

## **From Populism to Platforms: Antitrust Law and the AI Revolution**

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**ABSTRACT:** This chapter, from my book manuscript “The Political Economy of the Fourth Industrial Revolution,” examines how changes to U.S. antitrust law catalyzed the rise of digital platforms and the Artificial Intelligence (AI) Revolution. It traces the evolution from early 20<sup>th</sup> Century populist approaches, which sought to curb corporate dominance through per se prohibitions of various business strategies, to the adoption of the consumer welfare standard via the Rule of Reason approach. Contrary to the conventional narrative attributing this shift to the Chicago School, the chapter argues that it was primarily driven by courts and policymakers responding pragmatically to the complexities of real-world cases, decades before intellectuals such as Bork, Stigler, and Posner warned against capricious government intervention. Antitrust decision-makers, faced with concrete challenges, increasingly drew on insights from price theory, industrial organization, game theory, and Schumpeterian economics, leading to a more nuanced understanding of market power, efficiency, and innovation. As antitrust decision-makers worked to refine market definitions and analytical tools to address the distinct dynamics of network effects and data-driven business models, these insights were then applied to multisided platforms like Google, Facebook, and Amazon. The chapter also explores the recent resurgence of populist antitrust thought, which advocates for stricter regulation of tech giants, and considers its potential implications for the future of innovation.

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## INTRODUCTION

America's economy is increasingly fueled by internet platforms, Gig Economy marketplaces, interconnections between appliances and machines, ever-improving algorithms for driverless cars and virtual reality, and generative Artificial Intelligence (AI).<sup>1</sup> These innovations permeate sectors such as healthcare, manufacturing, finance, and education. They have driven advancements in personalized medicine, automated production lines, algorithmic trading, and adaptive learning systems.<sup>2</sup> They are transforming firms.<sup>3</sup> They are empowering workers, consumers, educators, and students.<sup>4</sup>

These technologies' broad applicability, continuous improvement potential, and transformative impact make them quintessential General Purpose Technologies (GPTs). This book has therefore agreed with those individuals and organizations who claim we are living through the early stages of the Fourth Industrial Revolution.<sup>5</sup> While in many ways this revolution is unlike anything the world has ever experienced before, it shares several elements with previous ones, including the cooccurrence of important GPTs.

The Second Industrial Revolution saw the ascendance of U.S. economic supremacy, fueled by the transformative powers of electricity and the internal combustion engine. It was a period marked by the rise of vertically integrated firms that dominated key industries by controlling every aspect of innovation and production under one roof. These firms undertook everything

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<sup>1</sup> The Gig Economy, represented by companies like Uber, Lyft, and Airbnb, was valued at over \$455 billion in 2023. AI could contribute up to \$15.7 trillion to the global economy by 2030 and positioning the U.S. as the largest beneficiary (PricewaterhouseCoopers 2020).

<sup>2</sup> The healthcare industry has used AI to personalize medicine, diagnostics, and predictive analytics. For example, IBM's Watson analyzes vast amounts of medical data to inform clinical decision-making. By 2024, smart factories will have added over \$2 trillion to the global economy (see Deloitte 2019). Algorithmic trading and AI-driven risk assessment could save the banking industry over \$1 trillion by 2030 (Accenture 2018). Adaptive learning platforms like Khan Academy and Coursera have served over 100 million students (Khan Academy 2023; Coursera 2023).

<sup>3</sup> Companies that have adopted AI are seeing huge productivity improvements, fundamentally changing how they operate and compete (McKinsey & Company 2020).

<sup>4</sup> Gig Economy platforms offer workers greater flexibility and control over their work arrangements and provide consumers with more personalized and responsive services. Adaptive learning technologies have furnished students with a more tailored, flexible educational experience.

<sup>5</sup> This includes intellectuals such as Schwab (2016) and Brynjolfsson and McAfee (2014), politicians such as Andrew Yang, Xi Jinping, Angela Merkel, and Narendra Modi, and firms such as Siemens, IBM, Deloitte, and Accenture.

from research and development (R&D) to design, manufacturing, and distribution, enabling them to drive rapid industrial growth and solidify America's position as a global economic leader.<sup>6</sup>

The Third Industrial Revolution, driven by the rise of the personal computer (PC) and the internet, saw the consolidation of U.S. economic leadership. While the 1990s marked the beginning of a transition towards global, vertically disintegrated supply chains, this period was still dominated by vertically integrated hardware firms such as Intel, IBM, Compaq, and Cisco. These companies oversaw the development and integration of critical technological components—from microchips to PCs to fiber optic cables—maintaining control over the entire production process, from R&D to manufacturing and, in some cases, distribution. This comprehensive approach enabled these firms to drive the era's technological advancements while positioning the U.S. as the leader in the digital age.<sup>7</sup>

Microsoft is the exception that proves the rule, presaging the next industrial revolution: the one we are living through today. Challenging IBM, it pioneered the separation of hardware from software and reached supply side economies of scale for an R&D heavy product with near zero marginal costs. Its innovative platform drew in different PC manufacturers, developers, and users. However, during its early phase of dominance, before the advent of cloud computing and generative AI, Microsoft did not yet monetize user data by attracting advertisers, nor create a cloud infrastructure that could optimize applications with AI algorithms.<sup>8</sup>

This stands in stark contrast to the dynamics of the Fourth Industrial Revolution, which thrives on the continuous generation of over 330 million terabytes of data every day from a multitude of digital activities and platforms. This vast and ever-expanding data pool serves as the lifeblood of today's digital economy, powering everything from Internet of Things (IoT) devices and driverless cars to Virtual Reality (VR) and generative AI. These technologies, and others like them, depend on massive data inputs not only to function effectively but also to personalize user experiences, drive real-time optimization, and spur ongoing innovation. As a result, data has emerged as the most valuable economic resource of our time, often referred to as the "new oil" of the postindustrial age.

The burgeoning IoT consists of interconnected appliances that continuously gather and exchange sensor data, usage statistics, and environmental conditions to automate and enhance various functions in homes and industries. For example, smart thermostats like Nest optimize energy

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<sup>6</sup> This was a marked change from a vertically disintegrated innovation supply chain that saw large firms outsource their R&D to individual inventors who licensed or sold their patented technologies through patent agents (see Lamoureux and Sokoloff 1999).

<sup>7</sup> And they were preceded by vertically integrated tech behemoths that contributed several technologies that became critical building blocks for the ensuing revolutions. For example, AT&T invented transistors, the Unix operating system, and the C programming language. Xerox invented laser printers, the computer mouse, and computer-generated bitmap graphics.

<sup>8</sup> Later, Microsoft entered the advertising market with acquisitions like aQuantive in 2007 and developed a robust cloud computing infrastructure with Azure, incorporating AI algorithms to optimize applications and services.

usage. In smart factories, data-driven technologies that monitor machines, production, and supply chains improve the efficiency and flexibility of manufacturing.

For their part, autonomous vehicles, such as those developed by Waymo, process terabytes of dynamic sensor data, GPS information, and traffic data in real time to make split-second driving decisions. Similarly, VR systems, like Oculus Rift, process large datasets to generate immersive experiences that adjust in real time based on user movements.

Finally, generative AI models, such as OpenAI's GPT, are trained on extensive datasets to produce creative outputs in natural language processing and image generation. These models rely on hundreds of gigabytes of text and image data to generate human-like text responses and realistic images. Large language models (LLMs) like GPT function by using deep learning techniques, particularly neural networks, to analyze and understand the patterns within the vast amounts of data they are trained on. By processing this data, the models learn to predict and generate sequences of words, allowing them to create coherent and contextually relevant responses.<sup>9</sup> The ability of LLMs to generate text that closely mimics human writing stems from their exposure to diverse and extensive language data, enabling them to capture nuances in meaning, grammar, and style across different contexts.

The most instrumental players in generating, refining, organizing, and distributing the data that drives the Fourth Industrial Revolution are social media and e-commerce platforms. These platforms depend on massive volumes of raw data to personalize user experiences, optimize content delivery, and power targeted advertising. For instance, Facebook collects extensive data on user activities to tailor news feeds and ads to individual preferences. In turn, this same data is used by researchers to train generative AI models, enabling them to understand and produce coherent, contextually relevant text.<sup>10</sup> Likewise, user-generated content from platforms like Twitter is invaluable for teaching AI models to generate human-like responses, enhancing their ability to engage in meaningful conversations.

As these technologies continue to evolve whilst still relying on vast datasets, digital platforms are tasked with keeping an ever-expanding user base immersed and engaged, as user data underwrites a range of free products and services for consumers who, in exchange for creating

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<sup>9</sup> Deep learning is a subset of machine learning that involves algorithms known as neural networks, which are designed to mimic the structure and function of the human brain. Neural networks consist of layers of interconnected nodes that process input data by assigning varying levels of importance ("weights") to different aspects of the data. As data passes through these layers, the network learns to recognize complex patterns within the data and extracts features that are critical for making predictions and generating outputs. Because deep learning models typically involve multiple ("deep") layers, they can capture the intricate patterns and complex relationships found in large datasets.

<sup>10</sup> While social media, e-commerce platforms, and digital forums are major sources of data for training generative AI models, researchers have also utilized other data sources, including large-scale web crawls that gather text data from various websites, digital libraries containing books and academic papers, publicly available datasets like Common Crawl, government databases, news archives, and user contributions to collaborative projects like Wikipedia.

and sharing their digital footprints, receive personalized ads tailored to their interests and behaviors. To achieve this delicate balance, platforms like Google, Facebook (Meta), Amazon, and Twitter (X) have established appealing, multi-sided markets that attract a global user base and countless advertisers, developers, and device manufacturers—all benefiting from network effects. The first type of network effect is direct, where the utility for existing users increases as more users join the platform. The second is indirect, where the value for advertisers, developers, and device makers grows with the expanding user base.

### **Situating this Chapter in the Rest of the Book Manuscript**

To understand the origins of the internet’s valuable data ecosystem, this book has argued that, over several decades, many unheralded laws, regulations, and court decisions transformed intellectual property rights (IPRs), trade policy, telecommunications, and antitrust policy. Together, these changes worked to reduce transaction costs, enabling buyers, sellers, brokers, and users to find each other and exchange new goods, services, information, and knowledge with greater ease. For example, changes to IPRs, such as stronger protections for software patents, played a crucial role in fostering innovation and investment in digital technologies. Telecommunications regulations, notably Section 230 of the Communications Decency Act, provided online platforms with immunity from liability for user-generated content, enabling the growth of vibrant digital communities. Additionally, lesser-known regulations and laws that paved the way for electronic signatures and digital contracts reduced barriers to negotiation and simplified digital payments.<sup>11</sup> Furthermore, permissive copyright laws have allowed researchers to scrape websites extensively, facilitating the development of advanced AI models.

As a result, new markets, industrial organizations, business models, and digital services have proliferated within the digital platform ecosystem; in a virtuous circle, this further reduced transaction costs, spurring more dynamic and valuable interactions between market participants. Users deploy search tools to quickly find and compare products and services, significantly lowering search costs. Standardized contracts and terms of service agreements, along with online reviews and ratings, reduce bargaining and decision costs by streamlining the process of evaluating options and making informed choices. Automated payment systems minimize policing and enforcement costs by ensuring transactions are executed accurately and promptly, reducing the risk of errors, fraud, and non-payment issues. These systems also provide transparent transaction records, making it easier to track and verify payments. Additionally, encryption technologies and trusted third-party payment processors like PayPal have increased trust in digital transactions.

Collectively, these innovations generated a Cambrian-like explosion of data. In doing so, they unlocked the potential to harness this data for powering the IoT, generative AI, and other

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<sup>11</sup> The Electronic Signatures in Global and National Commerce Act (E-SIGN Act) of 2000 and the Uniform Electronic Transactions Act (UETA) of 1999 facilitated the use of electronic signatures and digital contracts. The E-SIGN Act established the validity of electronic records and signatures, ensuring they have the same legal standing as traditional paper documents. Similarly, the UETA standardized state laws related to electronic transactions, significantly reducing barriers to digital transactions.

transformative technologies. In other words, they paved the way for the Fourth Industrial Revolution.

### **This Chapter's Argument**

While in other parts of the book manuscript I address changes to IP and telecommunications regulations, along with other laws and policies that helped bring about the Fourth Industrial Revolution, this chapter focuses on the role of antitrust policy in fostering digital platforms and their associated ecosystems. I examine how reinterpretations by the courts and federal agencies—most prominently, the Federal Trade Commission (FTC) and the Department of Justice (DOJ)—of the Sherman and Clayton Acts incentivized firms to create smartphones and other mobile platforms, digital ecosystems nested within them, cloud computing, and AI. Blockbuster court decisions created a more permissive environment for mergers, encouraging technology firms to achieve larger scales, even if it meant acquiring key rivals or increasing industry concentration. Other landmark cases expanded the scope of legitimate business practices, condoning monopolies for their Schumpeterian role in driving creative destruction and viewing the pursuit of market power as a necessary incentive for innovation. Simultaneously, agency priorities and guidelines evolved to tolerate, if not actively encourage, the rise of large-scale platforms capable of cultivating network effects.

This shift reflected a new attitude towards firm size and industry concentration that nurtured today's Big Tech firms and their unique business models. Specific decisions by courts and enforcement agencies enabled digital platforms to amass billions of users, collect vast amounts of data, and experiment with algorithms to enhance user engagement.<sup>12</sup> Following *US v. Grinnell Corp.* (1966), large firms learned they could maintain dominant positions in their markets if they did not overtly abuse their market power to harm competition. This shift was further reinforced by the 1982 dismissal of the long-running antitrust case against IBM, which had started in 1969 with the DOJ alleging that “Big Blue” had illegally monopolized the computer market. The case's dismissal signaled a move towards a more lenient stance on large technology firms, effectively giving them the green light to expand indefinitely and maintain significant market power. The upshot: Courts and enforcement agencies increasingly tolerated large-scale operations, recognizing that achieving vast scale and leveraging network effects were acceptable—so long as these practices resulted in consumer benefits and promoted innovation.

Moreover, while *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.* (1985) underscored that actions relating to a refusal to deal with competitors are illegal if they harm competition, it clarified that firms could avoid liability by demonstrating legitimate business justifications for

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<sup>12</sup> While I have argued elsewhere that these developments have been beneficial for consumers, R&D, and innovation (Menaldo 2021), critics have complained that Big Tech firms' outsized power and influence explains “less entrepreneurship,” “restrictions on free speech,” “fewer privacy protections,” and “the abuse of consumer data.” Companies like Amazon are accused of harming players up and down the retail supply chain and “unfairly” pricing out brick and mortar retailers. They are also accused of exacerbating inequality and being too “systemically important” due to their size, market impact, interconnectedness, and “low substitutability”. See Menaldo (2021) on all these points and the conclusion to this chapter.

doing so. Similarly, while *Eastman Kodak Co. v. Image Technical Services, Inc.* (1992) reinforced the idea that a firm with significant market power in one area could not use that power to stifle competition in another one, it also highlighted the complexities of proving monopolization, allowing firms to offer competitive justifications for what may cursorily appear as exclusionary conduct. The lesson for big tech firms was that restricting access to their platforms or monopolizing applications within them, such as app stores or payment systems, could be justified on the grounds of maintaining security, enhancing user experience, or other defensible business reasons.<sup>13</sup>

Blockbuster merger cases also directly led to the Big Tech firms we know today. The FTC's approval of Facebook's acquisition of Instagram in 2012 and WhatsApp in 2014 allowed Facebook to consolidate its position in the social media market, significantly increasing its ability to gather user data and refine its advertising strategies. This consolidation enhanced Facebook's capacity for targeted advertising and bolstered user engagement across its platforms. Similarly, the FTC's repeated approvals of Google's acquisitions, such as DoubleClick in 2007 and AdMob in 2009, empowered Google to dominate the online advertising market. These acquisitions facilitated Google's ability to collect extensive user data across multiple platforms, improve its ad targeting algorithms, solidify its market power in search, and successfully expand into new areas like social media.

At the same time, the FTC exercised leniency towards Google's business practices, choosing not to pursue action against the company for what some critics considered exclusionary practices that stifled competition.<sup>14</sup> In 2013, the FTC closed its inquiry into Google's search practices after investigating allegations that Google manipulated its search algorithms to favor its own services over those of competitors, potentially harming rival services and reducing consumer choice. Similarly, the FTC refrained from acting against Google's AdSense advertising platform, despite concerns that its exclusivity agreements prevented websites from displaying ads from rival ad networks. Additionally, Google's practice of scraping content from other websites, such as user reviews and ratings, and displaying it on its own search results pages without permission, also went unchallenged. Finally, the FTC did not pursue Google for restricting advertisers' ability to manage campaigns across multiple platforms, a practice that made it difficult for advertisers to port their data and campaigns to competing advertising services.

The serial forbearance of antitrust agencies allowed Google to refine business practices that have cemented its market dominance across multiple digital markets.<sup>15</sup> Today, Google handles over 90 percent of online searches in the United States, making it the unrivaled leader in search

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<sup>13</sup> Consider *Apple Inc. v. Pepper*, where Apple has argued that to maintain the integrity and security of its ecosystem it must exercise total control over its app store.

<sup>14</sup> These critics include legal scholar and current FTC Chair Lina Khan, Barry Lynn, Executive Director of the Open Markets Institute, Columbia Law School professor Tim Wu, U.S. Senator Elizabeth Warren, and 2024 Republican Vice-Presidential nominee J.D. Vance. In the conclusion to this chapter, I will revisit these criticisms and their impacts on antitrust enforcement.

<sup>15</sup> For example, in 2016 Google began requiring advertisers to use its tools to buy ads, rather than tools offered by other companies, on its subsidiary YouTube, which at the time was really the only game in town for posting and viewing online videos.

engines and giving it unparalleled control over the flow of information on the internet.<sup>16</sup> Google's dominance extends to mobile operating systems as well, where its Android platform powers nearly 72 percent of smartphones globally, providing the company with vast amounts of user data and further reinforcing its ecosystem. Additionally, Google's YouTube is the leading platform for online video content, capturing over 75 percent of the U.S. digital video market and serving as a crucial hub for content creators and advertisers alike. Google's advertising services, powered by its extensive data collection and sophisticated algorithms, account for nearly 30 percent of global digital ad spending, underscoring its influence in the online advertising space.<sup>17</sup>

This phenomenon transcends Google. Facebook accounts for 25 percent of online advertising spending in the US, followed by Amazon. Amazon dominates online shopping and is increasingly eating larger slices of the music and video streaming market. Facebook owns the four most downloaded apps of the decade: Facebook, Facebook Messenger, WhatsApp, and Instagram. Amazon dominates cloud computing through Amazon Web Services (AWS), with Microsoft's Azure a distant second. Apple's influence extends beyond smartphones to dominate the smartwatch market with its Apple Watch, and it also leads the tablet market with the iPad.

### **Why a Historical Grounding of the Endogenous Rise of Big Tech is Needed**

The rest of this chapter is dedicated to recounting how and why the evolution towards modern antitrust was particularly primed to give birth to digital platforms and usher in the Fourth Industrial Revolution. I argue that actors across government branches gravitated towards language in the Sherman and Clayton Acts that was consistent with price theory, principles of modern industrial organization, and the idea that market power was critical to fostering innovation. Ahead, I describe how, over more than a century, legislators, jurists, academics, and pundits challenged a populist approach to competition policy that favored per se readings of antitrust laws and sought to protect specific competitors instead of fostering competition. I also explore how structural theories that posited a simple, linear relationship leading from industry concentration to market power to exclusionary behavior to increased prices were abandoned by antitrust decision-makers. This culminated in what many pundits have referred to as the consumer welfare approach—the single-minded focus on how firms' unilateral conduct and mergers affect product prices.

However, I argue that changes to antitrust went well beyond concerns about static efficiency and that they predated the so-called Chicago School of antitrust by decades. Generally, competition policy was eventually colonized by an approach that championed the Schumpeterian innovation paradigm of creative destruction. Specifically, courts, enforcement agencies, and scholars gradually embraced the idea that firms could bolster efficiency, both statically and dynamically,

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<sup>16</sup> To compile the figures that illustrate Google's dominance contained in this paragraph, I consulted various issues of both eMarketer and Statista.

<sup>17</sup> Of course, this forbearance did not last indefinitely: In August 2024, Google lost a significant antitrust case against the DOJ. The ruling found that Google had illegally monopolized online search and advertising by paying companies like Apple and Samsung to install Google as the default search engine on smartphones and web browsers. The court deemed that this practice stifled competition and harmed consumers.



by increasing their market share—including by merging with rivals—to achieve network effects, exercising tighter control over their ecosystem, and bundling their offerings.

Moreover, scholars have hitherto not done justice to *why* these changes happened. The conventional wisdom is that the Athena of maximizing consumer welfare sprouted immaculately from the brow of the Chicago School's Zeus. Instead, I explore how courts and executive agencies were influenced by overlapping movements, including the growing legal trend to more closely adhere to statutory language and undertake cost-benefit analysis, to embrace a Rule of Reason approach in the antitrust realm.

Necessity, not ideology, is what led antitrust decision-makers to seek out the logic and language of economics. Initially, they turned to static price theory to provide concrete answers to real-world cases involving raw materials producers, consumer durables, or sports leagues. However, as industries and business practices grew more complex, they increasingly sought out more sophisticated paradigms. As traditional industries like grocery retailing were disrupted by the rise of chain supermarkets, Industrial Organization theorists began to emphasize the potential benefits of vertical restraints and vertical integration. The Schumpeterian idea that disruptive technological change may depend on firms chasing monopoly rents paralleled an increasing focus on innovation, rather than solely on output and price. This shift also underscored antitrust decision-makers' growing awareness of their inability to keep pace with rapidly evolving markets—a challenge that became particularly pronounced with high-tech firms specializing in hardware, software, or both—leaving them increasingly susceptible to errors in judgment.

In short, understanding the transition from the *per se* approach to the Rule of Reason as an organic development shaped by real-world cases, rather than a preordained shift led by the Chicago School, sheds light on how modern antitrust practices came to tolerate, if not encourage, the emergence of the digital platforms and ecosystems that commodified the data that propelled the Fourth Industrial Revolution.

## ANTITRUST BASICS AND DIFFERENT APPROACHES

American antitrust laws have evolved over more than a century to promote competition and prevent monopolistic practices, with four key pieces of legislation forming the backbone: the Sherman Act, the Clayton Act, the FTC Act, and the Robinson-Patman Act. Enforcement of these antitrust laws is primarily carried out by the DOJ and the FTC. Courts play a crucial role in interpreting antitrust laws and setting precedents that shape future enforcement.

The Sherman Act, enacted in 1890, is the first and most foundational antitrust law. While it prohibits monopolistic behavior and practices that restrain trade, its scope and implications for market structures and firms' behaviors has evolved over time—one of the topics I will explore in the remainder of this chapter. It consists of two main sections. Section 1 outlaws “every contract, combination... or conspiracy, in restraint of trade or commerce among the several States,” addressing concerted actions that restrict competition. Section 2 prohibits monopolization, attempted monopolization, or conspiracies to monopolize any part of interstate commerce, targeting single-firm conduct aimed at establishing or maintaining monopoly power.

The Clayton Act, enacted in 1914, was designed to address Sherman Act limitations; it focuses on specific practices that could lead to anticompetitive outcomes. Key provisions include Section 2, which prohibits price discrimination between different purchasers if it lessens competition or creates a monopoly. Section 3 outlaws exclusive dealing agreements and tying arrangements that could significantly lessen competition. Section 7 prohibits mergers and acquisitions where the effect may be to substantially lessen competition or tend to create a monopoly. Section 8 restricts interlocking directorates, where the same individuals serve on the boards of competing companies.

The FTC Act, also enacted in 1914, established the FTC, an independent executive agency with broad powers to prevent unfair methods of competition and unfair or deceptive acts affecting commerce. The FTC Act's most important provision, Section 5, declares that "unfair methods of competition" are unlawful, as are "unfair or deceptive acts or practices." This endows the FTC with broad authority to address various anticompetitive behaviors beyond those explicitly covered by the Sherman and Clayton Acts.

The Robinson-Patman Act, an amendment to the Clayton Act enacted in 1936, aims to prevent anticompetitive practices in pricing and protect small businesses from unfair competition by larger firms. It does this most specifically by restricting price discrimination: prohibiting sellers from charging different prices to different buyers if it harms competition by favoring large purchasers over smaller ones.

Enforcement of these antitrust laws is primarily carried out by the DOJ and the FTC. The Antitrust Division of the DOJ is responsible for enforcing federal antitrust laws, particularly focusing on criminal enforcement and civil cases involving monopolistic practices and mergers. The DOJ has the authority to prosecute criminal violations of antitrust laws and bring civil enforcement actions in federal court. In contrast, the FTC enforces antitrust laws primarily through civil enforcement actions, concentrating on preventing unfair competition and protecting consumers. The FTC can bring cases in its administrative court, as well as in federal court, and has broad authority to investigate and remedy unfair business practices through its rule-making and adjudicative powers.

Antitrust enforcement in the United States heavily relies on litigation. Lawsuits against firms can be brought by the FTC, DOJ, state attorney generals, or private parties. Under the Clayton Act, individuals and businesses harmed by antitrust violations have the right to sue for treble damages; this serves as a strong financial incentive for private actors to help enforce these laws.

Federal courts are central to antitrust enforcement: they interpret and apply antitrust statutes, thus setting legal precedents that guide future cases and occasionally influence Congress to amend these laws in response to judicial interpretations. While lower federal courts handle the bulk of antitrust litigation, significant cases often progress through the appeals process and may ultimately reach the Supreme Court. Seminal Supreme Court decisions about antitrust, several of which I shall examine below, have set binding precedents for lower courts and have significantly influenced antitrust policy, market structures, and firm strategies.

Across all levels, courts inform their application of antitrust law with various types of economic analysis and empirical evidence, often calling on economists as expert witnesses to assess the legality of business practices. Consequently, the courts' interpretation of antitrust laws has either broadened or narrowed the scope of permissible business conduct and indirectly fostered the emergence of entire new industries, as demonstrated by the rise of digital platforms.

### **The Populist Approach to Antitrust**

Supreme Court Justice Louis Brandeis, serving from 1916 to 1939, was a key figure in interpreting antitrust laws broadly to curtail the allegedly pernicious effects of big business on democracy and the economic wellbeing of everyday merchants, workers, and customers. Brandeis feared that large firms could use their economic clout to manipulate the political system and therefore engage in anticompetitive practices, such as acquiring their rivals, with impunity. He believed that in the context of the so-called Gilded Age's high levels of inequality and acute market concentration, large, wealthy trusts could corrupt politicians to cement their advantages, whether through large campaign contributions or outright bribery. The most infamous were J.P. Morgan's railway trust and his steel trust, US Steel. Therefore, Brandeis saw big, dominant firms as serious threats not only to consumers, workers, and small businesses, but also to the rule of law and democracy itself. His proposed solution was to break these companies up to put an end to "industrial feudalism" (see Urofsky 2009).

In the 1930s, populists inspired by Brandeis opposed "centralized wealth, centralized control, and centralized location," favoring local self-sufficiency and rural communities over economic specialization and large business firms (Hofstadter 1955: 210). Senator Sherman and Representative Taylor warned against the dangers of large combinations of wealth and power, likening them to autocratic rule, and railed against the perceived ability of big firms to manipulate the political system and exacerbate inequality (Dalton 2002). Theodore Roosevelt's administration aggressively enforced antitrust laws, targeting railroad, oil, and banking trusts. His nephew, Franklin Delano Roosevelt, continued this legacy by enshrining trust-busting policies into his New Deal. FDR ran aggressively against big business; in his famous 1936 convention acceptance speech, "A Rendezvous with Destiny," he argued that modern life had been pressed into the service of "economic royalists" who created a "new despotism" (Roosevelt 1936: 32).

Economic thinking at the time also reflected these concerns. Edward Chamberlin's "Theory of Monopolistic Competition" argued that firms competed by excessively differentiating their products, leading to suboptimal outcomes where prices exceeded marginal costs and firms continuously churned out "excess capacity" (Chamberlin 1933). His analysis thus reinforced the populist argument that unchecked corporate power required robust antitrust enforcement to serve the public interest, not only to protect consumers but also to preserve fair competition and democratic integrity (Hawley 1966).

The post-World War II era witnessed a resurgence of aggressive antitrust enforcement. A rapid surge in consumer price inflation following the start of the war led to a significant increase in complaints to the DOJ. Between 1938 and 1939, the number of antitrust lawyers at the Antitrust Division nearly tripled, and enforcement increased (Arnold 1941). The Celler-Kefauver Act of

1950 aimed to curb anticompetitive mergers, reflecting ongoing concerns about the concentration of economic power (Kintner 1978). This period marked a significant shift in antitrust policy, with enforcement efforts intensifying and legislative measures being enacted to address perceived threats to competition (Kovacic and Shapiro 2000).

However, the antitrust jurisprudence of the era was marred by inconsistency and a lack of coherent economic analysis, resulting in a highly politicized enforcement regime (Hovenkamp 2005). Court decisions were driven more by reflexive populist sentiments and a distrust of big business than a rigorous assessment of competitive effects (Posner 1979). Judges categorically and peremptorily forbade business practices such as horizontal information-sharing agreements, vertical resale price maintenance, exclusive dealing contracts, tying arrangements, price discrimination, group boycotts, exclusive territories, and patent pooling (see Bork 1978; Muris 2023). They also sought to engineer distinct market structures in a bid to shrink large firms, dilute concentrated industries, and protect small businesses.

Consider a few famous cases. In *U.S. v. Alcoa* (1945), the court condemned Alcoa for monopolizing the aluminum market, despite strong evidence that the company's dominance resulted from superior efficiency (Crandall and Winston 2003: 14). This decision was belatedly criticized by antitrust scholars, particularly those associated with the Chicago School, as effectively punishing business success rather than focusing on genuinely anticompetitive conduct (Bork 1978; Posner 2001). Similarly, in *Standard Oil Co. of California v. U.S.* (1949), the court condemned exclusive dealing contracts between Standard Oil and independent gas stations, despite the lack of clear evidence of harm to competition (see Bork 1978; Posner 1976). And in *U.S. v. American Can Co.* (1949), the DOJ accused American Can Company of monopolizing the can manufacturing industry by acquiring numerous smaller competitors and engaging in exclusionary practices such as exclusive dealing arrangements and restrictive contracts with suppliers. The court agreed and, aiming to explicitly reduce industry concentration and lower barriers to entry to "maintain competitive market structures," mandated that American Can divest itself of certain assets (see Hovenkamp 2009: 273).

Merger law perhaps provides the most striking example of post-war populism. In *Brown Shoe Co. v. U.S.* (1962), the Supreme Court blocked a merger between two relatively small shoe companies with a low combined market share to protect small businesses, regardless of its broader competitive effects and consumer benefits. *U.S. v. Philadelphia National Bank* (1963) was only a bit more circumspect: the court ruled that only mergers resulting in a firm holding a significant market share would be presumed illegal. Accordingly, in *FTC v. Procter & Gamble Co.* (1967), the Supreme Court prevented the acquisition of Clorox by Procter & Gamble to prevent further market concentration, disregarding potential efficiencies and benefits to consumers. As Justice Stewart famously remarked in his dissent in *U.S. v. Von's Grocery Co.* (1966), in which the court blocked the merger of two Los Angeles grocery chains, "the sole consistency that I can find is that in litigation under Section 7 [of the Clayton Act], the Government always wins" (see *U.S. v. Von's Grocery Co.* 1966: 301).

These cases underscore that, during the post-World War II era, the structural antitrust approach became a central tenet of the Populist Antitrust tradition. Economists such as Joe Bain (1950; 1956; 1959) and E.S. Mason (1964) played pivotal roles in shaping this perspective. They

identified various barriers to entry, including economies of scale and incumbent advantages like superior technology and product differentiation, as key determinants of market power. Bain and Mason posited a linear relationship between market concentration and economic outcomes: as the number of sellers decreased, output fell, and prices rose. This structuralist view also held that high market concentration indicated significant barriers to entry, which led to excessive product differentiation and a reluctance to compete on price. The result, they argued, was a market characterized by high short-run profits, overinvestment in advertising and branding, and overall stagnation (see Hovenkamp 2009).

Joe Bain and other like-minded economists therefore argued that the principal goal of antitrust policy should be to prevent excessive industry concentration. They believed that by maintaining a certain number of firms within an industry, competition could be preserved, which would, in turn, protect consumers from limited choices and high prices. Donald Turner, who led the Antitrust Division of the DOJ from 1965 to 1968, further advanced these ideas by proposing that firms in oligopolistic industries should be broken up if price competition was unlikely to emerge. His advocacy for breaking up firms in such industries was a direct response to the belief that concentrated market power inherently led to anti-competitive outcomes (see Hovenkamp 2005: 145).

### **The Consumer Welfare Approach**

The transition from the populist approach to the consumer welfare approach marked a significant shift in antitrust law and enforcement, prioritizing economic efficiency and consumer welfare over broader concerns about market power and its potential political implications. By the 1980s and 1990s, this new consensus among antitrust economists, lawyers, and judges held that the primary goal of antitrust law should be to assess whether consumers are harmed by firms' conduct, including exclusive deals, mergers, and coordination efforts, on measurable economic effects: output, consumer prices, and innovation. This framework dominated antitrust thinking until around 2016, when a renewed populist critique began to gain traction among academics, activists, and politicians. In the conclusion to this chapter, we will explore how neo-populists have advocated for a return to a broader interpretation of antitrust law that considers issues like choice availability, market concentration, and political power.

The consumer welfare approach managed to put several concrete questions front and center. Are consumer prices higher because a firm with market power can ration quantity and increase prices? Can a firm with market power raise barriers to entry, making it less likely for other firms to enter the market and drive down prices? Is the firm using its dominance in one market to monopolize another, using exclusionary practices that suppress competition and keep prices high? Does a firm's product market strategy, such as bundling its different products together, depress or promote innovation? Additionally, it asks whether the efficiencies gained from a firm's conduct outweigh the costs—whether the total surplus, including both consumer and producer surplus, is greater than any loss in surplus experienced by one party.

In addressing these questions, courts consistently emphasized that their decisions should be grounded in rigorous economic analysis and empirical evidence. The focus shifted to whether a firm both exercises and abuses market power within a clearly defined market, which must first be

delineated in terms of potential substitutes. To make these judgments, courts considered assumptions about consumer demand, including its elasticity, as well as products' average and marginal costs. They relied on fine-grained data, such as prices, profit margins, business behavior, and R&D spending in real markets, while avoiding the simplistic application of “structural” metrics and outdated heuristics. As Muris (2023: 59) notes, “By focusing on the welfare of consumers, modern antitrust analysis, including for mergers, uses concentration data as a sometimes-important input, but not an end in itself. Big is neither inherently bad nor inherently good.”

During the consumer welfare era, courts often tolerated, if not championed, larger firms that competed vigorously, condoned monopolies that gained market power through superior business acumen, and adopted a conservative, wait-and-see approach in the face of rapid technological change. In *Ball Memorial Hospital, Inc. v. Mutual Hospital Insurance, Inc.* (1986), Judge Easterbrook emphasized that injuries to rivals are not inherently antitrust violations but are often the byproducts of vigorous competition. Similarly, in *US v. Microsoft Corp.* (2001), the courts ruled that monopolistic acts must harm the competitive process and consumers—not merely harm competitors—to constitute a violation. In *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP* (2004), the court underscored that charging monopoly prices is an integral part of the free-market system, as it attracts business acumen and fosters innovation and economic growth.

Moreover, Supreme Court justices across the ideological spectrum showed remarkable consensus in prioritizing consumer welfare and efficiency over the protection of small businesses or similar considerations. In *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP* (2004), the Court unanimously emphasized that the mere possession of monopoly power is not unlawful unless accompanied by anticompetitive conduct. Additionally, in *Pacific Bell Telephone Co. v. linkLine Communications, Inc.* (2009), the Court unanimously held that for price-squeezing claims to be valid under antitrust laws, they must involve specific anticompetitive conduct; merely showing that a firm's aggressive pricing strategy squeezes its competitors is necessary, but not sufficient.<sup>18</sup> Similarly, two other important cases of alleged exclusionary conduct *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.* (2007) and *NYNEX Corp. v. Discon, Inc.* (1998), were decided in favor of the defendants without dissent.<sup>19</sup>

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<sup>18</sup> Pacific Bell provided wholesale DSL services to competitors, including LinkLine, while also selling retail DSL services direct to consumers. LinkLine alleged that Pacific Bell set its wholesale prices appreciably higher than the retail prices it charged its own customers, making it impossible for LinkLine and other competitors to remain competitive in the retail market.

<sup>19</sup> *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.* (2007) dealt with claims of predatory bidding. The Supreme Court ruled that the same stringent standards for proving predatory pricing must apply: a plaintiff must show that the alleged predator bid up input prices to a level that made it impossible for rivals to compete and that the predator would recoup the losses once rivals were driven out. *NYNEX Corp. v. Discon, Inc.* (1998) involved a claim of illegal tying. The Court held that a change in supplier without an anticompetitive agreement did not constitute a per se violation of the antitrust laws, prescribing that alleged anticompetitive effects associated with this type of business practice must be proven.

## HOW THE CONSUMER WELFARE STANDARD EMERGED

Why and how did this transition from populism to a more liberal approach to antitrust come about? The conventional view holds that the so-called Chicago School's critiques provided the intellectual foundation for a paradigm shift in antitrust law (Hovenkamp 2005; Hazlett 1998). In this reading of events, a discrete project that began in the 1970s, animated by academics who prioritized empirical evidence and economic analysis, replaced the populist tradition's emphasis on limiting the size and power of big enterprises to protect workers and small businesses and safeguard democracy. This view posits that the Chicago School's critiques of the populist approach to antitrust were so compelling that they singlehandedly induced a wholesale shift in antitrust policy and judicial interpretation.

The Chicago School of antitrust analysis, emerging in the mid-20th century and rooted in the University of Chicago's economics department and law school, advocated for a more rigorous, economics-based approach to antitrust enforcement, emphasizing consumer welfare and economic efficiency. Key figures in this movement, such as Judge Robert Bork, who argued against the traditional interpretation of antitrust laws; Richard Posner, who contributed significantly to the economic analysis of law; and George Stigler, who explored regulatory capture and the inefficiencies of government intervention, are counted among the tradition's founding fathers (Hovenkamp 2005; Hazlett 1998).

The Chicago School criticized the populist approach for being overly simplistic and politically motivated. In his seminal book, "The Antitrust Paradox," Bork contended that though antitrust laws were originally intended to protect consumer welfare, many enforcement cases and legal verdicts perversely harmed consumers: they penalized efficient business practices that could lead to lower prices and improved products (Bork 1978). This is because antitrust actions were often driven by an inherent distrust of big business and not grounded in sound economic principles.

The Chicago School instead argued that large companies could achieve significant efficiencies, such as economies of scale, which ultimately benefit consumers. They maintained that if a firm achieved a monopoly by offering better products, services, or lower prices, this outcome was not only natural but also beneficial to consumers. Furthermore, they contended that market forces were generally capable of correcting anti-competitive behavior over time, even in cases in which monopolies reduced consumer welfare, thus obviating the need for heavy-handed government intervention.

The conventional view of the transition away from populist antitrust posits that the influence of the Chicago School extended beyond academia, infiltrating the judiciary and regulatory agencies by the late 20th century. This cross-fertilization is said to have led to a more restrained approach to antitrust enforcement, as Chicago School ideas persuaded courts to prioritize economic efficiency and consumer welfare over concerns with market concentration and corporate size. Scholars supporting this view often cite U.S. Supreme Court rulings that reflect these principles. For instance, in *Continental T.V., Inc. v. GTE Sylvania Inc.* (1977), the Court departed from the strict structuralist approach of earlier decisions, favoring the efficiencies associated with vertical restrictions—a key tenet of Chicago School thinking (Hovenkamp 2005).

## **Challenging the Conventional Explanation for the Shift in Antitrust Policy**

While the conventional view attributes the shift from a populist to a more conservative approach to antitrust centered on the consumer welfare standard to the Chicago School's critiques, this explanation oversimplifies a complex, multifaceted transition. Instead, the change was driven by a confluence of factors and voices, many predating the Chicago School's rise to prominence and others that were coeval, but not necessarily affiliated with it.

The focus on using antitrust law to benefit consumers has been a central theme across various strands of antitrust analysis since the inception of these laws. Long-standing opposition to the Robinson-Patman Act, for example, demonstrates that critiques of the populist antitrust approach began well before the Chicago School's influence. Critics such as Fred Rowe, who began his opposition to the Act as a Yale student in 1951, and later published a major treatise on it in 1962, exemplify early challenges to the populist emphasis on protecting small businesses over consumer welfare (Rowe 1962). Economists like MIT's Morris Adelman and Harvard's Donald Turner similarly criticized the law's focus on chain stores, arguing in the 1940s that antitrust enforcement should prioritize consumer interests rather than merely shielding competitors. Adelman's comprehensive book on the subject, published a decade later, further solidified this viewpoint (Adelman 1959).

Prominent legal scholars such as Milton Handler of Columbia and Thomas Kauper of Michigan also argued against the populist tendency to protect competitors rather than competition itself (Handler 1957; Kauper 1981). Additionally, as outlined above, while still aligned with populist prescriptions in certain respects, the structural approach to antitrust championed by Joe Bain and Edward Mason laid the groundwork for a more price-focused and consumer welfare-oriented antitrust approach well before the Chicago School rose to prominence (see Muris 2023).

Later, Phillip Areeda and Herbert Hovenkamp were pivotal in shaping modern antitrust thought by rejecting the populist approach while also maintaining a critical distance from the Chicago School. In their seminal treatise from 1978, "Antitrust Law: An Analysis of Antitrust Principles and Their Application," they opposed the populist desire to protect small businesses and individual competitors. They instead believed that the size of a firm or its market power was not inherently problematic unless it was coupled with anticompetitive conduct, arguing that antitrust enforcement should prioritize maintaining competitive markets and improving consumer welfare (see Areeda and Hovenkamp 1978).

However, Areeda and Hovenkamp did not fully endorse the Chicago School's strict emphasis on economic efficiency as the sole criterion for antitrust enforcement. They acknowledged that while some degree of market power might be essential for fostering innovation and achieving efficiency, when such power becomes excessive it can result in anticompetitive outcomes (see Crane 2007). Consequently, they advocated for a nuanced, case-by-case analysis that balances the goals of promoting economic efficiency and preserving competitive market structures and that may justify government intervention to correct market failures like enduring monopolies (see Kovacic 2007).



These academic dissenters were joined by key government agencies and officials who criticized the incoherence and arbitrariness of the populist approach to antitrust well before the Chicago School rose to prominence. Notable examples include the reports issued by the Attorney General's National Committee to Study the Antitrust Laws (1955), FTC Commissioner Philip Elman's significant dissents in Robinson-Patman cases during the 1960s, and sharp critiques issued by the American Bar Association in 1956 and 1970 (see Muris 2023: 9). Finally, while coterminous with the ascendance of the Chicago School, the DOJ's 1977 *Report on the Role of Competition in Antitrust Enforcement* advocated for the prioritization of competition, consumer welfare, and economic efficiency over the protection of small businesses.

Besides, the Chicago School was hardly monolithic and, at times, paradoxically echoed concerns traditionally associated with the populist tradition, including apprehensions about high levels of market concentration and monopolies. For instance, while Robert Bork advocated for a relatively lenient approach to mergers, particularly when they could lead to efficiencies that benefit consumers, he did *not* propose presumptive legality for mergers between two of the four significant competitors in a market (Bork 1978). For his part, Richard Posner expressed concerns about mergers that could lead to high levels of market concentration, suggesting that mergers resulting in a four-firm concentration ratio above 60% could warrant government scrutiny, although he emphasized a case-by-case analysis rather than categorical bans (Posner 2001). William Baxter, who played a pivotal role in crafting the 1982 merger guidelines, adopted a balanced approach, advocating for antitrust scrutiny of mergers in markets with six or fewer significant competitors (Baxter 1982).

When it came to predatory pricing, there was also disagreement among Chicago School luminaries. Frank Easterbrook argued that price cuts by monopolists should generally be presumed legal, as he believed predatory pricing was rarely a rational strategy and unlikely to harm competition in the long run (Easterbrook 1981). On the other hand, Richard Posner was more cautious and supported the Areeda-Turner test for predatory pricing, which aimed to distinguish between legitimate competitive pricing and predatory behavior (Posner 2001).<sup>20</sup>

Other economic schools of thought besides the Chicago School also significantly influenced antitrust between the 1970s and 2000s, belying the idea that the consumer welfare standard was merely a reflection of static price theory. Insights from industrial organization theory by economists like Ronald Coase (1937) and Oliver Williamson (Williamson 1975; 1985), which revealed the inner workings of firms and explained their business strategies, reshaped antitrust decision-makers' views on practices like vertical integration and exclusive dealing. In his analysis of franchising, Williamson (1985) argued that franchising arrangements tended to align incentives between franchisors and franchisees, enhancing efficiency and promoting competition, rather than merely restricting market access or harming competitors. Additionally, Williamson emphasized that vertical integration could be efficiency-enhancing rather than

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<sup>20</sup> While Posner acknowledged that the Areeda-Turner test might be too permissive in allowing some anticompetitive behavior, he also appreciated its role in preventing baseless antitrust claims that could stifle legitimate competition and discourage price reductions that ultimately benefit consumers (Posner 2001).

necessarily anticompetitive, challenging the populist notion that vertical mergers were inherently exclusionary.

Williamson's work influenced courts to adopt a more favorable view of various franchising arrangements and vertical integration as they recognized that both vertical non-price restraints and vertical integration could have legitimate business justifications that benefited customers and enhanced overall market efficiency. In the landmark case *Continental T.V., Inc. v. GTE Sylvania Inc.* (1977), the Supreme Court ruled in favor of GTE Sylvania's vertical non-price restraints on franchisees and was influenced by insights from industrial organization that showed that such restraints could align incentives between franchisors and franchisees and thus prevent freeriding, ensure better customer service, preserve brand reputation, and promote interbrand competition (see Hovenkamp 2005). Additionally, enforcement agencies adopted a more receptive stance toward vertical integration in antitrust enforcement. The 1984 DOJ Non-Horizontal Merger Guidelines reflected this shift by acknowledging that vertical integration could reduce costs, improve coordination, and enhance competition (DOJ 1984).

Game theory, championed by scholars such as John Nash (Nash 1950) and Paul Milgrom (Milgrom and Roberts 1990), built on this foundation and provided high-powered tools to antitrust analysts to assess firms' competitive strategies, particularly in oligopolistic markets. These strategies included seemingly irrational behaviors, such as engaging in price wars, but also encompassed collusion, entry deterrence, and other strategic practices. On the one hand, game theory offered a nuanced understanding of how firms' investment and pricing decisions could serve as barriers to entry, including limit pricing, predatory pricing, and the strategic use of sunk costs to deter potential entrants (see Milgrom and Roberts 1990). On the other hand, it suggested that allowing firms to invest in unique, self-enclosed systems via vertical restraints or exclusive dealing arrangements could lead to efficiencies by reducing transaction costs, mitigating free-rider problems, and improving coordination along the supply chain, ultimately benefiting consumers by increasing product quality and fostering competition between brands (see Tirole 1988).

Additionally, ideas about dynamic efficiency from Schumpeterian economics played a crucial role in reorienting antitrust law and enforcement towards promoting innovation rather than merely focusing on output and prices in the short run. Schumpeter (1942) argued that large firms with significant market power are often best positioned to innovate, driving economic growth through a process of "creative destruction." The major effect this had on antitrust was to open the door to a greater tolerance to firms achieving bigger sizes and experimenting with mergers and business strategies that might endow them with greater market power but improve consumer welfare in the process.

Notably, this shift in perspective started well before the Chicago School's advocacy for the consumer welfare standard. During the late 1940s, scholars like Donald Turner critiqued the antitrust prosecution of A&P for its vertical integration strategy. Turner argued that "the lure of temporary monopoly profits is an important impetus to the introduction of new products and new techniques, which rudely upset the peaceful, profitable existence of long-entrenched business firms. This constant change to the new, the more efficient, is the very heart of the process of effective competition" (see Turner 1949: 1969-971). Ward Bowman also contributed to this

evolving understanding (see Bowman 1957). He challenged the traditional view that tying arrangements were inherently anticompetitive, instead arguing that such practices could enhance efficiency by enabling firms to better compete and innovate, thus benefiting consumers in the long run.

## THE ORGANIC ASCENDANCE OF THE RULE OF REASON APPROACH

The idea that the Chicago School alone gave rise to the consumer welfare approach to antitrust, ultimately fostering a more permissive environment for Schumpeterian creative destruction and the rise of digital platforms, is not accurate. Rather, courts and policymakers that strove to interpret the language and logical implications of the Sherman Act, Clayton Act, and Robinson-Patman Act pragmatically honed a Rule of Reason approach that assesses the actual competitive effects of business practices in real market scenarios. While recognizing that each case required individualized judgment, they also encountered recurring fact patterns. As outlined above, various economic approaches, including the version of price theory advanced by the Chicago School, provided antitrust decision-makers with valuable frameworks to make sense of these patterns and evaluate the effects of specific business practices on competition and consumer welfare.

The Rule of Reason paradigm developed organically over time, with its importance ebbing and flowing. Its evolution tracked the transformation of antitrust from a populist, politicized endeavor to a technical exercise guided by economic analysis. Eventually, enforcement agencies and courts grew to tolerate, and in some cases even advocate for, the market dominance of high-technology firms that continually innovated and achieved network effects. In doing so, antitrust decision-makers were inspired not only by Schumpeterian economics, but by strong evidence of efficiencies associated with actual platforms' acquisitions of their competitors and suppliers and distributors and their various experiments creating unique ecosystems.

### **What is the Rule of Reason Approach to Antitrust?**

The Rule of Reason is a judicial doctrine used to assess whether a firm's conduct violates antitrust laws based on its competitive effects rather than the specific nature of the conduct itself. This approach requires courts and enforcement agencies to conduct a thorough analysis of the market context and the behavior of specific firms within that context, allowing them to weigh both pro-competitive and anti-competitive effects. In *California Dental Association v. FTC* (1999: 770) the court wrote that: "under the rule of reason, the prevailing standard of analysis, the plaintiff must show that the defendant's conduct unreasonably restrains competition. But there is generally no categorical line to divide such restraints. Instead, courts make a case-by-case assessment."

The Rule of Reason generally follows a burden-shifting framework: the plaintiff, whether a government entity or a private party, must first demonstrate that the defendant's conduct has a significant anti-competitive effect within the relevant market. Once this burden is met, the defendant is given the opportunity to present pro-competitive justifications for its conduct, such as efficiency gains or innovations that benefit consumers. The court or enforcement agency then balances these anti-competitive effects against the pro-competitive justifications, ultimately

determining whether the conduct is lawful based on whether the benefits outweigh the harms. This approach is applied in cases involving both monopolization and mergers.

In both types of cases, the Rule of Reason analysis begins by defining the relevant product and geographic market in which a firm is alleged to hold market power. Only then do antitrust decision-makers assess the competitive effects of its behavior.

In monopolization cases, the analysis then moves to identifying the firm's market power within the relevant market: specifically, whether the firm can unilaterally restrict output and raise prices above the competitive level without losing so many sales that the price increase becomes unprofitable. To determine a firm's market power, enforcement agencies and judges may consider factors such as market shares, profit margins, barriers to entry, and the overall dynamics of the market.<sup>21</sup>

In merger cases, after establishing the market boundaries enforcement agencies and courts assess the market's current level of concentration and speculate about how the merger might alter this structure. They examine whether the new, post-merger firm might possess significant market power, potentially enabling it to reduce output, raise prices, decrease quality, or slow down innovation. As with monopolization cases, the merging firms can present evidence of the merger's pro-competitive effects. These may include efficiencies such as economies of scale, which could benefit consumers through lower prices, enhanced products or services, or accelerated innovation.

The final step for enforcement agencies and courts is to weigh the anti-competitive harms against the pro-competitive benefits. If the merger's benefits to consumers and competition outweigh the potential harm, the merger may be approved. Conversely, if the harms are deemed too significant, the merger may be blocked or approved only with conditions imposed by consent decrees to mitigate anti-competitive effects.

In multisided markets, or platforms, enforcement agencies and courts define multiple relevant markets to reflect each side of the platform. This approach respects the microeconomic logic of platforms, which relies on the dynamics of indirect network effects and differential pricing schemes across the different sides of the market (see Evans and Schmalensee 2016; Wright 2004; and Yun 2019). As discussed in Chapter 4, multisided platforms, such as social media sites, online marketplaces, or search engines, operate by connecting different types of users—such as consumers and advertisers—in a way that each group's participation enhances the value of the platform for the other types. For example, more consumers on a social media platform attract more advertisers, and more advertisers can enhance the platform's services for consumers.<sup>22</sup>

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<sup>21</sup> While a market share of 70% is generally required to make a prima facie case of market power, shares between 40-70% may also be sufficient when considering additional factors. Moreover, a firm's ability to price discriminate may constitute an indirect test of market power (see Areeda, and Hovenkamp 2023).

<sup>22</sup> For instance, a digital platform can reinvest increased advertising revenue into developing better features that improve a user's experience by offering personalized content.

When enforcement agencies and courts identify the multiple relevant markets that represent the different sides of the platform, they are better able to identify the full scope of costs and benefits of firm behavior and engage in more accurate balancing tests. For example, if consumers use a service for free on one side of the market while advertisers pay to access these consumers on the other side, analyzing only the consumer side might suggest the platform has no market power. However, if the platform collects substantial fees from advertisers, such a judgement may prematurely rule out competitive concerns. Conversely, by providing consumers with free access to the platform, the firm may enhance user engagement and juice data generation in ways that improve service quality, attracting more advertisers that chase more users and that ultimately reduces the fees charged to advertisers. Ultimately, if the benefits provided to consumers are substantial, antitrust decision-makers may condone “high” prices on the advertiser side of the market.

### **The Rule of Reason Contained the Seeds of the Consumer Welfare Approach**

How did the Rule of Reason come to dominate antitrust analysis? Practical necessities led jurists and policymakers to gradually incorporate economic principles like price theory into their decisions. This evolution was neither premeditated nor ideologically driven; rather, it emerged organically as courts and enforcement agencies grappled with real cases involving alleged consumer harm. Antitrust decision-makers didn’t require advocates to remind them of the importance of focusing on market prices rather than fixating on firm size or market concentration as such: they were already inclined to adopt a more economically informed approach well before the Chicago School emerged on the scene.

To be sure, the Chicago School honed price theory and other microeconomic tools and advocated for their full embrace by antitrust decision-makers under the consumer welfare standard—however, it was the judiciary that initially grappled with these economic concepts.<sup>23</sup> Faced with tangible cases that pitted adversaries against each other, judges had to work through the internal logic of real-world allegations about business conduct and its purported effects. To make sense of conflicting claims made by plaintiffs and defendants about the same evidence, courts had nowhere else to turn but the machinery of economics.

Antitrust decision-makers soon recognized that to assess whether a firm possesses market power—and can exploit it to substantially lessen competition—they needed to define the relevant

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<sup>23</sup> Key thinkers who contributed to the Chicago School movement included economists like George Stigler, who studied the effects of regulation on economic exchange and efficiency, and Aaron Director, who, along with Richard Posner, helped found the law and economics approach, which championed the importance of empirical evidence in determining the competitive effects of business practices. Robert Bork, who was the figure most closely associated with the study of antitrust and sought to influence it, argued in *The Antitrust Paradox* (1978) that monopolistic practices could be justified if they increased overall economic efficiency and especially if they increased consumer surplus, the difference between consumers’ willingness to pay for a good or service and what they actually pay for it.

market, as the source of market power ultimately lies in a firm's ability to manipulate output, prices, and investment. Crucially, "[b]ecause courts may trade off pro- and anticompetitive effects within the relevant market, defining the relevant market is tantamount to establishing the space of allowable trade-offs" (Ward 2017: 2078).

This realization naturally led enforcement agencies and courts to adopt economic tools capable of identifying and measuring a relevant market and, by extension, a firm's power within this market. These tools, in turn, laid the groundwork for what would later be known as the consumer welfare standard. Defining a relevant market requires identifying and calculating the substitutability of products or services, as only products perceived as interchangeable by consumers belong to the same market. Jurists grappled with key questions within the context of actual cases: What products serve as substitutes for the allegedly monopolized product? Would a merger between producers of these substitutes create a new monopoly?

Price theory, with its focus on supply and demand curves and equilibrium prices, was uniquely equipped to provide antitrust decision-makers with the answers to these questions. It was a powerful analytical framework that helped them define markets and assess the competitive effects of firm behavior within them.

First, price theory established that a firm supplying a product with few or no substitutes wields significant market power. This led antitrust decision-makers to devise ways to measure substitutability: through factors such as cross-price elasticity, diversion ratios, and consumer preferences. Cross-price elasticity gauges the responsiveness of demand for one good when the price of another changes, revealing whether products are substitutes (a positive elasticity) or complements (a negative elasticity). Diversion ratios capture the proportion of consumers who switch from one product to another following a price increase, directly reflecting consumer movement between products.

Second, price theory offered practical tools to assess competitive dynamics and the consumer impacts of business practices, including concepts like consumer surplus and the Lerner Index for pricing power and profit margins. Consumer surplus—the difference between what a consumer is willing to pay for a product and the actual price paid—represents the benefit derived from market participation. The Lerner Index measures a firm's pricing power by comparing the difference between a product's price and its marginal cost, with a higher index indicating greater market power and the ability to set prices above marginal cost.<sup>24</sup> These tools enabled courts and policymakers to better understand how changes in market structure or firm conduct affect output, prices, innovation, and ultimately, consumer welfare.

## NON-LINEAR EVOLUTION FROM PER SE APPROACH TO RULE OF REASON

The evolution of antitrust over the past 115 years has been a complex and non-linear journey from a per se approach to one rooted in the Rule of Reason. Antitrust decision-makers encountered significant challenges in defining relevant markets, identifying a product's true

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<sup>24</sup> The formula is  $L = (P - MC) / P = -1 / \epsilon$ , where  $L$  is the Lerner Index,  $P$  is the price,  $MC$  is the marginal cost, and  $\epsilon$  is the elasticity of demand.

substitutes, accurately assessing market power, and understanding the overall effects of firms' variegated business strategies. While key court cases and enforcement agency developments sometimes turned to price theory, industrial organization, game theory, and Schumpeterian economics to do so, at other times they defaulted to a per se approach in which certain types of conduct were presumed to have irrebuttable anticompetitive effects, leading to immediate prohibition without the need for a detailed inquiry (see, for example, *FTC v. Superior Court Trial Lawyers Association* 1990).

What practices were deemed “so plainly anticompetitive that no elaborate study of the industry is needed to establish their illegality” (*National Society of Professional Engineers v. US*, 1978)? There are several. First, courts deemed that it was per se illegal for competitors to fix prices within an industry, even if these attempts do not necessarily affect real prices. This principle was established in landmark cases such as *US v. Trenton Potteries Co.* (1927), *Socony-Vacuum Oil Co. v. US* (1940), and *US v. Trans-Missouri Freight Association* (1897). Second, as established in *US v. Addyston Pipe & Steel Co.* (1899), bid rigging, where competitors collude to rig bids for contract awards, was deemed per se illegal. Third, as outlined in *US v. Topco Associates, Inc.* (1972), agreements between competitors to divide markets—whether by geographic area, customer type, or product line—were also deemed per se illegal. Fourth, concerted refusals to deal, also known as group boycotts, fall under the per se rule, as embodied in *Klor's, Inc. v. Broadway-Hale Stores, Inc.* (1959). Finally, some tying arrangements, where the sale of one product is conditioned on the purchase of another, were deemed per se illegal under specific circumstances—see *International Salt Co. v. US* (1947), and *Northern Pacific Railway Co. v. US* (1958)—and some remain so today.<sup>25</sup>

Moreover, beginning with *Dr. Miles Medical Co. v. John D. Park & Sons Co.* 1911), courts treated vertical agreements between manufacturers and their distributors or retailers to set minimum resale prices as per se illegal.<sup>26</sup> However, this practice was relaxed in *Leegin Creative Leather Products, Inc. v. PSKS, Inc.* (2007). In that decision, the Supreme Court shifted from a per se approach to a Rule of Reason analysis for such agreements.

Like other areas of antitrust law, the court decided that such agreements should instead be analyzed using a more nuanced and economically informed framework. We now turn to

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<sup>25</sup> To determine whether a tying arrangement is per se illegal, courts generally consider four key conditions: (1) The seller must have substantial market power in the market for the tying product, i.e., the seller's dominance is significant enough to compel customers to purchase the tied product; (2) The tying arrangement must affect a substantial amount of commerce in the tied product market, indicating that a significant number of sales or a large dollar volume of sales is conditioned on the purchase of the tied product; (3) There must be evidence of coercion, where customers are required to buy the tied product as a condition of purchasing the tying product; and (4) The tying arrangement must substantially foreclose competition in the tied product market, meaning that it restricts or eliminates a significant portion of the market from competing effectively. When these conditions are met, the tying arrangement may be deemed per se illegal without further detailed analysis of its actual competitive effects (see Hovenkamp 2011).

<sup>26</sup> The Supreme Court ruled that such vertical restraints were per se illegal, clarifying that manufacturers could not control the resale prices set by independent retailers.

exploring when and how this transition to the Rule of Reason approach happened across each of these diverse areas.

### **Historical Ascendance and Backsliding**

The origins of the Rule of Reason can be traced back to English common law, particularly the seminal case of *Mitchel v. Reynolds* (1711), which dealt with a baker who sold his bakery and agreed not to compete within a certain area for a specified time. In his decision, Lord Macclesfield established a distinction between general restraints of trade, which were considered unlawful, and specific restraints, which could be legitimate if they were found to be reasonable (see Handler and Lazaroff 1982).

This principle was later adopted in American jurisprudence. In *Oregon Steam Navigation Co. v. Winsor* (1874), the buyer of a steamship agreed not to use it in certain waters to avoid competing with the seller. The US Supreme Court held that a covenant not to compete, when ancillary to the sale of a business, could be enforceable if it was limited: reasonable in scope and duration.

In an influential early antitrust case, *US v. Addyston Pipe & Steel Co.* (1898), the court distinguished between reasonable and unreasonable restraints of trade, particularly in the context of price-fixing agreements. Judge (later Chief Justice) Taft distinguished between “naked” restraints of trade, which were per se illegal, and “ancillary” restraints, which could be legal if reasonably necessary to a legitimate business transaction (see Callman 1955). This case was one of the first to systematically emphasize the need to analyze the effects of business practices on competition.

The explicit “Rule of Reason” approach to antitrust law was established in two landmark decisions delivered on the same day in 1911. The concurrent rulings in these two cases underscored the Supreme Court's commitment to this new, more nuanced approach to antitrust analysis (Kovacic and Shapiro 2000).

In *Standard Oil Co. v. US* (1911), the Supreme Court addressed allegations of predatory monopolization against Standard Oil. The government accused Standard Oil of employing anticompetitive tactics, including strategic price cutting and acquiring smaller competitors, to dominate the oil refining industry. In the court’s decision, Chief Justice White declared that the Sherman Act prohibited only “unreasonable” restraints of trade, not all restraints (*Standard Oil Co. v. US* 1911: 60). While this ruling “officially” marked the formal introduction of the Rule of Reason into antitrust jurisprudence, in *US v. American Tobacco Co.* (1911) the court simultaneously applied the newly articulated Rule of Reason to another accusation of predatory monopolization, reinforcing the notion that not all restraints were inherently illegal.

While these rulings concretized a significant shift in antitrust jurisprudence, moving away from a strict, literal interpretation of the Sherman Act towards a more nuanced, context-dependent analysis, it left the critical questions of what constitutes an “unreasonable” restraint of trade and how to measure it unanswered. In *Board of Trade of Chicago v. United States* (1918), the Supreme Court helped gain traction on these conundrums: it clarified that a restraint’s legal status depended on its actual or probable effects on competition. This opened the door to



examining the business reasons and economic justifications behind the firm conduct alleged to be unlawful.

Justice Louis Brandeis noted that:

Every agreement concerning trade, every regulation of trade, restrains. To bind, to restrain, is of their very essence. The true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition (*Board of Trade of City of Chicago v. US* 1918: 238).

Two other early cases are worth mentioning. In *US v. Union Pacific Railroad Co.* (1912), the court applied the Rule of Reason to assess the competitive effects of railroad mergers. *US v. US Steel Corporation* (1920) was among the first cases to provide a detailed analysis of market power and competitive effects—a topic we will explore in greater depth shortly below.

Despite the early rise of the Rule of Reason, the per se approach saw a resurgence that persisted well into the 1950s. As mentioned earlier, in *Dr. Miles Medical Co. v. John D. Park & Sons Co.* (1911), the Supreme Court applied the Sherman Act's prohibition of price restrictions to vertical relationships, declaring resale price maintenance clauses per se illegal. This strict approach was further reinforced during and after World War II, most notably in *US v. Socony-Vacuum Oil Co.* (1940), where the Supreme Court declared that price-fixing agreements among oil companies were per se unlawful, echoing the earlier *US v. Trenton Potteries Co.* (1927).

Two more per se decisions concerning tying arrangements followed: *International Salt Co. v. US* (1947), which ruled that tying the sale of salt to the leasing of patented machines was per se illegal, and *Northern Pacific Railway Co. v. US* (1958), which held that railroad land sales tied to exclusive shipping agreements violated antitrust laws per se. Additionally, in *Klor's, Inc. v. Broadway-Hale Stores, Inc.* (1959), the Court applied a per se interpretation of the Sherman Act to a group boycott. Collectively, these cases established that a broad range of corporate strategies were illegal regardless of their effects on output, prices, or innovation.

### **Return to the Rule of Reason and its Eventual Dominance**

The Rule of Reason approach regained prominence in the late 1960s and 1970s, however, as the court shifted its focus to core economic concepts like anticompetitive effects and efficiency considerations. Influenced by industrial organization theorists, especially Williamson (1968; 1975; 1985), who argued that vertical restraints could serve legitimate business purposes—such as ensuring product quality, optimizing supply chain management, preventing free riding on manufacturer-supplied investments, and facilitating promotional efforts—courts began to recognize that these restraints could be beneficial rather than inherently harmful (see Hovenkamp 2011). This new understanding was enshrined in a series of landmark decisions, marking a significant departure from the blanket per se illegality that had previously dominated antitrust law (see Kovacic and Shapiro 2000; Muris 2023).

In *White Motor Co. v. US* (1963), the Court applied the Rule of Reason to nonprice vertical intrabrand restraints, including exclusive dealing and territorial restrictions. It recognized the potential efficiency and procompetitive effects of these practices, such as enhancing interbrand competition and improving distribution systems, which ultimately benefit consumers. By granting exclusive territories to dealers, manufacturers could reduce free riding among distributors, thereby encouraging them to invest in promoting the brand and offering better customer service (see Posner 1981).

In *Continental T.V., Inc. v. GTE Sylvania Inc.* (1977), the court overruled the per se rule against vertical nonprice restrictions, emphasizing that such restrictions could enhance interbrand competition by providing retailers with exclusive territories, thereby incentivizing them to invest in marketing and customer service. This, in turn, could lead to increased product differentiation and consumer choice, as manufacturers can implement distribution strategies tailored to different consumer preferences. By allowing manufacturers to maintain control over their distribution networks, the court recognized that such restrictions could help ensure product quality, manage brand image, and achieve economies of scale, ultimately leading to greater efficiency (see Easterbrook 1984).

In *State Oil Co. v. Khan* (1997), the court similarly eliminated the per se rule against vertical maximum price fixing, which had barred a manufacturer or supplier from setting an upper limit on the prices charged by its retailers. The decision was based on the recognition that vertical maximum price fixing can have procompetitive effects: By setting a maximum price, manufacturers or suppliers can stop retailers from charging excessively high prices in a bid to boost their bottom lines; instead, this encourages cooperation between themselves and retailers to bolster sales and improve customer service.<sup>27</sup>

Conversely, in *National Society of Professional Engineers v. United States* (1978), the Supreme Court used the logic of the Rule of Reason to stop the National Society of Professional Engineers (NSPE) from restraining certain business practices to promote efficiency. The NSPE prohibited its members from submitting competitive bids for engineering services and argued that competitive bidding could lead to unsafe construction practices, as engineers might cut corners to offer lower prices. However, the court rejected this justification, ruling that ethical concerns or potential quality issues could not serve as valid defenses for anticompetitive conduct under the Sherman Act.

The court therefore decided that the rule against competitive bidding was an unreasonable restraint of trade, as it suppressed competition without sufficient justification and ultimately harmed consumers by limiting their ability to choose among competing services. The decision underscored that the Rule of Reason analysis must focus on the actual market impact of business practices, examining whether they unreasonably restrict competition and harm consumer welfare (see Elzinga 1977).

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<sup>27</sup> This implicitly allows manufacturers to limit the retailer's ability to exercise its market power to constrain supply and increase price, therefore reducing double marginalization and increasing efficiency in the process (Cooper 1998: 455; Blair and Lafontaine 1999).

The idea of proceeding case by case and business practice by business practice, and not prejudging certain business practices as anticompetitive, was also embodied in *Broadcast Music, Inc. v. CBS* (1979). In that case, the Supreme Court's decision greenlit blanket licensing agreements, a common practice in the music industry. Broadcast Music, Inc. (BMI) and the American Society of Composers, Authors, and Publishers (ASCAP) offered blanket licenses that allowed broadcasters to access a vast repertoire of music for a single fee. CBS challenged this practice as exclusionary, arguing it constituted price-fixing. However, the court applied the Rule of Reason and concluded that blanket licenses were procompetitive because they simplified transactions, reduced administrative costs, and ensured creators received compensation for their work. The decision emphasized that while blanket licenses might resemble price-fixing, their overall impact on the market promoted competition and efficiency (Merges 1996).

In *NCAA v. Board of Regents of the University of Oklahoma* (1984), the Supreme Court applied the Rule of Reason to assess the NCAA's restrictions on televised college football games. The NCAA had limited the number of games a team could broadcast, claiming the restrictions preserved competitive balance among college teams. This time around, the court ruled that the NCAA's practices unreasonably restrained trade and harmed consumers by limiting the availability of televised games. The court acknowledged that while some level of coordination might be necessary to maintain the integrity of college sports, it must not unreasonably restrict competition (Goldman 1989).

Licensing agreements and intellectual property practices also came under the remit of the Rule of Reason as justices inquired into their potential benefits in promoting innovation and economic efficiency (Kaplow 1984). Courts recognized that arrangements such as patent pooling and cross-licensing could foster collaboration among companies, accelerate technological advancements, and enhance consumer welfare (Shapiro 2001; Gilbert 2004). These practices often facilitated the development and commercialization of new technologies by allowing firms to combine complementary strengths, share research and development costs, and reduce litigation risks (Merges 1999; Lerner and Tirole 2004).

In *US v. General Electric Co.* (1948), the government challenged a patent pooling agreement involving General Electric and several other major companies in the electrical equipment industry. The agreement allowed the companies to cross-license their patents related to electrical technologies, which effectively created a pool of shared patents that the parties could utilize to advance their research and production capabilities. The government argued that this arrangement constituted an unlawful restraint of trade under the Sherman Act, as it potentially suppressed competition by reducing the incentives for each company to innovate independently.

However, the court applied the Rule of Reason analysis to assess the competitive impact of the patent pool. The court recognized that while the pooling agreement could potentially reduce competition among the companies involved, it also offered significant procompetitive benefits. By facilitating the sharing of technological advancements and reducing the risk of costly patent litigation, the pool encouraged collaboration and resource sharing, which accelerated technological progress in the electrical equipment industry. The court ultimately determined that the agreement's potential to promote innovation and efficiency outweighed its anticompetitive

risks, and the patent pool was allowed to continue under certain conditions to ensure that competition was not unduly harmed (see Kovacic 2007: 284).

Similarly, in *US v. Line Material Co.* (1948), the Supreme Court dealt with a cross-licensing agreement that the government claimed was anticompetitive. The court again applied the Rule of Reason. And it concluded that while such agreements could reduce competition, they also had procompetitive benefits, such as reducing redundant research efforts and lowering development costs (Kaplow 1984).

Yet, signaling the preeminence of an agnostic cost-benefit calculus to the Rule of Reason approach yet again, the court saw things a bit differently in *Allied Tube & Conduit Corp. v. Indian Head, Inc.* (1988). This involved a case where a manufacturer attempted to manipulate a standard-setting process to exclude a competitor's product. The Supreme Court applied the Rule of Reason to determine that the standard-setting activities, while beneficial, should not be used to exclude competitors unfairly. The court emphasized the importance of transparency and fairness in such processes to prevent anticompetitive practices (Lemley 2002).

While the previous section outlines the broad resurgence of the Rule of Reason, it does not fully illuminate the underlying logic that guided court decisions. Once courts moved away from the *per se* approach, they immediately faced a complex challenge: how to assess whether allegations of anticompetitive conduct were valid and, if so, how to balance potential procompetitive benefits against those harms. Embracing the Rule of Reason necessitated the development of a rigorous definition of relevant markets, which became crucial in determining whether a firm truly exercised market power and engaged in monopolistic practices.

## COURTS ORGANICALLY WOVE PRICE THEORY INTO THEIR REASONING

The adoption of the Rule of Reason marked a shift towards a more sophisticated economic analysis in antitrust cases. Defining the relevant market became a foundational step in assessing competitive dynamics and potential monopolistic practices. By defining the relevant market, courts and enforcement agencies could next assess the extent of a firm's control over output and prices.<sup>28</sup>

And it was inevitable that courts would rely on price theory—sometimes subtly and other times explicitly—to perform these tasks decades before the Chicago School of antitrust championed its virtues.<sup>29</sup> It alone provides the analytical framework to assess product substitutability and demand elasticity, essential for determining market boundaries.<sup>30</sup> It furnishes concepts such as

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<sup>28</sup> Carlton and Perloff (2015) discuss the use of price theory by antitrust analysts to define relevant markets and assessing competitive dynamics.

<sup>29</sup> Microeconomics by Robert Pindyck and Daniel Rubinfeld (9th edition, 2017) provides a comprehensive yet accessible introduction to price theory and the topics discussed in the ensuing paragraphs.

<sup>30</sup> Werden (1998) discusses the use of demand elasticities in antitrust analysis to define markets, assess market power, and evaluate the competitive effects of mergers and other business practices.

supply elasticity and product differentiation, which can help analysts understand the difference between a firm's competitive advantage and market power. It also provides insights into product differentiation and barriers to entry, which further sheds light on this critical distinction.<sup>31</sup> Additionally, by identifying the distribution of costs and margins across a supply chain, price theory sheds light on how firms with greater pricing power can negotiate more favorable terms with suppliers and distributors (Porter 1980).

Price theory expresses the parameters that bound a product's potential and actual price and illustrates a firm's leverage over pricing (see Lerner 1938). It provides critical insights into the extent to which a firm with market power can constrain output and raise prices relative to its horizontal competitors. A product's demand curve summarizes consumers' willingness to pay for a product and their responsiveness to price changes. By analyzing the elasticity of demand for a firm's products, price theory can assess how consumers might react to changes in price, including whether they are likely to switch to competing products.

Price theory therefore also subsumes the cross-elasticity of demand, a consumer's willingness to switch consuming one product for another given the price of the other. When a firm possesses market power, it can raise prices above the competitive level without losing a substantial number of customers. This ability to manipulate prices and restrict output indicates a lack of competitive constraints, enabling the firm to extract greater economic rent at the expense of consumer wellbeing—at least in the short run.

Price theory can also help analysts discriminate between market power and firm level competitive advantage. By capturing the elasticity of the supply curve, it can reveal whether a firm that is a price taker, but that exhibits lower marginal costs than its competitors, earns Ricardian Rents as a function of its greater efficiency. This therefore differentiates it from a firm that sets prices and earns extraordinary rents by inducing scarcity. Moreover, price theory can shine light on whether barriers to entry make it difficult for firms to enter markets where market power rents are present, therefore short-circuiting a “natural” adjustment process whereby increased production dissipates these profits.

Price theory can also help antitrust analysts integrate insights about product differentiation that further distinguish between market power and competitive advantage. Firms sometimes create unique product offerings with different prices that appeal to specific consumer segments. When consumers willingly pay a premium for superior quality, branding, or innovative features, it often reflects a firm's competitive advantage rather than market power (see Porter 1985). This is because the firm's pricing strategy is driven by genuine value creation, not a lack of substitutes or a low cross-elasticity of demand.

Conversely, product differentiation can also signal barriers to entry: established firms may leverage unique product attributes to deter new competitors and maintain their market dominance

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<sup>31</sup> Schmalensee (1982) explores how product differentiation can create competitive advantages for firms but not necessarily endow them with market power (see also Peteraf 1993), a key distinction that antitrust decision-makers have made in several blockbuster court cases (e.g., *Eastman Kodak Co. v. Image Technical Services, Inc.* 1992).

(see Tirole 1988). By assessing how product differentiation affects consumer choice and market structure, analysts can better determine whether a firm is leveraging its competitive advantage or exerting undue market power.

Finally, antitrust analysts can turn to price theory to better understand whether the dynamics that govern vertical relationships between firms lead to lower prices and innovation or instead restrain competition and raise barriers to entry. Price theory illuminates how much a consumer is willing to pay for the specialized inputs subsumed under a specific product's demand curve. It therefore explains the distribution of economic value within a supply chain. Firms that excel at innovation, brand strength, or control critical technological components, add more value and therefore earn higher margins.

By analyzing factors like the availability of alternative suppliers, bargaining power, and the elasticity of supply, price theory can identify a firm's leverage over upstream suppliers and downstream distributors and retailers (see Porter 1980; Gereffi and Sturgeon 2005). A firm with high value-added activities may wield more power over suppliers due to its importance in the production process and its ability to drive consumers' willingness to pay for a product. This influence enables it to negotiate more favorable terms, such as lower input costs or higher sales margins (Williamson 1975; Klein, Crawford, and Alchian 1978). It may also have leverage over retailers and distributors by dictating terms that align with its strategic objectives, such as maintaining premium pricing or controlling product placement (Porter 1980).

In the following section, I will evaluate how key judicial decisions incorporated insights from price theory, which eventually opened the door to drawing from industrial organization, game theory, and Schumpeterian economics.

### **Court Decisions That Grappled with the Exigencies of Price Theory**

In *US v. Aluminum Co. of America (Alcoa)* (1945), the Second Circuit stressed the importance of delineating the relevant market to assess Alcoa's market power. Judge Learned Hand's decision underscored that understanding market power first requires identifying the product's market and geographic scope. This in turn requires a way of identifying potential substitutes for the firm's products. The court was compelled to decide whether the market included only primary aluminum producers or extended to secondary producers and other substitutes.

This decision brought price theory to the forefront of the case because the court's need to identify substitutes implied that they evaluate what the demand curve encompassed and, by extension, the cross-elasticity of demand. This was the key to allowing the court to assess whether Alcoa could unilaterally affect the supply and price of aluminum.

The court therefore meticulously examined the extent of Alcoa's market power by posing critical questions about the boundaries of the relevant market because it affirmed that it was not merely the firm's size, but its ability to control output and prices, which indicated market power. Judge Learned Hand's decision delved into the question of whether Alcoa's control over primary aluminum production truly constituted a monopoly, stating, "We can only find that Alcoa had brought about, or attempted to bring about, a condition in which it might have had substantial

control over the market” (US v. Alcoa 1945: 430) and “The test of success is not whether the applicant has obtained a price which is economically fair, but whether it is able to dictate the price by reason of its control of the supply” (US v Alcoa 1945: 427). This assessment required evaluating whether alternative materials, such as recycled aluminum or other metals, served as viable substitutes. The court highlighted this need for analysis, emphasizing that “substitutes are a factor of great importance in any competition” (US v Alcoa 1945: 424).

Judge Hand cast a strong shadow beyond *Alcoa*. In his dissenting opinion in *U.S. v. Continental Can Co.* (1964), Justice Harlan (echoing Hand’s earlier judicial philosophy) criticized the majority for adopting an arbitrary market definition that conflated different types of packaging—glass, metal, and other materials—into a single market. Harlan argued that this approach ignored the real competitive dynamics within the industry: the majority’s market definition was one “in which it chooses instead to invent a line of commerce the existence of which no one, not even the Government, has imagined” (*Continental Can* 1964: 476-77). Justice Harlan’s dissent in this case highlighted the pitfalls of antitrust decision-makers adopting overly broad market definitions, including reaching incorrect conclusions about firms’ market power and the effect their business practices have on competition (see Areeda and Turner 1978).

The increasing focus by courts on market definition and substitutes was further highlighted in *United States v. E. I. du Pont de Nemours & Co.* (1956), commonly known as the DuPont Cellophane case, where the U.S. government accused DuPont of monopolizing the cellophane market in violation of Section 2 of the Sherman Antitrust Act. The Court’s decision about whether DuPont held monopoly power hinged on defining the relevant market for its product. As the court defined the relevant market broadly to include all flexible packaging materials, not just cellophane, the Supreme Court ruled that DuPont did not possess monopoly power.

This decision created a benchmark for defining a market through the evaluation of substitutes in terms of products’ functional interchangeability. The Court held that “[d]etermination of the competitive market for commodities depends on how different from one another are the offered commodities in character or use, how far buyers will go to substitute one commodity for another” (US v EI du Pont de Nemours & Co. 1956: 393).

However, this decision infamously introduced the Cellophane Fallacy—a mistaken way of defining the relevant market based on current monopoly prices rather than competitive ones (see Stocking and Mueller 1955). In this case, the Court evaluated potential substitutes for Cellophane *at the monopoly price*, the price at which DuPont’s marginal revenues from Cellophane equaled its marginal cost.<sup>32</sup> This meant that consumers could indeed switch from Cellophane to other like products. But while these products were cheaper than Cellophane, they were also inferior. Consumers only viewed wax paper and aluminum foil as substitutes for Cellophane *because* of its artificially inflated price (see Areeda and Hovenkamp 2003).

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<sup>32</sup> A monopolist will not be able to increase prices above that level in a way that is profitable: if it does so, consumers who are not willing to pay that higher price will exit the market and the associated reduction in revenues will shrink the size of the rents associated with margins earned above marginal cost.

As a result, the court's broad market definition underestimated DuPont's true market power. If Cellophane were instead available at competitive prices, consumers would likely prefer that product over its inferior alternatives.<sup>33</sup> This demonstrates that the existence of consumer switching at observed prices does not negate a firm's monopoly position and suggests that defining the relevant market in relation to what the substitutes would look like at competitive prices can more closely approximate the true cross-elasticity of demand (see Elzinga and Hogarty 1973; Kaplow 2010). Courts soon internalized this lesson.

In *US v. Marine Bancorporation, Inc.* (1974), the Supreme Court emphasized the need to define relevant market boundaries beyond the existing market structure and conditions. The Court recognized that potential entrants could act as competitive constraints on existing firms, broadening the concept of the relevant market to include these latent competitors (see Baker 1989; Areeda and Hovenkamp 2006). By considering potential competition, the Court acknowledged that substitutes should be evaluated not only on their current availability, but on their potential to enter the market and exert competitive pressure in the future too (see Elhauge and Geradin 2007). Moreover, this decision advanced the notion that the presence of potential competition should be considered when assessing market power because it could influence extant firms' pricing behavior and strategic business decisions (see Gavil, Kovacic, and Baker 2014).

Similarly, in *US v. General Dynamics Corp.* (1974), the Supreme Court improved the boundary setting of the relevant market by incorporating potential entrants and technological changes that could introduce new substitutes. The Court noted that "market shares are just the starting point for analyzing competition, and do not by themselves establish the probable anticompetitive effects of a merger. Energy markets and substitutes should be evaluated in light of future industry conditions and the prospective development of new technologies." (*U.S. v. General Dynamics Corp.* 1974: 498).

Additionally, in *FTC v. Procter & Gamble Co.* (1967), the court evaluated the potential anticompetitive effects of mergers with a focus on how competition might evolve post-merger. This forward-looking approach aimed to define relevant markets based on competitive benchmarks rather than merely relying on current market observations (see Elzinga 1969; Posner 2001). The court emphasized the role of market entry and potential substitutes, stating, "The acquisition of Clorox by Procter & Gamble would eliminate the likelihood of Procter & Gamble's entering the market as a de novo competitor" (*FTC v. Procter & Gamble Co.* 1967: 579). By recognizing that Procter & Gamble could have been a significant future entrant into the bleach market, the court significantly broadened the view of market definition and the potential for a merged entity to exercise market power (see Sullivan and Grimes 2006; Kwoka and White 2004; Areeda and Turner 1978).

## **Enforcement Agencies Concocted Powerful Tools to Define Markets**

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<sup>33</sup> Kaysen (1956) demonstrates that DuPont's prices indeed satisfied the criteria of what a monopolist would charge, with a price cost margin equal to  $P - c/P = 1/\eta$  where  $\eta$  = the elasticity of demand (the percent change in price if there is a percent change in quantity).



Antitrust authorities followed the courts' lead in refining market definition by adopting more sophisticated tools like the Hypothetical Monopolist Test (HMT) and Critical Loss Analysis (CLA). These methodologies were developed by economists to address the pitfalls of the Cellophane Fallacy by defining relevant markets based on competitive price benchmarks rather than existing market conditions. The HMT was developed by a team of economists and legal experts working at the U.S. Department of Justice during the early 1980s that was led by William Baxter, who was Assistant Attorney General for Antitrust at the time. It was introduced by the Justice Department in the 1982 Merger Guidelines.<sup>34</sup> CLA was conceptualized by Barry Harris and his colleagues in the late 1980s (see Harris and Simons 1989).

The HMT exploits microeconomic knowledge about how competitive constraints ordinarily operate within markets to define the boundaries of a particular market. By assuming external competition away, it paradoxically allows for a more precise identification of the products that truly compete with one another. If the hypothetical monopolist can profitably raise prices above the competitive level—impose a small, but significant non-transitory increase in price (SSNIP)—it means the defined market accurately captures the products that impose competitive pressure. If consumers do not switch to products outside this defined market in response to a price increase, it confirms that the defined market encompasses all relevant competitive constraints. This is because the ability to raise prices profitably suggests that all the close substitutes, which would normally draw consumers away when prices rise—and in the actual market do so—are adequately included within the market's boundaries. The HMT, therefore, relies heavily on the concept of cross-elasticity of demand at competitive prices, recognizing that the presence of effective substitutes constrains a firm's market power.<sup>35</sup>

The HMT is designed to avoid the Cellophane Fallacy by evaluating market boundaries and product substitutability at competitive price levels rather than monopoly prices. Unlike the approach taken in the Cellophane case, which mistakenly defined the market based on inflated monopoly prices, the HMT focuses on determining whether a SSNIP would be profitable starting from a competitive baseline (see Kaplow 2010; Baker 2007). This ensures that the test identifies true substitutes rather than (likely inferior) products consumers might switch to solely because of high prices driven by existing market power (see Krattenmaker, Lande, and Salop 1987). By assessing the cross-elasticity of demand from competitive price points, the HMT accurately captures the products that actually constrain a firm's pricing power, providing a more precise definition of the relevant market (see Bishop and Walker 2010; Evans and Padilla 2005).

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<sup>34</sup> The FTC also adopted the hypothetical monopolist test in its merger guidelines and antitrust enforcement practices.

<sup>35</sup> Consider the following concrete example about the market for carbonated cola drinks. If we want to determine whether Coca-Cola and Pepsi together constitute a relevant market, we start by assuming that these two brands form a hypothetical monopoly. The HMT asks whether this imagined firm could impose a SSNIP, say 5% above the competitive price, without losing customers to other products. If a significant number of consumers would switch to alternative beverages such as other sodas, juices, or bottled water in response to the price increase, then we would have to broaden the definition of the relevant market to include these substitutes.

By identifying the products and firms that genuinely compete within the market, the HMT approach allowed antitrust authorities to better assess the potential for anti-competitive behavior. Moreover, as courts began to embrace a more rigorous approach to defining relevant markets and assessing competitive dynamics, the HMT began to influence antitrust cases during the 1980s and 1990s.

Consider two similar cases. In *FTC v. University Health, Inc.* (1991), the court blocked a hospital merger by applying HMT-like reasoning, assessing whether adequate substitutes for hospital services existed by considering the availability and proximity of alternative healthcare providers. In *US v. Rockford Memorial Corp.* (1990), the court focused on defining the relevant geographic market to evaluate whether a hospital merger would enable the merged entity to impose significant price increases. The court conducted a detailed analysis of patient travel patterns, examining where patients were willing to travel for hospital services and therefore identifying which hospitals were considered substitutes by patients and delineating the geographic area within which the hospitals competed. By accurately defining the relevant geographic market, the court concluded that the merger would likely lead to anticompetitive effects: the merging hospitals were close substitutes for many patients, and whatever competition remained would insufficiently constrain price increases.

Non-hospital cases also exemplified the influence of the HMT approach in antitrust litigation to define relevant markets more accurately. For example, In *US v. Gillette Co.* (1991), the court applied HMT principles to the writing instruments market by evaluating product substitutability instead of relying on simple market shares. It analyzed consumer perceptions of different types of writing instruments, such as pens, pencils, and markers, to determine if they were considered interchangeable by consumers.

This approach culminated in the landmark *FTC v. Staples, Inc.* (1997) case, where the court relied heavily on the HMT to define the relevant market for office supplies. Using detailed pricing data and consumer purchasing behavior, it arrived at the conclusion that only three superstores—Office Depot, Staples, and Office Max—constituted the relevant market. The analysis demonstrated that these three chains exerted significant price-constraining pressure on one another, which would be eliminated by the merger of Staples and Office Depot. Consequently, the court blocked the merger, concluding that it would likely lead to higher prices and reduced competition in the office supply superstore market.

Meanwhile, CLA offers a more versatile toolkit than HMT. It helps antitrust authorities to define sophisticated markets and aids in the evaluation of potential competitive impacts in merger cases. Unlike the HMT, CLA allows analysts to assess the critical loss threshold, which is the maximum percentage loss of sales a hypothetical monopolist could endure while still finding a price increase profitable.<sup>36</sup> After calculating the critical loss threshold, analysts compare this

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<sup>36</sup> The formula  $\Delta P / \Delta P + P - C$  determines the break-even point for a price increase: the threshold at which the revenue lost from the decrease in quantity sold due to the price increase equals the additional revenue gained from the higher price. If the actual loss in sales (actual loss) is less than the critical loss, the price increase is profitable, indicating that the market definition

threshold to the actual or anticipated loss in sales. By measuring how the quantity demanded of a product responds to a change in the price of another product, the cross-elasticity of demand helps determine this actual loss.<sup>37</sup>

CLA is particularly useful in markets characterized by a high degree of product differentiation, where the traditional HMT may struggle to capture the nuances of consumer preferences and product attributes (see Katz and Shapiro 2003).<sup>38</sup> By comparing the critical loss threshold to the anticipated loss of sales following a price increase, CLA can help identify the true boundaries of the relevant market, ensuring that it encompasses all competitive constraints. This flexibility allows CLA to define markets more accurately than the HMT in industries with diverse products and varying consumer loyalties.<sup>39</sup>

For example, the HMT might define the market for high-end smartphones as encompassing products from several manufacturers, assuming these smartphones constrain each other's pricing due to substitutability. While some high-end smartphones may initially appear to be substitutes

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is likely correct. Conversely, if the actual loss is greater than the critical loss, the price increase is not profitable, suggesting the need to reconsider the market boundaries.

<sup>37</sup> Analysts estimate demand elasticity through a variety of tools, including econometric models, natural experiments, price correlations, and documentary or witness evidence (Davis and Garcés 2010). Econometric models analyze historical data to estimate how changes in price affect the quantity demanded. Natural experiments observe real-world scenarios to measure the impact on demand. Price correlations examine the relationship between the prices of related goods to infer substitutability. Documentary or witness evidence provides qualitative context to support quantitative estimates.

<sup>38</sup> Other tools in this category include Conjoint Analysis, Discrete Choice Models, and Cluster Analysis. Conjoint Analysis allows analysts to determine the value consumers place on specific product attributes, helping to identify which features drive purchasing decisions and how changes in these attributes might impact market power. Discrete Choice Models provide insights into consumer preferences and substitution patterns by modeling the probability of choosing between different products. Cluster Analysis groups similar products or consumer segments based on purchasing behavior and preferences, enabling analysts to delineate submarkets and assess the competitive dynamics within these clusters.

<sup>39</sup> Nevertheless, both approaches complement each other and are often used together by antitrust analysts. Additionally, enforcement agencies and courts increasingly use diversion ratios, a close cousin to both approaches, to measure the degree to which consumers switch from one product to another in response to a price increase. Specifically, the diversion ratio from Product A to Product B represents the proportion of sales lost by Product A that are captured by Product B when the price of Product A increases. In the context of the HMT, diversion ratios help determine whether a group of products constitutes a relevant market. If the diversion ratio between two products is high, it suggests that the products are close substitutes, indicating that they should be considered within the same market. CLA also utilizes diversion ratios to evaluate the potential impact of a price increase by a hypothetical monopolist. By understanding the diversion ratios, analysts can better estimate the critical loss threshold. High diversion ratios indicate that a significant portion of sales lost from a price increase would be diverted to close substitutes, making it less likely for a monopolist to profitably raise prices.

under HMT, CLA might reveal that actual consumer willingness to switch is limited by factors such as brand loyalty, perceived differences in quality, or ecosystem integration, such as operating system compatibility. By assessing these variables, analysts may determine that only a subset of these smartphones truly belong to the same market, as CLA indicates that a significant price increase would lead to unacceptable sales losses for the monopolist.

Through these developments, the Rule of Reason approach advanced a comprehensive framework for defining markets that draws on microeconomic principles like demand elasticities and acknowledges the complexities of modern marketplaces. This allowed antitrust authorities and courts to better define what a monopoly is and therefore assess whether a merger between rivals is likely to engender a firm with a dominant position and pricing power in the post-merger marketplace.

### **From Defining Relevant Markets to Measuring Market Power**

Having established a rigorous framework for defining relevant markets that avoids the pitfalls of the Cellophane Fallacy, it follows logically and inevitably that antitrust authorities would need to develop more sophisticated methods to identify and measure market power in unilateral conduct cases and predict its future, post-acquisition levels in merger cases. Once a market is defined based on competitive benchmarks and substitutability, as achieved through methodologies like the HMT, the next natural step is to try to assess the extent of a firm's control over output and price within that market. Microeconomics, including insights from price theory, industrial organization, and game theory, offers a first principles framework to assess how current and potential competitive conditions shape a firm's ability to exercise market power.

Drawing on that framework, antitrust authorities developed a suite of tools designed to quantify market power and assess its impact on competition. These tools include the Lerner Index, the Herfindahl-Hirschman Index (HHI), and entry barriers analyses. And even though they are most applicable to the definition of relevant markets in merger cases, they also include the standbys outlined above, the CLA and diversion ratios.

The Lerner Index is a direct measure of pricing power and is calculated as the difference between price and marginal cost divided by price. Developed by economist Abba Lerner, this index highlights a firm's ability to set prices above competitive levels, reflecting its market power. High Lerner Index values indicate significant market power, as the firm can sustain prices well above marginal costs without losing customers. The Lerner Index was used by economists and expert witnesses in *US v. IBM* (1969) to identify whether IBM exercised market power in the general-purpose digital computer market. Similarly, courts again considered this metric in *Eastman Kodak Co. v. Image Technical Services, Inc.* (1992) to assess whether Eastman Kodak possessed pricing power in the market for photocopier parts and services, and in *US v. Microsoft Corp.* (2001) to evaluate Microsoft's market power in the software industry.

Similarly, by summing the squares of the market shares of all firms in the market, the Herfindahl-Hirschman Index (HHI) offers a nuanced measure of market concentration.<sup>40</sup> Higher HHI values suggest greater market concentration and potential for monopolistic behavior. While commonly used in merger analysis, the HHI also has applications to unilateral conduct cases. For example, it was referenced in *US v. Dentsply International, Inc.* (2005) to assess market concentration in the artificial teeth market. The court noted the high HHI value implied a monopolistic market structure that endowed Dentsply with high levels of market power.

To better conceptualize market power, antitrust decision-makers also turned to contestable market theory, which posits that potential competition, even from firms not currently active in the market, could effectively limit the pricing power of dominant incumbents on courts and enforcement agencies. The upshot is that a market can remain competitive even if dominated by a small number of firms. Provided there are no significant barriers to entry or exit, firms may price at or near their marginal costs to deter potential entrants. Therefore, the shadow cast by firms that may enter markets but otherwise remain on the sidelines sustains competitive pressure in the form of “competition for the market even though there is no competition in the market” (Baumol, Panzar, and Willig 1982: 5-6). The contestable market theory has therefore led antitrust authorities and courts to place greater emphasis on the analysis of entry barriers when assessing market power and the competitive effects of mergers or conduct (see Shepherd 1984; Brodley 1984; Posner 2001).

Several examples testify to the impact of contestable market theory on courts and enforcement agencies. For instance, in *United States v. Baker Hughes Inc.* (1990), the D.C. Circuit Court emphasized the importance of potential entry in mitigating concerns about market concentration. In the DOJ’s review of the Whirlpool-Maytag merger (2006), the presence of international competitors was considered in the analysis of potential competition. Moreover, the 1992 merger guidelines explicitly incorporate the analysis of entry barriers as a key factor in determining whether a proposed merger would likely harm competition by allowing the merged entity to exercise market power (see US DOJ and FTC 1992). By doing so, the guidelines underscore the importance of evaluating not just current market structure, but also the potential for new firms to enter and challenge the dominance of existing players.

Following this logic, Entry Barriers Analysis (EBA) evaluates the obstacles that prevent new competitors from entering a market. High entry barriers, such as significant capital requirements, strong brand loyalty, and regulatory constraints, protect a firm’s dominant position and deter potential competitors, indicating substantial market power (see Carleton and Perlof 2005: 74-78 and 660-663). Returning to *US v. Dentsply International, Inc.* (2005): leaning on EBA, the court

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<sup>40</sup> Compare this with the assumption that significant market share often correlates with the ability to exert market power (see Gavil, Kovacic and Baker: 185-87). In *National Collegiate Athletic Association v. Board of Regents of the University of Oklahoma* (1984), the Supreme Court inferred market power from high market shares.

found that Dentsply’s exclusive agreements with dealers created significant barriers to entry, sustaining its market power.

Inspired by EBA, courts realized that focusing solely on current market share can be misleading when assessing market power. The Ninth Circuit noted in *Hunt-Wesson Foods, Inc. v. Ragu Foods, Inc.* (1980) that market share reflects current sales but does not necessarily indicate control over future sales and prices. Similarly, in *Ball Memorial Hospital, Inc. v. Mutual Hospital Insurance, Inc.* (1986), the court emphasized that today’s sales do not always predict future market power, underscoring the importance of evaluating potential competition and barriers to entry when assessing market dynamics.

In turn, antitrust authorities and courts came to employ various tools to assess market power, recognizing that several factors can constrain a firm’s ability to exercise it. They acknowledged that strong buyer power and other countervailing factors, such as the size and sophistication of buyers or their ability to switch suppliers, can significantly limit a firm’s capacity to raise prices or reduce output (see Baker 2019). To better understand whether a firm’s conduct aligns with competitive conditions, authorities began comparing prices, margins, and other indicators of market power across different markets and time periods (Hovenkamp 2021). Additionally, enforcement agencies and courts increasingly used natural experiments and shock analysis—exploiting periods of intense competition or regulatory changes—to assess how these events impacted firms’ market share and market power (Baker 2019). Lastly, they turned to econometric analysis to estimate demand elasticities and isolate the effects of a firm’s conduct on market outcomes (Shapiro 2010).

Finally, beyond its role in helping antitrust decision-makers define relevant markets, CLA has also proven instrumental in predicting the competitive effects of a proposed merger. By quantifying the economic trade-offs involved in price adjustments and accounting for variations in consumer demand elasticity, CLA can assess whether the merged entity would have the ability to raise prices without losing significant sales. CLA’s ability to simulate post-merger scenarios and evaluate the impact on quantity, prices, and consumer welfare makes it a powerful tool for antitrust authorities to predict future market power (Moresi and Shapiro 2012).<sup>41</sup> This type of analysis therefore provides courts with valuable insights into the potential anticompetitive effects of a merger, offering grounds to challenge or block mergers that may lead to reductions in output and increases in price (Carlton 2007).

For example, returning to *FTC v. Staples, Inc.* (1997), the court utilized CLA to assess the potential anticompetitive effects of the proposed merger between Staples and Office Depot. Unlike the Hypothetical Monopolist Test (HMT), which was primarily used by the court to define the relevant market by determining the substitutability among office supply superstores, CLA focused on quantifying the economic trade-offs associated with potential price increases

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<sup>41</sup> By the same token, antitrust decision-makers have also availed diversion ratios for a similar purpose. For example, in *FTC v. Qualcomm Inc.* (2019), the court assessed Qualcomm’s monopoly power in the CDMA and premium LTE modem chip markets by examining how price changes in Qualcomm’s products would impact the sales of rival products.

post-merger. By analyzing detailed pricing data and consumer purchasing behavior, CLA estimated the critical loss threshold—the maximum percentage of sales loss the merged entity could sustain while still finding a price increase profitable (see Coate and Williams 2005).

The analysis revealed that, despite potential sales losses, the merged entity could raise prices without losing enough customers to make the price increase unprofitable. This was largely due to the diminished competitive pressure within the defined market, which only included the superstores Staples, Office Depot, and Office Max, excluding smaller retailers and other office supply sources. As a result, CLA provided empirical evidence that the merger would significantly reduce competition, enabling the merged firm to exert greater pricing power (Baker 1999). This quantitative assessment played a crucial role in the court's decision to block the merger (Kaplow 2010).

In other notable cases, including *FTC v. Whole Foods Market, Inc.* (2007), *US v. H&R Block, Inc.* (2011), and *FTC v. Sysco Corporation* (2015), courts also relied on CLA to evaluate future levels of market power. In these cases, courts assessed the likelihood of consumer switching and the profitability of price increases to determine the competitive impact of proposed mergers. For example, in the H&R Block case, the court used CLA to evaluate the potential anticompetitive effects of the proposed merger between H&R Block and TaxAct in the tax preparation software market (see Shapiro 2010; Coate and Heimert 2016).

### **Grounding Monopolization in Economics**

Building on these analytical tools, courts began to apply a more nuanced economic framework to assess monopolization cases. The focus shifted from merely identifying firms with substantial market power to understanding how that power was obtained, maintained, or abused through exclusionary conduct (see Elhauge 2003; Hovenkamp, 2005). This evolution in antitrust enforcement reflected practitioners' deeper engagement with economic theories and empirical studies that explained the competitive dynamics within markets, the barriers to entry that sustained monopolies, and the potential for new competitors to challenge dominant firms (see, for example, Williamson 1977).

Antitrust analysis increasingly recognized that market power alone was insufficient to indefinitely suppress competition, especially in dynamic industries characterized by rapid technological change (Schumpeter 1942)—a topic I will take up further below. By extension, the mere presence of market power without evidence of exclusionary conduct suggested to antitrust decision-makers that potential competitors were free to enter the market and compete for the rents enjoyed by a dominant firm. As outlined above, this perspective was reinforced by contestable market theory, which posited that the threat of entry could discipline incumbent firms even in concentrated markets (Baumol et al. 1982).

The judicial background mattered too. While there were competing judicial interpretations of the Sherman Act since its inception (Kovacic 1989; Bork 1966), a series of judicial precedents began to differentiate between types of monopolistic behavior (Areeda and Turner 1975). This influenced courts to more closely scrutinize the law's text and try to make sense of it through the

prism of a more sophisticated economic approach and the new antitrust tools at their disposal (Posner 1976; Kaplow 1987).

This evolution in judicial thinking, rooted in earlier antitrust jurisprudence (May 1989), set the stage for a more nuanced and economically informed application of antitrust law. It consolidated the idea that high levels of market power were necessary, but not sufficient, to effectively prosecute and prove a monopolization case (Landes and Posner, 1981). Antitrust authorities felt compelled to demonstrate not only the existence of monopoly power, but also specific anticompetitive conduct that harmed consumer welfare or the competitive process itself (see Salop 2010).

The Supreme Court's decision in *US v. Grinnell Corp.* (1966) established that monopoly power alone is not illegal; it must be accompanied by exclusionary conduct that harms competition. The Court stated, "The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system" (*US v. Grinnell Corp.* 1966: 570). The Court further clarified that "The offense of monopoly under Section 2 of the Sherman Act has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident" (*ibid.* 570-571). Moreover, it emphasized that "It is not unlawful for a company to dominate a market by virtue of a superior product, business acumen, or historic accident; but it is unlawful to maintain that position through anti-competitive conduct" (*ibid.* 571).

Before the Grinnell decision, and as we reviewed above, a consensus had emerged within the Rule of Reason tradition that measuring market power was crucial (see Sullivan 1977). However, it took some time for courts and antitrust authorities to recognize that this was not sufficient on its own. This realization began to sink in after they revisited the original text of the Sherman Act, particularly the language in Section 2, which states that it is illegal to "monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations." Upon further reflection, the act's use of the term "monopolize" seemed to imply not just the possession of monopoly power, but the active and willful acquisition or maintenance of that power through exclusionary or predatory conduct (see Elhauge 2003). This reading was key in shifting the focus from mere market power to the conduct by which that power was maintained and, in turn, helped switch the emphasis to protecting the competitive process rather than punishing firms for their success (see Bork 1978; Landes and Posner 1981).

Courts reinforced this interpretation of the Sherman Act by citing judicial precedents that focused on the conduct of firms, not just their market positions. For instance, in *Standard Oil Co. v. US* (1911), the Supreme Court established that the Sherman Act targets the wrongful acquisition or perpetuation of monopoly power through exclusionary means, not merely the possession of large capital or extensive operations (see Letwin 1956; Kovacic 1989). Similarly, in *US v. United Shoe Machinery Corp.* (1953), the court emphasized that it is how a monopoly is maintained, rather than its mere existence, that concerns antitrust laws (see Fox 1981). This principle was echoed in *American Tobacco Co. v. US* (1946), where the Court underlined the



necessity of proving both the possession of monopoly power and the exclusionary conduct that accompanies it (see Waller 1992).

*Lorain Journal Co. v. US* (1951) further solidified the need to prove exclusionary conduct to establish a monopolization claim, thus reinforcing the idea that market power alone is insufficient for a violation of the Sherman Act. In that case, the court found that the Lorain Journal, a dominant newspaper operating in the greater Lorain, Ohio metro area, had violated the Sherman Act by refusing to accept advertisements from customers who also advertised on a competing radio station. This court deemed this conduct exclusionary because it was an attempt to maintain the newspaper's monopoly by suppressing a potential competitor (see Kovacic and Shapiro 2000).

Moving beyond precedents to the Grinnell case, some landmark cases that followed it underscored that antitrust laws aim to protect the competitive process, not individual competitors, and that enforcement should focus on conduct that harms competition, not the mere existence of market dominance. In *Spectrum Sports, Inc. v. McQuillan* (1993: 458), the Supreme Court stated that “[t]he purpose of the [Sherman] Act is not to protect businesses from the working of the market; it is to protect the public from the failure of the market” (see Werden 2015). The Court further clarified that “the possession of market power alone does not violate Section 2; rather, the statute targets the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident” (ibid. 456).

Similarly, in *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP* (2004: 407), Justice Scalia, writing for the majority, stated, “The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system” (see Elhauge 2003). He further noted that “the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive conduct” (ibid. 407).

Other decisions were even more vociferous in this regard. In *Rambus Inc. v. FTC* (2008: 464), the court noted that if a practice “raises the price secured by a seller” or otherwise harms customers but does so without harming competition, it is beyond the antitrust laws’ reach (see Werden 2009). Similarly, in *NYNEX Corp. v. Discon, Inc.* (1998: 136), the Supreme Court held that there was no Sherman Act violation where “consumer injury naturally flowed not so much from a less competitive market . . . as from the exercise of market power that is lawfully in the hands of a monopolist . . . combined with a deception worked upon the regulatory agency that prevented the agency from controlling [the monopolist’s] exercise of its monopoly power” (see Elhauge 2003).

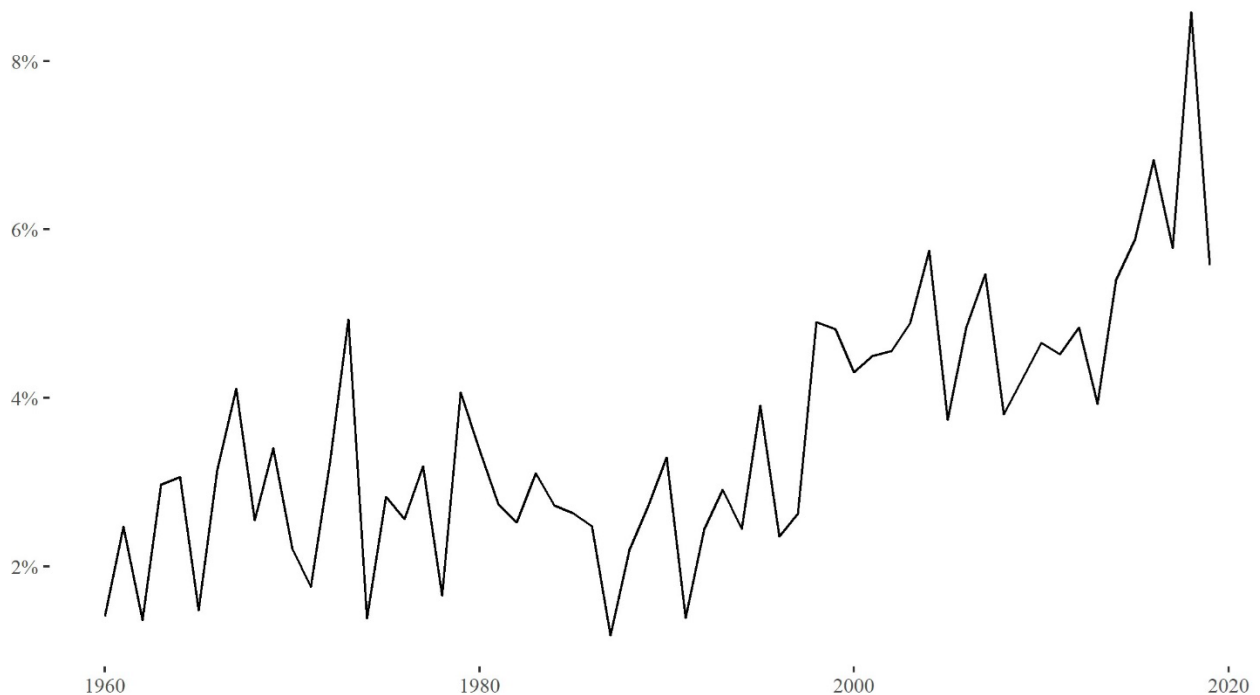
### **The Ascendance of the Innovation Concern and Schumpeterian Creative Destruction**

As the Rule of Reason approach gradually incorporated insights from industrial organization and Schumpeterian economics, the interpretation and enforcement of antitrust became more cautious and conservative. Courts and antitrust authorities began to recognize that market power might be a natural byproduct of innovation and that such innovation should be rewarded, not penalized

(Bork 1978). They also acknowledged that market power could be transient, subject to the forces of technological disruption (see Schumpeter 1942).

The growing recognition that monopolies, on their own, were not necessarily harmful to consumers co-evolved with an increasing concern by enforcement agencies and courts that antitrust law should promote consumer welfare not only over the short run, but over the long run too. Figure 1 graphs the percentage of antitrust case documents mentioning “innovation” from 1960 to 2020. The data reveals a clear upward trend over time, with significant fluctuations in certain periods. Early on, the mention of innovation in antitrust cases was relatively sporadic and low, hovering around 2% to 4%. However, starting in the late 1980s and early 1990s, there was a noticeable increase in the frequency with which innovation was cited in antitrust cases. The trend continues upward into the 21<sup>st</sup> Century, peaking sharply in the late 2010s, suggesting that innovation has become a central concern in antitrust analysis.

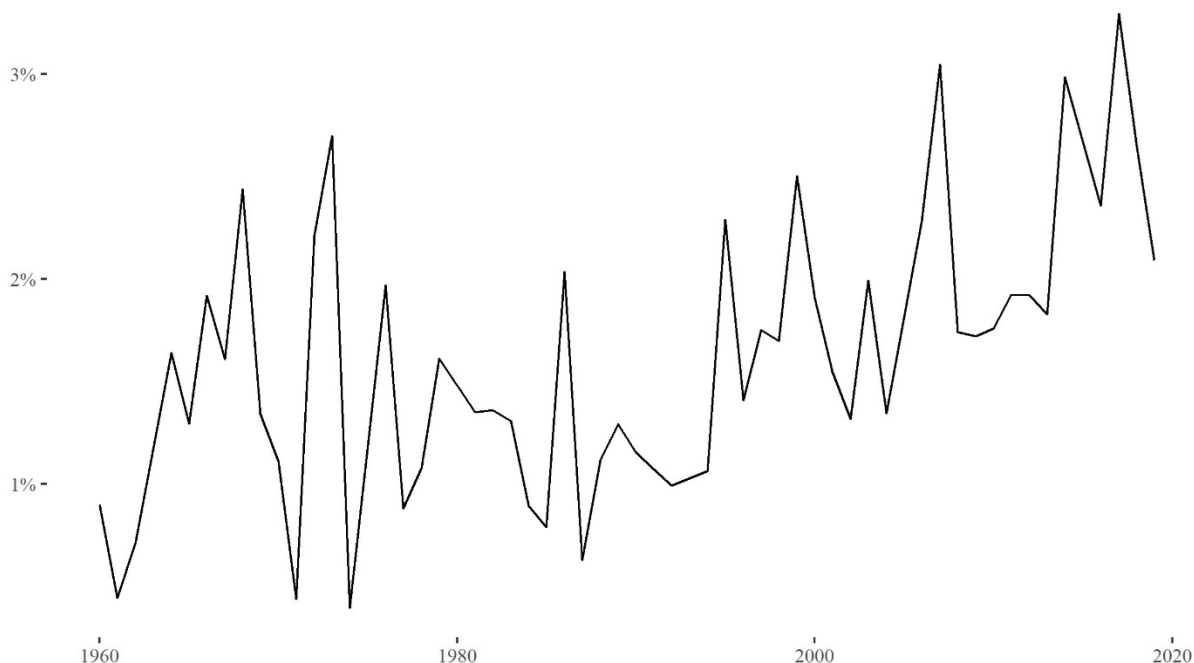
Figure 1. Percent of Antitrust Case Documents Mentioning Innovation



Notes: Text data was obtained from the Harvard Caselaw Access Project. This source includes all official, book-published state and federal United States case law. All case documents between 1960 and 2020 that contained the word “antitrust” are the corpus for the antitrust case analysis. The resulting dataset contained 36,030 unique observations, including a column that contained the full text of the majority opinion reported for the case document. All special characters from this text column (paragraph signs, line break symbols etc.) were stripped and all other special characters were, deleted, the text was converted to lower case, punctuation was removed punctuation, and all “stop” words, such as prepositions and pronouns, were removed. The number of antitrust case documents that include the words “innovate” and “innovation” were counted and then expressed as a percentage of all case documents for a particular year.

Similarly, Figure 2 graphs the percentage of merger case files that mention “innovation” from 1960 to 2020. Like the trend observed in antitrust case documents in general, the emphasis on innovation in merger cases has generally increased over time. The data shows significant fluctuations in the earlier years, with mentions of innovation remaining relatively low and sporadic, often around or below 1%. However, from the 1980s onwards, there is a noticeable upward trend, indicating that innovation increasingly became a focal point in merger analyses. This rise reflects the growing importance placed on the potential impact of mergers on innovation, particularly as antitrust authorities and courts began to recognize that mergers could either stifle or foster innovation depending on the circumstances. By the late 2010s, the percentage of merger cases mentioning innovation peaked sharply—in line with the digital platform revolution.

Figure 2. Percent of Merger Case Files Mentioning Innovation



Notes: Text data was obtained from the Harvard Caselaw Access Project. This source includes all official, book-published state and federal United States case law. All case documents between 1960 and 2020 that contained the word “merger” are the corpus for the merger case analysis. The resulting dataset contained 39,575 unique observations, including a column that contained the full text of the majority opinion reported for the case document. All special characters from this text column (paragraph signs, line break symbols etc.) were stripped and all other special characters were, deleted, the text was converted to lower case, punctuation was removed punctuation, and all “stop” words, such as prepositions and pronouns, were removed. The number of merger documents that include the words “innovate” and “innovation” were counted and then expressed as a percentage of all merger documents for a particular year.

The Horizontal Merger Guidelines evolved in a cognate manner: they increasingly stressed the importance of promoting innovation. Although the 1992 Guidelines initially addressed innovation only in a footnote (Shapiro 2010: 715), this focus expanded significantly in the 2010

Horizontal Merger Guidelines. The 2010 Guidelines dedicated a separate section to mergers limiting “innovation and product variety,” highlighting concerns that a merger could diminish innovation competition by reducing the merged firm’s incentives to innovate (2010 Guidelines, Section 6.4). The DOJ’s challenge to the merger between General Motors and ZF Friedrichshafen in the early 1990s, partially based on the concern that the merger would consolidate R&D capabilities, thereby reducing competition in the development of new technologies, exemplifies this shift (Kwoka and White 2004). Similarly, the FTC’s 1995 Intellectual Property Guidelines introduced the concept of innovation markets, further embedding the idea that preserving innovation was essential to protecting consumer welfare (FTC 1995).<sup>42</sup>

Part of the reason for this is that antitrust jurisprudence increasingly embraced Schumpeterian economics, recognizing the dynamic efficiency benefits associated with firms’ pursuit of monopoly profits. Indeed, along with the enforcement agencies’ increasing focus on the impact of firms’ business strategies on innovation, several court decisions began to acknowledge that profits serve as a crucial incentive for technological progress. As the Supreme Court articulated in *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP* (2004: 398), “The opportunity to charge monopoly prices—at least for a short period—is what attracts ‘business acumen’ in the first place; it induces risk-taking that produces innovation and economic growth.”

This sentiment echoes earlier decisions, such as *Allied Orthopedic Appliances Inc. v. Tyco Health Care Group LP* (2009: 991), where, quoting *Foremost Pro Color, Inc. v. Eastman Kodak Co.* (1983: 545–46), the Ninth Circuit reiterated that the ability to charge monopoly prices incentivizes business acumen and economic dynamism. This principle was further solidified in cases like *Berkey Photo, Inc. v. Eastman Kodak Co.* (1979), where the Second Circuit acknowledged that the pursuit of monopoly profits through innovation could drive market dynamism, even as it scrutinized Kodak’s conduct under antitrust laws.

At the same time, *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP* (2004) highlighted the limitations of using antitrust laws to mandate access to a monopolist’s infrastructure or technologies. The Supreme Court ruled that Verizon’s “refusal to deal” with its competitors did not constitute an antitrust violation, emphasizing that such a refusal was a legitimate business decision that may promote competition and efficiency. The Court recognized that compelling firms to share their infrastructure with competitors could undermine incentives to invest in network improvements and innovations.

This reasoning aligned with a more cautious approach to antitrust enforcement, particularly in rapidly evolving high-technology markets, where the risk of false positives—erroneous condemnations of procompetitive conduct by antitrust decision-makers—could stifle innovation.

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<sup>42</sup> Innovation markets refer to the markets for R&D and other activities that lead to new or improved products and services. The concept was introduced by enforcement agencies to address concerns that traditional market analysis, which focuses on current competition and market shares, might overlook the potential harm to future innovation from mergers or anticompetitive practices (see FTC 1995; Gilbert and Sunshine 1995).

Moreover, the social costs of false positives are especially high if they deter business practices that promote innovation (Easterbrook 1984: 5).

These decisions marked a significant departure from the more interventionist stance taken towards big tech firms in the 1960s and 1970s (see Baker 1997: 177-196). For example, in *Berkey Photo, Inc. v. Eastman Kodak Co.* (1979), the Second Circuit recognized Kodak as the dominant player in the photographic industry. The court suggested that Kodak might therefore have a duty to disclose information about its innovations earlier so that competitors have a fair opportunity to adjust to them and compete on a more even playing field. Similarly, in the mid-1970s, the FTC ordered Xerox to license its xerography technology to competitors to mitigate its dominance in the copier market (*Xerox Corp. v. FTC* 1975).

The rising caution towards antitrust intervention in high-tech markets was further reinforced by the idea that these markets often correct themselves through dynamic competition. Rapid technological changes favor markets where firms compete for temporary market dominance by innovating, only to be displaced by the next wave of product advancements. This dynamic competition was famously described by Schumpeter as a process of “creative destruction,” where old paradigms are continuously replaced by new ones, thus ensuring that any monopoly power is often temporary (Schumpeter 1942: 81–90).<sup>43</sup> Moreover, this process was often inscrutable to outside observers, including antitrust decision-makers:

Our economic knowledge regarding innovation itself, conduct affecting innovation, and how to assess competitive outcomes involving tradeoffs between product market competition and innovation are far less impressive than our knowledge in a purely static setting. The costs of false positives leading to a chilling of pro-competitive innovation are significant (Wright 2011: 230).

As noted by Shelanski and Sidak (2009), markets themselves may offer better protection against anticompetitive behavior than antitrust interventions, particularly in fast-evolving industries. And even if there was a threat to competition, “market processes tend to protect consumers from the adverse effects of anticompetitive conduct, and these processes tend to work rapidly” (Lopatka 2000: 154). This is often via creative destruction: one paradigm displacing the other and rendering the exclusionary tactics that are anticompetitive obsolete (Demsetz 1973).

This Schumpeterian view became very influential and therefore inspired a more hands-off approach to antitrust in important cases. This marked a pendulum swing from cases such as *US v. IBM* (1969), where the DOJ accused IBM of monopolizing the computer market through practices such as bundling its software with its mainframe hardware, exclusive dealing, and

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<sup>43</sup> Arrow (1962) complements Schumpeter by explaining in technical detail why potential entrants have strong incentives to innovate and therefore outcompete incumbent monopolists. Arrow argued that a disruptive innovation will shift the demand or supply curve out, yielding an untapped source of rents for the innovator. Unlike an incumbent monopolist, a new entrant can capture these rents without cannibalizing existing profits, providing a stronger incentive for innovation. In this way, continuous competition for the market serves as a powerful driver of technological progress.

predatory pricing. The decade-plus litigation, which ended in dismissal in 1982, revealed how difficult it was for regulators to prove anticompetitive behavior in an industry marked by constant innovation and complex product integration.

The IBM case ultimately underscored the challenges of prosecuting monopolization cases against firms in rapidly changing technology markets and served as a word of caution: enforcement agencies cited it as an example of a potential false positive that harmed consumer welfare by stifling innovation.<sup>44</sup> Antitrust enforcement agencies under the George W. Bush administration codified this rising concern.

In 2008, the DOJ's report "Competition and Monopoly: Single-Firm Conduct Under Section 2 of the Sherman Act" underscored the importance of avoiding false positives qua excessive antitrust actions that might undermine incentives to innovate. The report highlighted the need for careful assessment in dynamic industries, noting that certain business practices, while appearing exclusionary in traditional markets, could foster innovation and benefit consumers in rapidly evolving sectors like software and telecommunications. The DOJ later acknowledged that "innovations in technology have led to competition from new entrants"—even in industries with high fixed costs, economies of scale and scope, and network effects, such as telecommunications (Delrahim 2018: 20).

Furthermore, the FTC's 2003 report, "To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy," underscored the importance of maintaining a regulatory environment that nurtures innovation. The report detailed how competition and patent policies should be aligned to foster innovation and suggested that overly aggressive actions against firms engaging in legitimate patent licensing arrangements or strategic alliances could inadvertently stifle innovation by creating uncertainty and discouraging investment in R&D. As FTC Commissioner Maureen K. Ohlhausen later noted "Technology industries are notoriously fast-paced, particularly industries involving the Internet. Poor or misguided antitrust enforcement action in such industries can have detrimental and long-lasting effects" (Ohlhausen 2013: 1).

Similarly, courts allowed several ensuing merger cases to sail through on the grounds that they would promote innovation, particularly in sectors characterized by continual technological progress. For instance, the DOJ's 2018 challenge to the merger between AT&T and Time Warner was overruled on the grounds that it could stimulate innovation in content delivery and digital advertising. Similarly, in 2007, the FTC allowed Google's acquisition of DoubleClick, reasoning that the merger could lead to significant advancements in online advertising technology that could benefit both advertisers and consumers. The court also approved the 2020 merger between T-Mobile and Sprint, highlighting the potential for the accelerated development and deployment of 5G wireless technology. Additionally, the FTC cleared Amazon's 2017

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<sup>44</sup> This judicial conservatism extended to other concerns. According to Lopatka (2000: 154): "Antitrust enforcement is socially costly not simply because of false positives. Litigation itself is costly, both in the consumption of resources specialized to the judicial process and in its inevitable tendency to divert the attention of affected business personnel from productive endeavors. The costs of antitrust are minimized when claims that should fail are never brought."

acquisition of Whole Foods, averring that the merger could drive innovation in the grocery retail sector around improved logistics, delivery services, and enhanced in-store experiences.

As antitrust law evolved to accommodate the Schumpeterian view of innovation and dynamic competition, it faced a new challenge in the form of digital platforms. These platforms, with their unique economic characteristics, which I will outline below, required further refinement of antitrust analysis. The application of the Rule of Reason to these multisided markets represents the next frontier in the ongoing adaptation of antitrust law to radical technological change.

## THE RULE OF REASON APPLIED TO MULTISIDED PLATFORMS

The rapid ascendance of digital platforms reflects a series of changes to antitrust law. Multisided platforms, characterized by their ability to connect different groups of users, challenged traditional antitrust frameworks. The evolution towards tolerance—if not encouragement—of network effects and business practices employed by firms that operate digital platforms, which might have previously been frowned upon as exclusionary, marks a pivotal shift in antitrust enforcement and judicial interpretation (Evans and Schmalensee 2013; Rysman 2009).

This section examines the key court cases and enforcement agency regulations that incentivized mergers and business practices that culminated in today's Big Tech firms. To do so, it will do several things. First, define multisided markets and network effects. Second, explore the challenges antitrust decision-makers faced in defining relevant markets and how they settled on analyzing all sides and their interactions. Third, examine the increasing tolerance towards tying and diminished concerns over predatory pricing. Fourth, discuss antitrust decision-makers' growing acceptance of mergers that have allowed platforms to reach huge scales and develop enclosed ecosystems composed of myriad complementary services.

### **Understanding Network Effects in Multisided Markets**

As previously discussed in Chapter 6, multisided platforms operate by bringing together different user groups, such as consumers, advertisers, and developers, in a way that the participation of one group enhances the value of the platform to other groups. These network effects are central to the functioning of platforms like Facebook, Google, and Amazon.

There are two types of network effects, direct and indirect. For the first type, the value of the platform increases directly with the number of users. For example, the more people who use a social media platform like Facebook, the more valuable it becomes to each user (Katz and Shapiro 1994). In terms of indirect network effects, the value of the platform increases for one group of users when another group grows. For instance, more consumers using Amazon attract more sellers, which in turn increases the platform's value to the consumers (Parker and Van Alstyne 2005).

Courts and enforcement agencies have gradually developed an understanding of these dynamics, recognizing that multisided platforms often require different pricing strategies for different user groups. A platform might subsidize one side (e.g., offering free services to consumers) to attract

users, while charging higher fees to another side (e.g., advertisers) that benefits from the large user base (Rochet and Tirole 2003).

However, antitrust decision-makers have long faced difficulties in defining the relevant market when dealing with multisided platforms, let alone in assessing market power and competitive harm in multisided markets in which one side of the market may not have to pay for the service they consume (Evans 2012). This matters. The traditional approaches to market definition—often focused on identifying substitutes and assessing price effects—proved inadequate for the complex interactions and network effects exhibited by multisided platforms (Evans 2003; Rysman 2009).

First, an orthodox antitrust analysis focused on only one side of the market could underestimate the platform's market power (Evans 2003). For example, focusing only on consumers who use a platform for free might ignore the substantial market power the platform exerts over advertisers who pay to access these consumers. Advertisers may depend heavily on reaching these users, and the platform may in turn leverage this dependency by setting onerous terms and prices on advertisers (Rochet and Tirole 2006).

Second, such an analysis might overlook the cross-market subsidization strategies that are central to the platform's business model and therefore be blind to the platform's ability to exploit its market power to engage in exclusionary behavior (Armstrong 2006). Subsidizing one side of the market allows a platform to build a large and engaged user base by offering free or low-cost services to consumers, thereby creating an attractive environment for other market participants, such as advertisers or sellers, who are willing to pay a premium to access these users (Rysman 2009). This dominant position enables the platform to collect extensive data on user behavior, which it can use to enhance and prioritize its own products or services, making them more competitive than those of rivals. Additionally, the platform can leverage its vast user base to create exclusive deals or integrate its own offerings more deeply into the platform's ecosystem, steering consumers away from competitors even if those competitors offer superior products (Crémer et al. 2019).

Lastly, by not considering the interdependencies between different user groups, an orthodox antitrust analysis may fail to capture the full extent of competitive harm or benefits, potentially overlooking how the platform's practices impact the entire ecosystem, including both consumers and sellers (Katz and Shapiro 1994). For example, in the case of a credit card platform like the one involved in *Ohio v. American Express Co.* (2018), the value of the platform to merchants depends on the number of cardholders, while the value to cardholders depends on the number of merchants accepting the card (Wright 2012). This interdependence means that a price increase on one side of the platform, such as higher fees for merchants, could decrease the platform's attractiveness to merchants, which in turn could reduce the number of places cardholders can use their cards, potentially diminishing the value to cardholders and leading to a decrease in overall demand (Weyl 2010).

In light of these complexities, it is not surprising that a key challenge for antitrust decision-makers seeking to regulate platforms has been determining how to identify and make sense of the value created by interactions between all sides of the market (Evans and Schmalensee 2013;



Rysman 2009). Understanding how antitrust decision-makers grappled with the unique dynamics of these platforms, especially their digital version, requires that we look back at key cases that set the stage for the modern era.

### **Antitrust decision-makers' Early Struggles Understanding Platforms**

The landmark *US v. Microsoft* (2001) case was pivotal in shaping the legal landscape for digital platforms, highlighting the early challenges antitrust decision-makers faced when dealing with the complexities of these emerging business models. The DOJ argued that by bundling its Internet Explorer browser with its dominant Windows operating system (OS), Microsoft stifled competition by discouraging users from choosing alternative web browsers, such as Netscape Navigator. This strategy, the DOJ contended, allowed Microsoft to maintain its monopoly in the OS market. The court's analysis primarily focused on the OS market for end users, examining the competitive effects of this bundling practice within that context (Rubinfeld 2001). The ruling against Microsoft concluded that its practices unlawfully stifled competition and entrenched its monopoly in the personal computer OS market.

While the court recognized some aspects of the market's multisided nature, particularly the "applications barrier to entry" on the developer side (see Page and Lopatka 2007), it did not fully explore the role of developers in creating software applications for Windows or the importance of hardware manufacturers producing Windows-compatible computers (Page and Lopatka 2007; Evans 2003; Schmalensee 2002). First, the court's focus on the consumer software market didn't fully account for Windows's crucial network effects, where the value for one group of the platform's users (e.g., consumers) is directly tied to the participation of other groups (e.g., developers and hardware manufacturers). These network effects were fundamental to Microsoft's business strategy, as they reinforced the dominance of Windows by making it the preferred platform for both consumers and developers. Second, the court's analysis did not fully capture how the interactions between these different sides of the market were integral to maintaining Microsoft's market power.

A more nuanced understanding of these interdependencies could have led to a reassessment of Microsoft's bundling practice. Actions that might seem anticompetitive on one side of the platform can produce pro-competitive effects on another (Rochet and Tirole 2003). For example, while the company's bundling of Explorer with Windows might have harmed competition in the web browser market, it could also have generated benefits across the platform, such as fostering greater innovation and deeper integration between software and hardware, ultimately enhancing the overall user experience (Evans and Schmalensee 2007).

The subsequent evolution of antitrust law in relation to multisided platforms is courts and enforcement agencies experiencing continued growing pains in adjusting market definitions to accommodate the complexities of digital platforms (Wright 2004). Progress was uneven: Some earlier cases nearly captured the recognition that different sides of these markets were involved in intricate interactions; others reverted to traditional, one-sided approaches (Filistrucchi et al. 2014).

The *US v. Visa U.S.A., Inc. and MasterCard International, Inc.* (2001) case was an important first step in the courts' recognition of the complexities inherent in platform markets that connect multiple user groups. In this case, the court acknowledged the dual-sided nature of Visa and MasterCard's operations, recognizing that these networks served both consumers and merchants. However, the court's focus remained primarily on exclusionary practices within the merchant side of the market, particularly the exclusion of rival networks like American Express from issuing cards. Therefore, the market definition adopted by the court was still relatively traditional and ignored the intricate interdependencies between the different sides of these credit card platforms (Rochet and Tirole 2006; Evans and Schmalensee 2013).

Similarly, when Facebook acquired Instagram in 2012, the FTC focused on the free social media services enjoyed by users, overlooking the multisided nature of these platforms: where users, advertisers, and developers interact in complex ways. In hindsight, many analysts argue that the FTC's narrow market definition allowed the merger to proceed without fully considering the potential for competitive harm over the long run, particularly Facebook's ability to leverage its dominant position across different sides of the market (Khan 2019).<sup>45</sup> Conversely, the FTC's narrow market definition likely ignored potential efficiencies, such as enhanced targeting capabilities for advertisers due to the integration of user data across platforms, improved developer tools and Application Programming Interfaces (APIs) that could foster innovation, and the creation of a more robust ecosystem that could lead to greater user engagement and satisfaction (see Hovenkamp 2018; Carlton 2007; Wright 2014).<sup>46</sup>

### **Growing Sophistication in Grasping Multisided Markets**

By the 2010s, a more modern and nuanced approach to defining relevant markets—one that includes all sides of a platform—began to take hold, signaling a significant shift in antitrust jurisprudence (Katz and Sallet 2018). This evolution reflects antitrust decision-makers' growing appreciation for the unique economic characteristics of platform markets and their associated business strategies (Crémer et al. 2019).

When Google sought to acquire DoubleClick in 2007, regulators were again faced with the challenge of defining the relevant market in a way that reflected the complexities of the digital advertising ecosystem. Google argued that the value of its platform came from its ability to connect advertisers, publishers, and consumers, essentially functioning as a multisided market

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<sup>45</sup> Concerns were raised from both traditional antitrust perspectives and more populist viewpoints. Orthodox concerns include the potential for Facebook to engage in exclusionary practices such as tying its services together or engaging in predatory pricing to stifle competition (Wu 2018). Additionally, populist critiques focused on the company's increased ability to consolidate data from both platforms, potentially leading to greater market power in digital advertising and heightened barriers to entry for new competitors (Khan 2019; Stucke and Grunes 2016). However, there is no systematic evidence that post-merger Facebook, now known as Meta, has engaged in any of these exclusionary behaviors (Sokol and Comerford 2020).

<sup>46</sup> An API is a set of rules and tools that allows different software applications to communicate with each other. They define how requests for information or services should be made between systems, allowing developers to build on top of existing software platforms.

where each side interacted with and benefited from the others. Specifically, Google pointed to the potential for better-targeted advertising, arguing that integrating its search data with DoubleClick's display ad-serving technology would allow advertisers to reach the right audiences more effectively (Cohen 2009). Additionally, Google contended that by streamlining ad-buying and ad-serving processes, reducing transaction costs, and improving the overall efficiency of the online advertising market, the merger would lead to cost savings for advertisers and publishers (Evans 2008). Lastly, Google highlighted the potential for innovation in digital advertising technologies, suggesting that the combined resources of Google and DoubleClick would drive the development of new ad formats and more effective ways to measure ad performance, ultimately benefiting consumers through more relevant and engaging advertisements (Sokol and Comerford 2020).

This time around, the FTC acknowledged the multisided nature of the digital advertising market, considering the interactions between advertisers, publishers, and consumers. Despite concerns that the merger might endow Google with excessive market power by combining its dominance in search with DoubleClick's strength in display advertising, the FTC ultimately approved the merger, concluding that the potential efficiencies and innovations outweighed the potential harms (FTC 2007; Rao 2008).<sup>47</sup>

This evolution towards a more sophisticated market definition vis-à-vis platforms was crystallized by antitrust authorities' formal recognition that the value of a platform to each user group is intertwined and that changes on one side can significantly impact the other sides. The 2010 Horizontal Merger Guidelines highlighted this complexity, noting that "markets involving multisided platforms... may require more sophisticated economic analysis to account for the interdependencies between different sides of the platform" (DOJ and FTC 2010: 13). This recognition led antitrust decision-makers to adapt traditional tools like the HMT used to define the relevant market in non-platform contexts (Evans and Schmalensee 2007; Filistrucchi et al. 2014). Specifically, antitrust agencies began to assess whether a firm could profitably impose a SSNIP on one side of the platform without losing too many customers on the other side, acknowledging the unique dynamics at play (Boudreau and Hagi 2009). Moreover, to more accurately define these markets, antitrust agencies began to rely on advanced economic models.

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<sup>47</sup> Like the Facebook-Instagram merger, the Google-DoubleClick merger raised a mix of orthodox and more populist antitrust concerns. On the orthodox side, regulators were particularly worried about the potential for foreclosure of competitors, where Google could leverage DoubleClick's dominance in display advertising to exclude rival firms from the market, thereby solidifying its own market power (Evans 2008). Additionally, there was a concern over tying and bundling: the combination of Google's search advertising with DoubleClick's display advertising could enable Google to extend its dominance from one segment of the online advertising market to another, potentially stifling competition (Cohen 2009). On the more populist side, there were significant concerns about data consolidation and dominance. Critics argued that the merger would give Google unprecedented control over user data, which could be used to further entrench its market position and create insurmountable barriers to entry for new competitors, especially given the importance of data in driving targeted advertising in the digital economy (Rao 2008).

Discrete Choice Models (DCMs) proved particularly valuable to antitrust decision-makers in the context of multisided markets because they allow analysts to estimate how consumers perceive and prioritize different product features, including price, quality, and network effects. In turn, it allows them to evaluate how changes in these features might influence consumer decisions across the different sides of a platform. For instance, a DCM can quantify the extent to which a price increase for advertisers might impact user engagement on the other side of the platform (Train 2009).

Conjoint Analysis (CA) was also readily adopted by antitrust decision-makers grappling with how to define the relevant market vis-à-vis platforms. It helps them infer consumer preferences by presenting respondents with a series of product or service combinations and asking them to rank or choose between them. This method enables the simulation of consumer substitution patterns across the platform, revealing how consumers might switch from one platform to another or adjust their usage in response to changes in pricing or service quality. For example, CA can simulate how an increase in subscription fees for users might lead to a decrease in overall platform participation or a shift to competing platforms (Louviere, Hensher, and Swait 2000).

These developments helped lead up to a pivotal moment in antitrust law, *Ohio v. American Express Co.* (2018), where the Supreme Court fully recognized the complexities of multisided platforms and the necessity of considering interdependencies between the different sides of the market (Evans and Schmalensee 2016; Rochet and Tirole 2006). Ohio and several other states sued American Express (Amex), arguing that its anti-steering provisions, which prevented merchants from directing customers to use lower-cost credit cards, had a foreclosure effect on competition: they effectively maintained and enhanced Amex's market power, resulting in higher fees for merchants, which were then passed onto consumers (Wright and Yun 2018).

The key issue in the case was the definition of the relevant market. Amex argued that both merchant and cardholder services were interdependent and thus should define the relevant market (Evans and Schmalensee 2016). It maintained that its anti-steering provisions were essential for sustaining premium services, such as rewards programs and customer perks, by ensuring the necessary revenue (Wright and Yun 2018). These provisions, Amex claimed, allowed it to charge higher merchant fees, which funded innovations in payment technology and security, enhanced rewards programs, travel perks, and superior customer service, ultimately benefiting both merchants and cardholders (see Rochet and Tirole 2006). By preventing merchants from steering customers to lower-cost cards, Amex argued that it preserved the balance between the two sides of the platform and sustained a threshold size of the network that was necessary for it to continue to deliver these benefits (Evans and Schmalensee 2016).

The Supreme Court largely agreed: it emphasized the need to consider both the merchant and consumer sides of the credit card platform together when defining the relevant market. The court decided that the plaintiffs had failed to show anticompetitive effects in the correctly defined market, which included both merchants and cardholders, and held that evidence of increased merchant fees alone was insufficient to prove exclusionary conduct without considering the impact on cardholders.

Unlike the courts, however, enforcement agencies did not necessarily have a “Come to Jesus Moment” regarding multisided markets. Consider the DOJ’s attempt to block Sabre’s acquisition of Farelogix in 2019. The DOJ did so after defining the relevant market narrowly, as the market for airline booking services provided to travel agencies. Like Amex’s defense in its 2018 case, Sabre disagreed: it argued that the market should encompass airlines, travel agencies, and travelers, reflecting the multisided nature of the platform. And as with the Amex case before it, in *US. V. Sabre Corp.* (2020) the court ultimately ruled in favor of Sabre, finding that the DOJ had not sufficiently demonstrated that the merger would substantially lessen competition within the narrowly defined market.<sup>48</sup>

### **Increased Tolerance Towards Tying and Predatory Pricing**

In recent years, antitrust decision-makers have shown a growing leniency towards business practices that might have previously been deemed exclusionary, especially when implemented by multisided platforms. The Rule of Reason approach has increasingly acknowledged that such practices, while potentially exclusionary in certain contexts, can also enhance consumer welfare by fostering innovation, increasing convenience, and improving product quality. This shift in perspective has been particularly evident in the evolving attitudes towards tying and predatory pricing. Before the more recent, rising importance of the neo-populist approach to antitrust that I will review at the end of the chapter, antitrust decision-makers grew to appreciate the fact that these practices can strengthen network effects and enable platforms to utilize resources from one side of the market to drive innovation and create value on the other (Evans and Schmalensee 2007; Rochet and Tirole 2006)—especially when data from one group (e.g., consumers) can be leveraged to benefit another group (e.g., advertisers or developers).

While tying arrangements were historically viewed with suspicion under antitrust law, as they were seen as tools for leveraging market power from one product to another (Bork 1978; Hovenkamp 2011), the Supreme Court’s decision in *Jefferson Parish Hospital District No. 2 v. Hyde* (1984) marked a pivotal shift. While the court ultimately ruled against the specific tying arrangement at issue—where a hospital required patients to use a specific anesthesiology group—it also opened the door for a more nuanced approach by acknowledging that tying could sometimes be justified by legitimate, procompetitive reasons. These justifications might include cost savings, where tying allows for efficiencies in production or distribution, or quality control, where a bundled offering ensures a higher standard of service or product performance (see Sullivan and Grimes 2006). This more flexible approach to tying arrangements was reinforced in *Illinois Tool Works Inc. v. Independent Ink, Inc.* (2006): the Court removed the automatic presumption that patents confer market power, thereby increasing the burden on plaintiffs to prove market power in tying cases (Hovenkamp 2005: 183-185).

Simultaneously, antitrust decision-makers exhibited greater tolerance of aggressive pricing strategies in competitive markets. A seminal 1975 article by Harvard professors Phillip Areeda

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<sup>48</sup> While the court did not explicitly criticize the DOJ for its narrow market definition, its decision implied that, by focusing too narrowly on the single-sided market of airline booking services, the DOJ may have failed to capture the platform’s full scope of competitive interactions and potential harms across all its user groups (see Rysman and Wright 2014).

and Donald Turner laid the intellectual foundation for this shift by proposing a cost-based test for predatory pricing. There, they argued that prices should only be considered predatory if two criteria are satisfied: the prices are below an appropriate measure of cost, and there is a dangerous probability that the alleged predator can recoup its losses (see Areeda & Turner 1975). This approach was notably adopted by Judge Breyer in *Barry Wright Corp. v. ITT Grinnell Corp.* (1983), where he emphasized the importance of preventing false positives in predatory pricing cases since they could stifle legitimate competitive behavior. The Supreme Court reinforced this cost-based approach in *Matsushita Electric Industrial Co. v. Zenith Radio Corp.* (1986) and *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.* (1993).

Further reinforcing this trend, the DOJ's 1998 Antitrust Division guidelines acknowledged that penetration pricing strategies—where firms initially set low prices to build a user base—could be procompetitive. This was particularly the case in dynamic, high-technology markets where network effects are prevalent (DOJ 1998: 10).

Courts have subsequently looked the other way as Big Tech firms created elaborate platform ecosystems that seamlessly integrated disparate services. By allowing for more flexible business practices such as bundling and strategic pricing, antitrust law flashed a green light to digital platforms to develop ecosystems where exponential growth and constant experimentation could flourish (Rochet and Tirole 2006; Evans and Schmalensee 2007). Moreover, digital platforms have been afforded greater flexibility by antitrust decision-makers to bundle services in their bids to create unique ecosystems (Evans and Schmalensee 2013) and employ strategies like offering free services on one side of the market (e.g., to users) in exchange for data that another side can exploit (e.g., advertisers).

Several notable examples illustrate how these platforms exploited the more permissive antitrust environment to gain market share and increase profits via innovative business practices that drove increased user engagement.

Apple requires that all iOS apps must be distributed through its App Store, accompanied by a 30% commission on in-app purchases. This policy compels developers to use Apple's payment system if they want to reach iOS users, effectively tying the App Store's distribution service to its payment processing service. Despite some ongoing legal challenges, antitrust decision-makers' more lenient approach toward tying, especially in markets where network effects are significant, has allowed Apple to maintain this business model (Evans and Schmalensee, 2013).<sup>49</sup>

Similarly, other tech giants have also leveraged the more permissive antitrust environment to adopt business practices that bundle or tie their services. This includes Google's practice of

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<sup>49</sup> The most notable legal challenge to date is *Epic Games v. Apple*: Epic Games filed a lawsuit in 2020 that accused Apple of engaging in monopolistic practices when it forces developers like itself to use its payment system. While the the court upheld Apple's right to maintain its App Store model, it also ruled that Apple could no longer prohibit developers from directing users to alternative payment options outside its App Store (U.S. District Court for the Northern District of California 2021).

requiring Android device manufacturers to pre-install Google Search and Chrome as a condition for accessing the Google Play Store. Like Apple, Google has argued that these practices improve the user experience by ensuring better integration and reliability across its ecosystem. While this practice was deemed illegal by the court in August of 2024, this decision arrived 15 years after Google first introduced this tying arrangement and may not fundamentally alter Google’s business model.<sup>50</sup>

In another example, Amazon has justified its aggressive pricing strategies on the grounds that they deliver significant consumer benefits such as lower prices and wider product availability. This approach aligns with the increasing acceptance by antitrust decision-makers of penetration pricing strategies, which are particularly relevant in markets characterized by strong network effects and the concomitant need to build a large user base quickly (see DOJ 1998). To be sure, Amazon’s aggressive pricing strategies have been the subject of significant antitrust scrutiny.<sup>51</sup> However, because today’s antitrust enforcement requires clear evidence of long-term harm to competition, Amazon has continued its aggressive pricing strategies, sometimes at or below cost (Wright 2012).<sup>52</sup>

### **Permissiveness Toward Mergers That Enabled the Growth of Digital Ecosystems**

As antitrust guidelines evolved to address the complexities of multisided platforms, a more permissive stance towards mergers in general also emerged, particularly in high-technology markets. This leniency allowed tech giants to accumulate other firms operating in complementary businesses strategically. In turn, this enabled them to build expansive ecosystems that leveraged network effects, data integration, and R&D across multiple market segments.

The 1982 Merger Guidelines marked a significant shift toward an economics-based approach to antitrust enforcement. These guidelines prioritized consumer welfare and economic efficiency over rigid concerns about market structure and the number of competitors, signaling a more relaxed view of mergers. According to the guidelines, “mergers should not be prohibited merely because they lead to a more concentrated market structure,” provided they do not enhance market power or facilitate its exercise (DOJ 1982: 13-14). This shift allowed regulators to consider whether a merger would generate efficiencies—such as cost savings, improved

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<sup>50</sup> An antitrust lawsuit filed by the DOJ in October 2020 accused Google of unlawfully maintaining monopolies in the markets for general search services, search advertising, and general search text advertising via exclusionary agreements and practices. In August 2023, a federal court agreed, ruling against Google. At the time of this writing, however, the court had not mandated any remedies to offset the anticompetitive effects of Google’s conduct.

<sup>51</sup> For example, the FTC has been conducting an ongoing investigation into Amazon’s business practices since 2019, examining whether its pricing strategies, including deep discounts and loyalty programs like Prime, constitute predatory pricing: whether it is leveraging its market dominance to maintain lower prices temporarily with the aim of driving its competitors out of the market (FTC 2021).

<sup>52</sup> For enforcement agencies to succeed in a predatory pricing claim against Amazon, they would have to prove that its pricing behavior meets the stringent requirements of both below-cost pricing and a dangerous probability of recoupment (see Areeda and Turner 1975).

production, or enhanced product offerings—that could ultimately benefit consumers (Carlton and Perloff, 2005). The more permissive stance towards mergers was particularly influential in the tech sector, where economies of scale and rapid innovation are crucial competitive advantages (Schmalensee 2000).

The 1992 Horizontal Merger Guidelines further built on the economic focus introduced in 1982 and entrenched a more flexible and permissive stance towards mergers, particularly in industries where rapid innovation and network effects are critical to competition. On the one hand, the 1992 guidelines noted that “efficiencies can enhance the ability and incentive of the merged firm to compete, which may result in lower prices, improved quality, or innovation” (DOJ 1992: 30). On the other hand, a case-by-case approach acknowledged that while mergers might increase market concentration, they could also drive innovation and enhance competition. As the guidelines emphasize, “the analysis of competitive effects in a merger depends on the particular circumstances of the case” (DOJ 1992: 2). Moreover, while the 1982 guidelines introduced the concept of efficiency-driven mergers, the 1992 guidelines refined this approach, explicitly recognizing that mergers could foster innovation and drive competition even in concentrated markets (Kwoka and White 2004). This indirectly helped foster the creation of stronger, more integrated platforms by incentivizing firms to obtain large scales that could enhance network effects.

The 2010 revisions to the Horizontal Merger Guidelines marked a pivotal shift in antitrust enforcement, particularly for high-tech and digital markets. These guidelines placed a greater emphasis on innovation, recognizing the important role played by network effects and the integration of complementary assets in driving dynamic efficiency (Shapiro 2010). By further focusing on competitive effects rather than just market share, they greenlit Big Tech firms to justify mergers that expanded their ecosystems by integrating new technologies, talent, and customer bases (Shelanski 2011). As a result, Big Tech firms pursued acquisitions more aggressively, further entrenching their market dominance and enabling them to leverage network effects to an even greater extent (Baker and Shapiro 2010).

These developments in horizontal mergers were paralleled by a similar evolution toward greater tolerance of vertical integration.<sup>53</sup> The intellectual foundation for this permissiveness was laid in the 1970s by economists like Oliver Williamson (see Cooter 2009), who argued that vertical integration could reduce transaction costs—expenses related to negotiating, monitoring, and enforcing contracts in the marketplace—and improve efficiency, benefiting consumers in the

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<sup>53</sup> While vertical restrictions are when a firm favors one set of complements over another somewhere in its supply chain, vertical integration is when a firm produces these complementary inputs itself. Before this development, certain forms of vertical integration were met with strong resistance from antitrust decision-makers. This was evident in the case of A&P, a grocery chain that elicited aggressive enforcement actions—it was sued under three statutes: the Sherman Act, Clayton Act, and Robinson-Pattman Act—in the mid-20<sup>th</sup> Century after it developed a highly integrated industrial structure, controlling everything from manufacturing to retailing. The outcome of these cases led to fines and orders to change both pricing policies that “unfairly undercut competitors” and business practices, such as ending its exclusive deals with suppliers (see Levin 2011).



long run (Williamson 1985).<sup>54</sup> This shift in thinking was reflected in legal decisions such as *Continental T.V., Inc. v. GTE Sylvania Inc.* (1977), where the Supreme Court recognized the procompetitive potential of vertical restraints, setting a precedent for a more lenient approach to vertical mergers (see Pitofsky 2001). It was further reinforced by the 1984 Non-Horizontal Merger Guidelines, which explicitly acknowledged that vertical mergers could create efficiencies by improving coordination across different stages of the supply chain (DOJ 1984: 5-6). But it went further than that: “Although the guidelines acknowledged that vertical mergers could sometimes give rise to competitive concerns, in practice the change constituted a de facto approval of vertical deals” (Khan 2017: 735). Finally, increased permissiveness toward vertical integration was exemplified in cases like *US v. AT&T Inc.* (2018), where the court allowed AT&T to acquire Time Warner, countenancing its reasoning that the merger would promote efficiency and innovation via the integration of content creation with distribution.

Together, a more permissive stance towards both horizontal and vertical mergers played a crucial role in the expansion of Big Tech ecosystems. Several high-profile mergers exemplify how Big Tech firms strategically acquired other companies, often with the approval of antitrust authorities and courts, thereby creating expansive digital ecosystems and enabling these firms to grow significantly in the process.

Consider several examples. Facebook’s acquisition of Instagram in 2012 and WhatsApp in 2014 allowed Facebook to consolidate its position in the social media market by acquiring potential rivals. By integrating DoubleClick’s ad-serving technology with its search engine and complementary services in 2007, Google secured a dominant position in the online advertising market; its acquisition of YouTube in 2006 allowed Google to control the rapidly growing online video market, which it seamlessly integrated with its existing platform. Amazon’s acquisition of Whole Foods in 2017 allowed it to integrate its online platform with physical retail, strengthening its distribution network, enhancing consumers’ shopping experience and providing additional consumer insights that support its targeted advertising strategies.

However, as Big Tech firms have continued to expand through strategic acquisitions, antitrust decision-makers have become increasingly concerned that their size and network effects may create or reinforce substantial market power within digital platforms. The initial leniency that facilitated these deals is now being met with growing skepticism, as regulators and courts have increased their scrutiny of mergers that were once seen as beneficial. The rising alarm over these issues signals a shift away from the permissive antitrust environment that allowed these ecosystems to flourish and a return to a more populist approach to antitrust.

## THE RETURN OF POPULIST ANTITRUST

The neo-Brandeisian movement seeks to replace the traditional consumer welfare standard with a broader mandate that focuses on protecting competition itself, emphasizing the dangers of

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<sup>54</sup> Williamson argued that this is particularly important in industries with complex, asset-specific investments that create a dependency between transaction partners and exposure to opportunism. Vertical integration may also reduce double marginalization and thus increase production and eliminate deadweight losses.

bigness in both economic and political terms. The central tenet of this approach is that large corporations, especially those in the tech industry, pose inherent risks to democracy and the economy, regardless of their immediate effects on prices or even eventual effects on innovation: The sheer size of these companies poses a threat to the balance of power between government and private entities, and as such, they must be broken up to protect competition and democracy.

Proponents of this new populism argue that the original intent of antitrust laws was to limit the concentration of power in the hands of a few large corporations. Lina Khan, a prominent figure in this movement and current FTC Chairperson, has been a vocal advocate for this shift. In her influential article, “Amazon’s Antitrust Paradox,” Khan argues that American antitrust law was designed to circumscribe the power of big business, and that the focus on consumer welfare has allowed monopolistic practices to flourish (see Khan 2017). This view is shared by other neo-populists, including Tim Wu (see Wu 2018).

This is far from an academic concern, as the resurgence of this populist approach has garnered bipartisan support, uniting figures from across the political spectrum in their concern over Big Tech’s economic and political dominance. The House Judiciary Committee, led by Democratic Representative David Cicilline, has called for a sweeping overhaul of antitrust law, specifically targeting these tech giants. The committee’s 2020 report highlights several long-standing concerns: these firms are monopolies, they abuse their market power to stifle competition, they harm consumers and innovation, and current antitrust laws are ill-equipped to address these challenges (see US House Judiciary Committee 2020). Other prominent politicians, such as Democratic Senator Elizabeth Warren, have echoed these sentiments, arguing that Big Tech has “bulldozed competition” and “stifled innovation.” On the other side of the aisle, Republicans like Senators Josh Hawley and J.D. Vance have criticized Big Tech from a different angle, focusing on the cultural and political power these companies wield.

Despite their ideological differences, both camps agree that the current state of antitrust enforcement is inadequate and that more aggressive measures are needed, even if it means a radical departure from the consumer welfare standard that has dominated antitrust thinking for decades. This emerging neo-populist consensus has helped legitimize a slew of recent antitrust actions against Big Tech firms brought by the FTC and DOJ.

In December 2020, the FTC, joined by a coalition of state attorneys general, filed a lawsuit against Facebook, alleging that it engaged in anticompetitive behavior by acquiring potential rivals, such as Instagram in 2012 and WhatsApp in 2014. The FTC contends that these acquisitions were strategic moves to eliminate competition and maintain Facebook’s monopoly in the social networking market. It is seeking to unwind these deals as part of a broader push to break up large tech companies and “restore competitive market conditions” (FTC 2020).

Similarly, the DOJ’s October 2020 lawsuit against Google represents another significant neo-populist move. The lawsuit accuses Google of unlawfully maintaining monopolies in search services and search advertising through exclusionary agreements that make Google the default search engine on most mobile devices. In bringing this suit, which it won in August of 2024, the DOJ highlighted concerns about “the dangers of allowing a single company to control a critical

gateway to information,” highlighting the neo-populist fear of concentrated power in digital markets (DOJ 2020).

The FTC’s ongoing scrutiny of Amazon also embodies neo-populist elements. It has been investigating Amazon’s business practices, particularly its use of data from third-party sellers to launch competing products, as well as its acquisition of MGM and the potential impacts on competition in the streaming and entertainment industries. These investigations reflect “concerns about how Amazon’s market power and acquisition strategies could entrench its dominance and reduce competition across multiple sectors” (FTC 2021), despite precedents going back several decades that have countenanced similar efforts at imposing vertical restraints and integrating vertically, justifying them on efficiency grounds.<sup>55</sup>

Finally, Apple has also faced recent antitrust scrutiny from the DOJ, particularly regarding its App Store practices, which include requiring developers to use Apple’s payment system for in-app purchases and charging a 30% commission. These practices have been criticized as anti-competitive, particularly by companies like Epic Games, which has sued Apple over these issues. The investigation into Apple’s control over the App Store highlights neo-populist concerns about how platform owners can use their gatekeeper positions to unfairly disadvantage competitors and limit consumer choice (see Nicas and Wakabayashi 2020).

The neo-Brandeisian movement not only seeks to replace the consumer welfare standard with a broader focus on competition itself, but also advocates for more fundamental changes to antitrust enforcement. Central to this is a push to return to a per se rule for certain anti-competitive practices, reflecting a growing frustration among populists with the complexity and perceived leniency of the Rule of Reason (Khan 2017). While as I have argued in this chapter, the Rule of Reason is a more sophisticated approach to evaluating competitive effects on a case-by-case basis, neo-populists argue that it has, in practice, allowed large corporations—especially in the tech sector—to justify anti-competitive behavior by presenting complicated economic defenses that often obscure real harms to competition (Hovenkamp, 2020; Stucke & Grunes, 2016). Therefore, Wu (2018), along with other leading neo-populists, argues that certain forms of monopolistic behavior, vertical restraints, exclusive dealing, and specific instances of vertical integration that clearly entrench market power should be treated as inherently anticompetitive and harmful to democracy, and therefore illegal per se.

The broader implications of this shift could be far-reaching. A move away from the Rule of Reason toward per se rules would signal a decisive break from the efficiency-driven focus of antitrust that has taken root over the past several decades. This could spell the end on both the premium put by antitrust practitioners on Schumpeterian type innovation and their marked permissiveness towards how digital platforms grow and experiment with user data and other strategies to create unique ecosystems. A return to per se rules would make it easier for courts

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<sup>55</sup> Another example along these lines is the FTC’s December 2022 lawsuit to block Microsoft’s acquisition of Activision Blizzard. The FTC argued that the merger would harm competition in the gaming industry by giving Microsoft an unfair advantage in its Xbox console and cloud gaming services. However, the court ultimately ruled against the FTC in July 2023, allowing the merger to proceed.

and regulatory agencies to block mergers and break up monopolistic firms without having to delve into complex economic analysis or wait for clear evidence of consumer harm.

This would likely lead to a more aggressive stance toward Big Tech firms, justified on the grounds that their sheer size and control over multiple markets allow them to exert outsized influence over both the economy and political life. Indeed, neo-populists openly advocate for the breakup of large tech companies into smaller entities to prevent the accumulation of excessive power. For example, they propose unwinding Facebook's acquisitions of WhatsApp and Instagram, Google's acquisitions of Waze and DoubleClick, and Amazon's acquisitions of Zappos and Whole Foods.

The neo-populist desire to curtail the power of large corporations was embodied in the 2023 Merger Guidelines. Departing from their predecessors, they place far greater scrutiny on mergers that could potentially lead to increased market concentration, particularly in industries dominated by Big Tech firms, and express renewed concerns over potential harms to labor markets and the competitive process as such. First, they outline structural presumptions against mergers that significantly increase market concentration by reducing the number of firms competing in a market, especially in already concentrated markets. Second, they broaden the scope of antitrust analysis to include non-price effects such as control of data, limited consumer choice, and exclusionary practices.

What effect, if any, the neo-populist resurgence will have on the Fourth Industrial Revolution and the continued evolution of AI, perhaps on the road towards the creation of General Artificial Intelligence (GAI), remains to be seen. However, what is clear is that the outcomes of this new era of antitrust enforcement will significantly influence the landscape of technological innovation and competition in the digital economy that tools like generative AI are being woven into. While this may mean less access to vast datasets that can be used to train large language models, the breakup of Big Tech firms may create openings for new, smaller firms to find novel ways to commercialize generative AI through search algorithms and specialized applications.

These specialized applications may cut across healthcare, finance, and education. In healthcare, AI startups may pioneer personalized medicine by analyzing patient data to create tailored treatment plans, including customized drug formulations based on individual genetic profiles. Additionally, they may use generative AI to enhance medical imaging by producing high-resolution images from low-quality scans, aiding in early diagnosis and treatment planning. In the finance sector, AI startups may improve risk management by generating predictive models that identify potential financial risks, such as credit defaults or market downturns, and improve fraud detection by simulating fraudulent transactions to identify suspicious patterns. Or AI startups can optimize algorithmic trading by creating and testing new trading strategies based on historical data. Finally, in education, AI startups may contribute to personalized learning by generating customized educational content tailored to individual learning styles and progress, and create interactive textbooks, quizzes, and simulations that make learning more engaging. Likewise, they may create tutoring systems that could provide real-time feedback and personalized support to students, enhancing their learning outcomes.

Nevertheless, it is uncertain whether smaller, fragmented firms could match the scale and scope of innovation driven by Big Tech. These digital platforms developed and honed their business strategies during an era of historically unprecedented antitrust leniency—an economics-centered approach dedicated to fostering innovation and delivering consumer benefits. Proponents of the Rule of Reason would argue that the courts got it right and will continue to get it right: they carefully weighed the evidence in allowing these firms to grow as large as they have, and would, if the evidence for harm is compelling enough, now act to cut them down to size. Whether populist battle cries should influence these decisions remains an open question, but ultimately, it is the evidence that must guide any judicial or regulatory action.

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