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SCHUMPETER PROJECT ON COMPETITION POLICY

Reforming Merger Reviews to Preserve Creative Destruction

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The neo-Brandeisian case for more aggressive merger reviews assumes that market concentration is out of control and enforcement has been too lax. Neither is true. Antitrust regulators should recognize that mergers can contribute to innovation, productivity, and competition.

KEY TAKEAWAYS

- Antitrust reformers in the administration and Congress are pressing for radical constraints on mergers based on claims that market concentration has increased and enforcement has been too lax, ergo existing merger laws must be inadequate.
- The economic evidence shows neither particularly lax merger enforcement nor a substantial increase in market concentration.
- Current merger laws overall are broad enough to encompass the competition concerns raised by some acquisitions. Radical changes undermining years of improvement in antitrust doctrines will create legal uncertainty and may harm innovation.
- The experience of the Internet and software sectors, biopharmaceuticals, and creative industries illustrate the need for a more humble and gradual approach to reforming merger enforcement.
- Merger analysis should follow a dynamic approach to antitrust enforcement—preserving the process of creative destruction by recognizing that some mergers enable not only increased innovation and productivity, but increased competition.

CONTENTS

INTRODUCTION

A core component of the Left's "neo-Brandeisian" agenda to constrain and shrink large corporations is for agencies and courts to engage in more aggressive merger review.[1] Some have even called for prohibiting all large-scale mergers.[2] Many in the media have echoed these calls.[3] All that activism has resulted in Democratic proposals in the House and the Senate, as well as President Biden's recent "Executive Order on Promoting Competition in the American Economy," which call for tightening merger guidelines for antitrust agencies.[4] Moreover, under the leadership of Chairwoman Lina Khan, the Federal Trade Commission (FTC) recently rescinded its 1995 policy statement about past violations of merger laws.[5] The FTC also has withdrawn its approval for a set of vertical merger guidelines it issued jointly with the Justice Department in July 2020, and it has released findings of a new inquiry into acquisitions that the country's five largest technology companies have made in the past but were not required to report.[6]

Contrary to the FTC's new position, this report demonstrates how the 2020 Vertical Merger Guidelines were valuable and needed further improvements rather than being withdrawn rashly. This report also explains that competition concerns arising out of unreported acquisitions are largely exaggerated, given that the FTC itself has failed to demonstrate how the acquisitions it has pointed to as examples have reduced competition or harmed society by shutting down innovations.

Popular fears of merger mania—together with assertions that merger control has become too lax—regularly resurface in the public debate. Evidence nonetheless challenges common wisdom.

This impetus to limit mergers stems in large part from a new "anti-bigness" ideology held by neo-Brandeisians.[7] To justify their calls for limiting mergers, they assert, wrongly, that market concentration, profits, and markups have all increased because enforcement of merger law and rules has been too lax.[8] The majority of the antitrust community endorses an aggressive merger policy. Also, popular fears of merger mania—together with assertions that merger control has become too lax—regularly resurface in the public debate. Evidence nonetheless challenges common wisdom.

Popular fears regarding corporate buyouts are not new. In *United States v. Pabst Brewing* (1966), Justice Douglas appended a well-known column from humorist Art Buchwald in which the writer speculated that all U.S. companies would eventually merge into one giant corporation that would be large and powerful enough to actually purchase the entire United States. Fears of merger mania regularly gain prominence in popular opinion. Writing in *The New York Times* in 1985 about "the peril behind the takeover boom," Leonard Silk lamented about "the biggest wave of corporate acquisitions and buyouts in American history beginning to cause widespread alarm."[9] A decade later, *Forbes* would warn against the "dangers of global M&A," and that "[many] … are looking at this process and worrying: 'Won't the wave of business concentration turn into an uncontrollable anticompetitive force?'"[10]

But what is different now is the widespread influence of the neo-Brandeisians, particularly in the Biden administration, and the widespread repetition of their misleading narrative about the purported rise of concentration, their focus on producer welfare, particularly smaller firms, and their embrace of the discredited prior structure-conduct-performance doctrine governing antitrust.

Although misguided and harmful, a return to the 1950s and 1960s' approach to mergers advocated by neo-Brandeisians—wherein a greater number of mergers are rejected—could certainly occur under current rules. This call is, according to law professor Hubert Hovenkamp, a "disparagement of low consumer prices" for "harsh rules" but without a consistent test to reform merger analysis.[11] Hovenkamp has rightly cautioned against neo-Brandeisians' ability to "denigrate the importance of prices to merger analysis."[12] To be sure, prices are not the sole—or even the main—criterion for merger analysis. However, rejecting mergers because they generate efficiencies has proven to be a misguided approach antitrust agencies have justifiably rejected.

This report discusses the claims made by neo-Brandeisians that merger review requires a radical change of approach. First, the report scrutinizes and then debunks the claims being made in support of revising merger laws. Next, it examines case studies of mergers in the Internet and software, biopharmaceutical, and creative industries. Finally, the report formulates recommendations for merger analysis that follows a more dynamic approach to antitrust and recognizes that in some cases mergers enable not only increased innovation and productivity, but increased competition.[13] As a result, regulators can improve merger policy in the following ways:

1. **Develop wide-ranging retrospective merger analysis:** Antitrust agencies should systematically retrospectively evaluate past merger analyses so that discrepancies between predictions and reality could be used to better inform future merger analysis. To the extent the agencies need more resources for this process, Congress should provide the funding.

2. **Update merger guidelines with a focus on lowering entry and exit barriers:** As President Biden's executive order calls for revision of both the 2020 Vertical Merger Guidelines and the 2010 Horizontal Merger Guidelines, antitrust agencies may seize this opportunity to ensure that merger control addresses concerns over artificially high entry barriers and blocking mergers occasionally increasing exit barriers for small companies at the expense of creative destruction.

3. **Balancing blocking mergers with mandatory licensing:** Instead of purely blocking mergers, antitrust authorities could remedy the most problematic mergers with mandatory licensing requirements. The merged firm could thus reap the multiple benefits of pooling resources while the antitrust authorities ensure that the market can utilize the nonexclusive licenses.

4. **Increase antitrust agencies' resources:** Complex mergers involving companies in rapidly changing market environments as well as the need to engage in thorough post-merger analysis both justify in themselves increased resources for antitrust agencies to ensure greater accuracy of evidence-based merger analysis.

THE IMPORTANCE OF THE CORRECT DIAGNOSIS OF ECONOMIC STRUCTURE

If the performance and structure of the economy as it relates to industrial organization and structure were healthy, the case for significant change in merger law and regulation would be limited. Thus, neo-Brandeisian advocates of change base their campaign on a set of misleading analyses that, for the most part, have nevertheless become widely accepted as truth.

Market Concentration Has Not Increased

Calls for reforms of merger review are grounded in the belief that industry concentration has increased to problematic levels. President Biden's executive order rests on the belief that "corporate consolidation has been accelerating" and that in over "75 percent of U.S. industries, a smaller number of large companies now control more of the business than they did twenty years ago."[14] Biden declared that there is "less competition and more concentration that holds our economy back. We see it in big agriculture, in big tech, in big pharma. The list goes on. Rather than competing for consumers, they are consuming their competitors."[15]

The antitrust community echoes the claim that market concentration has increased. Yet, market concentration has not substantially increased, as the concentrated industries in 2002 became less concentrated by 2017 (the latest year of available data from the Census Bureau).

The executive order reiterates the claim that concentration has increased, thereby denying "Americans the benefits of an open economy," and widened "racial, income, and wealth inequality."[16] Summoning just as much ammunition to support that claim, the administration also endorsed the faulty assertion that markups have tripled over the last few decades.[17] Allegedly, increased market concentration, higher profits, and higher markups signal lax merger review.[18]

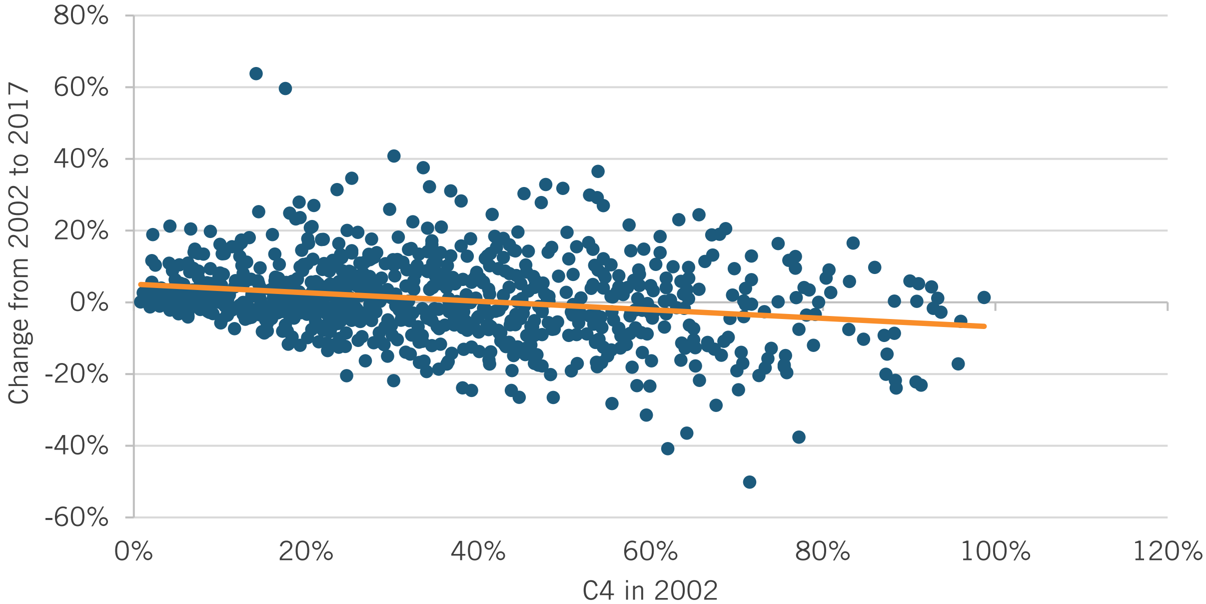
Yet, claims that market concentration has increased to problematic levels remain largely unconvincing. For instance, in order to justify the executive order, which claims that the market has indeed concentrated, the White House referred to the study carried by Grullon et al. to conclude that "over 75 percent of U.S. industries" have consolidated over the last decades.[19] But the study defines industries based on NAICS (North American Industry Classification System) three-digit classification, which is unreliable as a measurement tool of market concentration and should not be used to generate policy decisions. Indeed, a 2020 White House Council of Economic Advisors (CEA) report debunks the use of two-digit NAICS sectors to measure market concentration, as used in the 2016 CEA report.[20] Indeed, "The Agencies and other economists often find evidence of robust competition in markets with only a few firms engaged in head-to-head competition. Thus, either the HHI … or a four-firm concentration ratio … would be more appropriate for a competition study."[21]

Census data shows U.S. industries have not become more concentrated: The average C4 ratio increased by just 1 percentage point from 2002 to 2017.

Accordingly, the Information Technology and Innovation Foundation (ITIF) carried out a market concentration analysis using the six-digit NAICS industries code for the C4 ratio (i.e., the top-four firms in each market).[22] The analysis uses the most recent data from the U.S. Census Bureau (namely, the 2017 Economic Census data released on December 3, 2020) and compares it with 2002 data.[23] As a result, the reality of market concentration trends stands in sharp contrast to the White House's claims. Census data shows U.S. industries have not become more concentrated: The average C4 ratio increased by just 1 percentage point from 2002 to 2017.

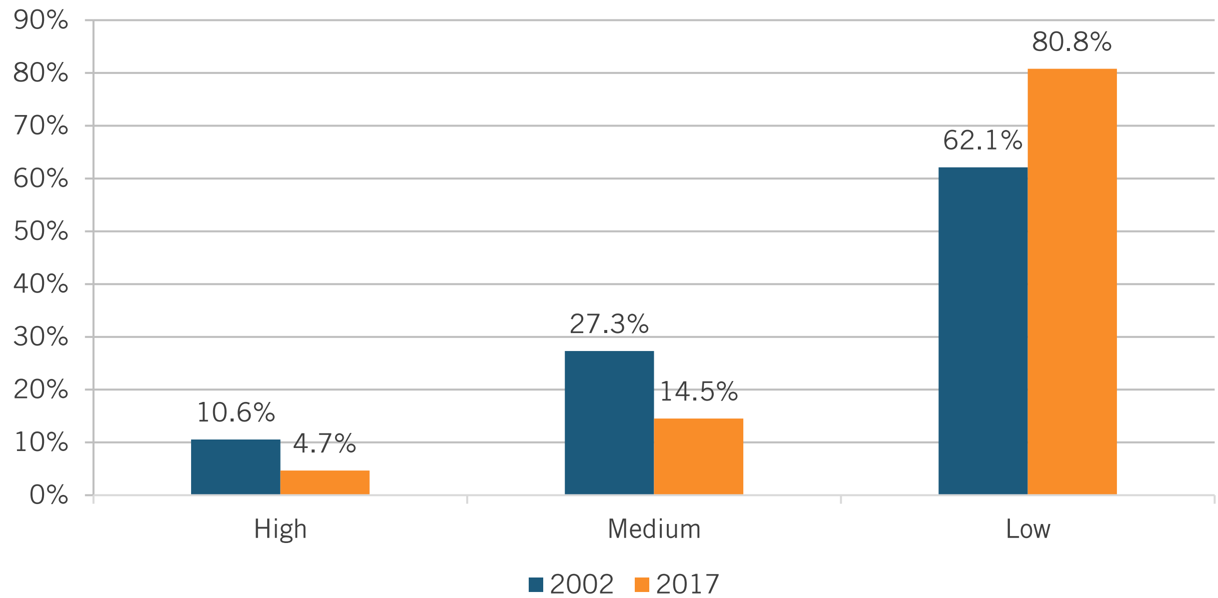
Despite claims of widespread monopolization, just 4 percent of U.S. industries are highly concentrated, with the share of industries with low levels of concentration growing by around 25 percent from 2002 to 2017. The more concentrated industries were in 2002, the more likely they were to become less concentrated by 2017. In short, the widely accepted narrative that monopolization is increasing to crisis levels is not supported by the facts. Overall, the U.S. economy remains vibrantly competitive.

Figure 1: Relationship between C4 ratio in 2002 and percentage-point change by 2017[24]



Interestingly, less-concentrated industries gained a larger share of the economy between 2002 and 2017:

Figure 2: Change in business output by C4 ratio classification as a share of the U.S. economy[25]



Overall, the C4 ratio for all 851 industries increased by just 1 percentage point, from 34 percent to 35 percent. This finding is consistent with many studies that find little to no increase in market concentration.

Likewise, if mergers have indeed been rampant, then the result should be seen in profits. Yet, as ITIF has shown, market concentration does not necessarily lead to higher profits, which means merged firms also face intense competition, thereby preventing them from reaping rapacious profits. Indeed, "there [was] no relationship between industry profitability and concentration ratio in 2017 (a correlation coefficient of 0.04)."[26]

Finally, one of the key problems with citing merger data is that this is the wrong unit of analysis. The right unit of analysis is mergers minus divestitures. While mergers are often front-page stories and complained about by neo-Brandeisians, divestitures are page 10 stories that are largely ignored—case in point being AT&T's merger with Time Warner in 2018. At the time of the proposed merger, neo-Brandeisians called this a "Godzilla merger" that would lead to higher prices and profits.[27] Clearly, those profits did not emerge, which is why AT&T spun off Time Warner three years later, to little fanfare.

While full data on divestitures is difficult to come by, one OECD study finds that in certain years between 2008 to 2014, divestitures were greater than mergers and acquisitions among multinational firms. And in every year examined, the number of divestitures was at least 55 percent.[28] Moreover, another study estimates that the value of divestitures is around one-third that of mergers and acquisitions.[29]

Mergers Can Be Beneficial

Advocates of stronger merger review paint mergers as almost uniformly bad, with companies buying up firms to eliminate rivals and perhaps even create monopolies.

Yet, usually, companies merge in order to gain beneficial economies of scale or scope. Studies provide evidence of the overall beneficial aspect of mergers for economic efficiency and productivity.[30] For instance, when Disney acquired Pixar in 2006 for $7.4 billion, the acquisition of Pixar's advanced animation technology enabled Disney to generate considerable value with a new sort of movie, which garnered consumer demand. In addition, the merger extended a 1997 production cost-sharing agreement between Disney and Pixar. It annihilated any legal disputes over this agreement that had arisen and impeded full synergies between the two film companies.

Google acquiring Android in 2005 for approximately $50 million created an effective competitor to Apple's breakthrough innovation with the iPhone. With the acquisition of Aetna by CVS in 2018 for $69 billion, added health services in CVS stores contributed to reduced health care costs and increased access to these services for individuals. In 1998, when Exxon and Mobil entered into a $73.7 billion merger agreement, the oil and gas industry anticipated further consolidation, which happened in 2016, when Royal Dutch Shell acquired BG Group to become the second-largest oil and gas company by market capitalization (after Exxon Mobil). The Exxon Mobil merger thus enabled the merged company to benefit from, and outperform the expectations of, scale economies. Indeed, Weston et al. wrote that "the initial synergies were estimated at $2.8 billion. As a result of rapid and effective integration of the two companies, Chairman Lee Raymond announced within 7 months of the completion of the merger that synergies of $4.6 billion had been achieved."[31] These scale economies have greatly benefitted the merged company concerning its rivals, and proved to be a particularly decisive factor in Exxon Mobile's global competitiveness.[32]

Historically, mergers have mostly contributed to the rise of more productive, innovative companies. Describing the historical role of horizontal and vertical integrations in rationalizing and consolidating corporations to compete and innovate more effectively (both domestically and globally), Alfred Chandler Jr. noted that "the modern industrial enterprise in the United States appeared after merger or acquisition. Leaders among the pioneers acquired or merged with competitors; and then they consolidated production facilities into plants of optimal size, established the necessary marketing networks, and recruited the managerial organization."[33]

Yet, despite the capabilities building inherent to most mergers and acquisitions, neo-Brandeisians, just as Justice Brandeis himself did a century before, warn that mergers contribute to harmful market concentration, are inherently harmful, and do not generate beneficial economies of scale and scope. Matt Stoller, of the American Economic Liberties project, spoke for many neo-Brandeisians today when he tweeted, "I'm increasingly convinced the biggest con in business history is the notion of 'economies of scale.'"[34]

In reality, one of the most widely agreed upon points by industrial organization economists is that economies of scale and scope are real. This does not mean that all mergers increase them; it does mean that some do. This is why the market very well anticipates increased corporate performance by merged firms.[35] Mergers often generate increased productivity, which directly helps workers and consumers.[36] Mergers often increase the acquired company's productivity thanks to more efficient use of capital and labor.

Moreover, mergers enable firms to adjust liquidities more efficiently. "Liquidity mergers" reallocate liquidity from liquidity-abundant firms to liquidity-lacking firms.[37] Liquidity-driven acquisitions foster capital circulation, thereby fostering broadening asset-reallocation opportunities.[38] Because of the efficiencies often generated by mergers (both for the acquirer and the acquired), mergers and acquisitions can create added value.[39]

The benefits many mergers generate led innovation economist Joseph Schumpeter to capture the transformational change these takeovers bring about. Indeed, in analyzing the "railroadization" of the U.S. economy at the turn of the 20th century, Schumpeter underlined these "liquidity mergers" when he wrote that "new types of men took hold of [the railroads], very different from the type of earlier railroad entrepreneurs."[40] He also praised the economic benefits of mergers as conducive to innovations with his claim that "new units of control, new principles of management, new possibilities of industrial research, and, at least eventually, new types of plants and equipment [create] absolute optimum—namely, optimal economic equilibria.[41]

Finally, contrary to the narrative specifically related to so-called "killer acquisitions," according to which large incumbents acquire small rivals to discontinue competing products, the reality is merger entities often have strong incentives *not* to discontinue the different lines of businesses from the merging firms.[42]

In summary, many mergers are beneficial, and the ones that are not are routinely prevented by regulators.

THE IMPORTANCE OF THE CORRECT DIAGNOSIS OF MERGER LAW AND PRACTICE

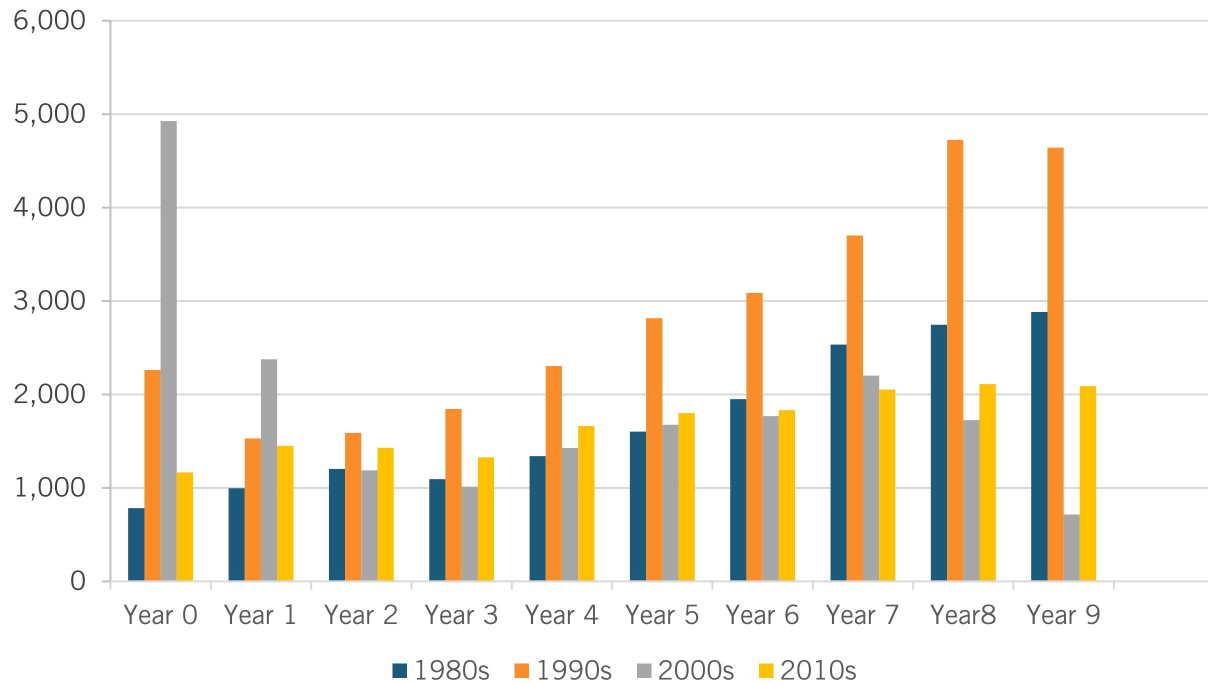
The economic argument to significantly limit mergers is flawed—but so too is the argument that U.S. merger policy and practice are deficient.

Merger Control Has Not Decreased

Advocates for fewer mergers argue that merger control has decreased, in addition to concentration having reached problematic levels. Unfortunately for them, this claim, too, does not hold up to scrutiny.

Figure 3 compares the reportable merger transactions from previous decades. These transactions are referred to as HSR merger transactions after the Hart-Scott-Rodino Antitrust Improvement Act of 1976, which obliges companies to file for merger approval by antitrust agencies whenever a proposed merger reaches certain transaction thresholds. Figure 3 also demonstrates that the decades of the 1980s, 2000s, and 2010s broadly followed the same pattern of HSR-reportable merger transactions. However, the decade of the 1990s saw an increased number of HSR-reportable merger transactions, with a particularly sharp increase in the late 1990s/early 2000s corresponding to the so-called "dot-com bubble" from 1997 to 2001.

Figure 3: HSR merger transactions reported per decade[43]



As figure 3 shows, the number of mergers reported in the 2010s pales in comparison with those reported during the 1990s and the first two years of the 2000s when another technological revolution (i.e., the "start-up bubble") occurred. In other words, we are not in the midst of a merger wave, let alone an unprecedented one.

During both the 2010s and the 2000s, the number of mergers reported was lower and increased less than during the 1980s—a decade during which no major technological revolution took place. However, the fear that we are experiencing an unprecedented merger wave regularly resurfaces in the antitrust discourse. For instance, a 1948 FTC report worries about the merger movement "under way since 1940, [which] has resulted in the disappearance of more than 2,450 formerly independent manufacturing and mining companies. These firms held assets aggregating some 5.2 billion dollars or more than 5 percent of the total assets of all manufacturing corporations in the country."[44] But, as Patrick Gaughan wrote, "These mergers did not result in increased concentration because most of them did not represent a significant percentage of the total industry's assets. In addition, most of the family business combinations involved smaller companies."[45]

Each cyclical rise in mergers arguably threatens to concentrate the economy and create unassailable monopolies. This selective perception ignores not only corporate divestitures but also new entrants that eventually become big.

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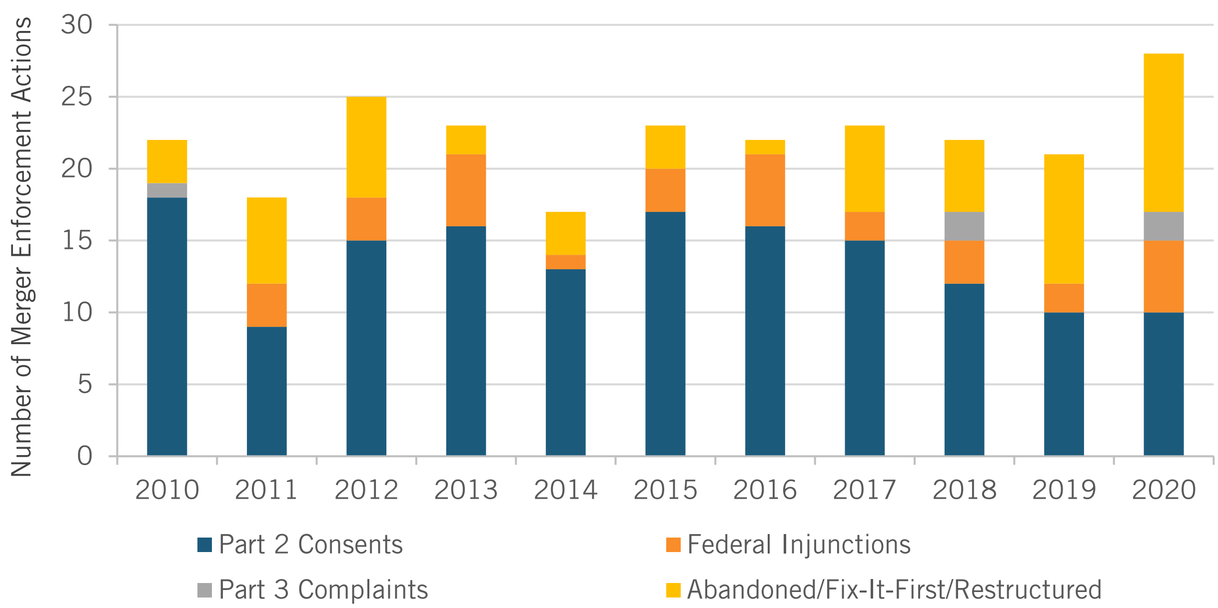
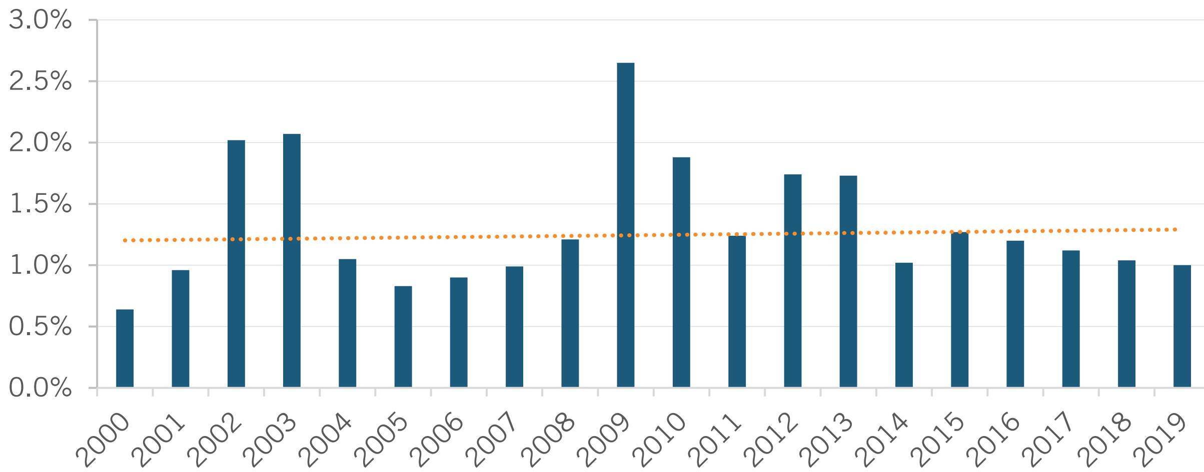
Another oft-made fundamental claim purports that lax merger enforcement enables market concentration. We tested the reality of this claim and found that merger enforcement actions remained stable over the last decade. Figure 4 examines four merger enforcement actions, namely Part 2 consents (e.g., negotiated settlements), federal injunctions (e.g., parties prevented from consummating a transaction), Part 3 administrative complaints (i.e., agencies' challenge of a merger), or "fix-it-first" remedies (e.g., merger proceeds with modifications that preserve competition).

Figure 4: Total merger enforcement actions[46]



The data regarding the last decade of merger control reveals no lax enforcement or decline thereof. Figure 5 shows the yearly merger enforcement actions from 2000 to 2019 reported under the HSR Antitrust Improvement Act of 1976, or “merger enforcement intensity.”[47] The figure reveals that merger ratios increased post-recession and, on average, remained stable:

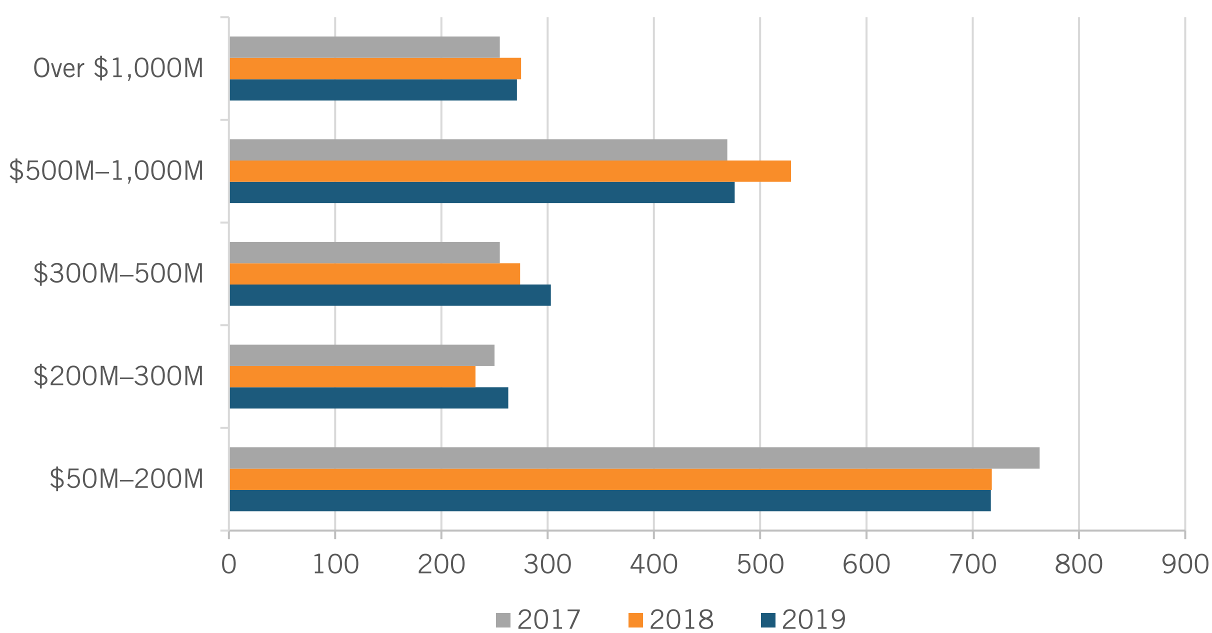
Figure 5: Merger enforcement intensity (enforcement actions as a share of HSR reportable mergers) [48]



These findings corroborate other recent studies, such as that of Macher and Mayo, which finds that, contrary to the prevalent narrative, “the Agencies [became] more likely to challenge proposed mergers over 1979–2017.”[49] Antitrust agencies have not fundamentally reduced merger control over the last decade; and recent studies also demonstrate that there is no under-enforcement in merger policy.[50] Merger enforcement actions grew steadily from 1979 to 2017, albeit with an unprecedented and sudden rise during the Clinton administration. [51]

Finally, we evaluated the claim that antitrust agencies do not review killer acquisitions that go unreported and thus unchecked. (See figure 6.)

Figure 6: Number of HSR mergers reported according to the size of the transactions[52]



A large number of mergers indeed involve “small” transactions, namely those below $200 million, as shown in figure 6. Therefore, antitrust agencies also review small transactions, which thus do not go unreported, as some proponents of the killer acquisitions narrative argue.

Both the fear that we are currently experiencing an unprecedented merger wave and that small acquisitions go unreported seem exaggerated. Despite the lack of under-enforcement in merger policy, the general fear of under-enforcement the prevalent narrative relies on is simple: Current merger laws, including relevant case law, have become inadequate to address contemporary problems of market concentration.

Merger Laws Are Adequate

Proposals for new merger laws rely on the assumption that current merger rules are inadequate. Yet, merger policy changes can and do occur within existing merger laws and rules.

Merger Laws Are Sufficiently Broad and Encompassing

The Sherman Antitrust Act of 1890 remains a powerful tool, with Section 1 specifically applying to mergers.[53] Section 2 is particularly capable of addressing the rising concern over killer acquisitions, as illustrated by the Washington, D.C. Circuit Court’s decision in *United States v. Microsoft Corporation* (2001) ago that it “would be inimical to the purpose of the Sherman Act to allow monopolists free rein to squash nascent, albeit unproven, competitors at will, particularly in industries marked by rapid technological advance and frequent business model shifts.”[54]

The Sherman Antitrust Act is already capable of addressing concerns over killer acquisitions of nascent competitors. It is possible to “merge” innovation concerns within the Sherman Act’s main statutory provision for merger control—namely, the Clayton Antitrust Act of 1914.[55] Indeed, the main statutory provision for merger review remains Section 7 of the Clayton Act, which prohibits acquisitions wherein “the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly.” The Celler-Kefauver Antimerger Act of 1950 prohibits companies from acquiring stocks for the sole purpose of reducing competition. It includes vertical and conglomerate mergers as part of the acquisitions prohibited under Section 7 of the Clayton Act.[56] Although that section originally aimed at preventing anticompetitive use of holding companies, it has become the key statutory provision for merger control by federal agencies.[57]

The Clayton Antitrust Act prohibits mergers that may monopolize the market and prohibits mergers that may lessen competition before the anticompetitive harm materializes. This has become known as the “incipiency doctrine.”[58] In other words, the Clayton Act requires the FTC to look into the future and predict which mergers are likely to lessen competition. Thus, this statute enables regulators to prevent monopolization before it arises.

The Sherman Antitrust Act is so broad that it is already capable of addressing concerns over killer acquisitions of nascent competitors.

Current rules and exemptions appropriately allow for addressing mergers adequately.[59] The HSR Act of 1976 established a premerger notification mechanism wherein firms willing to merge must notify antitrust agencies beforehand. Although a transaction may be reportable because it is above the thresholds, the merging companies may qualify for an HSR Act exemption. There are

25 categories of acquisitions that are exempt from HSR reporting.[60] In addition, the 2000 amendment to the HSR Act increases the exemption for deals to be notified from $10 million to deals whose target firms have assets under $50 million (and sales under $10 million for acquired firms in the manufacturing industry). These thresholds are annually adjusted. On February 2, 2021, the FTC announced decreased reporting thresholds under the HSR, given the U.S. gross domestic product's (GDP) contraction in 2020. Accordingly, the FTC lowered the transaction threshold from $94 million to $92 million, meaning acquisitions below this threshold are reportable.

In light of the HSR Act, does the claim that some killer acquisitions go unreported hold water? It depends on whether killer acquisitions fall below the $92 million threshold. Yet, few if any acquisitions falling below this threshold are problematic for antitrust purposes.

Indeed, the oft-referred to instance of lax merger review is Facebook's acquisition of Instagram in 2011. It is regularly argued that Facebook could have acquired Instagram without merger scrutiny.[61] But, as the acquisition was valued at $747.1 million it was thus not only reportable to the FTC but highly scrutinized by the FTC in conjunction with the United Kingdom's Competition Authority (then the Office of Fair Trading).[62] With a 5–0 unanimous vote, the FTC considered that Facebook was a weak competitor in the mobile photo app market. Moreover, Instagram's lack of advertising revenue constituted an opportunity for Facebook to compete with Google's market position in the advertising market.[63]

Since current antitrust laws assess the potential lessening of competition from reported mergers, killer acquisitions of nascent competitors can only be unreported acquisitions because they are either exempt or fall below the $92 million threshold. Thus, the relevant question to ask is, Do these unreportable acquisitions lessen competition? Absent evidence, it is doubtful these transactions may lessen competition.[64]

Merger Laws Capture Harms to Innovation

The idea that some mergers, especially those falling below the HSR thresholds, may generate "harm to innovation"—meaning harm to the ability of the acquired firm to innovate absent the merger, and of rivals to innovate absent the appropriation by the incumbent firm of the acquired firm's strategic assets—has recently been articulated. This harm-to-innovation argument follows the belief that current merger guidelines do not address this issue adequately. However, such a claim is erroneous since, as early as 1995, the Intellectual Property Guidelines, which apply to merger analysis, have defined "innovation markets" following the work of Richard Gilbert and Steven Sunshine:

> [Innovation markets consist of] the research and development directed to particular new or improved goods or processes, and the close substitutes for that research and development. The close substitutes are research and development efforts, technologies, and goods that significantly constrain the exercise of market power with respect to the relevant research and development, for example by limiting the ability and incentive of a hypothetical monopolist to retard the pace of research and development.[65]

In other words, contrary to what policy advocates currently argue, antitrust agencies' analysis fully considers alleged harms to innovation. The political pressure to tackle mergers would create a damaging drift between judicial analysis and the populist desire to de-concentrate the economy regardless of costs, including having an aggressive stance on all mergers.

Consequently, it is both unsurprising and sensible that the Antitrust Modernization Commission of 2007 considered, "No substantial changes to merger enforcement policy are necessary to account for industries in which innovation, intellectual property, and technological change are central features."[66] But the report then contradicts itself by asking the antitrust agencies to "update the Merger Guidelines to explain more extensively how they evaluate the potential impact of a merger on innovation."[67] The 2010 horizontal merger guidelines would later materialize this concern with a new section titled "Innovation and Product Variety."

The political pressure to tackle mergers would create a damaging drift between judicial analysis and the populist desire to de-concentrate the economy regardless of costs, including having an aggressive stance on all mergers.

According to the Clayton Act, it cannot be assumed that unreportable acquisitions due to HSR exemptions lead to a lessening of competition. This is the de minimis exception according to which these mergers are so small that they generate minimal or no effect on markets and thus may not "substantially" lessen competition. There is, therefore, no need to alter the HSR exemptions. These acquisitions that are considered unreportable because the transaction sizes are insufficiently important raise the question of whether there should be a de minimis rule at all.

Using Divestitures Is a Powerful Tool for Remedying Mergers

Section 15 of the Clayton Act and Section 4 of the Sherman Act provide for antitrust officials to challenge problematic mergers with the imposition of several types of remedies. From blocking the merger (i.e., injunctions) to a "fix-it-first" remedy according to which antitrust officials allow mergers to proceed provided that modifications to the merger preserve market competition, current antitrust laws have various tools designed to capture potential harms to innovation from mergers. One of the most radical (yet preferred) tools is divestitures: Agencies and courts approve a merger subject to a company spinning off some corporate assets of either its own company or the target company's assets. The Justice Department has recently updated its "Merger Remedies Manual" but has not changed it long-standing preference for divestitures (i.e., spin-offs) over conduct remedies (i.e., firms' commitments).[68] Contrary to popular claims, the last decade saw increased scrutiny of merger control by antitrust agencies, especially regarding proposed divestiture buyers (i.e., the ability of the buyers of the divested assets to become an effective competitor of the acquirer).[69]

Divestitures not only represent an administrative requirement imposed as part of a set of remedies, they often represent a defensive corporate strategy that enables firms to reorient their efforts and assets in light of changing market conditions. Spin-offs of business assets indeed can constitute an opportunity for firms to increase shareholder value. Divestment strategies have increasingly become mainstream corporate strategies, as a report from Deloitte documents: 75 percent of the 1,000 U.S. companies surveyed were expected to pursue divestitures in 2020.[70]

In that respect, when considering the potential market concentration effects of mergers, it is also important to consider the potential market "deconcentration" effects of divestitures.[71] These effects are non-negligible since approximately two-thirds of the mergers over the last decade involved divestitures.[72] Indeed, waves of acquisitions portray similar waves of divestitures.[73] Moreover, the more acquisitions occur among unrelated lines of businesses, the more likely it is divestitures will eventually occur.[74]

In that regard, the distinction between "standard divestiture" (i.e., voluntary, market-based spin-off) with "regulator-mandated divestiture" provides policy implications for antitrust regulators: The acquirer is likely to receive a discounted value for the assets divested under regulator-mandated divestiture as opposed to the fair value acquirers receive for standard divestiture.[75] Such corporate asset devaluation needs to be considered by regulators as a deterrent factor for companies to merge. Consequently, although regulator-mandated divestitures entail a lower deterrent effect on mergers than a probability for regulators to block mergers, divestitures necessarily downgrade the valuation of the relevant corporate assets in the market.

Nevertheless, divestitures constitute a powerful tool for antitrust agencies to control mergers and address their concerns without necessarily blocking mergers that could be beneficial for consumers and innovation. Indeed, because the consent decree is prospective and avoids legal uncertainty and innovation costs generated with unwinding consummated mergers, divestitures should remain the preferred remedy for problematic mergers. In that regard, the recent decision for the 4th Circuit to allow for the first time a private party to successfully compel a divestiture of a consummated merger appears regrettable, as it generated heightened legal uncertainty and considerable costs related to unwinding the merger and of future mergers.[76]

In addition, conduct remedies run the risk of micro-management of dynamic companies by government officials in rapidly changing market environments. Divestitures address competitive concerns without complex litigations or regulations.[77] Indeed, the Justice Department rightly noted that "conduct remedies substitute central decision making for the free market. They may restrain potentially procompetitive behavior, prevent a firm from responding efficiently to changing market conditions, and require the merged firm to ignore the profit-maximizing incentives inherent in its integrated structure."[78]

Current merger laws, operating under a general and much-needed rule of reason, thus appear well suited for the challenges of today's economy. Unfortunately, it could be argued that the current application of the rule of reason to merger review won't last, as experts have predicted the return to per se liability and legal presumptions against mergers.[79] This prediction appears to be materializing, with legislative proposals suggesting a de facto ban on all mergers for a handful of companies, or strong legal presumptions, which will constitute insurmountable obstacles to many mergers. The two main proposals are the bill introduced by Sen. Amy Klobuchar (D-MN), the Competition and Antitrust Law Enforcement Reform Act (CALERA), and the bill introduced by Rep. Hakeem Jeffries (D-MN), the Platform Competition and Opportunity Act.[80] Both bills propose the de facto banning of mergers altogether or introducing presumptions reminiscent of old cases widely criticized for their unintended effects on the economy.

Merger Case Law Evolves in the Right Direction

Current case law evolved out of past errors, when the so-called "Structure-Conduct-Performance" (SCP) paradigm, according to which market deconcentration would inherently increase market competition, dominated early merger cases.[81] Fortunately, the case law moved away from the SCP paradigm as the economic understanding of the relationship between market concentration and innovation improved. This section argues that the case law in mergers has evolved in the right direction—namely, toward a more-economic, less-presumptive approach.[82]

The Need Not to Return to Early Merger Cases

In the famous case of *Brown Shoe Company, Inc. v. United States* (1961), the Supreme Court considered that "if a merger achieving 5 percent control were approved, we might be required to approve future merger efforts."[83] This was the first time the court articulated the incipiency doctrine—the idea that mergers should be blocked because they may prevent small firms from growing and competing. The incipiency doctrine resembles a precautionary approach to concentration. Over fear of increased consolidation, merger policy preemptively intervenes to block the merger before hypothetical harm materializes.

Consequently, following *Brown Shoe*, horizontal mergers are now deemed to violate Section 7 of the Clayton Antitrust Act. However, they involve exceedingly small market shares. *Brown Shoe* represents a merger policy designed to halt mergers for the sake of halting any concentration trend, not for achieving the objective of preventing anticompetitive mergers. Another instance wherein the Supreme Court articulated the incipiency doctrine was the case of *United States v. Philadelphia National Bank* (1963) in which the Supreme Court held that horizontal mergers conducive to merged firms holding less than 30 percent of market share could violate antitrust laws.[84]

This period was also when courts could decide that a merger made four decades earlier was illegal and had to be undone. Indeed, in 1957, the Supreme Court decided that E.I. du Pont's 1917 acquisition of 23 percent of General Motors' shares was unlawful because du Pont influenced General Motors' choice of suppliers.[85] Forty-four years later in 1961, in a 4–2 decision, the Supreme Court ordered "complete divestiture" of the company, thus requiring E.I. du Pont to sell over the next 10 years of all the 63 million shares it owned of General Motors.[86] Economically severe and legally insecure decisions such as the *United States v. El du Pont de Nemours & Co.* (1957 and 1961) need to remain past judgments, not inspirations for future cases.

An aggressive merger policy led to the blocking of such mergers as *Brown Shoe*, *Philadelphia National Bank*, and others because those mergers created efficiencies with a price reduction, not because of a lack of efficiencies.[87] The case law was tortuous and inconsistent, blocking small mergers with procompetitive effects. As Supreme Court Justice Stewart said, "The sole consistency that I can find is that in litigation under Section 7 [of the Clayton Act], the Government always wins." But neo-Brandeisians advocate for a return to these cases and this consistency, for which the evolution of Merger Guidelines has reasonably ensured departure.[88] Indeed, the new FTC Chair Lina Khan, together with Vaheesan, wrote that "in the realm of merger law, the Supreme Court's presumption in *United States v Philadelphia National Bank* should be reinvigorated…. [A] merger that created an entity with a share greater than twenty percent would have to show credible business justifications to overcome the presumption of illegality."[89]

In other words, small mergers leading to merged firms that enjoy less than 30 percent market share should be presumptively illegal. To promote a "citizen interest standard" rather than the traditional "consumer welfare standard," Khan and Vaheesan suggest not accepting divestitures or conduct remedies, and instead just blocking mergers.[90] This return to an aggressive merger policy would thwart necessary corporate consolidation as a way to innovate and compete. Moreover, the consolidation of suppliers or customers could weaken the bargaining power of dispersed firms.

Firms surely have to provide "credible business justifications" for merger review. But to enforce a presumption of illegality for mergers would deter consolidation for efficiency and innovation reasons, since the legal threshold is set too high. Applying the rule of reason to merger review proves to be the optimal standard for judicial analysis since neither defendants nor government officials should specifically have an easier burden of proof. Instead, both parties should equally have to demonstrate their arguments.[91]

The case law has moved away from presumptions (for or against mergers) for a good reason. Many mergers have been blocked or presumed to be illegal despite low market shares and procompetitive effects.[92] Presumptions of illegality as well as of legality are indeed not advisable.[93] A full-fledged, fact-finding inquiry must analyze the static effects (i.e., price and quality) and dynamic effects (i.e., innovation incentives) of proposed mergers.

Applying the rule of reason to merger review proves to be the optimal standard for judicial analysis since neither defendants nor government officials should specifically have an easier burden of proof. Instead, both parties should equally have to demonstrate their arguments.

Even advocates of presumptions in merger analysis, such as Steven Salop, recognize that a rebuttable presumption of illegality for mergers may create "false positives."[94] For example, *Philadelphia National Bank* applied a presumption of illegality to "inherently suspect" mergers.[95] However, to apply such discretionary standards to today's mergers involving complex economic considerations would leave doors open to arbitrary considerations. Thus, the long but secured move away from legal presumptions in merger analysis deserves consideration, not disdain.[96]

Economic analysis requires an open discussion without prejudices, biases, and a regulatory "quick look" preventing optimal decisions.[97] Economic analysis increasingly focuses on balancing pro- and anti-efficiency arguments, leaving less importance to the concern over concentration itself.[98] Since the FTC's challenge to Staples' merger with Office Depot in 1995, there is a renewed interest for more merger enforcement. However, economic analysis has remained essential throughout the evolution of merger case law.

While antitrust agencies rely on presumptions as adopted in *Philadelphia National Bank*, courts have relied on a test of economic reasonableness to mergers that assesses the pro- and anticompetitive effects of mergers using a more open, unbiased approach.[99] Thus, the judicial evolution of horizontal mergers gradually has rejected presumptions on mergers to avoid blocking procompetitive mergers.[100]

Importantly, the evolution of merger case law does not necessarily suggest that merger policy has evolved toward under-enforcement, contrary to some claims. Indeed, a recent study reveals that judicial standards have evolved in favor of a pro-enforcement tendency, thereby suggesting that the more-economically grounded standards have not led to under-enforcement.[101] Moreover, the valuable evolution of merger case law has accompanied another valuable evolution: the reviews of merger guidelines over time.

The Valuable Evolution of Merger Guidelines

Merger Guidelines have improved over time.[102] Indeed, the 1984 Justice Department Merger Guidelines, reissued jointly with the FTC in 1992, rationalized merger control with objective standards—namely, the Hirschman-Herfindahl Index (HHI).[103]

Although imperfect, the revision of the Horizontal Merger Guidelines in 2010 refined merger analysis to further align merger control with market realities.[104] The Guidelines also influence courts.[105] And they rightly reduce the importance of market shares as one of many relevant factors to consider in merger analysis.[106]

The Merger Guidelines address particularly well the issue of what would later be referred to as killer acquisitions. In Section 6.4, the Guidelines outline the concerns about mergers that may threaten competition by limiting "innovation and product variety." Particularly, the agencies now evaluate "the extent to which successful innovation by one merging firm is likely to take sales from the other, and the extent to which post-merger incentives for future innovation will be lower than those that would prevail in the absence of the merger" and will also "consider whether a merger is likely to give the merged firm an incentive to cease offering one of the relevant products sold by the merging parties."[107] Additionally, the Guidelines make clear that "the Agencies may consider whether a merger is likely to diminish innovation competition by encouraging the merged firm to curtail its innovative efforts below the level that would prevail in the absence of the merger."[108]

Merger cases frequently involve concerns about the alleged harms to innovation. Indeed, Gilbert and Hillary Greene rightly noted that the "frequency of innovation concerns raised within mergers in high technology industries may indicate the Agencies are adept at challenging only mergers in contexts that are likely to harm innovation."[109]

Acknowledging that "reductions in variety following a merger may or may not be anticompetitive," the Guidelines thus appear well informed about the innovation concerns advocates of the "killer acquisition" theory articulate.[110] Consequently, it is dubious how a revision of the 2010 Guidelines to integrate these concerns is convincing since they are already addressed in the 2010 Guidelines. However, a revision of the Guidelines could clarify how agencies approach alleged harms to innovation in merger cases.[111]

In merger cases, the need for market definition diminishes as the dynamic analysis gains traction.[112] Market definition is already not required for unilateral effects in horizontal merger analysis.[113] More generally, a market definition in merger cases should play a considerably less-significant role. The 2010 Horizontal Merger Guidelines reduce, albeit insufficiently, the role of defining markets in analyzing mergers. Relatedly, the importance of market shares analyzed from a static perspective must become ancillary to merger analysis. As disruption inherently generates a massive increase or decrease in market shares, antitrust agencies must better assess mergers from a disruption perspective.[114] The particular concern over killer acquisitions may justify marginal changes to the antitrust doctrine under current laws.

Regarding vertical mergers, the 2020 Vertical Merger Guidelines were in line with the Antitrust Modernization Commission's report, which, in 2007, considered that "the agencies should update the Merger Guidelines to include an explanation of how the agencies evaluate non-horizontal mergers."[115] Thus, the Vertical Merger Guidelines issued in 2020 did not constitute a radical approach but rather better aligned the approach to vertical mergers with the one adopted to horizontal mergers since 2010.[116] Therefore, it is ironic that President Biden's executive order asked antitrust agencies to revise the Vertical Merger Guidelines, despite the fact they had just been updated last year.[117] And it is highly regrettable that rather than preserving and improving them, the FTC has chosen the more radical and damaging approach of withdrawing them altogether.

The anticompetitive potential of vertical mergers is much smaller than of horizontal mergers.[118] This is because vertical mergers generate more measurable efficiencies than do horizontal mergers.[119] Also, because the contemporary concern over killer acquisitions rarely pertains to vertical mergers and more to horizontal ones, the law on vertical mergers ought not change.[120]

The particular concern over killer acquisitions may justify marginal changes of the antitrust doctrine under current laws.

In conclusion, we agree with the findings of the 2007 Antitrust Modernization Commission report, which states that "there is no need to revise the antitrust laws to apply different rules to industries in which innovation, intellectual property, and technological change are central features … no statutory change is recommended concerning Section 7 of the Clayton Act … current law, including the Merger Guidelines, as well as merger policy developed by the agencies and courts, is sufficiently flexible to address features in such industries."[121] But the commission nevertheless recognized that "the agencies should update the Merger Guidelines to explain more extensively how they evaluate the potential impact of a merger on innovation."[122] Accordingly, the 2010 Horizontal Merger Guidelines and the 2020 Vertical Merger Guidelines integrated these concerns.

The radical changes suggested in President Biden's executive order may presumably not take place in favor of greater consideration for both the innovation incentives and the critical role of Schumpeterian competition in today's economy. However, President Biden's executive order suggests embracing the radical approach advocated by neo-Brandeisians to change our already flexible-enough merger laws. The often-praised 2010 Horizontal Merger Guidelines would be changed to revert to more structural approaches. The recently adopted 2020 Vertical Merger Guidelines would be suspended, thereby creating legal uncertainty at an unprecedented pace.

Mergers and Innovation: Moving Toward a Dynamic Approach to Acquisitions

With the technological revolution of the Internet in the 1990s, and more generally of capital-intensive innovators, the approach to mergers has become increasingly more dynamic.[123] The FTC's review in 2004 of Genzyme's acquisition of Novazyme marked the first time the outcome of a merger review was determined solely by innovation considerations.[124] The review scrutinized whether or not post-merger innovation incentives would lead to increased research and development (R&D) or improved efficiency of R&D expenditures. In the decision, the FTC ruled that the merger would enhance rather than hinder innovation. However, in 2009, the FTC determined that Thoratec's proposed merger with HeartWare would not incentivize Thoratec to bring HeartWare's left-ventricular-assist devices to market, and therefore rejected it.

Assessing the dynamic effects of mergers can be an extremely challenging exercise, especially when the entrepreneurs are wrong. Perhaps the best illustration of this is the 2018 AT&T/Time

Warner merger. After fighting against the government to get the merger approved, AT&T announced its decision to spin off WarnerMedia and merge it with Discovery to create the content giant Warner Bros. Discovery—just three years after AT&T management had advocated for the original merger as being "the perfect match."[125] A great dose of humility is not only necessary but essential to merger cases, especially in fast-changing environments with capital-intensive industries. The "innovation markets" may very well be the unpredictable markets within which government officials must make their predictions.

Relatedly, both the price effects and innovation effects of mergers are unpredictable. Indeed, when two drug manufacturers merge, the price effects on the drugs they sell often prove exceedingly difficult to predict—and less so the innovation effects. Would the merged entity close down some drug production lines, or would it rather expand the R&D capabilities of the acquired entity that has a greater drug portfolio? When two digital platforms merge, the price effects may be inconsequential if both platforms are already delivering ad-funded services at no cost to consumers. Would the integration be conducive to product innovations and entry into new adjacent markets?[126]

A great dose of humility is not only necessary but essential to merger cases, especially in fast-changing environments with capital-intensive industries. The "innovation markets" may very well be the unpredictable markets within which government officials must make their predictions.

Merger analysis invariably should consider the size of merged firms in light of the innovation dynamics.[127] One of these innovation dynamics depends on the ability of firms to appropriate innovation and R&D efforts. Indeed, weak appropriations support the Schumpeterian view that scale economies matter, with firms increasing their size and market share to compensate for weak appropriations.[128] Reversely, strong appropriation regimes (as illustrated by vigorous protection of intellectual property rights) help illustrate Kenneth Arrow's theory that profits and market power may lower innovation incentives.[129] Correspondingly, as size increases, the need for appropriability to preserve innovation incentives decreases. Thus, a welfare function can theoretically lead to an optimal trade-off between a firm's size and its level of appropriability.

These considerations, necessarily more qualitative than quantitative, increasingly become relevant for antitrust officials regarding price effects. The dynamic effects of mergers suggest less focus on market structure/concentration and price effects and more focus on the innovation dynamics and incentives to expand R&D capabilities (although innovation incentives are much broader than the R&D metric).[130]

This report presents three case studies of capital-intensive, rapidly changing industries wherein dynamic effects and global competition play a key role in constraining major actors: the tech industry, the pharmaceutical industry, and the creative industries, respectively. These industry studies support the recommendations we articulate in the last section of this report.

REFORMING MERGER REVIEW: INDUSTRY STUDIES

This section briefly discusses key instances of merger control in the tech industry, the pharmaceutical industry, and the creative industries. It then focuses on the key claim that dominant players thwart competition by acquiring nascent competitors. In each case, we find that this claim is overwhelmingly exaggerated and that current laws are particularly adequate at tackling potential concerns.

Internet and Software Industry

Big Tech mergers are acquisitions that are seemingly harmful to innovation because they involve large tech acquirers buying innovative start-ups that are perceived as nascent competitors.[131] For example, Motta and Peitz have argued that virtually every Big Tech merger has been insufficiently scrutinized, including such prominent ones as Google/YouTube, Google/Waze, Google/DoubleClick, Facebook/Instagram, Facebook/WhatsApp, and Microsoft/LinkedIn.[132] As mentioned, antitrust authorities' claim that contestable tech mergers go unnoticed is inaccurate, as agencies reviewed and cleared those mergers, often with remedies.

Whether referred to as digital platforms or by the popular moniker "Big Tech," they in no way represent a challenge for current antitrust laws, and accordingly, cannot justify changes in antitrust laws. Indeed, Keith Hylton found that "there is nothing so unusual about digital platforms that would require a reform of the antitrust laws."[133] Frequently, the characteristics of the tech industry prove useful for advocates of such reforms. Network effects, the winner-takes-all phenomenon, Big Data and algorithms, and their ad-funded zero-priced business models are unmistakable evidence that antitrust laws are ill-suited to address these issues. However, these arguments are flawed for at least two reasons. Other industries (e.g., telecommunications, advertising) also display some—if not all—of these characteristics. And even if the tech industry generates novel challenges for antitrust enforcement, antitrust laws are flexible enough to adapt. Indeed, companies as different as Standard Oil and Google face antitrust lawsuits under the same statutory provisions.[134]

Do tech mergers justify a change to the Clayton Antitrust Act? Do the tech giants create a "kill zone" or a "danger zone" against nascent competitors and innovators, whereby investments are deterred because of the existential threats created by powerful incumbents? Antitrust agencies are keen to identify this claim as justification for interventions.[135] ITIF has discussed at length the dubious claim that large tech companies create kill zones wherever venture capitalists refrain from investing in start-ups because Big Tech threatens to acquire them.[136] However, those acquisitions identified as problematic in academic papers and by the press have proven to be pro-competition overall, both serving consumers and helping those businesses enter new markets where tech platforms can topple traditional incumbents.[137]

Indeed, the claim that venture capitalists flee the tech industry wherever large digital platforms operate is unsubstantiated.[138] The specific study advocates of this claim often refer to is a widely "misinterpreted" blog post from Ian Hathaway.[139] Moreover, because of the relatively small impact of acquisitions by large tech companies, there is no evidence to suggest that these acquisitions impact the evolution of the venture capital markets.[140] Venture capitalists contest the fact that "kill zones" justify antitrust interventions.[141] Quite the contrary, "entry for buyouts" investments attract venture capitalists.

Thus, acquisitions of start-ups may not dry out investments, but rather attract them, as Gilbert explained:

> Some firms are motivated to invest in R&D by the prospect of a buy-out. Venture capitalists invest in many high-tech start-ups with the expectation that, if successful, they will be sold

> to established companies. The pharmaceutical industry alone witnessed more than 1,200 mergers and acquisitions in the years 2014–2016, totaling more than $750 billion in aggregate total deal value. Some of these acquisitions may have eliminated potential rivals. But other acquisitions rewarded innovations that would not have occurred if the entrepreneurs could not sell their R&D assets or license their discoveries to established companies. Many of these acquisitions combine complementary assets, such as R&D, clinical testing, marketing, and distribution, which cannot be economically duplicated by either the acquiring or the acquired firm. A prohibition on acquisitions would discourage innovation, and consumers would be worse off if the number of discouraged discoveries exceeded the number of products suppressed by acquiring firms.[142]

Venture capitalists contest the fact that "kill zones" justify antitrust interventions. Quite the contrary, "entry for buyouts" investments attract venture capitalists.

Nevertheless, economists often use a baseline scenario to conclude that anticompetitive tech mergers are both oversimplified and limited, which can be summed up using Motta and Peitz's assumptions:

> In our setting, a start-up can develop a project that succeeds with some probability. Whenever the start-up has the ability to pursue its project, the merger will be anticompetitive. The acquisition then becomes either a "killer acquisition" or an upgrade with suppressed competition. The merger can only be procompetitive if the start-up would not be able to pursue its project absent the merger and if the incumbent will have an incentive to develop the project after acquiring the start-up.[143]

This approach reveals that whenever a start-up envisages merging, the merger may be presumed to be anticompetitive. Indeed, since any start-up is built to pursue and complete its self-assigned projects, the possibility for a start-up to merge may presumptively be prohibited, thereby considerably increasing its exit barriers and barriers to expansion. External growth represents for start-ups a major source of scalability at great speed and low cost. We can see from the baseline scenario that it is for the merging firms to rebut this presumption ("the merger can only be procompetitive if…").[144] This rebuttal is made all the more difficult by the start-up having to demonstrate that it "would not be able to pursue its project absent the merger."[145] This is virtually never the case. All start-ups create projects they can pursue independently. The real question is how to pursue the project most efficiently, not whether the project is pursuable.

To illustrate how this standard de facto leads to the blocking of tech mergers, let's take two recent acquisitions frequently mentioned as evidence of inadequate merger enforcement: Facebook/Instagram and Facebook/WhatsApp. Would Instagram not have pursued its project (i.e., the Instagram app itself) independently absent the merger? Of course not. Instagram would have remained an unprofitable, low-investment, niche app without benefiting from the scale economies of Facebook and without turning into a shopping app and digital ad app capable of competing with other incumbents such as Amazon and Google. Would WhatsApp not have pursued its project (i.e., the messaging app itself) independently absent the merger? Of course not. WhatsApp would still have charged its customers for using its app rather than becoming the free messaging app it is today—but it would have certainly lived on.

Therefore, the question should not be whether blocking the merger would prevent the start-up from pursuing its project (since blocking mergers may, no matter what, lead to the project being continued differently). Instead, the question should be whether blocking the merger would prevent the start-up and the acquirer from developing specific capabilities essential for them to compete on the merits. If the merger would enable competition not on the merits, or if it would not lead to more innovation and instead harm competition, then stringent scrutiny of the merger by antitrust agencies would be warranted. Otherwise, creating specific capabilities and preserving the innovation incentives may suggest caution on the desire to block the merger.

Because of the efficiencies and innovation incentives inherent to mergers, current laws and merger guidelines capture the concerns raised by tech mergers, especially the so-called "killer acquisitions." This term was originally coined for mergers in the pharmaceutical industry—an industry we now turn to.

The Biopharmaceutical Industry

Some pundits claim that the biopharmaceutical industry is excessively concentrated.[146] In reality, the concentration ratio of this industry is relatively moderate, as the top eight firms share 58 percent of the market—a percentage antitrust agencies consider unconcentrated.[147] Indeed, Atkinson and Ezell have revealed that "in 2006, the top 10 drug producers accounted for 56 percent of global industry sales, a number that fell to 43 percent by 2019."[148] In 2019, the top four companies accounted for only 21 percent of global drug sales.[149]

Nevertheless, antitrust agencies are keen to scrutinize pharma mergers as a way of reducing pharmaceutical consolidation. The FTC in particular intends to do so under so-called "novel theories of harm."[150] This vague concept is aimed at blocking mergers that allegedly would be harmful to innovation yet go unchallenged by antitrust agencies. Thus, the belief that antitrust agencies and courts rarely scrutinize acquisitions of nascent competitors, especially in the pharmaceutical industry, is false.[151]

Nevertheless, the influential idea that some mergers may harm innovation by causing the discontinuation of certain products mainly stems from a March 2021 University of Chicago *Journal of Political Economy* article by Cunningham, Ederer, and Ma titled "Killer Acquisitions" that scrutinizes deals in the pharmaceutical industry.[152] On the other hand, some authors consider that killer acquisitions are nothing new and should not generate new antitrust concerns beyond the existing framework because, according to Limarzi and Phillips's article "'Killer Acquisitions,' Big Tech, and Section 2: A Solution In Search of A Problem," in CPI's *Antitrust Chronicle*, "[I]t's hard (and somewhat futile) to say whether existing tools are fit to meet a problem without knowing whether that problem exists."[153]

First, although the Cunningham, Ederer, and Ma article is widely quoted (primarily to justify aggressive merger enforcement), the discussion often overlooks some fundamental tenets of the article. For example, the authors considered that approximately 6.3 percent of the acquisitions they sampled were killer acquisitions—namely, mergers wherein the acquirer discontinued the acquiree's products in an attempt to thwart competition.[154] The authors referred to Schumpeter and argued that killer acquisitions might "stem the 'gale of creative destruction' of new inventions."[155]

Cunningham, Ederer, and Ma themselves acknowledge that product discontinuation may not necessarily be anticompetitive and anti-innovation. Indeed, less-efficient products can justify discontinuing the merged firm without harming both consumers/patients and innovation. Also, perfectly homogeneous drugs produced by both merging firms (either because of past imitation or the drugs having become standardized) may justify consolidation across business lines to reap the scale economies and network effects without harming consumers/patients and innovation. The authors cursively addressed this aspect in footnote 43, wherein, after having alleged that killer acquisitions reduce consumer surplus, they considered,

> Although killer acquisitions reduce consumer surplus, they need not reduce social surplus under a welfare standard that weights consumer surplus and producer surplus equally. This can occur if the entrepreneur's product partly duplicates development costs but does not provide sufficiently large increases in consumer surplus to fully compensate for the loss in producer surplus of the existing incumbents.[156]

In other words, assuming that the few identifiable "killer acquisitions systematically harm patients," some killer acquisitions may be pro-innovation and pro-competition, as they enable efficiencies that increase net social welfare overall. Consequently, the authors wisely refrained from inferring welfare implications from the killer acquisitions phenomenon:

> A comprehensive welfare analysis of the impact of killer acquisitions is, however, much more difficult, given the many different forces involved in the innovation process. In particular, such an analysis would have to quantify the impact on patient mortality, consumer surplus, technological spillovers from innovation, and ex ante incentives to generate new ideas. As a result, a formal welfare analysis is well beyond the scope of this paper.[157]

In other words, out of the approximately 6 percent of mergers identified as killer acquisitions, how many are welfare-decreasing and hence anticompetitive and anti-innovation? It is reasonable to predict that less than 50 percent of these killer acquisitions are potentially anticompetitive and anti-innovation, thereby confining this allegedly problematic phenomenon to an extremely marginal concern unworthy of altering merger law and enforcement principles?

Second, the authors referred to Schumpeterian competition but narrowed down the notion of innovation to product innovation (i.e., discontinuation of products that allegedly harm innovation). However, Schumpeter's notion of innovation is fivefold: product innovation, process innovation, market innovation, supply innovation, and organizational innovation. However, the authors wrongly equated reductions in product innovation with reductions in overall innovation.[158] Reducing product innovation (i.e., shutting down a product line) not only does not mean rivals cannot develop a similar product, but, most importantly, it does not mean that the merged firm reduces overall innovation. Should, say, organizational innovation or supply innovation be improved, the merged entity may develop stronger innovation capabilities than the former two entities could independently of each other. For instance, let's assume that two drug companies intend to merge. Company A produces a treatment, whereas company B produces the generic version of the same treatment. Arguably, the merged entity may have strong incentives to shut down the generic version of the treatment created by company B. Not only would it mean that other companies would still be able to enter the generic market company B once dominated, but most importantly, the reduced product innovation would need to be balanced against, say, the organizational innovation (e.g., cost efficiencies and enhanced capabilities) or the supply innovation (e.g., the acquisition of a valuable facility or marketable patents).[159] Unless the perspective on innovation is encompassing, the claims that mergers may harm innovation can only be truncated claims that partially portray the business dynamics.

It is important to remember that pharma mergers contribute to pharmaceutical innovation—a remarkable success of the U.S. pharmaceutical industry.[160] Contrary to the popular claim that pharmaceutical companies have diminished their R&D expenditures as a result of a merger wave, pharmaceutical companies have constantly increased (and improved) their R&D-to-sales ratios: From 2006 to 2018, this ratio increased by 11 percent, thereby suggesting a capital-intensive and knowledge-intensive industry competing through innovation efforts.[161]

Unless the perspective on innovation is encompassing, the claims that mergers may harm innovation can only be truncated claims partially portraying the business dynamics.

As empirical studies in the pharmaceutical industry reveal, size can be considered by far the most important contingency concerning the performance of firms.[162] Therefore, companies merge and then outperform their rivals due to having increased their innovation capabilities—although some mergers may temporarily reduce certain aspects of innovation. Still, dynamically, a firm's reorganization will enable it to innovate in a more diversified or more focused portfolio of drugs.

The scalability gained by U.S. drug companies has enabled them to reinforce their innovation efforts further. Indeed, as Atkinson and Ezell wrote,

> Drug companies in America are incredibly R&D intensive and have become even more so, with their R&D-to-sales ratio increasing from 11 percent in 2006 to 20 percent in 2018. The ratio for the top 20 U.S. companies increased from 15 percent in 2006 to 23.6 percent. Further, while drug revenues increased 56 percent from 2006 to 2018 (in nominal dollars), R&D increased by 85 percent.[163]

Pharma mergers may nevertheless deserve antitrust scrutiny, although the considerable innovation dynamics underpinning many of these deals suggest a workable antitrust framework. Professor Daniel Sokol has proposed such an antitrust framework for pharma mergers: "In the pharma setting, antitrust law needs to be careful to identify issues that killer acquisitions raise properly."[164] In addition, there is a need for a strong evidentiary basis before envisaging blocking a merger. As Sokol noted, "Without theories backed up by actual facts, antitrust law will chill innovation as investors are scared off from backing the next generation of biotech ventures for fear of lack of exit options for founders and investors to reap the rewards of a successful exit."[165] Such an evidentiary basis would involve two main issues:

- If the acquirer pays a lot of money and the target has already invested in the pipeline product (given it is already so advanced that is an actual threat to the acquirer), why assume the target will be killed, especially if there is at least some room for product differentiation (e.g., in anti-depressants)?
- How can we be sure the pipeline product would have become a significant constraint (i.e., the deal—assuming it will be killed—will lead to a substantial lessening of competition, given the internal sales forecasts are often overly optimistic?[166]

The recent focus on pharma mergers by antitrust agencies, such as the FTC's multilateral working group and public consultation, ought to ensure that the lack of an evidentiary basis does not lead to blocking procompetitive and pro-innovative mergers.[167] In that regard, a retrospective merger analysis of past pharma mergers would shed light on general business dynamics, and factual instances in particular. We articulate such recommendations in the last section of the report.

It thus appears that the FTC does not need novel theories of harm to apply to a merger, let alone to pharma mergers. Not only does R&D keep strengthening at the industry level and need to be assessed on a case-by-case basis, but many cases in the past reveal agencies' concerns over acquisitions of potential competitors well before the concept of killer acquisitions was formalized. Indeed, under the current approach, the FTC can effectively address killer acquisitions by alleging that the acquisition of a potential competitor may potentially stifle competition.[168]

Creative Industries

Creative industries are experiencing significant changes largely due to technological advancements.[169] For example, the music industry is not becoming digitalized—it is already a digital industry.[170] Or rather, the digital industry is a creative industry.[171] After all, tech platforms are part of the creative economy. Streaming platforms such as Spotify and Apple Music have become considerable forces alongside traditional music industry actors, accounting for two-thirds of all recorded music in the United States, and thus changing both industry business models and the relationship between label and artist.[172] However, although the economics have dramatically changed among music industry actors, record labels remain the key enablers for artists.[173]

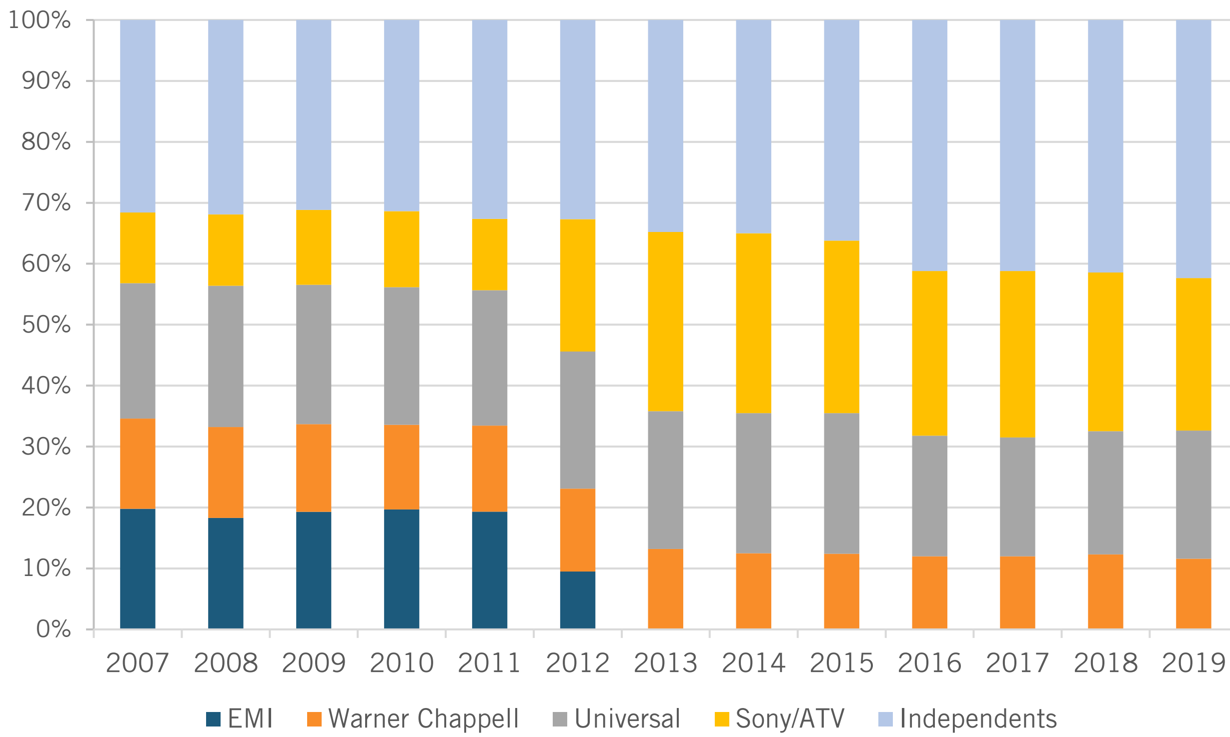
Despite the disruption of the tech platforms, enforcers and experts often consider the music industry to be excessively concentrated.[174] Therefore, enforcers and experts want to de-concentrate the music industry, notably with a stronger merger policy. However, this intention begs two related questions:

- Is the music industry excessively concentrated?
- Does the industry concentration justify a more aggressive merger policy?

On the first question, the Independent Music Publishers International Forum argues that mergers and acquisitions in the music industry are bad for independent music companies.[175] In fact, the market shares of the four largest music publishers and record labels have fallen since 2007.

In other words, as figure 7 shows, the market shares of independent music publishers have grown significantly, and are hardly evidence of concentration problems. The digitalization and platformization of the creative economy in large part explain this underlying trend.

Figure 7: Revenue market share of the largest music publishers[176]



The U.S. Census data from 2017 reveals that the top four firms in the music publishing business (NAICS code 512230) increased their market share by just 1.6 percentage points, from 55.4 percent in 2002 to 57 percent in 2017—and it remains moderately concentrated today.[177]

In the related industry of sound recording studios (NAICS code 512240), the concentration ratio went from 9.7 percent in 2002 to 12 percent in 2017, showing that it is not concentrated.[178] Therefore, the music industry appears to be either not concentrated (i.e., the sound recording studios) or moderately concentrated (i.e., music publishers). In any case, concentration did not significantly increase from 2002 to 2017.

The second question on whether merger enforcement should be tougher in the music industry suggests that antitrust agencies have heretofore not scrutinized music mergers. Again, this is not the case. First, corporate consolidation in the music industry constitutes a key aspect of the risk-management tools available to major labels. Indeed, Passerard and Cartwright considered that

> while pricing, promotion, product quality and brand credibility are important factors for major labels and sub-labels, risk reduction by portfolio management is now one of the key motivations for major labels that manage sub-labels as separate assets … today, the importance of the music label to consumers is less evident, and they primarily act as financial and marketing organizations. In this sense, we observe a shift from the label as having a highly visible business-to-consumer (B2C) function to something closer to business-to-business (B2B) or even business-to-artist (B2A).[179]

Consequently, music labels diversify their music styles with labels and sub-labels as financial enablers and marketing engines. Moreover, investments in music catalogs have recently boomed as diversity in music streaming and offerings have proven to be critical in outcompeting rivals. For instance, Warner closed a $650 million fund to acquire music catalogs, Kobalt generated a $600 million acquisition fund, and other private equity firms have acquired millions of songs.[180]

A July 2021 report from a U.K. parliamentary committee—which seems to ignore the notion of music labels as financial enablers altogether—slams streaming platforms for paying "pitiful returns" to artists.[181] The remuneration proposals of the report do seem unreasonable, and it also carefully avoids discussing music streaming platforms. Pragmatically, out of a $10 monthly subscription on Spotify (the most popular streaming platform), the platform generally takes a cut of 30 percent, with the remaining $7 is shared among labels, songwriters, music publishers, artists, and others.[182] The way each stakeholder is compensated mainly depends on the risks taken and investments made earlier. The labels function as pooling organizations wherein successful artists reclaim lost investments made on unsuccessful artists. Scalability through mergers also enables music labels to provide greater financial capacity to perform their core mission of discovering artists and then helping them thrive.[183]

In addition, antitrust agencies scrutinize every big music merger, as critics of such mergers acknowledge.[184] While merger scrutiny has not declined, the industry's changing nature justifies these mergers being subject to approval. For instance, the merger between Universal Music Group (Universal) and EMI Music (EMI) in 2012—respectively the largest and fourth-largest major record companies at the time—was justified using the failing-firm doctrine, according to which the merger was allowed because the acquired entity might experience a business failure and there was no other acquirer.[185] As a result, this merger was investigated by multiple antitrust authorities worldwide and even spurred congressional hearings.[186]

Given the economic crisis generated by the COVID-19 pandemic and its massive impact on the music industry, this failing-firm doctrine may be relevant for foreseeable music mergers in the sector wherever consolidation appears necessary (because of financial constraints) and desirable (because of fierce global competition). Indeed, as Brian Penick wrote in *Forbes*, "The music industry has already begun a shift towards consolidation, and COVID-19 will likely accelerate this trend."[187]

As the music industry endured the COVID-19 crisis, financial consolidations and the shift toward larger, ever-diversified music catalogs led to future acquisitions. These acquisitions also involved independent music companies. For example, Reservoir Holdings, the leading independent label, has recently announced that, through a proposed merger, it will be listed on NASDAQ.[188] As consolidation intensifies, antitrust enforcers should consider the need to preserve both the unparalleled creativity of artists and the digital innovation of an industry at a crossroads.[189]

HOW NOT TO CHANGE MERGER REVIEW

The current drive to alter merger policy is grounded on an anti-big-business populism that rejects the role of large corporations in the economy and society.[190] Achieving such a vision by putting in place an aggressive merger policy similar to the one prevalent in the 1960s when misguided structural analysis prevailed would be bad for the economy, workers, and consumers.[191] Although unwarranted, an aggressive merger policy is possible under current rules. However, merger rules do not need to be changed, and an aggressive merger policy would be ill-advised. Rather, regulators should embrace an innovation-centric approach to merger policy.

CALERA May Harm Innovation

Legislative proposals, such as CALERA, aimed at replacing the standard "substantially to lessen competition" with a standard whereby regulators scrutinize mergers whenever they "create an appreciable risk of materially lessening competition" represent a risk to procompetitive, pro-innovation mergers.[192] This expression would lower the standard for scrutinizing mergers, as the undefined notion of a potential "appreciable risk" nevertheless suggests a much lower threshold for merger control than actual demonstration that the merger is substantially lessening competition. Moreover, the proposed expression may generate further legal confusion because of the absence of a definition of the proposed words.

CALERA would have "codified" the harmful case of the *Philadelphia National Bank*, and would eliminate several important common-law defenses in cases of potential antitrust violations.[193] Current legislative proposals, as well as regulatory initiatives, aim at turning merger review principles upside down. For example, CALERA would shift the burden to prove that a proposed merger would "substantially lessen competition" from the government to companies.[194] Also, the bill would lower the standards of proof, as mergers would be blocked not only whenever they "substantially lessen competition" but when they merely "create an appreciable risk of materially lessening competition."[195] In practice, combining both a shifted burden of proof and a lowered standard of proof would quasi-automatically make any potential acquisition by a large company one that likely violates merger laws.

Moreover, an asymmetric regulation for merger control applicable only to large firms would undermine the principles of fair competition and the necessary level playing field across companies.[196] Acquisitions valued at $5 billion or more, or those in which the acquirer has assets, net annual sales, or a market capitalization of more than $100 billion and makes an acquisition of $50 million or more, would likely be deemed illegal under CALERA given the presumed illegality and the virtually nonexistent efficiency and innovation defenses.[197] The goal seems not to identify possibly anticompetitive mergers better, but rather to block all mergers involving large companies, irrespective of the efficiencies and benefits for the acquirees and society. Rather than strengthening the current focus on firms' conducts, CALERA resurrects an approach based on market structure. The bill would also run against some antitrust principles such as the burden and standard of proof and the efficiency defenses.

Hovenkamp and Shapiro rightly argued that "for over one hundred years, the goal of merger policy has generally been to promote competition. Thus, preventing markets from becoming highly concentrated through mergers has been seen as a *means* to promoting competition, not as a separate goal in and of itself."[198] (emphasis in original). But they also rightly added that "market structure has been a means of tackling merger law's more fundamental concerns, which are higher prices or reduced output or other consumer harms that result from less competitive market structures."[199]

In other words, we can map out the correlation between market structure and merger policy goal as follows:

Traditional Causation in Merger Policy				
Market Structure	→	Market Concentration	→	Merger Policy Goal

By no longer focusing on market structure as a means but as a goal in and of itself, the current legislative proposals reverse traditional causation, thereby setting an atomized market structure that prevents companies from gaining scale as a primary goal:

New Proposed Causation in Merger Policy				
Merger Policy	→	Market Concentration	→	Market Structure Goal

The proposed causation in merger policy aims at achieving an atomized market structure. Merger policy would serve markets made of small businesses, by small businesses, and for small businesses.[200] Thus, the numerous advantages of economic scale and corporate bigness are ignored.[201]

An asymmetric regulation for merger control applicable only to large firms would undermine the principles of fair competition and the necessary level playing field across companies.

The atomized market structure becomes the goal, and small businesses become more likely to become insulated from competitive rivalry exerted through consolidations. This new merger policy would therefore damage market dynamics and hurt both large and small businesses.

An Aggressive Merger Policy May Harm High-Growth Start-Ups

In a recent analysis, Luís Cabral found that a much more restrictive merger policy would undermine the innovation incentives for entrepreneurs to enter the market because acquisitions would become more difficult.[202] Indeed, dynamic analysis of mergers shows that small businesses may systematically gain from mergers as "[t]he prospect of a windfall gain from a buy-out offer by the leading firm generates additional entry that otherwise would not occur. This is possible even with a single dominant firm in an industry and does not require competition among dominant firms to buy-out nascent competitors."[203]

In that regard, a restrictive merger policy would harm many small growth-oriented businesses and reduce the exit options for high-growth entrepreneurs. High-growth start-ups always face the "scale-ups crossroad" wherein they have three main options.[204] The first is to stay private and grow internally. The second is to go public, which involves significant Initial Public Offering (IPO) costs and the loss of control over the company by being accountable to shareholders. The third option is to be acquired, which means getting paid but relinquishing some control to the acquirer to either become an independent entity within a larger corporation or be absorbed fully.[205] By closing the doors to being acquired, an aggressive merger policy leaves start-ups with only the first two options if they want to scale up. An optimal dynamic policy on mergers requires that antitrust agencies not only assess the post-investment efforts of the merged entity (as the proponent of the killer acquisitions narrative would focus on), but also, and most importantly, on the premerger investment incentives.

In addition, a restrictive merger policy may prevent a large company from acquiring a small business and their valuable products and services at the latter's expense more than the former's. For instance, the large company may spend more time and resources building up imitators or similar products and services provided by the small company if acquisition cannot occur. Thus, the small business's inability to be acquired may generate competition rather than collaboration at the expense of the very viability of the innovative small business.

An optimal dynamic policy on mergers requires that antitrust agencies not only assess the post-investment efforts of the merged entity (as the proponent of the killer acquisitions narrative would focus on), but also and most importantly on the premerger investment incentives.

Rather than implementing a harmful restrictive merger policy, antitrust regulators should develop a merger policy based on preserving the innovation process—or the process of creative destruction in Schumpeterian language. Indeed, Schumpeterian competition characterizes a dynamic approach to competition. It is how companies inevitably operate in today's economy, which is characterized by innovation-driven, capital-intensive rivalry.[206] Schumpeterian competition supports the idea that firms compete *for* the market, thereby enjoying transitory market dominance to compete effectively, rather than competing merely *in* the market. As companies are bound to operate within Schumpeterian competition because of disruptive innovation and network effects, antitrust agencies must endorse a dynamic approach to this competition, particularly merger analysis.[207]

An optimal dynamic policy on mergers requires that antitrust agencies not only assess the post-investment efforts of the merged entity (as the proponent of the killer acquisitions narrative would focus on), but also and most importantly on the premerger investment incentives.[208]

HOW TO REFORM MERGER REVIEW UNDER AN INNOVATION- AND PRODUCTIVITY-CENTRIC APPROACH

An optimal merger policy would preserve the economic growth made over the last few decades while addressing, under current laws, the limited concern over killer acquisitions. The following section provides recommendations for a merger policy consistent with preserving the process of creative destruction.[209]

Develop Wide-Ranging Retrospective Merger Evaluations

The outcomes of mergers remain largely unknown, with antitrust agencies engaging in guesswork without relevant information.[210] As a result, the predictive exercise inherent to merger control suffers considerable limitations. Retrospective merger analysis therefore improves the predictive exercise of merger policy. Indeed, an optimal merger policy is not possible without systematic retrospective merger evaluation. Ex post merger evaluation helps regulators design optimal merger policy thanks to an analysis of the predictions made by antitrust agencies during ex ante merger reviews.[211] Since merger review remains a predictive exercise, it is important to evaluate these predictions with retrospective merger analysis.[212] In particular, beyond the traditional predictions on price effects and market structure, testing the predictions made regarding innovation effects would prove useful to inform more accurate merger policy decisions in the future.[213] Unfortunately, ex post merger analysis remains weak and rare.

To the extent retrospective merger analysis is practiced, it focuses largely on price effects, and less on productivity and innovation effects.[214] The innovation and productivity effects of mergers encompass R&D expenditures, numbers of patents, levels of investments in infrastructure, output per employee, and quality increases. [215]

From a legal-certainty and innovation-incentives angle, retrospective merger analysis does not, and should not, imply that consummated mergers need to be undone.[216] Rather, it should inform future merger decisions. As such, antitrust agencies should systematically retrospectively evaluate past merger analyses so that discrepancies between predictions and reality could be used to better inform future merger analysis. To the extent the agencies need more resources for this process, Congress should provide the funding.

Revise Merger Guidelines, With an Emphasis on Lowering Entry and Exit Barriers

Killer acquisitions might be an antitrust problem, but first, one must differentiate "enabler" acquisitions from "killer" acquisitions—namely, the acquisitions that strengthen competition and innovation by providing scalability versus acquisitions exclusively aimed at undermining competition and innovation.[217] To foster the process of creative destruction, entry barriers must remain reasonably low. But, of course, there cannot and should not be "free entry," as this would imply an ideal of "perfect competition," which disallows the very entry, as Schumpeter eloquently explained:

> Perfect competition implies free entry into every industry…. But perfectly free entry into a new field may make it impossible to enter it all. The introduction of new methods of production and new commodities is hardly conceivable with perfect—and perfectly prompt—competition from the start. And this means that the bulk of what we call economic progress is incompatible with it.[218]

Free entry implies no entry since no entrepreneurial rents can be generated in a new market or innovation. Consequently, although artificially high entry barriers necessarily may raise antitrust concerns, their presence as a prerequisite to innovation capabilities needs to be weighed against potential anticompetitive effects. Otherwise, there is a considerable risk of misperceiving any entry barrier as evidence of anticompetitive behaviors. A merger policy preserving the process of creative destruction would not include entry barriers that block the mergers but would consider exit barriers, thereby possibly leading to unfair competition outcomes.

Merger policy has also notoriously overlooked the issue of exit barriers.[219] Mergers often function as an exit strategy for many firms (e.g., failing firms, especially during and after recessions; nascent firms in need of increased capitalization; firms in niche markets in need of diversification/complementarities; etc.). A merger policy that would preserve the process of creative destruction would seek to minimize exit barriers—namely the probability for antitrust agencies to block certain mergers.

Presumptive rules, either for or against mergers, that address killer acquisitions are not warranted, as they could have the creeping effects of being initially applied to alleged killer acquisitions before being generalized to all sorts of mergers.[220] Thus, a marginal alteration of merger analysis would suffice. Indeed, merger guidelines may adjust to the phenomenon of killer acquisitions even though the problem remains rarer than commonly discussed.

In that regard, as President Biden's executive order calls for revision of both the 2020 Vertical Merger Guidelines and the 2010 Horizontal Merger Guidelines, antitrust agencies may seize this opportunity to ensure that merger control addresses concerns over artificially high entry barriers and blocking mergers occasionally increasing exit barriers for small companies at the expense of the process of creative destruction. We concur with the 2007 report from the Antitrust Modernization Commission, which acknowledges that there is no need to change merger laws because they are flexible enough to capture all potential antitrust concerns arising from vertical or horizontal mergers.[221]

A merger policy preserving the process of creative destruction would not include entry barriers that block the mergers but would consider exit barriers, thereby possibly leading to unfair competition outcomes.

Still, an update of the Merger Guidelines may prove useful only if innovation becomes a central condition, as such revisions lead to an even less structuralist approach and a more innovation-based approach. In particular, new guidelines should better recognize innovation as a source of competition. Accordingly, merger guidelines should better consider Schumpeterian competition as a potential source of both merger concern (i.e., harm to innovation claims) and merger defense (i.e., imperfect competition with efficient market power).[222]

Balance Blocking Mergers With Mandatory Licensing

Killer acquisitions, while rare, can exist and are hardly new. The acquisition of nascent competitors by large companies has historically been a core concern of merger control.[223] Moreover, the 2010 Horizontal Merger Guidelines already address this issue, and also rightly point out that "reductions in variety following a merger may or may not be anticompetitive."[224] In other words, a full application of the rule of reason must apply to all mergers, killer acquisitions included.

Antitrust authorities could remedy the mergers that may generate competition concerns rather than purely block them with mandatory licensing. The merged firm could thus reap the multiple benefits of pooling resources while the antitrust authorities ensure that the market can utilize the nonexclusive licenses.[225]

Indeed, mandatory licensing can be a less costly alternative to blocking mergers.[226] In other words, after having conducted a dynamic analysis of an envisaged merger, antitrust agencies should weigh out the costs and benefits of blocking the merger with the costs and benefits of allowing the merger with a compulsory licensing mandate as part of the remedies enjoined. This approach could have considerable benefits over blocking the merger.

The merged company may reap the scale economies in many aspects, including the technology under licensing obligations. For instance, human resources, facilities, and expertise are among the valuable synergies the merger would allow. On the other hand, the licensing mandate may ensure competition on the downstream market to exploit the technology without preventing dynamic capabilities ushered in through flourishing integration. Also, approved mergers subject to compulsory licensing may help spread the technology more rapidly.

Increase Agencies' Resources

Many legislative proposals are aimed at bolstering the enforcement capabilities of antitrust agencies. These additional resources would come from increased appropriations and a raise in merger filing fees.

Although the practicalities of an increase in resources are debatable, there is a strong justification for increasing the resources of federal antitrust agencies to scrutinize better certain mergers—especially the complex mergers involving companies in rapidly changing market environments—and to do more-thorough post-merger analysis.

Indeed, recent empirical studies have demonstrated that increasing agencies' budgets would lead to increased merger scrutiny. For example, Macher and Mayo found that agency budget increases have

> a positive and statistically significant effect on merger challenges ... For instance, the estimations indicate that a ten percent increase from 2017 agencies' funding levels (i.e., from $478M to $526M) would yield an increase in the eligible [Merger Enforcement Intensity] from 2.8 percent to 2.9 percent and would generate roughly an eight percent increase in the number of merger challenges (from 45.7 to 49.2).[227]

Consequently, increasing agencies' budgets may help antitrust enforcers scrutinize and engage in fact-finding exercises for complex merger cases.

CONCLUSION

Claims that merger enforcement has declined significantly and that merger laws are inadequate to address current economic challenges are unsubstantiated. The FTC's decision to withdraw the 2020 Vertical Merger Guidelines without specific guidance other than to embrace a return to a more formalistic, less economic approach to merger reviews may harm the process of creative destruction which inherently generates competitive rivalry. Also, the killer acquisition narrative largely fails to provide substantiating evidence even when that is the main rationale of a study, as illustrated by the FTC's September 15, 2021 staff report on unreported acquisitions by large technology companies.

Consequently, efforts to significantly change merger law risk harming U.S. innovation, competitiveness, and economic growth. Rather than engaging in major structural changes of merger law, Congress should focus on more modest proposals that address the need to adjust merger policy without undermining the process of creative destruction that inherently drives most mergers. Contrary to current proposals, the recommendations we've articulated would modernize merger policy without stifling innovation and productivity growth.

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ENDNOTES

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40. Joseph A. Schumpeter, *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle* (Cambridge, MA: Redvers Opi), 402–404.

41. Ibid.

42. Gilbert and Katz, “Dynamic Merger Policy and Pre-Merger Investment”; Joe Kennedy, “Monopoly Myths: Is Big Tech Creating ‘Kill Zones’?” (ITIF Report, November 2020),

https://itif.org/publications/2020/11/09/monopoly-myths-big-tech-creating-kill-zones (concluding that antitrust concerns for killer acquisitions are exaggerated).

43. Data available at: https://www.ftc.gov/policy/reports/policy-reports/annual-competition-reports.

44. FTC, "Annual Report of the Federal Trade Commission for the Fiscal Year Ended June 30, 1948" (Washington, D.C., 1948), https://www.ftc.gov/sites/default/files/documents/reports_annual/annual-report-1948/ar1948_0.pdf. Also, noting at 18 that "immediately at the end of both wars, merger activity increased sharply, the post-World War I movement extending through 1919, 1920 and the early part of 1921, until it was interrupted by the post-war depression. Again, in the middle 1920's, when prosperous condition had returned, the trend took on new force, reaching all-time heights in 1928 and 1929. In much the same manner, merger activity turned sharply upward with the end of World War II."). As the post-COVID economy experiences growth increases similar to post-war growth increases, we would expect government officials to accompany, not deter, inevitable new merger waves.

45. Patrick A. Gaughan, *Mergers, Acquisitions, & Corporate Restructurings*, Seventh Edition (Hoboken, NJ: John Wiley & Sons, 2018), 49.

46. Merger enforcement actions comprise Part 2 consents, federal injunctions, Part 3 administrative complaints, and abandoned/fix-it-first/restructured remedies. Data from the FTC and DOJ's Antitrust Division activities. Data available at https://www.ftc.gov/competition-enforcement-database.

47. Jeffrey T. Macher and John W. Mayo, "The Evolution of Merger Enforcement Intensity: What Do the Data Show?" *Journal of Competition Law & Economics* (2021), https://academic.oup.com/jcle/advance-article-abstract/doi/10.1093/joclec/nhaa037/6124659.

48. FTC/DOJ, "Hart-Scott-Rodino Annual Report. Fiscal Year 2019," https://www.ftc.gov/system/files/documents/reports/federal-trade-commission-bureau-competition-department-justice-antitrust-division-hart-scott-rodino/p110014hsrannualreportfy2019_0.pdf.

49. Macher and Mayo, "The Evolution of Merger Enforcement Intensity."

50. Ibid.

51. Ibid.

52. FTC/DOJ, "Hart-Scott-Rodino Annual Report. Fiscal Year 2019."

53. *Northern Securities Co. v. United States*, 193 U.S. 197 (1904).

54. *Microsoft II*, 253 F.3d 34, 79 (D.C. Cir. 2001) (en banc) (per curiam).

55. Richard J. Gilbert and Hillary Greene, "Merging Innovation into Antitrust Agency Enforcement of the Clayton Act," *The George Washington Law Review*, Vol.81 (2015), 1919–1947, https://opencommons.uconn.edu/law_papers/401/ (arguing that antitrust agencies should "provide greater transparency to antitrust practitioners and the business community, and possibly sharpen their analytical approach, if the agencies describe their innovation concerns with greater specificity when merger challenges allege harm to innovation").

56. Such circumvention was blatant in the case of *United States v. Celanese Corporation of America* 91 F. Supp.14 (S.D.N.Y. 1950) where it was held that "a merger with another company … does not constitute an indirection acquisition of stock, although it is an acquisition of the property represented by the stock, and although an acquisition of stock may be incidental to the merger."

57. Gregory J. Werden, *The Foundations of Antitrust. Events, Ideas, and Doctrines* (Carolina Academic Press: Durham, NC, 2020), 143.

58. Robert H. Lande, "Resurrecting Incipiency: From Von' Grocery to Consumer Choice," Antitrust Law Journal, Vol.68(3) (2001), 875–898, https://www.jstor.org/stable/40843499.

59. Fiona Scott Morton and Herbert Hovenkamp, "Horizontal Shareholding and Antitrust Policy," *Yale Law Journal*, Vol.127 (2018), 2026–2047, https://www.yalelawjournal.org/feature/horizontal-shareholding-and-antitrust-policy (considering that the "solely for investment" exemption in

horizontal shareholding acquisitions does not obliterate the fact that "existing tools of antitrust merger enforcement are sufficient to support challenges to those acquisitions").

60. These categories are the "Investment Purposes Only" exemption, the "Ordinary Course of Business" exemption, the non-income-producing property exemption, the new facilities exemption, the unproductive real property exemption, the office and residential property exemption, the hotels and motels exemption, the recreational land exemption, the agricultural property exemption, the retail rental space and warehouse exemption, the investment in rental properties exemption, the real estate investment trusts exemption, the carbon-based mineral reserves exemption, the noncorporate interests in entities exemption, the acquisition of stock options and warrants exemption, the acquisition of securities underwriters exemption, the intraperson transactions exemption, the stock dividend and splits exemption, the acquisition of noncorporate interests exemption, the acquisition of non-U.S. interests exemption, the acquisition of foreign assets exemption, the acquisition of voting securities of a foreign issuer by a U.S. person exemption, the acquisition of voting securities of a foreign issuer by a foreign person exemption, the acquisition of creditors exemption, and the acquisition of by institutional investors exemption.

61. See Amy Klobuchar, *Antitrust. Taking on Monopoly Power from the Gilded Age to the Digital Age* (New York: Penguin House (2021) (arguing at 35 that "every proposed major merger, as well as efforts by dominant firms to gobble up nascent competitors (see Facebook's acquisition of Instagram and WhatsApp), should certainly be scrutinized properly."); See also Musadiq Bidar and Jack Turman, "Klobuchar pushes for antitrust enforcement of big tech," CBS news, March 19, 2021, https://www.cbsnews.com/news/antitrust-laws-enforcement-big-tech-klobuchar/ (noting that Sen. Amy Klobuchar said that "lawmakers need to look back at Facebook's purchase of Instagram in 2012 and WhatsApp in 2014, adding that it is not too late to break them up").

62. Federal Trade Commission, "FTC Closes Its Investigations Into Facebook's Proposed Acquisition of Instagram Photo Sharing Program," Press Release, August 22, 2012, https://www.ftc.gov/news-events/press-releases/2012/08/ftc-closes-its-investigation-facebooks-proposed-acquisition.

63. See the U.K. competition authority's decision, Office of Fair Trading, Facebook/Instagram Inc., August 14, 2012, https://assets.digital.cabinet-office.gov.uk/media/555de2e5ed915d7ae200003b/facebook.pdf. See also Josh Constine, "Why the OFT and FTC Let Facebook Buy Instagram: FB Camera Is Tiny, IG Makes No Money, and Google," *TechCrunch*, August 23, 2012, https://techcrunch.com/2012/08/22/ftc-facebook-instagram/.

64. Joe Kennedy, "Monopoly Myths" (noting that "the vast majority of the cases … involved either the acquired copying a technology that was introduced by another firm and thereby giving consumers another product to choose from, or using technology to enter a related market, thereby increasing the number of competitors. Both are procompetitive").

65. Intellectual Property Guidelines (1995), 738. See Richard J. Gilbert and Steven C. Sunshine, "Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets, Antitrust Law Journal, Vol.63 (1995), 569–601, https://www.jstor.org/stable/40843292 (who argue that "Section 7 jurisprudence can accommodate the innovation markets approach"). See also Richard J. Gilbert, *Innovation Matters. Competition Policy for the High-Technology Economy* (Cambridge, MA: MIT Press, 2020), summing the recommended shift from price-centric to innovation-centric antitrust with respect to mergers by stating that "price-centric antitrust enforcement prevents mergers that are likely to raise prices, and prevents firm conduct that excludes competition for existing products and services. Innovation-centric antitrust enforcement does not abandon these concerns, but it augments them by challenging mergers and firm conduct that are likely to harm innovation and competition for products that do not presently exist." See also Richard J. Gilbert, "Competition, Mergers, and R&D Diversity," *Review of Industrial Organization*, Vol.54 (2019), 465–484, https://doi.org/10.1007/s11151-019-09679-5.

66. Antitrust Modernization Comm'n, Report And Recommendation (2007), http://govinfo.library.unt.edu/amc/report_recommendation/amc_final_report.pdf.

67. Ibid.

68. U.S. Department of Justice, "Antitrust Division Policy Guide to Merger Remedies," September 2020, https://www.justice.gov/atr/page/file/1312416/download. In 2004, the Antitrust Division issued a policy guide to merger remedies wherein the agency considers that divestitures (i.e., structural remedies) "are preferred" over conduct remedies because they are "relatively clean and certain, and generally avoid costly government entanglement in the market." See U.S. Department of Justice, "Antitrust Division Policy Guide to Merger Remedies," October 2004, https://www.justice.gov/atr/page/file/1175136/download.

69. Christopher A. Wetzel, "Strict(er) Scrutiny: The Impact of Failed Divestitures on U.S. Merger Remedies," *Antitrust Bulletin*, Vol.64(3) (2019): 345, https://doi-org.mutex.gmu.edu/10.1177/0003603X19863587; (noting that "merger parties and prospective buyers must nevertheless be aware that the agencies are operating against the backdrop of mixed results from recent divestitures and appreciate the agencies' consequent sensitivity to buyer qualifications in order to deliver effective advocacy when seeking approval of a proposed merger remedy").

70. Deloitte, "2020 Global Divestitures Survey. Defensive M&A for a resilient portfolio," 5, https://www2.deloitte.com/content/dam/Deloitte/us/Documents/mergers-acqisitions/2020-global-divestiture-survey.pdf.

71. One of the rare accounts of the antitrust effects of mergers analyzed together with divestitures is a PhD. Thesis by Adel Bino, "Essays on the Impact of Antitrust Regulation on Corporate Mergers and Divestitures," *Doctoral of Philosophy in Financial Economics, University of New Orleans* (2007), https://scholarworks.uno.edu/td/1074/.

72. Les Baird et al., "Preparation Equals Greater Value," January 14, 2020, https://www.bain.com/insights/divestitures-global-ma-report-2020/.

73. Matthias F. Brauer and Margarethe F. Wiersema, "Industry Divestiture Waves: How a Firm's Position Influences Investor Returns," *The Academy of Management Journal*, Vol.55(6) (2012), 1475, https://www.jstor.org/stable/23414264 (who demonstrate that investors consider the divesting firms' social context to infer potential returns on divestitures).

74. Donald D. Bergh, "Predicting Divestiture of Unrelated Acquisitions: An Integrative Model of Ex Ante Conditions," *Strategic Management Journal*, Vol.18(9) (1997):715–731, https://www.jstor.org/stable/3088135.

75. Les Baird et al., "Preparation Equals Greater Value."

76. *Steves and Sons Inc. v. JELD-WEN Inc*, 2021 WL 630521 (Feb. 18, 2021).

77. John Kwoka, "You Say You Want an Antitrust Revolution? The Paradox of Modern Merger Control," *Antitrust Bulletin*, Vol.65(4), 2020, 573, https://doi-org.mutex.gmu.edu/10.1177/0003603X20950201.

78. U.S. Department of Justice, "Antitrust Division Policy Guide to Merger Remedies," September 2020, 7, https://www.justice.gov/atr/page/file/1312416/download.

79. Keith N. Hylton, *Antitrust Law. Economic Theory & Common Law Evolution* (Cambridge, MA: Cambridge University Press, 2003), 317 (arguing that "one should predict that over the long run, an antimerger statute that the government must enforce will retina substantial portions of per se liability").

80. Respectively, Competition and Antitrust Law Enforcement Reform Act of 2021 (CALERA), S. 225, 117th Cong. (2021); Platform Competition and Opportunity Act, H.R. 3826, 117th Cong. (2021).

81. For a discussion, see Herbert Hovenkamp, *The Opening of American Law: Neoclassical Legal Thought*, 1870–1970 (Oxford: Oxford University Press, 2015), Ch.11

82. See Debra A. Valentine, "Prepared Remarks Before INECOPI Conference," Federal Trade Commission, August 13, 1996, https://www.ftc.gov/public-statements/1996/08/evolution-us-merger-

law (considering then that "the evolution that I will outline has been in the right direction, to the point that today we believe that US merger policy and its enforcement tools produce a result that is in the best interest of the US and US consumers").

83. *Brown Shoe C. v. United States*, 370 U.S. 294 (1962).
84. *Philadelphia National Bank*, 374 U.S. 321, at 364 n.41 (arguing, "Needless to say, the fact that a merger results in a less-than-30% market share, or in a less substantial increase in concentration than in the instant case, does not raise an inference that the merger is not violative of § 7 [of the Clayton Act]").
85. *United States v. E.I. du Pont de Nemours & Co.*, 35 U.S. 586 (1957).
86. *United States v. E.I. du Pont de Nemours Co.*, 366 U.S. 316 (1961).
87. Another famous case is *Von's Grocery*, 384 U.S. 270 (1966) (wherein the Supreme Court relied even more heavily on the mere number of rivals and the exceedingly early trend toward market concentration); See also Herbert Hovenkamp, *Principles of Antitrust*, Second Edition (St Paul, MN: West Academic Publishing, 2021) (noting that "the merger policy of the Warren Court in the 1960's … condemned mergers because they created certain efficiencies."
88. Werden, *The Foundations of Antitrust. Events, Ideas, and Doctrines* (noting that current proposals "would be those established by the Supreme Court in the 1960s and 1970s"); Beyond neo-Brandeisians, earlier suggestions were made, notably by Lande, "Resurrecting Incipiency," 875–898, https://heinonline.org/HOL/P?h=hein.journals/antil68&i=885 (considering that "since many mergers are abandoned after they are challenged, the enforcers do have a limited ability to implement a weak version of the incipiency doctrine even now").
89. Lina Khan and Sandeep Vaheesan, "Market Power and Inequality: The Antitrust Counterrevolution and Its Discontents," *Harvard Law & Policy Review*, Vol.11 (2017), 281, https://heinonline.org/HOL/P?h=hein.journals/harlpolrv11&i=241.
90. Ibid, 287 ("In the merger context, an effective approach would mean enjoining mergers in their entirety rather than accepting divestitures or conduct remedies.").
91. Hylton, *Antitrust Law*, 317.
92. The change started in 1974 with the case *United States v. General Dynamics Corp.*, 415 U.S. 486 (1974) (wherein the Court rejected the incipiency doctrine of Brown Shoe by looking beyond the mere market share and number of competitors to consider the effects of long-term supply contracts on mitigating the effect of disappearance of the acquired company on substantially lessening competition).
93. See, for instance, Portuese, "Principles of Dynamic Antitrust" (arguing that "per se presumptions and prohibitions must be abandoned, as they prevent judges from conducting a necessary balancing exercise between pro- and anticompetitive effects of firms' conduct"); Steven C. Salop, "Invigorating Vertical Merger Enforcement," *The Yale Law Journal*, Vol.127 (2018), 1962–1994, 1987.
94. Steven C. Salop, "The Evolution and Vitality of Merger Presumptions: A Decision-Theoretic Approach," Antitrust Law Journal, Vol.80 (2015), 271.
95. *Philadelphia National Bank*, 374 U.S. 321, at 363.
96. For instance, in *Northern Securities Company v. United States* decided in 1904, the Supreme Court laid down a per se illegality rule against all mergers between directly competing firms as such mergers were deemed to violate Section 1 of the Sherman Act. This per se illegality rule was abandoned in 1911 with the Standard Oil decision and confirmed in *United States v. United States Steel Corp.* in 1920. The case of 1962 *Brown Shoe Co v. United States* first articulated a rule of reason but then ignored it to find that the merged company holding slightly more than five percent of a relevant market violates antitrust laws.

97. See, for instance, Salop, "The Evolution and Vitality of Merger Presumptions," 269–306 (praising the *Philadelphia National Bank* case as having "formulated what we would now call a 'quick look' type of decision process").
98. For a critical analysis of such a trend, see Jonathan B. Baker and Steven C. Salop, "Should Concentration Be Dropped from the Merger Guidelines?" *University of West Los Angeles Law Review*, Vol.33 (2001), https://digitalcommons.wcl.american.edu/facsch_lawrev/1922/.
99. Hylton, *Antitrust Law*, 330.
100. For instance, see *United States v. Baker Hughes Inc*., 908 F.2d 981 (D.C. Cir.1990) (where the court rejected the "clear showing" presumption since its "overstates the defendant's burden" to rebut the presumption); *FTC v. H.J. Heinz Co*., 246 F.3d (D.C Circ 2001) (which demonstrated further accommodating view for efficiencies defense).
101. Jeffrey T. Macher et al., "The Evolution of Judicial Standards: Evidence from Litigate Merger Trials," March 2021, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3651485 (who finds that "the Agency win rate has increased markedly since 1990–1999: from 34.6 percent to 71.4 percent during2000–2009 and 80.0 percent during2010–2019").
102. Gilbert and Greene, "Merging Innovation into Antitrust Agency Enforcement of the Clayton Act" (noting that "innovation would not receive meaningful treatment withing merger guidelines until 2010").
103. U.S. Department of Justice 1984 Merger Guidelines, 49 Fed. Reg. 26,823 (1984); U.S. Department of Justice & FTC 1992 Horizontal Merger Guidelines, 57 Fed. Reg. 26,823 (1992).
104. U.S. Department of Justice & FTC 2010 Horizontal Merger Guidelines (2010), http://ftc.gov/os/2010/08/100819hmg.pdf; See Gilbert and Greene, "Merging Innovation into Antitrust Agency Enforcement of the Clayton Act."
105. See, for instances, *United States v. Bazaarvoice, Inc*., No. 13-CV-00133-WHO, 2014 WL 203966 (N.D. Cal. Jan. 8, 2014); *United States v. H&R Block, Inc.*, 833 F. Supp. 2d 36 (D.D.C. 2011).
106. Hovenkamp, *Principles of Antitrust*, 471.
107. 2010 Horizontal Merger Guidelines, Section 6.4.
108. Ibid.
109. Gilbert and Greene, "Merging Innovation into Antitrust Agency Enforcement of the Clayton Act," 1922.
110. Hovenkamp, *Principles of Antitrust* (who argues that "closely related [to this section] is the problem of 'killer' acquisitions … The above-quoted passage from the Merger Guidelines applies because the post-merger firm is curtailing its innovation efforts as a result of a merger").
111. Gilbert and Greene, "Merging Innovation into Antitrust Agency Enforcement of the Clayton Act."
112. David J. Teece, *Dynamic Capabilities & Strategic Management. Organizing for Innovation and Growth* (Oxford: Oxford University Press, 2009), 234–259.
113. See, for instance, *United States v. H & R Block, Inc*. 833 F. Supp. 2d 36, 84 n35 (D.D.C. 2011) (noting that "as a matter of applied economics, evaluation of unilateral effects does not require a market definition").
114. Teece, *Dynamic Capabilities & Strategic Management*, 234–259.
115. See, 2020 Antitrust Modernization Commission, Report and Recommendations, April 2007, point 11d, https://govinfo.library.unt.edu/amc/report_recommendation/toc.htm.
116. Department of Justice and FTC, Vertical Merger Guidelines, June 30, 2020, https://www.justice.gov/opa/pr/department-justice-and-federal-trade-commission-issue-new-vertical-merger-guidelines.
117. Ibid.

118. "While many vertical mergers are competitively beneficial or neutral, both the Department and the Federal Trade Commission have recognized for over 25 years that some vertical transactions can raise serious concern," said Assistant Attorney General Makan Delrahim of the Department of Justice's Antitrust Division in Federal Trade Commission, "FTC and DOJ Announce Draft Vertical Merger Guidelines for Public Comment," Press Release, January 10, 2020, https://www.ftc.gov/news-events/press-releases/2020/01/ftc-doj-announce-draft-vertical-merger-guidelines-public-comment.
119. Markus Reisinger and Emanuele Tarantino, *Vertical Integration, Foreclosure, and Productive Efficiency*, 46 RAND Journal of Economics, Vol.46 (2016), 461–479, https://onlinelibrary.wiley.com/doi/abs/10.1111/1756-2171.12093.
120. Hylton, *Antitrust Law*, 344 (considering that "the anticompetitive potential is smaller in the context of vertical mergers than in that of horizontal mergers").
121. Antitrust Modernization Commission, Report and Recommendations, April 2007, https://govinfo.library.unt.edu/amc/report_recommendation/toc.htm.
122. Ibid.
123. Gilbert and Greene, "Merging Innovation into Antitrust Agency Enforcement of the Clayton Act," 1923 (noting that "innovation-based effects can inform merger analysis in various ways"); Teece, *Dynamic Capabilities & Strategic Management*, 234–259. For general principles of dynamic antitrust, see Portuese, "Principles of Dynamic Antitrust."
124. Genzyme Corp./Novazyme Pharm., Inc., No. 021-0026, at 6 (FTC, January 13, 2004).
125. Lauren Feiner, "AT&T battled the DOJ to buy Time Warner, only to spin it out again three years later," CNBC, May 17, 2021, https://www.cnbc.com/2021/05/17/att-fought-doj-for-time-warner-only-to-spin-out-three-years-later.html (noting that "the shift highlights how fast the media landscape has changed").
126. Teece, *Dynamic Capabilities & Strategic Management*, 234–259.
127. Portuese, "Principles of Dynamic Antitrust."
128. Gilbert and Greene, "Merging Innovation into Antitrust Agency Enforcement of the Clayton Act," 1926.
129. Ibid, 1922.
130. Teece, *Dynamic Capabilities & Strategic Management*, 234–259; Portuese, "Principles of Dynamic Antitrust."
131. "American tech giants are making life tough for startups," *The Economist*, June 2, 2018, https://www.economist.com/business/2018/06/02/american-tech-giants-are-making-life-tough-for-startups; Sai Krishna Kamepalli, Raghuram G. Rajan, and Luigi Zingales, "Kill Zone," University of Chicago, Becker Friedman Institute for Economics Working Paper No. 2020-19, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3555915.
132. Massimo Motta and Martin Peitz, "Big Tech Mergers," Economic Working Paper Series Working Paper No.1736, https://econ-papers.upf.edu/papers/1736.pdf.
133. Hylton, *Antitrust Law*, 272–296.
134. For a defense of an aggressive antitrust policy under current rules, see Naomi R. Lamoureux, "The Problem of Bigness: From Standard Oil to Google," *Journal of Economic Perspectives*, Vol.33(3) (2019), https://www.aeaweb.org/articles?id=10.1257/jep.33.3.94.
135. Andrea Minuto Rizzo, "Digital Mergers: Evidence from the Venture Capital Industry Suggests That Antitrust Intervention Might Be Needed," *Journal of European Competition Law & Practice*, Vol.22(1) (2021), 4–13, https://academic.oup.com/jeclap/article/12/1/4/5908319.
136. Joe Kennedy, "Monopoly Myths."

137. Ibid (noting that “the vast majority of the cases … involved either the acquired copying a technology that was introduced by another firm and thereby giving consumers another product to choose from, or using technology to enter a related market, thereby increasing the number of competitors. Both are procompetitive.”).
138. See, for instance Rizzo, “Digital Mergers,” 4–13 (who fails to provide such evidence and merely refers to literature that does not substantiate the claim. Nevertheless, it is inferred that “there seems to be evidence, on the investment side, highlighting a possible reduction of venture-backed start-ups operating in the same space where digital incumbents are active.”).
139. Ian Hathaway, “Platform Giants and Venture-Backed Startups,” October 12, 2018, http://www.ianhathaway.org/blog/2018/10/12/platform-giants-and-venture-backed-startups (where the author makes the following disclaimer: “A quick note of clarity, since many readers are misinterpreting (ie, not fully reading) the analysis done here. I urge people to read the Conclusion, where I talk at length about the intentional narrowness of this post and the many important questions remaining. My main objective was to call into question a report that says the major tech giants have no impact on venture capital markets and using data to quickly demonstrate why that’s wrong. I’m making no statements about broader impacts—such as the movement of VC into adjacent areas or non-tech portions of VC, nor the impact of tech giant dominance on innovation. I note these issues clearly in the conclusion.”).
140. Oliver Wyman, “Assessing The Impact of Big Tech on Venture Investment,” Marsh & McLennan Companies, July 11, 2018, https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2018/july/assessing-impact.pdf.
141. Rizzo, “Digital Mergers,” 7 (noting that “among the venture capitalists that have actively with US antitrust enforcers … express their fears for the possible unintended consequences of changes introduced with the best of intentions”).
142. Richard Gilbert, *Innovation Matters: Competition Policy for the High-Technology Economy* (MIT Press: MA, 2020), 105.
143. Motta and Peitz, “Big Tech Mergers,” 2.
144. Ibid, 2.
145. Ibid, 2.
146. Office of Congresswoman Katie Porter, “Killer Profits: How Big Pharma Takeovers Destroy Innovation and Harm Patients” (January 2021), https://porter.house.gov/uploadedfiles/final_pharma_ma_and_innovation_report_january_2021.pdf.
147. Robert D. Atkinson and Stephen Ezell, “Five Fatal Flaws in Rep. Katie Porter’s Indictment of the U.S. Drug Industry” (ITIF Report, May 2021), https://itif.org/publications/2021/05/20/five-fatal-flaws-rep-katie-porters-indictment-us-drug-industry.
148. Ibid, 2.
149. Atkinson and Ezell, “Five Fatal Flaws,” 2.
150. Federal Trade Commission, “Multilateral Pharmaceutical Merger Task Force Seeks Public Input,” May 11, 2021, https://www.ftc.gov/news-events/press-releases/2021/05/multilateral-pharmaceutical-merger-task-force-seeks-public-input. See comments, Aurelien Portuese, “Pharmaceutical Consolidation & Competition: A Prescription for Innovation,” comments of ITIF, June 25, 2021, https://itif.org/publications/2021/06/25/comments-ftc-pharmaceutical-consolidation-and-competition.
151. Portuese, “Pharmaceutical Consolidation & Competition” (arguing that “antitrust enforcers and commentators have historically considered the acquisition of potential competitors” mainly under the concern for potential competition).
152. Cunningham, Ederer, and Ma, “Killer Acquisitions.”

153. Kristen C. Limarzi and Harry R.S. Phillips, "'Killer Acquisitions,' Big Tech, and Section 2: A Solution In Search of A Problem," Competition Policy International, May 2020, https://www.gibsondunn.com/wp-content/uploads/2020/06/Limarzi-Phillips-Killer-Acquisitions-Big-Tech-and-Section-2-A-Solution-in-Search-of-a-Problem-Competition-Policy-International-05-27-2020.pdf.

154. The authors consider that between 5.3 percent and 7.4 percent are killer acquisitions. For the sake of brevity, we take the average of this. Cunningham, Ederer, and Ma, "Killer Acquisitions."

155. Ibid, 2.

156. Ibid, 42.

157. Ibid, 42.

158. Portuese, "Pharmaceutical Consolidation & Competition."

159. Ibid.

160. Stephen Ezell, "Ensuring U.S. Biopharmaceutical Competitiveness" (ITIF Report, July 2020), https://itif.org/publications/2020/07/16/ensuring-us-biopharmaceutical-competitiveness (noting, "As of 2020, biopharmaceutical companies in the United States have more than 3,400 drugs under clinical development, accounting for almost half of the estimated 8,000 medicines under development globally.").

161. Atkinson and Ezell, "Five Fatal Flaws."

162. S.W.F. Omta, Critical Success Factors in Biomedical Research and Pharmaceutical Innovation (Dordrecht: Springer, 1995), 109.

163. Atkinson and Ezell, "Five Fatal Flaws."

164. Daniel D. Sokol, "Merger Law For Biotech and Killer Acquisitions," Florida Law Review Forum (2020) Vol.72, 1–9, http://www.floridalawreview.com/2020/merger-law-for-biotech-and-killer-acquisitions/.

165. Ibid, 3.

166. Ibid, 3.

167. Federal Trade Commission, "Multilateral Pharmaceutical Merger Task Force Seeks Public Input," See comments, Portuese, "Pharmaceutical Consolidation & Competition."

168. Portuese, "Pharmaceutical Consolidation & Competition," 3–4.

169. John Howkins coined the term "creative economy," see John Howkins, *The Creative Economy: How People Make Money from Ideas*, 2nd Edition (London: Penguin, 2013). See also Françoise Passerard and Philip Cartwright, "Business-to-artist: record labels and sub-labels in the digital age," *The Conversation*, July 1, 2019, https://theconversation.com/business-to-artist-record-labels-and-sub-labels-in-the-digital-age-118950 (noting that "the evolving technology and shifting economics of the music industry have coincided with the emergence of major labels, which in turn have built diversified portfolios of sub-labels").

170. Remy Guichardaz, Laurent Bach, and Julien Penin, "Music Industry Intermediation in the Digital Era and the Resilience of the Majors' Oligopoly: The Role of Transactional Capability," in *Industry and Innovation* (London: Taylor & Francis, 2019), 843–869, doi:10.1080/13662716.2018.1561357 (who demonstrate how major labels still play a competitive intermediary role despite disruptions via value creation of transactional capabilities).

171. Since digital media, advertising. and digital services are part of the creative industries, tech platforms can be said to be an essential part of the creative economy. See for a taxonomy, "The Creative Economy," The Policy Circle, https://www.thepolicycircle.org/minibrief/the-creative-economy/.

172. Larry S. Miller, "Same Heart. New Beat. How Record Labels Amplify Talent in the Modern Music Marketplace" Musonomics (2021) http://musonomics.org/modernlabelreport.
173. Ibid.
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183. Miller, "Same Heart. New Beat" (noting, "Labels have also invested in tools that ensure artist and song metadata is clean and accurate, improving discoverability.").
184. Knox, "Big Music Needs to Be Broken Up to Save the Industry" (noting that "our twin antitrust agencies, the Justice Department and the Federal Trade Commission, reviewed every deal and investigated conduct over and over").
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188. "Reservoir holding, Inc., a Leading Independent Music Company, to List on NASDAQ Through Merger with Roth CH Acquisition II Co.," *Business Wire*, April 14, 2021, https://www.businesswire.com/news/home/20210414005915/en/Reservoir-Holdings-Inc.-a-Leading-Independent-Music-Company-to-List-on-NASDAQ-Through-Merger-with-Roth-CH-Acquisition-II-Co.
189. Guichardaz, Bach, and Penin, "Music Industry Intermediation in the Digital Era" (who demonstrate how major labels still play a competitive intermediary role despite disruptions via value creation of transactional capabilities).

190. Robert D. Atkinson, "Anticorporate Progressivism: The Movement to Restrict, Restrain, and Replace Big Business in America" (ITIF, July 2021), https://itif.org/publications/2021/07/12/anticorporate-progressivism-movement-restrict-restrain-and-replace-big.

191. Robert D. Atkinson and Michael Lind, *Big Is Beautiful: Debunking the Myth of Small Business* (The MIT Press, March 2018), ISBN: 9780262037709.

192. See, for instance, "American tech giants are making life tough for startups," *The Economist* (contending that "tech giants try to squash startups by copying them, or they pay to scoop them up early to eliminate a threat"); Kamepalli, Rajan, and Zingales, "Kill Zone."

193. Klobuchar, *Antitrust. Taking on Monopoly Power* ("to better safeguard the approach laid out in Philadelphia National Bank, and to prevent the chipping away of its standard by the federal courts, legislation I've introduced in Congress—as Hovenkamp and Shapiro note—would 'codify the Philadelphia National Bank structural presumption found in the case law'."—referring to an article written by Hovenkamp and Shapiro in 2018.) See Herbert Hovenkamp and Carl Shapiro, "*Horizontal Mergers, Market Structure, and Burdens of Proof*," *Yale Law Journal*, Vol.127 (2018), 1996–2025.

194. Competition and Antitrust Law Enforcement Reform Act of 2021, S.225, 117th Cong. (2021).

195. Ibid.

196. See Kevin A. Bryan and Erik Hovenkamp, "Antitrust Limits on Startup Acquisitions," *Review of Industrial Organization*, Vol.56 (2020), 615–636, https://doi.org/10.1007/s11151-020-09751-5 (who argue in favor of "intervention in situations where a highly-dominant incumbent acquires a startup whose technology could plausibly influence competition if rivals are excluded from using it").

197. Competition and Antitrust Law Enforcement Reform Act of 2021, S.225, 117th Cong. (2021).

198. Herbert Hovenkamp and Carl Shapiro, "*Horizontal Mergers, Market Structure, and Burdens of Proof*," *Yale Law Journal*, Vol.127 (2018), 1996–2025.

199. Ibid.

200. Portuese, "Principles of Dynamic Antitrust."

201. Michael Lind and Robert Atkinson, *Big Is Beautiful: Debunking the Myth of Small Business* (Cambridge, MA: MIT Press, 2019) who outline the benefits of large firms and argue, at ix, that "the best way to boost productivity is to remove obstacles to the replacement of small-scale, labor-intensive, technologically stagnant mom-and-pop firms with dynamic, capital-intensive, technology-based businesses, which tend to be fewer and bigger. The current 'small is beautiful' belief, held by both sides of the political aisle, represents a major barrier to that necessary and beneficial reallocation."

202. Luis Cabral, "Merger Policy in Digital Industries," Information Economics and Policy, Vol.54 (2021) https://www.sciencedirect.com/science/article/abs/pii/S0167624519302537 (advising that "one must be careful not to swing to the opposite side, especially in high-tech industries. The chilling effect on innovation could be significant); Igor Letina, Armin Schmutzeler, and Regina Seibel, "Killer Acquisitions and Beyond: Policy Effects on Innovation Strategies," Working Paper No.358, University of Zurich, June 2021, http://www.econ.uzh.ch/static/wp/econwp358.pdf?preview=preview (finding that blocking mergers reduces research projects' diversification, thereby lowering overall innovation); Motta and Peitz, "Big Tech Mergers"; Brett Hollenbeck, "Horizontal Mergers and Innovation in Concentrated Industries," Quantitative Marketing and Economics, Vol.18 (2020), 1–37, https://doi.org/10.1007/s11129-019-09218-2.

203. Hollenbeck, "Horizontal Mergers," 32.

204. Gilles Duruflé, Thomas Hellman, and Karen Wilson, "From start-up to scale-up: examining public policies for the financing of high-growth ventures," working paper, issue 04, 2017, https://www.bruegel.org/wp-content/uploads/2017/04/WP-2017_04.pdf.

205. Ibid.

206. Some studies may erroneously claim to embark in an "Schumpeterian" analysis. They attempt to analyze the dynamic effects of competition from an equilibrium perspective whereas a Schumpeterian analysis is inherently grounded in disequilibrium analysis. See, for a recent instance of error, Laurent Cavenaile, Murat Alp Celik, and Xu Tian, "The Dynamic Effects of Antitrust Policy on Growth and Welfare," *Journal of Monetary Economics*, Vol.121 (2021), 42–59, https://doi.org/10.1016/j.jmoneco.2021.04.011. For a recent dynamic analysis of mergers with opposite conclusions, see Hollenbeck, "Horizontal Mergers," 1–37.

207. J. Gregory Sidak and David J. Teece, "Rewriting The Horizontal Merger Guidelines In the Name of Dynamic Competition," *George Mason Law Review*, Vol.16(4) (2009), 885–894, https://heinonline.org/HOL/P?h=hein.journals/gmlr16&i=893; Portuese, "Principles of Dynamic Antitrust."

208. Gilbert and Katz, "Dynamic Merger Policy and Pre-Merger Investment" (arguing that excessive focus on post-merger effects of mergers ignores the fact that an optimal merger policy require also to scrutinize on the pre-merger investment incentives).

209. Portuese, "Principles of Dynamic Antitrust."

210. John E. Kwoka, Jr. "Does Merger Control Work? A Retrospective On U.S. Enforcement Actions and Merger Outcomes," *Antitrust Law Journal*, Vol.78 (2012), 619–650, https://www.jstor.org/stable/43486887 (arguing at 626 that "if the outcomes of the mergers described in the FTC-DOJ data were known, it would be possible to conduct a comprehensive evaluation of merger policy. In the absence of such information, however, we must look elsewhere").

211. See for instance, Kwoka, "Does Merger Control Work?," 619–650.

212. Daniel Hosken, Nathan Miller, and Matthew Weinberg, "Ex Post Merger Evaluation: How Does it Help Ex Ante?" *Journal of European Competition Law & Practice*, Vol.8(1) (2017), https://academic.oup.com/jeclap/article-abstract/8/1/41/2890732?redirectedFrom=fulltext (considering that "ex post merger studies can play an important role in both evaluating and improving merger simulation …To date, there is relatively little research that evaluates the accuracy of merger simulations by comparing simulated and observed post-merger prices and quantities").

213. The Federal Trade Commission's Bureau of Economics has been particularly active in the last few years in retrospective merger analysis with a number of studies focusing on either particular cases or industries. See Federal Trade Commission, "Retrospective Studies by the Bureau of Economics" (2021), https://www.ftc.gov/policy/studies/merger-retrospectives/bureau-of-economics.

214. For such a narrow focus on prices, see Orley Ashenfelter, Daniel Hosken, and Matthew Weinberg, "Did Robert Bork Understate the Competitive Impact of Mergers? Evidence from Consummated Mergers," *The Journal of Law & Economics*, Vol.57 (2014), https://www.journals.uchicago.edu/doi/abs/10.1086/675862 (who claim that "ex post evaluations of consummated mergers have found that prices can increase following mergers that leave only three or four major market participants"). See also Hosken, Miller, and Weinberg, "Ex Post Merger Evaluation" (who argue that "ex post merger reviews can help agencies identify the types of transactions likely to raise prices, and can help agencies improve the methodologies they use to identify potentially anticompetitive mergers").

215. Richard Gilbert, *Innovation Matters: Competition Policy for the High-Technology Economy* (MIT Press: MA, 2020), 78 (noting that more than a century elapsed before courts and the antitrust enforcement agencies paid much attention to the two other types of harm from mergers: competition for new products and incentives to innovate"); Gilbert and Greene, "Merging Innovation into Antitrust Agency Enforcement of the Clayton Act," 1919–1947 (arguing that agencies need to "describe their innovation concerns with greater specificity when merger challenges allege harm to innovation").

216. Timothy J. Muris and Jonathan E. Nuechterlein, "First Principles for Review of Long-Consummated Mergers," *The Criterion Journal on Innovation*, Vol.5 (2020), 29–48,

https://www.criterioninnovation.com/articles/consummated-mergers/ (arguing that challenges to consummated mergers "would—and should—trigger proof burdens that the government is very unlikely to meet").

217. On the previous reference to "enabler" acquisitions, see Howard A. Shelanski, "Information, Innovation, and Competition Policy for the Internet," *University of Pennsylvania Law Review*, Vol.161 (2013), 1666, https://scholarship.law.upenn.edu/penn_law_review/vol161/iss6/6/ (arguing that digital platforms "serve as 'enablers' of innovation by providing common interfaces through which entrepreneurs can connect their complementary products to critical masses of consumers").
218. Joseph Schumpeter, *Capitalism, Socialism and Democracy*. Third Edition (New York: HarperCollins, 1950) [2008]:104–105.
219. The 2010 Horizontal Merger Guidelines refer to "failure and exiting assets" merely as the failing firm defense: Unless there is evidence of the acquired firm was about to go bankrupt or exit the market, the defense remains ineffective in merger reviews. This defense still does not address blocked mergers as potential exit barriers to promising competitors or innovators in need of an exit strategy (namely, acquisition) that proves financially rewarding.
220. For a reasonable account of the proposal for some presumptive rules, see Douglas Melamed, "Antitrust Law and Its Critics," January 14, 2020, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3519523 (noting that "one could imagine a regime in which an acquisition by a dominant firm, defined by size and duration of market share or some other indicia, of a much smaller or nascent firm is presumed to be unlawful if the acquired firm is shown to have a realistic possibility of developing into a competitive threat to the dominant firm").
221. Antitrust Modernization Commission, Report and Recommendations, April 2007, https://govinfo.library.unt.edu/amc/report_recommendation/toc.htm.
222. See, Teece, *Dynamic Capabilities & Strategic Management*, 256 (arguing that, from a dynamic capabilities perspective, claims that mergers may harm innovation should "be framed not in terms of whether product market competition will be impaired … but whether capabilities will be brought under unitary control, thereby possibly future variety in new product development"); Gilbert and Greene, "Merging Innovation into Antitrust Agency Enforcement of the Clayton Act," 1919–1947 (noting that "Schumpeter's market characterization supports innovation as an efficiency defense for mergers that might otherwise increase or enhance market power, or that might facilitate its exercise").
223. See Hovenkamp, *Principles of Antitrust*, 491 (citing the 1908 case of *Paper Bag* to illustrate the strong experience of courts in this issue).
224. 2010 Horizontal Merger Guidelines, 6.4.
225. Hovenkamp, *Principles of Antitrust*, 491.
226. Bryan and Hovenkamp, "Antitrust Limits on Startup Acquisitions," 615–636 (stating that when an incumbent wants to acquire a promising start-up, compulsory licensing "in this context are not 'too costly'").
227. Macher and Mayo, "The Evolution of Merger Enforcement Intensity."