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**Hunting the Big Five:
Twenty-first Century Antitrust
in Historical Perspective**

by

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Hunting the Big Five: Twenty-first Century Antitrust in Historical Perspective

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ABSTRACT

Voices along the whole of the political spectrum are calling for heightened scrutiny of American information-technology companies, especially the Big Five of Amazon, Apple, Facebook, Google, and Microsoft. One of the principal themes of this uprising is that present-day antitrust policy, forged in the rusty era of steel, oil, and cars, is now obsolete. We are in the age of information, which ipso facto calls for new rules. A second animating theme is that the antitrust thinking of the Chicago School, which came to prominence in the last quarter of the last century, must be completely overthrown. Proponents of this new antitrust ground their arguments by returning to the historical roots of American antitrust policy. My contention, however, is that the new antitrust gets this history wrong. It both misconceives the nature of the competitive process and deliberately refuses to confront the political economy of antitrust. In so doing, it adopts some of the worst traits of the Chicago School it criticizes while manifesting few of that school's many virtues.

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This paper draws on a larger ongoing book project called *The Corporation and the Twentieth Century*, which seeks to revisit the history of the American corporation set out in Alfred Chandler's *The Visible Hand* of 1977, not merely extending that history to the end of the century but also emphasizing the ways in which the corporation was shaped by public policies (notably antitrust policy), ideology, and, relatedly and perhaps most significantly, the great tragedies of war and depression that marked the century. The author would like to thank two anonymous referees for valuable suggestions and corrections.

Amazon is doing great damage to tax paying retailers. Towns, cities and states throughout the U.S. are being hurt – many jobs being lost!

— Tweet from Donald Trump, 5:12 a.m., August 16, 2017

A little more than 100 years after the passage of the Clayton and Federal Trade Commission Acts, antitrust is once again back in fashion. Voices along the whole of the political spectrum are calling for heightened scrutiny of American information-technology companies, especially the Big Five of Amazon, Apple, Facebook, Google, and Microsoft. One may perhaps discount attacks on the tech giants from within the populist Trump administration (Meyer 2017), but even the once reliably free-market *Economist* recently published a cover story (January 20, 2018) calling stridently if vaguely for a rethink of antitrust in the digital age. Unsurprisingly, the drumbeat for regulation is loudest on the left, where a “new structuralist” paradigm is catching attention. Yet scholars like Bill Kristol and Bill Galston, who advertise themselves as defining the centrist position, articulate a vision that is indistinguishable from that of the new structuralists.¹

One of the principal themes of this uprising is that present-day antitrust policy, forged in the rusty era of steel, oil, and cars, is now obsolete. We are in the age of information, which *ipso facto* calls for new rules. A second animating theme is that the antitrust thinking of the Chicago School, which came to prominence in the last quarter of the last century, must be completely overthrown. Led by Robert Bork (1978), Richard Posner (1976, 1979), and others, the Chicago School insisted that antitrust be grounded in

¹ <http://newcenter.org/ideas-to-re-center-america/challenging-big-tech/>. Accessed January 6, 2018.

economic theory, which privileges the wellbeing of consumers as much as that of producers and which points antitrust in the first instance toward problems involving the restriction of output and the raising of prices above cost. Chicago doctrine must be discarded because it creates a problem of elephant-in-the-room proportions for proponents of anti-tech antitrust, whom it forces to explain why consumers (or indeed society more broadly) is being harmed by an incomprehensibly magical information source offered at a price of zero; by cheap and swift access to virtually all the products of humanity at the touch of a finger; by elegant devices that concentrate in the palm of the hand abilities undreamt of even in science fiction; and in general by quality-adjusted prices that continue to plunge through the floor.

As is characteristic of Romantic endeavors, proponents of the new antitrust attempt to elude the elephant by returning to an earlier and simpler time – in this case to the historical roots of American antitrust policy. My contention, however, is that the new structuralism gets this history wrong. It both misconceives the nature of the competitive process and deliberately refuses to confront the political economy of antitrust. In so doing, it adopts some of the worst traits of the Chicago School it criticizes while manifesting few of that school’s many virtues.

To focus the discussion, I will consider the most significant scholarly articulation of the new structuralism, a much-cited article by Lina M. Khan in the *Yale Law Journal* called “Amazon’s Antitrust Paradox” (Khan 2017). This is the urtext of hipster antitrust. Khan makes essentially three large claims. (1) Chicago antitrust is misguided because it flies in the face of the clear legislative intent and precedent of American antitrust, which never wanted its criterion to be the maximization of social surplus but instead sought to promote other “values” such as the insulation of existing competitors from pecuniary harms

and the creation of a competitive environment in which “power” is decentralized for its own sake irrespective of economic efficiency. (2) Even on its own terms Chicago fails because its indulgent attitude toward low prices and benefits to consumers blinds it to the inefficiency of predatory pricing. (3) The world would be a better place if antitrust policy returned to the values American law once supposedly embodied. This might involve, *inter alia*, making predatory (or even low) pricing *per se* illegal, scrutinizing vertical integration much more carefully, and even regulating large firms as common carriers or natural monopolies whenever any aspect of their business might be considered an “essential facility.”

The history of antitrust.

In his influential book *The Antitrust Paradox*, Bork argued that the legislative intent and precedential history of American antitrust law supports the economist’s view that competitive behavior should be defined as economic efficiency, and he cited chapter and verse (Bork 1978, pp. 56-66). By contrast, Khan asserts that “Congress passed antitrust laws to safeguard against excessive concentrations of private power. It recognized, in turn, that this vision would protect a host of interests, which the sole focus on ‘consumer welfare’ disregards” (Khan 2017, p. 744). As both are lawyers (Bork died in 2012), this is to be expected. One chooses and frames the precedents to make one’s case. But the imperatives of the economic historian are rather different. And what history suggest is that *both* are right. Legislators and judges typically claimed that “trusts” – few were actually trusts in the technical sense – harmed society *both* by charging high prices *and* by driving out smaller, less efficient competitors. Very often these contradictory sentiments would be expressed in the same speech or opinion. The reason is easy to see: there was in fact no

single, or indeed perhaps any, coherent vision behind American antitrust policy. That policy resulted from the more-or-less haphazard intersection of the forces of political economy in nineteenth century America.²

As Harold Demsetz (1974) has argued, there are fundamentally two theories of monopoly: the interventionism theory and the spontaneous-monopoly theory. In the first account, monopoly is always the creature of the state, because only legally enforced property rights (like patents or taxi medallions) represent meaningful barriers to entry, especially in the medium and long run (Demsetz 1982). In the second account, the competitive system somehow naturally generates endogenous monopolies, which a wise and disinterested government must seek out and destroy.³ Eighteenth-century figures like Adam Smith and James Madison thought of monopolies only in the first sense, even though their words are often trotted out against supposed monopolies in the second sense. The theory of spontaneous monopoly was effectively created along with American antitrust policy in the late nineteenth century.

At the state level, the U. S. after the Revolution was highly regulated in ways that protected incumbent interests (Hughes 1977). Because of high transportation and transaction costs, and to some extent because of the U. S. Constitution, the federal space was, however, far less regulated. With the coming of canals, the railroads, and the

² For a longer, better documented, and more nuanced account of nineteenth-century American policy toward the corporation, see Langlois (2016).

³ I give my students the image of the whack-a-mole game at old-time seaside arcades: when a monopolist sticks its head out of hole, someone has to hit it with a hammer. You might well ask about the dexterity of antitrust officials.

telegraph, an altered economic geography began knitting the country together economically, drastically changing the federal political economy.

Railroads were the first flashpoint. Because they are high-fixed-cost industries, railroads cannot cover their total costs if they price at marginal cost. There were two solutions to the problem: collusion to raise rates above marginal cost and price discrimination. As it always does without government support, collusion failed.⁴ But although there was intense competition on trunk lines whenever there were alternative routes to ship long distances, many localities were served by only one road, and the railroads could thus raise short-haul rates on routes with few alternatives.⁵ Since the railroads had become essential to the livelihoods of vast numbers of farmers and producers of raw materials, however, the pricing policies of the roads carried significant distributional implications. Both sides wanted the federal government to intervene: the roads wanted help in policing cartels and the shippers wanted to prevent both cartels and rate discrimination. The legislative collision of a railroad-oriented Senate bill with a shipper-oriented House bill resulted in the Interstate Commerce Commission in 1887, a train wreck that pleased no one.⁶

⁴ “In no other industry,” writes Herbert Hovencamp (1991, p. 1039), “have attempts at both legal and illegal cartelization been so persistent, widespread, systematic, or ultimately doomed to failure.”

⁵ This is an example of what is now called Ramsey pricing: charging higher prices for products inelastically demanded and lower prices for products elastically demanded. It is an efficient solution to pricing in a multi-product context in the face of high fixed costs (Baumol and Bradford 1970).

⁶ Gabriel Kolko (1965) famously argued that the legislation was the work of and redounded exclusively to the benefit of the railroads. More recent scholars think otherwise; indeed, if anything it was the short-haul shippers who benefited most from the legislation (Gilligan et al. 1989). The ICC gained teeth only in the early twentieth century, when it was given rate-making authority and promptly captured by shipping interests. The result was the decline of American railroads, which could no longer raise the capital necessary to maintain and expand facilities (Martin 1971).

The Sherman Antitrust Act of 1890 was triangulated in a similar, if more complex, matrix of forces. The new economic geography of the country had encouraged the emergence of large concerns in manufacturing and distribution, which could produce centrally at large scale and ship their wares to the periphery (Chandler 1977). These firms began creatively to destroy the small producers and distributors that had been built up around the older network of canals (Benson 1955; Miller 1971). They also began to worry farmers and producers of raw materials in the countryside, who added “concentrations of power” to the long list of vague populist concerns that already included immigrants and Wall Street. The concerns in some cases were not entirely without a foundation in narrow interests. Traders and industrialists, mostly in the Northeast, had long favored high protective tariffs and a gold standard to encourage foreign investment, and the post-Civil-War weakness of the Democratic South allowed the Republican Party largely free rein on these issues. By contrast, farmers and shippers in the South and Midwest opposed tariffs and wanted a depreciated currency to help them sell their output abroad (Frieden 1997).⁷

Representing what was then as now a swing state, Ohio Senator John Sherman understood that he had to assuage populist concerns if he was going to negotiate both the Republican agenda and his reelection. Populists were already agitating for inflation under the banner of silver, and they saw tariffs as raising the prices of their inputs in significant part because they encouraged monopoly. That tariffs caused monopoly was a plank in the Democratic platform of 1888. (Take note here that populists were concerned *both* with harms to small businesses *and* with higher prices.) Sherman’s deft strategy was that, rather

⁷ Douglas Irwin (2007) has calculated that tariffs in the late nineteenth century amounted to an export tax of 10 per cent, redistributing some eight percent of GDP between sectors.

than give the populists what would have really benefited them – free silver and lower tariffs – he would instead blame their high prices on the trusts. He would give them an antitrust bill.⁸ Then as now, antitrust offered symbolic reassurance to a diffuse constituency fearful of developments they didn't understand and couldn't control (Edelman 1964; Letwin 1965, pp. 86-88). But there were also more concrete interests at play: independent businesses harmed by more efficient large competitors. Typical of these were small refiners threatened by Standard Oil's policy of translating refining and shipping efficiencies into lower prices, along with local slaughterhouses who had to compete with the highly efficient new system of refrigerated dressed meat (Libecap 1992; Troesken 2002).⁹

The Sherman Act forbade contracts, combinations, or conspiracies “in restraint of trade or commerce” as well as the “monopolization” or attempt to monopolize trade or commerce.¹⁰ The phrase “restraint of trade” came from the Common Law, where it had referred in no way to monopoly, as monopoly had been ubiquitous and unquestioned in medieval and early-modern times (Letwin 1954).¹¹ The phrase also had little to do with cartels but applied primarily to what we would now think of as non-compete clauses: for

⁸ This was in fact the accepted historiography of the Sherman Act for much of the twentieth century (Clark 1931; Fainsod and Gordon 1941; Stephenson 1930), though it went into decline after the success of Thorelli's (1955) Progressive Whig history. DiLorenzo (1985) and Hazlett (1992) have resuscitated the older view.

⁹ In the three years after the formation of the Standard Oil trust in 1882, John D. Rockefeller had succeeded in consolidating what had been 53 refineries into 21 highly efficient ones, lowering the average cost of refining from 1.5 cents to 0.5 cents per barrel (Williamson and Daum 1959).

¹⁰ *26 Stat. 209, 15 U.S.C. §§1-7 (1890).*

¹¹ The Common Law language referred instead to practices like forestalling, regrating, and engrossing, which were forms of speculation and arbitrage; although usually economically efficient, these would sometimes have the effect of transferring rents to merchants at the expense of city-dwellers, and forbidding them was, remarkably, one of the few instances in which the Common Law penalized pecuniary rather than technological externalities. Under the influence of Enlightenment thinkers like Adam Smith, Britain had removed these provisions by 1844.

example, a shopkeeper who sells his store might agree by contract not to establish another store within a certain distance of the one sold. The terseness of the act, and the strange linkage of “restraint of trade” with monopoly, would create an enduring legacy of interpretive complications. Since enforcing the Act had never been the point, no one had given any thought to details and mechanisms of enforcement, and so Sherman became an empty vessel that future administrations could fill in their own way. The law of unintended consequences began to apply almost immediately. Because the Supreme Court originally ruled that manufacturing didn’t count as “trade or commerce” (McCurdy 1979), Sherman was at first directed not at large firms but mostly at interstate cartels among small producers (and, of course, against labor unions). This created an incentive for the small producers to abandon their separate identities and merge into larger firms (Bittlingmayer 1985).

One of the reasons populists had been so restive in the late nineteenth century is that they were living through a period of mild deflation, as productivity growth outstripped the growth of the money supply. As the turn of the century approached, however, new finds of gold and improved techniques for processing gold ore initiated a period of inflation, the largest since the Civil War (Friedman and Schwartz 1963, p. 135). Whereas (unanticipated) deflation had transferred resources from indebted farmers to Eastern lenders, inflation began transferring resources away from those lenders. Complaints about the cost of living began to pile up, and, as would happen periodically throughout the century, “trusts” took the blame (Aldrich 2013). At the same time, independent middle-class businesses were coming under further pressure from the large, efficient, nationwide firms in manufacturing and distribution. Increasingly, these small-business owners looked to government to defend them against economic change, and they adopted the amorphous

antimonopoly sentiment of the populists. “In general,” wrote Robert Wiebe, “businessmen below the level of magnates subscribed to some variant of the theory that ‘the growing power and influence of trusts’ destroyed honest enterprise and stunted ‘the hope and ambition of the youth of the country.’ They shared, in other words, the widespread, ill-defined antimonopoly sentiments of the late nineteenth and early twentieth centuries. But like ‘Wall Street,’ the term ‘trust’ was a rubbery one, covering whatever economic forces worried a particular businessman at a particular time” (Wiebe 1962, p. 13).

Unlike the populists, who wished to break up large firms for the sake of smallness not efficiency, Progressive intellectuals like Herbert Croly (1909) embraced both the inevitability and the desirability of large size, which, they held, could be turned to advantage by planning and scientific management. When fate ushered Teddy Roosevelt into the presidency in 1901, they had found their champion. Roosevelt famously believed he could distinguish between good trusts and bad trusts, offering gentlemen’s agreements to the former and prosecuting the latter.¹² The President wanted to formalize this idea of gentlemen’s agreements – to replace judicial antitrust with an executive agency that would supervise business and dictate behavior to them (Sklar 1988, chapter 4). Many business

¹² And he chose badly. Roosevelt’s preeminent good corporation was U. S. Steel, which is one of few trusts that approximated what modern-day economists think a trust is. In the nineteenth century, Andrew Carnegie had been in Steel the equivalent of Rockefeller in oil: a ruthless price cutter bent on innovation and efficiency. But unlike Rockefeller, Carnegie suddenly desired to change his life and become a full-time philanthropist. The House of Morgan brokered a deal with several other steel concerns, and under Judge Elbert H. Gary the new colossus stabilized prices, declined to innovate, and maintained the *status quo* – precisely because it feared antitrust prosecution (McCraw and Reinhardt 1989). For this it was rewarded by the Supreme Court with a not guilty verdict. In the through-the-looking-glass world of American antitrust policy, the best way to avoid being anticompetitive, it turned out, is not to compete. With hammer and claw, Roosevelt went after Standard Oil, which was a far more aggressive competitor and was under pressure from new finds of oil around the world. . Rockefeller would get the last laugh, however. Once the Standard Oil Company was broken up, the stock-market value of its daughter companies turned out to be far more than the paper market cap of the original Standard, and Rockefeller saw his personal holdings treble to nearly a billion dollars. He too went off to become a philanthropist.

executives appreciated this idea, which they saw as creating a far more predictable world than that of Sherman jurisprudence. A star-studded centrist group called the National Civic Federation began drawing up legislation. But Roosevelt had his own ideas. He commandeered the drafting process and produced a bill that managed to alienate labor, small business, and big business all at the same time. The idea of a commission went down to defeat; and when Taft supplanted Roosevelt as President, the Sherman Act would emerge energized from its near-death experience: Taft would launch more Sherman suits by far than any administration until the New Deal (Posner 1970).

Yet when Woodrow Wilson became President in 1913, all the issues remained on the table. Despite the effort of left-revisionist scholars to homogenize Roosevelt and Wilson into “corporate liberals,” Wilson was in fact the polar opposite of Roosevelt (Seltzer 1977). Like his principal advisor on antitrust, Louis D. Brandeis, he believed in preserving a system of small independent businesses. For both men this was not an economic issue but a moral one: they both saw the economic agent primarily as a moral agent and feared the moral costs of large-scale capitalism (Seltzer 1977, p. 190; Urofsky 2009, pp. 342-343). Perhaps unsurprisingly, Brandeis is an explicit influence on the new structuralism.

At the same time, however, Wilson considered the existing Sherman Act inadequate, especially because of the uncertainty it caused for business. The solution, as he saw it, was to clearly enumerate anticompetitive practices in legislation. “Surely,” Wilson told a joint session of Congress on January 20, 1914, “we are sufficiently familiar with the actual processes and methods of monopoly and of the many hurtful restraints of trade to make definition possible, at any rate up to the limits of what experience has

disclosed. These practices, being now abundantly disclosed, can be explicitly and item by item forbidden by statute in such terms as will practically eliminate uncertainty, the law itself and the penalty being made equally plain.”¹³ In fact, nothing of the sort was true. Even economists had no understanding of most of the strategies and contractual devices businesses used, nor would they have any until the transaction-cost revolution of the later twentieth century (Williamson 1979). For this reason and many others, there was no way legislation could articulate clear and simple rules. When constituents, including small business, got wind of the actual legislation – what was to become the Clayton Act – they went ballistic, fearing they could be sent to prison for ordinary business contracting (McCraw 1984, pp. 120-121; Urofsky 2009, pp. 289-292).

Congress responded by removing the criminal sanctions and making the description of “anticompetitive” practices vaguer and more qualified. But this meant uncertainty once again. In the January speech Wilson had also asserted that business was entitled to “the definite guidance and information which can be supplied by an administrative body, an interstate trade commission.” What he had in mind was purely a “sunshine commission,” a clearinghouse for information, not the kind of strong commission Roosevelt had wanted. But if “unfair” practices were no longer to be so clearly and unambiguously enumerated, perhaps a more powerful commission was in order, one that could adjudicate as well as collect information, one that could interpret what “unfair” meant and give advice. Brandeis had already been thinking along these lines, formulating a bill to create a commission empowered to issue cease-and-desist orders and to give advice to business. It was Brandeis

¹³ Woodrow Wilson, Address to a Joint Session of Congress on Trusts and Monopolies, January 20, 1914, <http://www.presidency.ucsb.edu/ws/?pid=65374>.

who persuaded Wilson to accept what would become the Federal Trade Commission (Link 1954, pp. 71-72; McCraw 1984, pp. 122-125; Urofsky 2009, pp. 389-395).¹⁵

The pieces of American antitrust policy had been thrown up in the air, and in 1914 they came to rest in essentially the form they would assume for the next century. Behind this configuration lay no coherent account of competition let alone of what constituted anticompetitive practices or restraints of trade.

Predatory pricing.

The Clayton Act explicitly listed as anticompetitive such practices as price discrimination, tying, and exclusive dealing. In other words, the Act sought to outlaw non-standard forms of contracting that seemed puzzling to contemporaries, even economists. As economists later in the century would come to understand, these were actually contractual solutions to incentive and transaction-costs problems in arm's-length markets. Thus on the whole it was smaller, more vertically specialized firms that were involved in practices like tying and exclusive dealing. Making these practices illegal simply amplified the effect, already built into Sherman's anti-cartel policy, of encouraging horizontal and vertical integration as a way of effecting the same transactions internally and invisibly. Brandeis understood this perfectly, and he had long objected to the prosecution of cartels among small producers. It bothered him not at all that this meant higher prices for consumers, whom he viewed as "servile, self-indulgent, indolent, ignorant" (McCraw 1984, p. 107). For Brandeis, the one true anticompetitive practice was not pricing high but pricing low.

¹⁵ The author of the FTC bill was actually Brandeis's associate George Rublee, who was a fervent supporter of the Bull Moose Party and a proponent of the strong commission Roosevelt favored.

Precisely because antitrust jurisprudence did indeed embody in part a goal of keeping prices low to consumers, the Sherman Act was used against the practice of resale-price maintenance, which the Court outlawed in the *Dr. Miles* case in 1911.¹⁶ RPM binds sellers (explicitly or by threat of refusal to deal) to maintain a price set by the manufacturer. To the courts and indeed most casual observers, this is manifestly a “restraint of trade,” since such contracts restrain sellers from offering discounts, that is, restrain them from competing on price. The Court may perhaps be forgiven for getting this wrong, as it was not until the second half of the century that even economists began to understand the logic of RPM and other vertical arrangements, and prominent contemporary economists, including the likes of Frank Taussig, mostly talked nonsense on the subject (Breit 1991). In a brilliant article in *Harper’s Weekly*, however, Louis D. Brandeis (1913) anticipated all the modern-day arguments in favor of RPM.¹⁷ What angered Brandeis about the Court’s decision is that it gave advantage to larger vertically integrated firms, which could replicate the benefits of RPM by owning their own outlets.¹⁸

¹⁶ *Dr. Miles Medical Co. v. John D. Park & Sons Co.*, 220 U.S. 373 (1911).

¹⁷ There are two reasons RPM is efficient. Manufacturers may want to eliminate reseller competition along the price margin in order to force competition to take place along various non-price margins, especially sales effort and pre- or post-sales service. If some resellers are allowed to discount, customers can free ride on the services of the non-discounters and then buy from the discounters, which will create an incentive for no one to provide the services and sales effort (Telser 1960). Manufacturers may also want to control the resale price in order to send a quality signal (Marvel and McCafferty 1984). Be careful to note that this discussion is about *voluntary* RPM contracts. These are often confused with so-called fair-trade laws that *legally require* RPM. Fair-trade laws, pushed strongly by small retail druggists who faced competition from discounters (Hawley 1966, pp. 254ff.), were among the many pro-cyclical policies ushered in during the Depression by the New Deal.

¹⁸ As Brandeis put it in a letter to commerce secretary William C. Redfield in 1913, by restricting vertical contracting, antitrust policy was “playing into the hands” of the large department stores and chain stores that were beginning to arise in the early twentieth century and was giving advantage to large concerns like Standard Oil that “can retail an article as well as manufacture” it (McCraw 1981, p. 47).

Brandeis’s disdain for low prices went beyond RPM. Like the new structuralists he has influenced, Brandeis warned against “predatory” or “cut-throat” pricing, which allows large firms to drive smaller ones out of business – and, more crucially, to keep them out. As first pointed out by McGee (1958), this second part is crucial: predatory pricing fails in the absence of barriers to entry, since competitors can immediately reenter the market as soon as the would-be predator raises prices. Under the influence of this logic, the courts sensibly evolved a “recoupment test” (Khan 2017, p. 729). Claimants must demonstrate exactly how victims (or other contenders) will be prevented from reentering the market once prices are raised.

Khan promised to show that the Chicago analysis of predatory pricing (and relatedly, of vertical foreclosure) fails even under the lamp of consumer benefit (by which she, like Bork, really means maximizing total social surplus). I had expected her to trot out some of the many models that use game theory and related approaches to argue that predation and foreclosure are logically possible in certain abstract formal settings. These are available abundantly, including in the canonical *Handbook of Industrial Organization* (Ordover and Saloner 1989).¹⁹ What we get instead is essentially nothing. The best Khan (p. 738) has to offer is that the Chicago view of predation fails the “incipiency test” in antitrust law: it fails to nip monopoly in the bud and instead waits for it to develop (if it does).²⁰ But this is not an argument that the economic view is wrong, only an argument

¹⁹ These authors define “anticompetitive or predatory those aggressive and exclusionary business strategies that, when deployed, have the effect of lowering a properly evaluated measure of social welfare” (p. 539).

²⁰ She also cites a book by John Kwoka (2015) that is actually about mergers not predatory pricing, and she waves vaguely at some recent claims that entrepreneurship and firm formation are declining in the United States.

that it has yet to penetrate all corners of antitrust. As Demsetz points out, the incipency test fails “not only because competition might also be nipped in the bud, but because penalizing monopoly already successful also discourages the attempt to monopolize; any penalizing of monopoly nips monopoly in the bud by reducing the expected profits of monopolization” (Demsetz 1982, p. 56).

To be fair, there is a whiff of truth to Khan’s criticism of the Chicago School, or rather of the kind of economics that has found its way into many antitrust discussions, both from the original Chicago School itself and from the present-day strategic-behavior theorists. She seems to believe that Chicago price theory ignores “product quality, variety, and innovation” (p. 739). This is untrue. But there is a sense in which paying exclusive attention to price theory distracts attention from the complexities of economics in the real world. The important Chicago revolution after World War II was not that of Bork, Posner, or Stigler (1968). It was the revolution of Ronald Coase, a name that nowhere appears in Khan’s document. Coase derided abstract price theory as “blackboard economics.”²¹ He insisted that economists actually examine the world historically and through case studies, and he stressed above all the importance of seeing economic practices in the light of the costs of information, of transaction, and of monitoring. Deirdre McCloskey (1997) calls the Coasean variant the Good Old Chicago School. It is this Chicago School that unpacked the riddles of non-standard contracting, long decried as “anticompetitive,” in terms of information and transaction costs, and many of those explanations very much involve issues of product quality, variety, and innovation. There is no better example of Good-

²¹ And one might add that formal strategic-behavior models are the blackboard economist’s blackboard economics – “blackboard economics gone loco,” as McCloskey (1997, p. 244) puts it.

Old-Chicago reasoning than Louis D. Brandeis's 1913 *Harper's* article on resale-price maintenance.

Far from making Khan's case, however, the Coasean approach undoes that case. For one thing, her vague assertions about predatory pricing and vertical restraints are blackboard economics without even the blackboard. There is a more important point. If we are to evaluate market processes as they really are, with the attendant transaction costs and limitations of knowledge, then we are obliged to propose alternatives and to analyze them in exactly the same terms (Demsetz 1969). How exactly do these alternatives work? How do they deal with the inescapable problems of scarcity, transaction costs, and limited knowledge? And what is the political economy of the proposed alternatives: who will be in charge, how will they come to possess the knowledge necessary to make wise decisions, and who will really benefit? A persuasive analysis must be a comparative-institutional one. An argument that merely criticizes the (alleged) limitations of the market process as we observe it is no argument at all.

Real competition.

Of course, Khan's principal objective is not to fix economic analysis but to throw it out. "Antitrust law and competition policy," she writes (p. 737), "should promote not welfare but competitive markets." To an economist, this is an absolutely astonishing statement. What system of values could possibly induce you to want to sacrifice the welfare of society (properly understood to include all aspects of welfare, not just the supposedly economicsy parts)? How could it be that competition properly understood and effected would not maximize welfare? Her answer is that there exist "non-economic" values, including "our interests as workers, producers, entrepreneurs, and citizens." These values may trump

“whether consumers are materially better off.” The way to ensure the survival of these values, she maintains, is to keep power artificially decentralized – for its own sake not for the sake of efficiency.²² This is the structure of the new structuralism. To keep the world adequately decentralized and therefore “competitive,” we must invoke the strong centripetal power of the state, unexamined in its working details, to forbid low prices and any other behavior that might threaten decentralization.²³

This vision of antitrust is misguided and dangerous. The proper goal of competition policy is very much to enhance the material well-being of members of society, understood to mean far more than the mere elimination of deadweight-loss triangles. And the proper means to this goal is to encourage real competition in its true rivalrous and messy glory, even if that threatens sturdy yeomen of romantic fantasy (or their modern-day equivalents). Our “interests as workers, producers, entrepreneurs, and citizens” are no doubt as vital as they are vague. But history suggests that those interests will actually be ill served by the attempt to maintain a potted decentralization in place of active rivalry.

Let me be unambiguous about what I think real competition is. Competition is active rivalry. It is striving. It is experimentation. Real competition, as Joseph Schumpeter famously put it, is the competition of

the new commodity, the new technology, the new source of supply, the new type of organization (the largest-scale unit of control for instance) — competition which commands a decisive cost or quality advantage and

²² This is unlike the economist’s model of “perfect” competition, in which firms are infinitely decentralized and powerless, because in that (abstract and largely irrelevant) model decentralization increases welfare.

²³ As Jonathan Hughes wryly put it in a related context, “American capitalism is normally a world of structured economic power in which competition is ever endangered and ... competition cannot survive in this world unless it is constantly protected from market forces” (Hughes 1977, p. 122).

which strikes not at the margins of the profits and the outputs of the existing firms but at their foundations and their very lives. This kind of competition is as much more effective than the other [*i. e.*, price competition] as a bombardment is in comparison with forcing a door, and so much more important that it becomes a matter of comparative indifference whether competition in the ordinary sense functions more or less promptly; the powerful lever that in the long run expands output and brings down prices is in any case made of other stuff (Schumpeter 1950, pp. 84-85).

The benefit of such competition is very much that it makes consumers (that is to say, people) “materially better off.” Big time. As McCloskey has emphasized, it is precisely this kind of evolutionary, experimental competition – she calls it trade-tested betterment (McCloskey 2016, p. 93) – that led to the Great Enrichment of the last two and a half centuries, an enrichment, in the case of the U. S., of more than 1,700 per cent, conservatively estimated, since the founding of the republic (McCloskey 2010, p. 48).

I am acquainted with a number of people, themselves having been made more than comfortable by the Great Enrichment, who refuse to shop at Wal-Mart, considering it crass, exploitive of workers, and destructive of the charming boutiques of small sellers. But I can also testify that, when Wal-Mart began experimenting with selling groceries, it came as a godsend to my elderly parents, who had to make due with a tiny retirement income.²⁴ Hausman and Leibtag (2007) calculated that the lower prices and increased variety that came with Wal-Mart’s entry into groceries represented the equivalent of a 25 per cent decline in food expenditures, an effect that was more pronounced for lower-income shoppers. Would the world have been a better place with a nip-it-in-the-bud policy of

²⁴ My father spent the bulk of his career delivering fuel oil and concrete products for Brandeisian local businesses that paid low wages and couldn’t afford benefits.

making predatory pricing illegal *per se* and of scrutinizing lateral integration more stringently?

At one point Khan paints as pernicious the way dynamic competition from Amazon is pressing upon the large traditional book publishers, and she quotes writers who fret that these houses will be forced to concentrate on best sellers and ignore niche authors. “A market with less choice and diversity for readers amounts to a form of consumer injury” (p. 767). This is another absolutely astounding pronouncement. By orders of magnitude Amazon has done more to create diversity in books, and indeed in all products, than any organization in human history. Erik Brynjolfsson and his coauthors have demonstrated that, far from reducing the prominence of niche works, Amazon has dramatically increased their market share (Brynjolfsson et al. 2011). Overall, they calculated, Amazon enriched consumers (again: people) in the year 2000 by as much as \$1 billion, and increases in variety contributed seven to ten times as much to that enrichment as did lower prices (Brynjolfsson et al. 2003). That was in a single year, 17 years ago.

Regulating platforms and information.

It is an article of faith in the new antitrust that information technology companies, especially those that represent platforms, are something wholly new in industrial history and that such firms require some new kind of government regulation. In fact, of course, neither information technology nor platforms are new, and the government has long attempted to regulate them using many of the techniques now proposed (and many others in addition). The results have not been pretty.

One of the most notable platform enterprises of the twentieth century was one well known to Brandeis – United Shoe Machinery Corporation. Indeed, United was perhaps the only “good trust” in the book of Brandeis, at least during the period when he served on its board of directors. Assembled in the late nineteenth century from a congeries of vertically and laterally specialized shoe-machinery makers, and surrounded by a ring of patents, United provided equipment to the highly competitive and fragmented American shoemaking industry. Rather than selling their machines, however, United followed a long-standing practice in similar industries of only leasing machines. This effectively turned their product into a service. United provided not only a flow of machine services but also repair services and, perhaps most importantly, detailed knowledge about how to set up a shoe factory. This reduced the capital and technical knowledge required to enter the shoe business, encouraging a myriad small firms to take advantage of local knowledge and high-powered incentives. “The particular ground upon which I based my opinion that the shoe-machinery monopoly operated beneficially,” said Brandeis, “was that it appeared to help the small manufacturers and thus, while itself a monopoly, promoted competition in shoe manufacturing” (McCraw 1981, p. 45).

By 1911, however, Brandeis had decided that United was as heinous a trust as any other.²⁵ The reason? United’s contracting practices. “A practice like that of the Shoe Machinery Trust of denying to the individual the right to lease a certain machine unless he will take his other machines from the trust, so that competition is killed; that is, a practice under which he who controls an indispensable [sic] article of commerce uses it to kill

²⁵ On Brandeis’s complex relationship with United see Urofsky (2009, pp. 310-317).

competition in other articles is obviously unsocial, and ought to be prohibited” (U. S. Senate 1913, p. 1161). The irony here is that the logic behind United’s contracting practices is exactly the same one Brandeis had articulated in making the case for RPM. Because United provided complete industrial-design and layout services to the small shoemakers, the company was vulnerable to free riding: shoemakers could take the services and then go buy cheap knockoff machines (Masten and Snyder 1993, p. 35). There were a variety of other moral-hazard problems as well, which United dealt with through contractual restrictions of various kinds.

United survived an early antitrust case on the grounds that it had been composed of vertically and laterally related companies that didn’t compete with one another, though some justices questioned the company’s non-standard contracting.²⁶ After World War II, during the heyday of activist antitrust enforcement in the U. S., the Department of Justice would take up the cudgels once again.²⁷ This time the Court chose to go after the structure of the firm’s contracts, demanding sale as well as lease, arbitrarily altering the duration of the leases, and forbidding any restrictive provisions.²⁸ The ruling proved disastrous not only for United but also for the American shoe industry, which as a result went into decline well before the era of cheap international imports.

²⁶ *United States v. United Shoe Machinery Co.*, 247 U.S. 32 (1918).

²⁷ Richard Hofstadter famously lamented in 1964 that “once the United States had an antitrust movement without antitrust prosecutions; in our time there have been antitrust prosecutions without an antitrust movement” (Hofstadter 1964, p. 114).

²⁸ *United States v. United Shoe Machinery Corporation*, 110 F. Supp. 295 (D. Mass. 1953), aff’d; 347 U.S. 521 (1954).

Amazon too was put together by the accretion of vertically and laterally related businesses. Amazon also provides services and support, notably in its Amazon Marketplace, that allows enormous numbers of small players to flourish.²⁹ Many take advantage of Amazon's own fulfillment services, thus benefiting from the massive discounts Amazon is able to negotiate with shippers like Federal Express and UPS. Khan (pp. 774-778) is sure there is some evil deviousness at work here, but she is at a loss to explain why any of it is anticompetitive. In fact, the vertical and lateral integration of present-day technology companies cuts in exactly the opposite direction she suggests. Unlike the customers of United, who had only one platform to deal with, today's customers have many platforms to choose from, and switching costs are not in fact high. As many authors have pointed out, it is precisely because the Big Five (and friends) have their fingers in many pies that they discipline and push one another: if one slips up, there are others with very similar capabilities ready to step in (Manjoo 2017; Varian 2016). A policy of forbidding vertical and lateral integration (by merger or otherwise) is a great way to create niche markets with less rivalry.

Another staple of the new antitrust is that, in order to preserve the diversity of ideas and ensure access, we need to regulate information companies as common carriers or maybe even natural monopolies. This too is not new. The federal government has long been regulating information companies in these ways, and the results have been the

²⁹ Ellison and Ellison (2018) have shown that, by improving the match between buyers and sellers, Amazon Marketplace has both increased consumer surplus *and* increased the profits of small sellers of used books.

destruction of once-vibrant markets, the throttling of technological change, and the loss of diversity and access.

By the end of the nineteenth century, the major patents surrounding the telephone had coalesced in the hands of a succession of Boston-based companies with the name Bell in them (MacDougall 2006; Mueller 1997). Bell had set up a subsidiary called American Telephone and Telegraph to create a system of long-distance connections between exchanges. Bell also gained controlling interest in the Western Electric Company, an important Chicago manufacturer of electrical equipment that had been founded by Elisha Gray. In 1899, AT&T became the parent company of the whole operation to take advantage of New York's more-open incorporation law. Already by 1893 and 1894, however, the principal patents had begun expiring, and this unleashed a flurry of competitive entry both of independent operating companies and of companies manufacturing telephone equipment. By 1907, the number of independent telephones in the U. S. was almost as great as the number of Bell phones.³⁰ This may seem surprising to modern readers accustomed to the notion of network effects.³¹ But at the beginning of the century, users were content to connect within their own coteries, and long-distance communication was easily effected by telegraph rather than telephone. Indeed, the independents had little interest in connecting with the Bell System (Mueller 1997). Some of the independents catered to farmers, even sending signals through barbed-wire fence; others were organized as mutuals, that is, as co-ops owned by the users themselves.

³⁰ About 3 million each (Brock 1981, p. 121; Brooks 1976, p. 127).

³¹ On the misleading character of the simple network-effects model, especially in the case of platform industries, see Evans and Schmalensee (2016).

In 1907, the House of Morgan was able to edge out the original Boston interests and install the hard-charging professional manager Theodore Vail as head of AT&T. Vail has become associated with the idea of pushing a unified “Bell System” as a competitive strategy, but this had long been the company’s response to competition from the independents (Garnet 1985, pp. 110-127). In fact, Vail set his sights on a quite different response to competition. The first part of his strategy was universal service, which at the time meant not a phone in every home but requiring all phones to connect to the same network (Mueller 1997). The second, related, part was government regulation, by state-level commissions and through the rather ineffectual assignment of interstate telephone regulation to the ICC under the Mann-Elkins Act in 1910, which declared telephone systems to be common carriers. Regulation stabilized competition, allowing a well-capitalized AT&T to come to terms and increasingly to merge with the independents, thus creating the regulated-monopoly structure familiar throughout most of the century.

During the New Deal, AT&T’s interstate operations came under the jurisdiction of the newly created Federal Communications Commission. Officials worried that AT&T was making profits by marking up the equipment that unregulated Western Electric was selling to the regulated entities (they were). When state-level regulatory agencies began complaining about the rate hikes that AT&T’s local operating companies were demanding during the post-war inflation, the Justice Department saw the chance to divest Western Electric and break it into competing pieces (Peters 1985; Temin and Galambos 1987).³² With pressure from the Department of Defense, however, the FCC and the Justice

³² *US v. Western Electric Co.*, CA No. 17-49, U. S. Dist. Ct., Dist. of New Jersey, *Complaint*, January 14, 1949.

Department instead negotiated a deal that would keep AT&T intact: the company would change its accounting practices to allocate more of the joint fixed costs to long-distance service in order to lower charges to the customers of the local operating units.³³ This forestalled the breakup of the company for almost three decades. In the meanwhile, the FCC built a force field around “the system” to insulate it from disruptive technological change, delaying by decades the introduction of innovations ranging from the innocuous and almost silly Hush-a-Phone to fax machines and modems to cellular telephony (Hazlett 2017; Wu 2010).³⁴

The resulting monumental inefficiencies, both static and Schumpeterian, eventually made it profitable for entrepreneurs like William McGowan of MCI to pour resources first into persuading the FCC to alter its policies and then into fomenting the breakup of the company (Temin and Galambos 1987). McGowan and others recognized that microwave technology, developed for radar during World War II, could be adapted to transmit information, and line-of-sight microwave towers could provide a system of long distance telephony alternative to copper wires, especially given the weight of cross-subsidy that AT&T’s Long Lines division was bearing. Under a consent decree in January 1982, the Bell System was carved into its vertical components, with the local Bell operating companies gaining independence. Long-distance microwave providers like MCI and

³³ This was *inverse*-Ramsey pricing: charging a higher price to the elastically demanded service (long distance) and a lower price to the inelastically demanded service (local phone).

³⁴ The slow pace of technological change in both telephony and broadcasting were masked to some extent to Americans because European countries had handed those industries over to state-owned monopolies, which were even less innovative. AT&T made sure to innovate in a slow, non-disruptive way, though the company suppressed disruptive technologies. This famously included magnetic-tape recording, which Bell Labs developed in 1934 (Clark 1993). AT&T officials believed that users would fear having their secret conversations recorded, to such an extent that it would destroy telephony.

Sprint would be allowed to compete with AT&T Long Lines, and customers and operating units would no longer be required to buy equipment solely from Western Electric. The breakup of the system was performed under the banner of antitrust, but it was in fact an act of deregulation.

The history of broadcasting reveals an even more appalling legacy, one that compounded lost opportunities for innovation with government control of speech. At the end of the nineteenth century, Guglielmo Marconi had demonstrated the possibility of wireless telegraphy using a spark-gap transmitter, and by the first world war American Marconi dominated wireless telegraphy in the U. S. (Langlois 2013). As this was a military technology, the Navy Department nationalized the company for the duration. The Navy wanted badly to keep radio as a state-owned enterprise after the war, but Congress compromised and instigated the creation of a “national champion” – Radio Corporation of America – that would be owned mostly by General Electric and would take over the assets of the foreign-owned Marconi. RCA came to a patent cross-licensing agreement with AT&T, GE, and eventually Westinghouse, which partitioned technological spheres of influence. In the early 1920s, however, technological improvements had made it possible to broadcast modulated signals – words and music – not just dots and dashes. After Westinghouse created the first commercial radio station in 1920, the radio-receiver business exploded: over the decade, sixty per cent of American homes came to possess radios. This shift favored RCA over its technological partners, and the company moved to consolidate its patent position, which by 1927 courts had made secure. AT&T had withdrawn from broadcasting in 1926, and a consent decree with the Justice Department in 1932 disconnected RCA from the ownership of GE and Westinghouse. The National

Broadcasting Company, which had been created originally by AT&T, became the possession of RCA alone.

Radio in the early century was dominated by hobbyists, and transmission frequency was a free-for-all. When commercial broadcasting emerged, stations faced the problem of interference from hobbyists and other stations. The radio spectrum was an unowned commons, like your local interstate during rush hour or the George's Bank cod fishery. What was needed was the delineation of property rights. Courts actually took a step in this direction with the 1926 *Oak Leaves* decision, which conceptualized the problem in terms of the Common Law of nuisance (Hazlett 1990). But it would be more than 30 years before Coase (1959) would clearly explain the logic of creating property rights in spectrum – and a lot longer before he would be taken seriously – and there were powerful political forces at work on the ground (Twight 1998).

In 1912 Congress had empowered the Secretary of Commerce to grant broadcasting licenses, though without any ability to condition those licenses let alone refuse to grant them. When he became Secretary during the growth period of radio stations, Herbert Hoover tried to ignore these restrictions until a court decision forced his hand.³⁵ In the wake of the resulting chaos (planned or unplanned), Congress in 1927 created the Federal Radio Commission (soon to become the FCC) to hand out channels through administrative proceedings. Radio was to be regulated as a public utility, and licenses to be granted in light of “public interest, convenience, and necessity” as defined by the Commission. This misallocated resources into lobbying and persuading the FCC, a process that favored the

³⁵ *United States v. Zenith Radio Corp.*, 12 F.2d 614 (N.D. Ill. 1926).

large incumbents, notably RCA; prevented the market from moving resources from less to more valuable uses; and encouraged favoritism and corruption.³⁶ In flagrant contravention of the First Amendment, it also gave the FCC the power to control the content of broadcasting, which the Commission restricted to wholesome, mainstream, non-dissident fare. The FCC's technological force field quickly surrounded broadcasting as well, resulting in, among other things, decades-long delays in the adoption of FM radio, cable television, and satellite radio (Hazlett 2017; Wu 2010).

It is important to note that the problem was not centralization of broadcasting by the FCC; the problem was the choice of a central-planning system over a system of well-defined property rights. Indeed, the FCC insisted on a forced decentralization: stations must be local and low-powered in order to produce local content (and, of course, to please political constituencies). Concentration of content in the hands of a few big networks was actually the (unintended?) consequence of this localism, as the small broadcasters found that they needed to affiliate with a network in order to obtain better content than they could produce themselves, and the more locally isolated the broadcaster, the more the incentive to affiliate with the largest network. Had the FCC instead permitted a handful of powerful regional stations, the Dumont network might not have been driven out of business (Hazlett 2017, p. 93).

³⁶ In 1943, some Texas station owners had been waiting three years for the FCC to allow them to transfer ownership of their station. When the wife of a young Congressman offered to buy it, authorization was forthcoming in 24 days. The Congressman soon intervened to save the FCC's budget request. His name was Lyndon Baines Johnson, and he and his wife Lady Bird became rich as owners of radio and later television licenses (Caro 1990, pp. 88-94).

This history has lessons for the drama unfolding today at the FCC: net neutrality. Tim Wu (2010), the leading proponent of net neutrality, has himself chronicled the FCC's history of misregulation. He announces himself as a Schumpeterian and an evolutionary thinker, citing the likes of Hayek (1945) and Nelson and Winter (1982). But Wu is not a Coasean. His mental model derives from the failure of the FCC in the post-war period to allow the interconnection to the phone system of "foreign" devices like faxes, modems, and telephones not made by Western Electric. Thus he thinks that the way to regulate the Internet is to prohibit service providers from discriminating in their treatment of uses for the Internet (Wu 2003). (Faxes and modems were "uses" of the phone system.) Rather than helping to create a system of well-defined property rights, however, this approach actually removes important aspects of property rights, making the Internet an unowned commons.³⁷ More significantly, it places barricades in front of an unforeseeable number of forms in which beneficial Schumpeterian competition might manifest itself. Predictably, the first to be accused of violating net neutrality was not one of the Big Five, whom it arguably advantages, but rather MetroPCS, a small cell phone provider that had wanted to offer unlimited access to YouTube as part of one of its service plans (Hazlett 2011).

At this writing net neutrality has been repealed, though several states are threatening to impose it at their level. Because net neutrality is predicated on a particular

³⁷ Again, an unowned commons, like an open-ocean fishery or a busy highway without tolls, is inefficient because it creates an incentive to overuse the resource and to allocate the resource to low-value uses. A larger and more subtle issue with the non-discrimination rule is that it discourages innovation by restricting possible value-creating business models. Many if not most of the greatest Schumpeterian innovations in information technology – think Apple's iTunes – have been "walled garden" business models in which services are tied to a platform. Unlike the rules actually implemented, Wu's original proposal (Wu 2003) would have allowed (non-discriminatory) congestion pricing of bandwidth, though it would have forbidden walled gardens.

static architecture, however, it may be rendered irrelevant before long in any case by technological change.³⁸ Not so the more general demands for government-managed barriers to competition that emanate from Khan's proposals. So we do have to think hard about competition policy. Competition policy may or may not require the Chicago School of Bork, Posner, and Stigler. But it very much needs both Schumpeter and Coase.

³⁸ The likely successor to today's infrastructure appears to be 5G cellular technology, now in development, which may offer internet services at high speed over the airwaves in competition with cable. Alarming if not surprisingly, the Trump administration made noises about nationalizing 5G on grounds of national security. Tim Wu (2018) thinks it a splendid idea to create a state-owned "Tennessee Valley Authority" of 5G to bring this service to rural areas. Quite apart from the issue of why city dwellers ought to be made to subsidize the countryside, one may wonder what the benefits of a Tennessee Valley 5G Authority might look like when we live in the world of 7G, 8G, 9G, or some G not yet imagined.

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