, the limit does not require divestiture if a broadcast licensee's reach grows above the limit through organic population growth in its designated market areas, but if a licensee seeks to make new acquisitions, the actual audience reach is used and the merging firms must either divest to get below the limit or seek a waiver. It is not entirely clear how this could work with digital platforms, since unlike broadcast stations, digital platforms do not cover defined geographic areas and cannot reduce market share by divesting licenses, outlets, or other physical assets. Still, horizontal limits on ownership have proven sufficiently important in constraining market power that finding a way to apply them to digital platforms deserves serious consideration.

Congress should make clear that ownership limits, however defined, and whether a function of legislative fiat or agency rulemaking, do not eliminate the need to analyze dominance by determining whether a firm enjoys market power based on its high cost of exclusion. The point of the horizontal (or vertical) limit is not to create a concentration safe harbor, but to set a clear concentration limit. COE is designed to supplement traditional market power metrics, such as market share, and reflects the numerous cases in which traditional measures of market power have proven inadequate. It is a supplementary tool to identify firms with market power, whose exclusion of individuals would harm their ability to participate in the digital public sphere. Accordingly, imposing a horizontal cap does not eliminate the need to determine whether a firm remains dominant or requires additional regulation to limit its ability to impose a high cost of exclusion.

ii. Unique Concerns Around Vertical Integration: ICE v. The Black Swan.

In the last 40 years, regulators and the courts have shifted from deep suspicion of proposed vertical integration to deep suspicion of arguments against vertical integration (Baker *et al.* 2019; Salop 2018; Frieden 2003; Farrell and Weiser 2003). Farrell and Weiser describe the reasoning behind this shift: an argument that a vertically integrated business — even one with monopoly or market power in its own market — is better positioned to internalize complementary efficiencies. Farrell and Weiser dub this the theory of “internalized complementary efficiencies” or “ICE.” Farrell and Weiser propose several circumstances in which, even accepting that ICE describes the general case (a concession that more recent scholarship has challenged), an incumbent with market power would have stronger incentive to use vertical integration in an anticompetitive fashion or might fail to recognize the efficiencies. The history of telecommunications regulation suggests several additional factors that weigh against permitting vertical integration.

New considerations suggest that vertical integration in digital platforms raises even greater concern than in telecommunications markets generally. As noted in the definition of digital platforms in Chapter I, digital platforms are unusual in that a combination of vertical features can enhance the overall complementary network effects they enjoy, thus increasing dominance by enhancing the cost of exclusion. For example, Amazon’s addition of Prime video streaming and Twitch does not simply make it a better competitor against YouTube in the distinct video streaming market. It enhances Amazon’s overall value and the overall value of its Prime membership, enhancing its dominance in the online shopping market. Similarly, the value of Prime in the online shopping market enhances the value of Amazon’s Prime streaming service.

Traditional antitrust, with its siloed view of distinct markets, is indifferent to Amazon’s dominance in a related field. If anything, it regards as a net positive Amazon’s ability to use its dominance in one market to enhance its ability to compete in a related vertical market (Tucker 2018). This reasoning underlay the recent court decision permitting the acquisition of Time Warner by AT&T over the objections of the Department of Justice. AT&T argued that combining its massive market share in traditional multichannel video programming distribution (through DIRECTV) and its massive market share in the mobile broadband and voice market (through AT&T Wireless), would enable it to use Time Warner’s content to compete better in the related advertising market (against Google and Facebook) and online streaming (against Netflix).⁷⁷ Whatever the merits of this theory in non-platform markets, it is clear that extending a platform into a related market increases its overall

⁷⁷ *United States v. AT&T*, 310 F. Supp. 3rd 161 (D.D.C. 2018).

power by enhancing direct and complementary network effects that in turn boost the overall cost of exclusion from the platform.

While it is tempting to create a blanket rule against vertical integration (at least by dominant firms), a handful of cases provide sufficiently strong counter-examples to warrant a presumption against vertical integration rather than a complete bar even in the case of dominant firms. A recent example of such positive vertical integration is Google Fiber — and the need for broadband providers to offer bundled MVPD services to attract customers. Despite subsequent difficulties in the face of incumbent resistance, Google Fiber demonstrated the enormous, pent-up demand for gigabit connectivity, and dramatically stimulated the deployment of fiber-to-the-home — a significant public-interest benefit (Levin and Downes 2018). This and other “black swans”⁷⁸ suggest that, at a minimum, non-dominant firms should be permitted to integrate vertically and that there may be other circumstances in which vertical integration may be necessary to achieve important public-interest goals.

iv. Vertical Integration Limits.

Throughout the history of regulation of electronic communications and electronic media, we have had limits in place preventing certain types of vertical expansion. Generally, these have restricted both acquisition and organic expansion into related markets. Over the last 40 years or so, antitrust law has looked more favorably on vertical integration than on horizontal integration. Whether or not this trend is warranted (Salop 2018), the history of networked industries generally, and communications and electronic media specifically, makes clear that vertical integration in these industries harms competition (Farrell and Weiser 2003; Frieden 2003). In communications and electronic media, control over access to customers conveys power in related markets. Dangers range from foreclosing rivals through control over critical inputs to eliminating potentially disruptive rivals. This last concern is particularly true in the digital platform market. As discussed above, digital platforms can rapidly expand and add new services. Platforms in different lines of business may therefore become competitors to each other.

Additionally, because network effects make size so significant, and because digital platforms are multi-sided platforms, adding apparently unrelated lines of business can contribute significantly to a platform’s dominance. For example, classic tools of antitrust would deem search, email, and

⁷⁸ The problem of the Black Swan is a proof of the problem of inductive reasoning and the principle of falsification proposed by the philosopher David Hume. Hume asked how many white swans one would have to see before concluding that all swans were white. The answer is that it is impossible to state definitively that all swans are white on the basis of inductive reasoning, but the observation of a single black swan can falsify the absolute statement that “all swans are white.”

As discussed *infra*, if it were merely a case of hypothetical efficiencies, or modest efficiencies, the rational trade off would be to prevent vertical integration altogether as simply posing too great a risk to competition. But the handful of cases discussed demonstrate that under certain conditions important public-interest goals cannot be achieved without permitting vertical integration.

video distribution to be completely unrelated markets. They would offer no reason to question the acquisition of YouTube by Google. But because Google relies primarily on advertising, the addition of video distribution powerfully augments Google's dominance in the targeted advertising market. Additionally, the millions of new users and searches on YouTube contribute additional data, reinforcing its dominance in search. The potential ability to favor its own video products and feature them prominently in search results illustrates how the apparently unrelated vertical acquisition reinforces dominance in Google's core markets while simultaneously enhancing its new product's dominance in the video market.

The DPA should therefore reverse the current antitrust bias in favor of permitting vertical integration through acquisition, since it is not harmless to competition. (As discussed below, there are reasons to take a more relaxed view with regard to organic extension into vertical lines of business.) Instead, the DPA should adopt a presumption against vertical acquisitions, at least by dominant platforms. As a general rule, the larger and more dominant the firm in one line of business, the less willing the enforcing agency should be to permit vertical acquisition in another line of business. Congress should strengthen this presumption by listing factors demonstrating the merger will serve the public interest and requiring their consideration. Congress should also list factors the reviewing agency may **not** consider as justifications for an acquisition.

Importantly, the DPA should reject the trend of the last two decades to allow mergers, despite existing levels of concentration and dangers to competition, on the speculation that competition will surface at some point after the merger. (For example: Despite long-standing federal policy disfavoring such integration, the D.C. Circuit Court decided in *United States v. AT&T* to permit AT&T to absorb video programmer Time Warner and combine it with MVPD DIRECTV on the grounds that Netflix and other online streaming services would eventually become direct competitors of MVPDs.)⁷⁹ History shows that the promised competition rarely appears.⁸⁰ These merger justifications are based on the belief that allowing a dominant firm to acquire another firm permits "efficiencies" that the merged firm will pass on to consumers rather than use to enhance its dominant position, and that despite the dominant firm's newly enhanced ability to block new entrants, rivals will nevertheless enter the market. The DPA should reject this argument as fundamentally contrary to the goal of enhancing competition. Even if regulators impose time-limited behavioral conditions to encourage the emergence of competition, any potential entrant faces all

⁷⁹ Online services such as Netflix generally offer only "video on demand" (VOD) content, rather than the full suite of live programming channels plus VOD offered by MVPDs. Netflix and other online video distribution services (OVDs) have not traditionally been considered direct competitors to MVPDs. While it is true they compete for "eyeballs," so do movies and broadcast television, which are also not considered direct competitors with MVPDs. The difference is that MVPDs offer a unique suite of live programming and VOD in the home. See discussion of the problems with using the "attention market" as an antitrust market in Chapter I.

⁸⁰ In the case of AT&T, for example, the combined firm has now raised prices several times since the district court rejected the government's challenge to the merger, despite insistence at trial that the resulting merger efficiencies would reduce prices to consumers (Hiltzik 2019).

the previous barriers **plus** the additional market power now exercised by the merged firm. Worse, permitting such mergers invariably sets off an “arms race,” as the remaining competitors in both vertical markets seek to combine so as to “better compete” with the newly vertically integrated firm. Permitting an otherwise harmful merger because “potential competition” or “future competition” will someday make the market competitive again should be prohibited as contrary not merely to public policy, but to common sense.

Nonetheless, the DPA should permit organic **addition** of vertical services, even when it does not permit vertical **acquisition**, subject to structural separation discussed below. This exception addresses several potential objections to a complete ban on vertical integration (as opposed to limits even on organic growth in horizontal limits).⁸¹ First, it is often difficult to judge whether a related market is entirely separate. While it is easy to distinguish between search and video distribution, it is much more difficult to distinguish between general search (sometimes called “horizontal search”) and specialized search engines focused on specific markets, such as local search or travel search (sometimes called “vertical search”) (Duhigg 2018; FTC Staff Memo 2012). A prohibition on acquisition, particularly by dominant firms, solves this problem.

Additionally, the same factors that warn against allowing firms to acquire potential rivals through vertical acquisitions argue in favor of letting platforms expand vertically through their own efforts. For example, many advocates criticized antitrust authorities for allowing Facebook to acquire WhatsApp, in part because WhatsApp might have become a competitor to Facebook given its rapid growth and expansion from a pure texting service to a more general social media service. But to make that competition a reality, WhatsApp would have needed to be able to expand into the broader social media market — which would be impossible if the DPA banned all vertical integration.

Finally, when breaking into a highly concentrated market entails considerable cost and significant risk, it may be that only a firm dominant in one line of business will risk challenging the dominant firm via vertical expansion. For example, Google needed to expand into the mobile operating-system market to prevent complete dominance by Apple in the smartphone market. Until Google entered the market with Android, Apple enjoyed near monopoly control over the emerging application market as a result of its control over iOS, the dominant mobile operating system at the time.⁸² Similarly, Google Fiber helped to stimulate the deployment of gigabit residential fiber at a

⁸¹ Recall that we limit horizontal expansion so as to encourage head-to-head market competition and protect against the formation of monopsony power. Unlike vertical expansion, we have no problem identifying a firm engaged in direct head-to-head competition. Nor do we have any concern that competing services or wholly new services will fail to emerge in the context of horizontal growth. Although there may be cases where permitting organic horizontal growth may be justified as a matter of public policy (e.g., expansion into unserved or underserved markets), the case for permitting organic horizontal growth is far weaker than for permitting organic vertical expansion.

⁸² The subsequent failure of competition demonstrates the limits of relying solely on encouraging dominant firms to compete with each other. No additional firm successfully entered the mobile operating system market,

time when neither member of the residential broadband duopoly — cable and DSL — believed there was a market for high-speed connections. While these do enhance the overall value of the network as a whole, and therefore increase the cost of exclusion from the platform as a whole, the offsetting social benefits may justify permitting greater concentration of market power.

I recognize this is a subset of a standard debate in competition policy, the “false positive” versus “false negative” debate (Woodcock 2017). Robert Bork and subsequent champions of the affirmative benefits of consolidation stress the danger of “false positives,” cases where government intervention prevents mergers that represent no harm to consumers but instead offer potential benefits through the enhanced efficiencies of the combined firm. Opponents of existing levels of consolidation argue that antitrust enforcement should worry much more about “false negatives,” cases where concerns about losing hypothetical efficiencies cause antitrust enforcers or courts to permit mergers that ultimately prove harmful (Baker 2015). I believe that antitrust enforcement generally (and recent court decisions specifically) place too great an emphasis on the supposed danger of false positives and show inadequate concern for the danger of false negatives. Nevertheless, this debate remains unresolved, and a fair discussion of limits on vertical integration should at least acknowledge the possibility of false positives and weigh whether it is appropriate to provide mechanisms to address this concern.

v. *Consideration of Structural/Behavioral Conditions for Both Horizontal and Vertical Acquisitions.*

Antitrust agencies and sector-specific regulators with merger review authority have in many cases sought to allow mergers and acquisitions that promise efficiencies, while imposing structural conditions, such as divestment, or behavioral conditions requiring certain safeguards or prohibiting certain types of activities, to limit the harms. Both conservative and progressive antitrust scholars have criticized this approach. For conservatives, the danger chiefly lies in transforming antitrust into a new form of generalized behavioral regulation, thus undermining its utility as the least restrictive means of regulating markets. Progressive scholars argue that for a variety of reasons these behavioral remedies are rarely effective. Antitrust agencies are generally not structured to act as behavioral regulators and have a poor record of enforcing merger conditions (Hawley 2019; Kwoka 2017). Since these conditions are often time-limited based on the unreasonably optimistic theory that the market will evolve over a predictable period of time to make future exercise of market power impossible, even firms that scrupulously observe their merger conditions need only wait until the conditions expire before exercising their enhanced market power.

despite efforts by well-funded companies such as Microsoft, creating a duopoly in that market. Nevertheless, we should not ignore the positive effects of Google providing a competitor offering a very different operating system and business model.

Regulators and scholars who support the use of remedies argue that choosing only between permitting a merger and prohibiting it fails to serve consumers well. Particularly in the case of structural remedies, allowing a business to divest in some markets (or from some lines of business) can genuinely enhance competition by strengthening remaining competitors or creating new ones. For example, the conditions attached to the transfer of spectrum licenses from cable operators to Verizon Wireless included a requirement for Verizon to divest licenses to rival firm T-Mobile. This enhanced T-Mobile's ability to compete aggressively in the market, while providing Verizon with a more diverse set of spectrum licenses to improve the operation of its wireless network. Additionally, because regulators allowed the agreement between Verizon and the consortium of Comcast, Time Warner Cable, and Bright House (SpectrumCo) to go through in modified form, Comcast acquired a right to resell Verizon Wireless spectrum capacity, which it is now using to offer a competing wireless service (FCC 2012; Gibbs 2016).

As with the question of whether to permit vertical integration, the question of whether to permit the reviewing agency to impose structural or behavioral conditions is not as simple as one might hope. There is a legitimate concern that, faced with an "all or nothing" choice, a regulator may choose to permit mergers that pose real dangers out of fear of "false positives" or a belief that the potential harm appears modest compared to the scope of the transaction overall. Allowing regulators to tailor transactions to ensure they serve the public interest will enable them to take appropriate precautions where necessary, or use merger review to enhance competition or consumer protection in the industry as a whole.

As with basic review of mergers, Congress should not leave the question of remedies entirely to the discretion of the agency. The DPA should include mandatory factors for the enforcing agency to consider before permitting a merger that would be harmful to the public interest in its original form to proceed in modified fashion. Furthermore, the DPA should require the enforcing agency to revisit any grant of merger permission to a dominant firm on a regular basis, and require the firm (if it has maintained dominance) to demonstrate why the existing conditions are adequate and why the agency should not force divestiture of the acquired firm. This will prevent the problem of "unscrambling the egg" once an acquisition has been approved. Certain conditions should not be relaxed as long as the acquiring platform maintains its pre-acquisition dominance.

Permitting acquisitions by non-dominant firms (those with low COE), and generally permitting organic expansion into related lines of business subject to structural separation and other safeguards (such as nondiscrimination), would strike a reasonable compromise between the proven dangers of permitting vertical expansion by dominant firms and the need to encourage platforms to expand into competing lines of business with one another. Where vertical integration continues to

threaten competition or undermine the goals of the DPA, Congress should authorize the enforcing agency to impose divestitures.

vi. Divestitures and the Starfish Problem.

No matter how careful the reviewing agency, firms inevitably might rise to dominance and threaten competition despite all efforts to restrain their behavior. When this happens, regulators must be prepared to break up the company. Indeed, many commentators feel that several of the largest platforms (such as Amazon, Google and Facebook) are already too big and require immediate break-up (Wu 2018; Kahn 2017). While the Constitution prevents a statute from targeting a specific company by name,⁸³ Congress can create objective criteria that would require divestitures by existing businesses as well as businesses that meet the criteria in the future.

Congress should consider whether to mandate divestitures (both horizontal and vertical) once certain specific “triggers” are met by a firm, or whether simply to authorize divestitures via enforcement where appropriate. Mandating divestitures has the advantage of spurring competition, particularly in markets where a single firm is already dominant. But divestitures create enormous implementation problems. Even if Congress could adequately describe criteria consistent with the Constitution for triggering automatic divestiture by specific existing dominant firms, implementation would cause significant difficulties.

Divestitures, especially involving both vertical and horizontal elements, are rare in American law for several reasons. First, courts strongly disfavor them. As the D.C. Circuit explained in *United States v. Microsoft*,⁸⁴ divestiture as a remedy in antitrust requires a clear, causal connection between the harm and the ownership to be divested. In the case of a statute, Congress identifies the nexus, not a court. Although this removes the strict limitations imposed by precedent for violations of the antitrust laws, Congress has still been reluctant to order divestiture by statute. Even if we ignore these issues so as to conceptualize the ideal statute, a larger and more significant problem remains: I call it “the starfish problem.”

Certain species of starfish have tremendous powers of regeneration. If you tear one to pieces, the individual pieces grow into new starfish. When separating the component pieces of dominant digital platforms, it is entirely possible that each segment will become dominant in its own line of business. Alternatively, the dominant portion of the business might “regrow” its dominance, fed by the same forces that contributed to its initial dominance.

⁸³ This is known as a “Bill of Attainder” and is prohibited in Article I of the Constitution. See *United States v. Brown*, 381 U.S. 473 (1965).

⁸⁴ 253 F.3rd 34 (D.C. Cir. 2001) (*en banc*).

For example, if we were to forcibly separate WhatsApp, Instagram and Facebook, we would not suddenly have vibrant competition. Facebook would still have approximately 2 billion subscribers. The spinoff of WhatsApp and Instagram would also instantly create two new dominant platforms — one in messaging and one in photo-sharing. The Facebook starfish would now be three starfish, each dominant in its specific market. Possibly these new entities might compete against each other. But absent some sort of regulatory restraints, it seems more likely that one platform would again emerge dominant over its rivals, or that the three new firms would avoid competing with one another so as to avoid any challenge to their existing dominance.

Google provides an even starker example. Merely separating Google Search from YouTube would limit the available data to each company, somewhat reducing their combined power in the targeted advertising market. But Google and YouTube would remain the dominant search and dominant video sharing sites respectively. As discussed in the section on horizontal ownership limits, these functionalities do not lend themselves to easy horizontal separation. They are inherently global on the public-facing end of the platform.

The most successful breakups, such as the AT&T breakup and the breakup of vertically integrated movie theaters and movie production studios, have had clear lines of demarcation, carefully tailored conditions to prevent the remaining dominant entity from reasserting itself, or both. In the case of AT&T, for example, the court broke up AT&T's physical network into seven regional Bell operating companies (RBOCs) and prohibited the RBOCs from offering long distance services or "electronic publishing" services.⁸⁵ In addition, the FCC continued to regulate AT&T as a dominant long-distance carrier until 1995 (FCC 1995). Following passage of the Telecommunications Act of 1996 and its subsequent implementation by the FCC, which removed limitations on the RBOCs, the RBOCs quickly re-assimilated and absorbed the competing long-distance providers (Kimmelman and Cooper 2017).

While horizontal and vertical divestitures are potentially important tools, they are neither simple to implement nor sufficient to prevent future concentration. The DPA should therefore explicitly authorize the enforcing agency to force divestitures where appropriate. The DPA should also authorize steps preliminary to divestiture designed either to promote competition in the presence of dominant firms or to prevent firms from achieving dominance. In particular, product unbundling and structural separation, discussed below, can limit the need for divestitures or — when divestitures are necessary — provide a needed roadmap for dividing the dominant firm into non-dominant components.

⁸⁵ *United States v. Western Electric Co.*, 569 F. Supp. 990 (D.D.C. 1982).

6. Product Unbundling and Structural Separation.

Product unbundling and structural separation require a firm to separate particular products and business lines. The general purpose of these limitations is to prevent a dominant firm from leveraging its position in related markets. Product unbundling and structural separation have been at the core of the most successful pro-competitive regulations in telecommunications. The FCC's *Carterfone* decision, which separated the customer device market from the network, and the *Computer Proceedings* regime, which allowed the development of competing services over the telephone network and promoted the evolution of the modern internet, all relied on product unbundling and/or structural separation.

The purpose of product unbundling is to create a competitive market and keep firms with market power from tying together goods so as to drive up costs or undermine rival products. For example, Microsoft's bundling of Internet Explorer (IE) with its Windows operating system during the 1990s (and its arrangement with AOL to bundle IE with its subscription software in exchange for including AOL's subscription software with Windows) allowed Microsoft to fend off the challenge posed by independent browsers such as Netscape. Consumers are much less likely to pay for an independent product when they receive a competing product "free" with their purchase of a related good. Because Windows was the dominant operating system for personal computers, tying the internet browser with the operating system ensured that everyone using a PC (essentially the only device through which consumers could go online in the 1990s) already had IE and therefore had no need to pay for an independent browser (Wu 2018).

i. Different Gradations of Structural Separation.

Structural separation has had different meanings in different sectors over the years. In some cases, "structural separation" is essentially a form of vertical prohibition. For example, the Glass-Steagall Act, part of the Banking Reform Act of 1933, initially prohibited banks from operating as both an investment bank and a merchant bank. As of this writing, Rep. David Cicilline (D-RI) has proposed a "Glass-Steagall for technology companies." (Stacey 2019) Others have also argued that "true" structural separation requires that companies (or at least dominant companies) be prohibited from entering particular lines of business.

Alternatively, structural separation can be an intermediate step between full vertical prohibition and simple product unbundling. This form of structural separation has been used primarily when product lines are sufficiently intertwined that the dominant firm has too many opportunities to favor its own product or affiliate. Essentially, the unbundled product line is placed in

a separate, independent company and the dominant firm is prohibited from favoring its affiliate over rivals. The level of separation is, to some degree, dependent on the ease with which the dominant firm can favor its affiliate and on the difficulties encountered by rivals and the enforcing agency in policing discriminatory conduct.

Communications law contains examples of both. Congress and the FCC have, at various times, imposed full prohibitions on broadcast networks owning cable providers or daily newspapers in their license area,⁸⁶ and prohibited telephone companies from entering the cable market. But the FCC permitted telephone companies to offer “enhanced services” such as voice mail in competition with independent providers, though they were subject to strict rules requiring that they offer these services through a separate affiliate (Cannon 2003). Having discussed prohibitions on vertical integration above, I will limit my discussion in this section to forms of structural separation that permit a platform to offer the related service through a separate affiliate, and other safeguards.

ii. ***Structural Separation and Affiliates.***

Structural separation can be a powerful tool for limiting dominant players, but it must be carefully designed. Dominant firms can stifle competition by taking advantage of the fact that payments between affiliates still benefit the ultimate parent. For example, in Comcast’s merger with NBC Universal (NBCU), the Justice Department addressed the difficult problem of how to prevent Comcast from using its control over NBCU programming to undermine the emerging online video distribution market. At the time, relatively few online video distributors (OVDs) existed, and they generally relied on programming created by major studios such as NBCU. In the mature market for NBC’s broadcast programming by existing MVPDs, the FCC simply imposed a price limit on NBC broadcast programming based on comparable competing producers of broadcast programming. No such market existed for online programming to provide a suitable benchmark for NBCU programming to OVDs. Accordingly, the DOJ consent decree with Comcast/NBCU imposed a condition (subject to arbitration) that required Comcast/NBCU to license programming to an OVD once the OVD had a licensing agreement in place with a comparable production studio. These two conditions (one based on an existing market, one based on the independent emergence of a new market) illustrate the ability of carefully structured unbundling requirements to advance public policy goals of preserving and enhancing competition (FCC 2011).

⁸⁶ FCC definitions of “ownership” can be complicated. Even under the “complete prohibition” on cross-ownership, certain types of passive investment or non-controlling interest were considered acceptable. My point is simply to contrast a form of cross-ownership prohibition designed to prevent any control or influence over the affiliate, with limits on ownership designed to prevent discrimination in favor of the affiliate.

Structural separation provides an additional advantage. When done correctly, it may sufficiently limit market power so as to make break-up and divestiture unnecessary. Or if break-up and divestiture become necessary, dividing the dominant firm into separate affiliates provides a road map that addresses some of the difficulties with divestitures discussed above. In the AT&T break-up, the final division of the company reflected many of the structural divisions already imposed by the FCC prior to the break up.

For all its advantages, however, structural separation can be extremely complicated to implement. This is especially true in a highly technical field, such as digital platforms, where discrimination in favor of one's affiliate can be subtle and difficult to detect. Arbitrating complaints by rivals that the dominant firm is favoring its affiliate can be lengthy and time consuming. This raises the concern that structural separation may prove too complicated to manage.

History offers two ways to alleviate this concern, often used in combination. The first is to impose extremely strict separation between the affiliate and the dominant firm. Under the highly successful *Computer Proceedings* regime, the FCC required separate affiliates offering advanced services to maintain entirely separate corporate boards and officers, entirely separate accounting, and entirely separate equipment. It also expressly prohibited any coordination between the parent and the affiliate. The FCC retained the power to review corporate contracts and to audit the financial records of both parent and affiliate to ensure independence. This was facilitated by the fact that the dominant parent was a rate-regulated firm subject to tariffing and significant regulatory oversight, and was required to maintain its books and records in reviewable form. State regulatory commissions and boards, which also regulated telephone companies, conducted separate oversight and provided forums for competitors who felt wronged or argued that services embedded in the telephone network — or telephone company personnel — were being used to stymie competition by providing sub-par services to competitors and overcharging them (where possible) compared to affiliated services.

Tariffing also limited the ability of the dominant parent to discriminate in favor of its affiliate. Tariffing requires set prices for the necessary network inputs to be offered on a non-discriminatory basis, subject to government oversight. This made it easy for rivals and the FCC to verify that a separate affiliate had not been given uniquely favorable terms (at least not for tariffed services). Furthermore, the terms offered to the affiliate set a baseline for the appropriate terms to be provided to rivals — subject to government oversight of the rates through the tariffing process.⁸⁷

⁸⁷ Economists warn that, in addition to the problem of competitors being charged different rates for non-tariffed services, a simple non-discrimination rule may still permit effective discrimination against non-affiliated businesses by charging all parties (the affiliate and unaffiliated businesses) an artificially high price. Because the affiliate and the company providing the service have a common owner, the artificially high price does not seriously affect the affiliate any more than moving money from one pants pocket to the other pants pocket

Many of these necessary safeguards are likely to be unavailable with digital platforms. It is entirely impractical to suggest tariffing for digital platforms. Such a highly intrusive form of price setting is so foreign to the existing market structure that imposing tariffing even on dominant firms would be highly disruptive and would require a huge investment in regulatory infrastructure. But a successful scheme of structural separation — where employed — must include substitutes that similarly provide rivals and regulators with some benchmark of the fair market rate and the means to ensure reasonable nondiscrimination. These mechanisms could include filing of contracts with the enforcing agency, subject to challenge and review (but with sufficient safeguards to protect proprietary information). The statute and enforcing agency should emphasize strict corporate separation to minimize the incentive to discriminate in favor of the affiliate. Mandatory timelines to resolve complaints coupled with clear appeal rights and private rights of action can eliminate costly delays. Nevertheless, we must recognize that the oversight needed to make these separation and unbundling arrangements work will be massive and time-consuming.

The statute and the enforcing agency should emphasize strict corporate separation to minimize a corporate parent's ability and incentive to discriminate in favor of an affiliate. But maintaining full separation is difficult. Even in the context of the relatively "simple" phone networks — with clear demarcations where one physical network element ends and another begins — there were ample opportunities for phone companies to shift costs or engage in creative accounting and passive resistance to rival providers. Nevertheless, as the considerable accomplishments of the FCC's structural separation regime demonstrates, perfection is not required to produce positive results. Certainly, both Congress and the enforcement agency need to make every effort to "get it right," but the fact that some discriminatory practices will slip through does not render useless the exercise of structural separation, where warranted. In many cases structural separation will prove easier to implement than full divestiture — both technically and politically. Still, structural separation may be an *easier* remedy, but this does not make it objectively easy.

Of course, the time and effort needed to construct an effective structural separation regime should not dissuade regulators from imposing it when it is the most appropriate solution. Rather, it is important for regulators to assess the cost of creating a functioning structural separation regime versus the cost of failing to create structural regulation when it is necessary. Public policy is never about perfection. It is about maximizing the likelihood of good outcomes while minimizing the likelihood of bad outcomes, after factoring all the costs and benefits involved.

alters how much money someone has on their person. Economists call this the problem of a "transfer payment," meaning the affiliate simply transfers money to the provider with no actual economic impact.

To conclude, when choosing among regulatory tools for opening up markets dominated by incumbents, there is good reason to favor simple product unbundling over full structural separation — subject to interoperability and nondiscrimination standards. Unbundling can generally be accomplished more quickly and at lower cost and has often proven as effective as structural separation (especially when combined with other pro-competitive policies). For example, product unbundling combined with mandatory interoperability and nondiscrimination proved sufficient in the case of internet browsers. The growth of a strong independent market for browsers has encouraged operating system providers not subject to the MS antitrust decree, such as Apple, to adopt similar interconnection and nondiscrimination with regard to browsers, despite bundling their own browser with their operating system.

Congress should certainly authorize structural separation where necessary to further competition or the other goals of the statute. But it should carefully define the triggering conditions for structural separation (and the triggering mechanisms for eliminating the requirements), or allow the enforcing agency to determine when and how to implement structural separation (subject to clear instructions on which situations make unbundling the preferred remedy). Product unbundling should generally be tried first, before imposing full structural separation.

7. Nondiscrimination.

Nondiscrimination features prominently in enabling competition. General nondiscriminatory treatment, or prohibitions against discrimination in favor of an affiliate, may be required of dominant firms — or of firms generally — both to safeguard a competitive marketplace and to protect consumers from recommendations based on opaque corporate relationships rather than publicly advertised features.⁸⁸ This requires some discussion about the principle of nondiscrimination and its application, particularly in telecommunications and electronic media. As I explain below, true “common carriage” equivalency does not translate well into the realm of digital platforms. Nevertheless, basic nondiscrimination principles pertain, and in some cases can be applied in the same manner as traditional common carriage.

i. Nondiscrimination versus Common Carriage.

We begin by distinguishing between the strict definition of “discrimination” and our common, everyday usage. Strictly speaking, to discriminate means to distinguish or differentiate. In everyday usage, particularly in the commercial sphere, we use “discriminate” to mean making a distinction between products or customers based on specific criteria. In particular, when we impose a duty of

⁸⁸ Nondiscrimination as a concept also plays an important role in the marketplace of ideas. Those considerations are addressed separately in the relevant section.

nondiscrimination, we prevent the subject from making distinctions on the basis of criteria we have determined are pernicious. Classic examples are discrimination based on race, gender, or sexual orientation. We impose a general duty on all employers and most businesses and places of public accommodation not to discriminate based on these criteria because we regard such discrimination as contrary to our fundamental values as a society.

When we use “discrimination” in a general commercial sense, we do not generally mean it to apply to distinguishing between goods or customers based on relevant criteria. For example, requiring goods to meet a clear standard of quality, or refusing to do business with someone who previously defaulted on payment or whose merchandise generated customer complaints, is not generally regarded as impermissible discrimination. Even where discrimination is not generally permitted, it may be excused under appropriate circumstances. For example, the Americans with Disabilities Act (ADA) generally prohibits discrimination based on disability, but only requires employers to make “reasonable accommodations” for those requiring them and permits discrimination based on disability when the need for certain capabilities is a *bona fide* occupational qualification of the job.

As experience has long shown, those determined to engage in impermissible discrimination can find ways to apply supposedly neutral criteria to achieve prohibited discriminatory ends. This can range from simple deceit (claiming an unsold house is under contract when a non-white family seeks to buy it), to failure to apply criteria in a neutral manner (requiring credit checks only for disfavored customers), to using criteria that appear neutral but have predictably disparate impacts (English language requirements to screen out immigrants). Those charged with enforcing the laws against discrimination must therefore have means to see through such “pretexts” while allowing permissible forms of discrimination.

Why review these commonsense distinctions? Because in the general debate around nondiscrimination in commercial arrangements — particularly when it involves the principle of common carriage — opponents portray it as an inflexible and unworkable arrangement with innumerable edge cases that creates paralyzing confusion for its subjects. We should recognize the fallacy of this *reductio ad absurdum*. Even the most rigid nondiscriminatory common carriage schemes generally prohibit only *unreasonable* discrimination: that is, discrimination based on criteria irrelevant to the nature of the service provided. A common carrier shipping company may be prohibited from refusing a package that meets its specific criteria, but it does not have to ignore relevant factors such as size and weight. Nor need it ignore potentially dangerous or damaging packages, such as leaky shipping containers or explosives.

In the media and telecommunications world, we have seen a range of nondiscriminatory criteria, from a general prohibition on discrimination based on affiliation for cable carriage,⁸⁹ to federally approved tariffs for telecommunications services that require the same terms be offered to any and all similarly situated customers.⁹⁰ Perhaps unsurprisingly, the success or failure of these nondiscrimination regimes has hinged on a combination of factors, especially the ease of detecting prohibited discrimination and the political will to enforce non-discrimination. Factors such as the complexity of the enforcement scheme, the likelihood of complainants succeeding, and the potential for retaliation by the dominant provider also contribute to the success or failure of the nondiscrimination regime.

Consider two nondiscrimination regimes put in place by the 1992 Cable Act. They addressed incumbent cable operators' use of their dominance to gain control over cable programming networks, and their moves to prevent entry by rival multichannel video programming distributors (MVPDs).⁹¹ Because cable networks needed access to cable customers on the other side of the platform, cable operators were able to demand equity shares in the network in exchange for carriage. Because potential rivals needed programming (particularly popular "must-have" programming such as news, sports and certain highly popular channels), incumbent cable operators prevented entry by denying them access to affiliated programming or by imposing contractual conditions on independent programmers that prevented sale to rival MVPDs.⁹²

Congress sought to address these problems with two separate nondiscrimination provisions. Section 628 of the Communications Act,⁹³ generally referred to as "program access," prohibits "unfair" means of competition, with particular emphasis on withholding programming. Section 628(c) mandated (for a limited time) that the FCC develop comprehensive rules prohibiting a cable operator from influencing the decisions of an affiliated network and from discriminating in favor of its affiliated cable network or against rival MVPDs. Section 616,⁹⁴ generally referred to as "carriage access," prohibited cable operators from "requiring a financial interest" or demanding exclusivity as a condition of carriage (but did not prevent voluntary investment arrangements). It also prohibited MVPDs from discriminating based on affiliation or non-affiliation.

Section 628(c) enjoyed reasonable success until its program access rules were allowed by the FCC to expire in 2012.⁹⁵ Under this nondiscrimination regime, rival MVPDs (primarily satellite

⁸⁹ 47 U.S.C. §536.

⁹⁰ 47 U.S.C. §203-05.

⁹¹ MVPD is the term used by the Communications Act for subscription video services offering multiple streams of programming. See 47 U.S.C. §522(13).

⁹² Cable Consumer Protection and Competition Act of 1992, Pub. L. 102-385 §2.

⁹³ 47 U.S.C. §548.

⁹⁴ 47 U.S.C. §536.

⁹⁵ Section 628(b) generally prohibited "unfair methods of competition, or unfair and deceptive acts or practices" with regard to access to programming. The specific requirement to make available affiliated programming on

companies in the 1990s, then telephone companies starting in the mid-'00s) secured access to necessary programming and were able to become viable competitors. By contrast, Section 616 has generally proven ineffective. Independent programming has remained negligible. MVPDs and broadcasters hold ownership interests in the vast majority of cable programming networks, and new networks such as Major League Baseball (MLB) routinely offer ownership interests to major operators “voluntarily” to secure widespread distribution (Feld 2009).

What distinguished these two nondiscrimination regimes? Most importantly, cable operators could no longer deny programming outright to rivals. Additionally, since the market structure required programming networks to execute contracts with unaffiliated cable operators that provided service outside the affiliated cable operator’s footprint, regulators had a benchmark against which to measure contracts with directly competing MVPDs in the event of complaints. To be clear, this did not eliminate all forms of discrimination. Cable operators argued that the statute did not apply to programming delivered to cable systems terrestrially (traditional programming being delivered by satellite to cable operators around the country), and began moving local and regional sports programming to terrestrial distribution. It took the FCC more than 15 years to close this “terrestrial loophole,” with significant impact on rival services.⁹⁶ Nevertheless, despite this and other discriminatory practices by cable operators, the program access regime gave rival providers access to sufficient “must-have” programming to launch competing services.

By contrast, the carriage access regime did not prohibit cable operators from refusing to carry unaffiliated programming. It merely stopped explicit demands for ownership interests and explicit forms of discrimination — narrowly defined as favoring one’s own affiliated network over identical programming from an independent network. This made it easy for cable operators to offer pretexts for prohibited discrimination against independent programmers, especially those that declined to take the broad hint that ‘voluntary’ sale of an ownership interest would help facilitate reaching a carriage agreement (Feld 2006b). The FCC staff’s lack of interest in pursuing enforcement (Feld 2006a) and the general lack of successful prosecution of program carriage complaints have made the nondiscrimination requirements of Section 616 effectively nonexistent.

ii. Applying These Lessons to Digital Platforms.

With this background in mind, we must consider the challenges of applying an effective nondiscrimination regime to relevant practices on digital platforms. Discrimination based on criteria

commercially reasonable terms was contained in Section 628(c), which stated that these specific mandatory rules would expire 10 years after passage of the 1992 Cable Act unless the FCC extended them (See 47 U.S.C. §548). The FCC extended the rules for five additional years in 2002, and another five years in 2007, but found that the rules did not need an additional extension in 2012 (FCC 2012a).

⁹⁶ *Cablevision Systems Corp. v. FCC*, 649 F.3d 695 (D.C. Cir. 2011).

we generally find contrary to our values, such as discrimination based on race, should be clearly prohibited in the search and recommendation process. This includes using race as a factor even when evidence may support a correlation between race and other variables, such as shopping preferences. Our experience as a society is that, in addition to promulgating racial stereotypes and harming the ability of non-whites to access goods and services (Jan and Dwoskin 2019), this sort of “data” is generally self-reinforcing. For example, Amazon recently suspended use of a hiring tool because it found that it systemically downgraded applications by women. Closer examination revealed that Amazon’s hiring practices systemically discriminated against women in technical fields. The hiring tool’s discrimination reflected the intrinsic bias we as a society wish to overcome, rather than a real-world correlation (Dastin 2018).

Turning to pure commercially motivated bias, applying non-discrimination to platforms poses numerous obstacles. Where we deal simply with access to interoperable APIs or other tools that we have decided to make accessible, nondiscrimination is relatively straightforward. As with the standard phone jack, the API needed to access a relevant discrete functionality can be made available on neutral terms to all similarly situated parties. Similarly, discrimination familiar from traditional lines of business, such as different schedules for shipping affiliated products versus competing third-party products, are straightforward in terms of discovery and remedy. The real difficulty comes in the area of search and recommendation. It is in finding, organizing, and presenting the endless stream of data and possible answers to queries that digital platforms have the greatest opportunity to discriminate in favor of their own products and against rivals. Discrimination in search and recommendation can be virtually impossible for an end user to discover, and proving discrimination has been exceedingly time-consuming and expensive in both private antitrust litigation and antitrust enforcement actions (Luca *et al.* 2015; Ip 2018).

Before applying telecom’s lessons, we must first address the factors that make nondiscrimination obligations for platforms particularly challenging. We begin by acknowledging that all search and recommendation functions — such as Google Search, Amazon product recommendations, and Facebook newsfeeds — *must* discriminate to be effective. We count on these digital agents to help us sort through the potentially infinite possible responses to our basic query, and we judge the value of the result based in large part on how well it succeeds in delivering to us a response that we, personally, consider relevant.

This brings us to another limiting factor. While it is not critical for search and recommendation functionalities to learn our personal preferences, this can be very useful. The same search query can yield different relevant responses depending on the context of the inquiry, which can be determined to some degree by a knowledge of past searches or successful recommendations. Even if the algorithm does not depend on my past search history but on knowledge of similarly situated

people, e.g. “people who bought X also bought Y and Z,” this requires the algorithm to have collected, stored, and analyzed the purchase histories of some untold number of people before me and to incorporate my purchase history into that vast store of information. This benefits me and future customers/searchers. People prefer searches to yield relevant material rather than irrelevant material. Indeed, if searches or platform recommendations deliver a stream of useless or otherwise undesired information, it renders the service essentially unusable (Bracha and Pasquale 2008).

In other words, common carriage makes sense for systems where such mechanical nondiscrimination makes the system work better from the user’s perspective. If I know the phone number of a business I want to call, I don’t want the telephone system to nudge me, either obviously or subtly, toward something else. If I am shipping a package, I want the shipping cost to be regular and predictable, so I can budget accordingly. But on many digital platforms, the mechanical nature of common carriage makes the operation of the digital platform worse, not better.

At the same time, our reliance on these search and recommendation functions and their ability to learn our preferences and behavior gives platforms the ability to manipulate users and engage in anticompetitive and anti-consumer practices (Tessier, Herzog and Lofred 2017). Even assuming the best intentions, learning our preferences does not guarantee us the best selections. As Steve Jobs famously put it: “People don’t know what they want until you show it to them.” Limiting responses to the predictably familiar eliminates the browsing and discovery we routinely do when perusing the aisles at traditional brick-and-mortar retailers or scanning library shelves by category. This deprives consumers of the pleasure of accidental discovery and comparison based on browsing. It also reduces the likelihood that new entrants with no existing track record will have their product discovered. Accordingly, while we should acknowledge that search and recommendation algorithms genuinely improve the user experience, and that these functions need to “discriminate” in a way that makes pure common carriage nondiscrimination effectively impossible, this cannot be a generic excuse for discriminatory behavior. Even well-intended forms of discrimination may have unintended negative consequences.

Finally, we should acknowledge that companies have valid reasons to protect their algorithms from the possibility of disclosure — either by having code made directly available to rivals, or by code being reverse-engineered for the ostensible purpose of determining impermissible discrimination. Algorithms are the key product differentiator for competing firms. While policy should reduce artificial barriers to competing algorithms, such as anticompetitive abuse of standard essential patents, algorithms are not physical resources subject to foreclosure and bottleneck control. Firms can, and should, compete on the strength and innovation of their algorithms.

Platforms are legitimately concerned about bad actors manipulating search and recommendation if they are capable of testing the algorithm in an unsupervised manner. Already the “search engine optimization” industry — essentially an entire industry devoted to trying to manipulate Google Search — generates billions of dollars annually. There is no question that, given the opportunity for direct, unsupervised access to the relevant algorithms, parties will seek to use that access for improper purposes.

Still, we can derive certain principles to be incorporated into the statute and employed by the enforcing agency that erect safeguards for determining prohibited bias/discrimination but still protect the complaint process from abuse by bad actors:

- Clearly prohibited types of discrimination, in addition to a general standard such as “unfair and deceptive” or “unjust and unreasonable.”⁹⁷ These might include prohibitions on favoring goods or services based on ownership or payment, and prohibitions on discrimination against rival services. It should be explicit that a harmed party does not need to prove discriminatory intent or other improper motive (although these factors may contribute to consideration of penalties).
- An ability for the enforcing agency and private parties to test algorithms for prohibited bias through a “black box” process that shields the code from repeated testing designed to reverse-engineer the algorithm. For example, the test could be run by the enforcing agency at the request of third parties, or by a neutral third party.
- A detailed, straightforward process for complaints, coupled with timelines for decision.
- A private right of action as an alternative to agency action.

Clear prohibitions on specific types of bias. Agencies such as the FTC and the FCC have had mixed success with general standards such as “unjust and unreasonable” or “unfair and deceptive.” On the one hand, agencies need flexibility to address the ability of platforms to engineer loopholes in any specific prohibitions. On the other hand, agencies and the courts have at times narrowed the

⁹⁷ We must very clearly distinguish between impermissible discrimination and neutral policies that result in downgrading some content relative to other content. A business is not entitled to a particular ranking in search results or a newsfeed, and a platform may use a wide variety of subjective criteria to determine relevance. Nor should platforms fear that changing their algorithm for competitively neutral reasons will result in lawsuits or enforcement actions. Similarly, I distinguish here between commercial forms of discrimination and other forms of discrimination in content based on suspect classifications such as race or gender, and concerns about ideological discrimination or the political consequences of platforms acting as gatekeepers by discriminating based on political affiliation or perceived liberal or conservative bias. I address these concerns in Chapter V.

definitions to exclude conduct that clearly has anticompetitive impact or is otherwise contrary to the intent of Congress. This is particularly true of bias claims, where many legitimate factors may enter into consideration but where these legitimate factors may easily be pretextual. Accordingly, the statute should combine a general standard with a list of specifically prohibited types of bias.

As the history of the program access rules demonstrates, the statute should clearly state that the specific prohibitions supplement the general standard and are not the sum total of possible prohibited conduct. It took the FCC more than 15 years to determine that the general prohibition on unfair and deceptive conduct in Section 628(b) provided general authority and was not solely limited to the specific “minimum contents of regulation” detailed in 628(c). For similar reasons, the statute must not limit itself to any particular type of technology but should speak clearly to prohibited conduct. The invention of the “terrestrial loophole” came about because Section 628 used specific technology to describe the type of programming covered by the statute.

History shows that it is far easier to enforce “Thou shalt not engage in bad behavior” than “Thou shall engage in good behavior.” This is especially true when some forms of discrimination are inherent in the nature of the business. Because discrimination is inherent in any sort of search and recommendation function, platforms must have the opportunity to demonstrate that the purpose and effect of the conduct subject to complaint serves a legitimate purpose. To prevent this from becoming a mere exercise in recitation of some legitimate goal, the more precisely Congress can limit safe harbors or defenses for discrimination, the better. Open-ended standards for defenses, such as being “reasonable,” lend themselves too easily to pretexts such as “encouraging innovation.” (I will discuss issues such as burden of proof below.)

Even where the behavior serves a permissible goal, Congress must take steps to prevent platforms from engaging in prohibited discrimination to achieve permissible goals. Because it can be extremely difficult to prove intent, and because intent (rather than effect) is irrelevant to establishing a pro-competitive regime, Congress should make clear that complainants or the enforcing agency need only prove effect, not intent. Congress should also make clear that if prohibited bias is established, it can only be excused where the appropriate purpose cannot otherwise be achieved.

While the history of the last several decades demonstrates that under-enforcement is a much greater concern than over-enforcement, Congress should be cognizant that the complaint process might be abused. For this reason, the list of prohibited forms of bias should be limited to those found to be clearly anticompetitive. Additionally, Congress should consider whether to prohibit certain types of bias by dominant firms, while permitting more flexibility to smaller, non-dominant firms. Firms may be particularly vulnerable to abuse of process by rivals at an early stage, and

limiting the ability of rivals to undermine potential competitors with litigation may better serve the public interest than strict enforcement. To prevent such bias from being deceptive, Congress should require that where bias prohibited by dominant firms is permitted by non-dominant firms, the non-dominant firms must clearly inform consumers. This is already standard practice with sponsored content and should be extended to any other form of bias Congress deems permissible in smaller firms.

Black-box testing. As we have seen in the context of the EU’s antitrust enforcement action against Google (EC 2017), and research by third parties such as academics or private antitrust litigants (Luca *at al.* 2015), it is possible to test for certain types of bias. Without clear testing standards, however, parties have no idea what is needed in order to demonstrate prohibited discrimination. The less clear the standards for how to conduct testing and in terms of what the data represent, the more expensive the complaint process and the harder it is to predict the outcome. Without a clear understanding of what complainants must show, or instructions on how to show it, parties and agencies will be reluctant to commence enforcement actions. It is also unfair to platforms accused of bias, since they have no clear way to demonstrate that they are not discriminating in an impermissible manner.

I therefore propose what I call “black-box testing.” Congress should require development of suitable standards and testing by either the enforcing agency or another standard-setting agency, such as the National Institute of Standards and Technology (NIST). While this development process should involve academic experts, standard-setting bodies, and other stakeholders, the final determination of the appropriate standards should be determined by the agency. The enforcing agency or other designated neutral party will conduct the testing and will make the results known to the parties and the public. While the information disclosed to the parties should be sufficiently detailed to allow the parties to verify the testing, information disclosed to the public should be more limited, to protect potentially proprietary information.

Because developing appropriate standards and procedures will take time, especially if the standards process is subject to litigation, Congress should explicitly authorize the enforcing agency or complainants to provide alternate forms of evidence to demonstrate prohibited discrimination. While testing will likely be the primary means of proving or disproving prohibited bias once the testing procedures are well established, parties should be able to present other evidence that supports a complaint of prohibited discrimination. This is important because testing may become outdated by changes in the market and the relevant technology. Additionally, discriminatory effects may occur in the real world that do not occur under the conditions that constrain any laboratory test. The ability to present evidence that algorithms have a prohibited discriminatory impact but escape verification by the approved testing method provides a useful check on the system.

Complaint process. Demonstrating prohibited bias when discrimination is generally permissible often places heavy burdens on complainants. Notably, evidence to support the claim frequently lies entirely under the defendant's control. Complaint processes therefore usually require the complainant first to make a *prima facie* case of prohibited discrimination. While this standard is high enough to screen out frivolous complaints, it should not be so high as to require the same level of evidence needed to survive a motion for summary judgment. Once the complainant has made a *prima facie* case, the burden shifts to the defendant to prove that either there is no prohibited discriminatory impact or that the discrimination is otherwise permitted.

The chief difficulties confronting complainants, especially individual consumers, are expense, delay and uncertainty. The complaint process should seek to minimize these. In particular, the complaint process should have clearly defined timelines. The FTC, for example, currently provides no information to complainants once a complaint is filed. As a result, consumers have no idea whether the FTC is even investigating the complaint, or what evidence a complainant must show to move the agency to at least investigate a claim. This is highly discouraging to consumers. For the average consumer, writing a complaint on a rock and throwing it down a well would provide greater satisfaction than filing a complaint with the FTC. At least one can tell when the complaint has reached its goal from the sound of the splash at the bottom.

I therefore recommend that when consumers file informal complaints with the enforcing agency, the agency should be required to determine within 60 days whether to dismiss the complaint or refer the case for further action. If the agency dismisses the complaint, it should provide some explanation to the complainant as to why. If at any stage in the enforcement process the agency decides to terminate the investigation or settle with the defendant, the agency should notify the complainant. As a matter of general transparency, the enforcing agency should be required to publish an annual report (or otherwise make public) a general tally of complaints, actions taken, and the number of complaints left unresolved.

In the case of formal complaints, strict timelines are even more necessary. Complaints can linger indefinitely at the FCC — sometimes being dismissed because the statute of limitations passed while the agency investigated. Companies waiting years have gone bankrupt. This is not merely unfair to complainants, it actively discourages injured parties from bringing worthy complaints. While the enforcing agency requires some flexibility in determining its process, this sort of adjudication by inaction makes a mockery of any enforcement regime.

Time limits on enforcement action should be tolled while a complaint and appeal are pending (*i.e.* the countdown for any statute of limitations is frozen in place until the complaint proceeding is

finished.) Additionally, the statute should require that a complaint pending for some specified period of time can be “deemed denied” by the complainant. In other words, a party may choose to appeal the agency inaction as if it were a denial of a complaint and seek redress from a reviewing court. This will prevent the agency from becoming a barrier to enforcement rather than a mechanism for enforcement.

Private right of action. Agencies may fail in their enforcement duties for a variety of reasons, ranging from lack of resources to lack of political will. Since a private right of action is a necessary safeguard for a number of pro-competitive and consumer protection provisions, I deal with the general characteristics of what should be included in such a provision below. Because a private right of action is in part a check on agency inaction, Congress should specify that the doctrine of “primary agency jurisdiction” (the legal rule that agencies rather than a court should resolve questions of law under the jurisdiction of an expert agency) does not apply, or that the agency has a limited time to respond to a referral under the doctrine of primary agency jurisdiction. Otherwise, the agency may simply allow the matter to continue to languish indefinitely.⁹⁸

History teaches that discrimination complaints require additional consideration beyond those usually necessary in private rights of action. Proving discrimination can be difficult, especially where decisions to favor or disfavor a particular business or service can plausibly rest on many permissible intangible factors, such as judgments based on taste (or algorithmic predictions about taste). Proving discrimination is even more difficult because the accused platform will generally own the evidence needed to show that it discriminated in an impermissible manner. At the same time, rivals may try to use accusations of discrimination to gain commercial advantage and hinder rival firms. Even without a platform’s deliberate ill intent, companies that rank low in search results, find themselves no longer recommended as potential purchases, or otherwise fare poorly on a particular platform may genuinely believe they are victims of impermissible discrimination and bring meritless, but potentially expensive or otherwise damaging lawsuits.

To address these concerns, nondiscrimination regimes often use a burden of proof known as the *prima facie* case. As a threshold to avoid dismissal, the complainant must provide some reasonable

⁹⁸ In one notable case involving unjust and unreasonable rates charged to prison inmates for phone calls, *Martha Wright v. Corrections Corporation of America* (D.D.C. Civil No. 00-293), plaintiffs filed their lawsuit in 2000. The district court referred the matter to the FCC under the doctrine of primary agency jurisdiction in August of 2001 and dismissed the case before it pending resolution at the FCC in 2003. It was not until 2013 that the FCC issued interim rules designed to limit rates for prison phones generally; it issued final rules in 2015. These rules were reversed by the D.C. Circuit in 2017. (*Global Tel*Link v. FCC*, 859 F.3d 39 (D.C. Cir. 2017)). At the time, FCC Chairman Ajit Pai (who, it should be noted, dissented from the rulemaking orders as a commissioner, and on becoming chairman in January, 2017 ordered the FCC to drop its defense of the rate cap portion of the rules) promised to address the problem of unjust prison phone rates in a manner consistent with the court’s ruling. The FCC, however, has done nothing further. This is justice delayed to the point of absurdity and could have been avoided had the district court been required to make a decision on the matter before it in 2001 rather than referring the matter to the FCC.

evidence that makes it seem likely that the complainant is the victim of discrimination. At that point, the burden shifts to the accused to show that they have not engaged in impermissible discrimination. Congress should explicitly adopt this *prima facie* case/burden-shifting with regard to discrimination complaints.

8. Privacy by Design and Limitations on Use.

“Privacy by design” is the principle that digital tools should protect personal privacy as a design requirement, so that only the personal information needed to provide the service is collected, and it is protected to the greatest extent feasible consistent with providing the service (House of Lords 2019; Wheeler 2018). We generally think of privacy by design as a consumer protection. But the key role played by collecting and storing personal information on platforms gives privacy by design an important pro-competitive aspect beyond the pro-competitive aspects of CPNI. A constant complaint against dominant firms is that their gigantic stockpiles of accumulated personal information constitute an impossible burden to successful competition (Pasquale 2018). Privacy by design and limitations on the use of personal information can help to rein in this advantage.

It is not my purpose here to attempt to summarize the expansive debate over privacy by design, or the appropriate legal regime to govern the use and storage of personal information. My aim is to highlight the importance of personal privacy for competition. Legislators should not think of personal privacy simply as something nice for consumers that should yield to the demands of the marketplace. In the age of information, protecting personal privacy enhances competition. Those eager to provide a competitive framework for digital platforms should therefore embrace privacy by design and strong, enforceable privacy protections.

9. Due Process Rights.

As explained by Jon Bergmayer (Bergmayer 2018), the basic principle underlying due process is an idea of fundamental fairness. The concept of due process in private dealings as well as in dealings with government is embodied in multiple statutes — especially those designed to address a disparity of marketing power or to address the problem of trust in a market with significant information asymmetries. “Lemon laws,” for example, provide purchasers of used cars the right to return the car and get their money back within a set period of time, thus addressing the inability of a purchaser to find non-obvious mechanical problems without actually buying the car (Akerlof 1970). Consumer credit agencies are required by law to make a consumer’s credit report available, and to allow a consumer to correct any errors (USA.gov 2019). This reflects the enormous

significance of creditworthiness in our commercial life, and the need to provide basic, enforceable rights so that people can discover negative credit-score information and correct errors that harm their ability to carry out any of the numerous economic activities that require a credit check, such as renting an apartment. Even under the common law, certain relationships create duties between the parties as a matter of basic fairness to the individual (Seipp 2011; Balkin 2018a).

Given digital platforms' importance and their capacity for nearly perfect information asymmetry, due process becomes extremely important both as a pro-competitive policy and as a consumer protection. In the competitive context, merchants on platforms should not be arbitrarily cut off. No platform should be required permanently to offer the same services, interfaces, or search algorithms. But they should be held to standards of basic notice, so that businesses using the platform can adequately prepare for any changes and — where possible — seek alternatives. It is no excuse to say that since services are offered for free, users of the platform should have no rights in the platform. This constitutes a “bait and switch” in which users are encouraged to maximize their use of the platform, only to find themselves squeezed once they've come to rely on the availability of the platform. Equity has long recognized reliance interests of this sort, for example in laws governing the duties of bailees to bailors or through the doctrine of reliance interest in contract law. There is good reason to extend this basic principle of equity into the digital age.

As Bergmayer observes, the duty owed by a platform should vary with both the size of the platform and the nature of the service. This is particularly true in the commercial context, where merchants are generally more accustomed to negotiating for specific rights and protections. Indeed, given the changing nature of the digital world, merchants should understand that digital platforms may well change over time. But there is a proper balance between overly proscriptive regulation and the current environment of *caveat emptor*. At a minimum, commercial customers of platforms should be entitled to reasonable notice before a significant change. Where a platform is the functional equivalent of a shopping mall leasing space, merchants should be entitled to some explanation for any exclusion and to a basic right to appeal.

Congress should establish clear due process criteria to ensure fundamental fairness, determining the appropriate level of process in relation to the cost of exclusion from the specific platform. Because this is not an exact science, and because of the dynamic nature of the digital platform economy, Congress will need to delegate to the enforcing agency the power to evaluate whether a specific platform is dominant and the details of due process rights necessary to protect competition and consumers.

C. Enforcement and the Need for Private Rights of Action.

Private rights of action are necessary to address the problems associated with agency enforcement. In the case of implementation of cable device interoperability, agency enforcement has been hampered by lack of resources and political pressure from powerful interests. Moreover, agency enforcement depends on the political will of the agency. Agency heads or agency staff who disagree with statutory policy can effectively kill a statutory mandate via lack of enforcement. Congress can starve an agency of resources necessary to enforce, or even prevent enforcement altogether via an appropriations rider. Private rights of action serve as a vital safeguard.

The Supreme Court has become increasingly hostile to private rights of action in the statutory enforcement context. The Supreme Court has found that the Federal Arbitration Act permits businesses to include forced arbitration clauses and to require waiver of the right to join class actions — even in contracts of adhesion (Wilson 2012). As many commenters have noted, this has severely curtailed the effectiveness of private rights of action to deter bad conduct. Additionally, the Supreme Court over the last few decades has consistently raised the barriers of standing for private litigants, and made it increasingly difficult to certify a class (Campbell 2013).

For private rights of action to serve their purpose, the DPA should expressly prohibit any forced arbitration or any limit on the right to join a class-action lawsuit. This will allow small businesses and start-ups to exercise their rights and enjoy the protections of the statute regardless of the political will of the enforcement agency. Additionally, Congress should provide for liquidated damages and injunctive relief, as well as for recovery of any actual damages.⁹⁹ This will ensure standing for parties affected by anticompetitive behavior.

⁹⁹ “Liquidated damages” is a legal term meaning minimum monetary damages awarded by statute (or, in the case of a contractual penalty, set by the parties). Liquidated damages are used when it can be difficult to prove actual damages because the harm is either intangible or difficult to measure. Congress may also choose to set damages at a level designed to discourage violations. For example, the Cable Privacy Act imposes liquidated damages of \$100 a day per violation, but not greater than \$1,000. See 47 U.S.C. §551(f)(2)(A).