Merger Policy and Rising Concentration: An Active Agenda for Antitrust Enforcement

BY DIANA L. MOSS

PUBLIC ATTENTION TO U.S. antitrust enforcement has been relatively transient, triggered occasionally by a large merger or abusive practices by cartels or dominant firms in high-profile or consumer-facing markets. But recent reports of declining competition have drawn attention to the importance and role of antitrust enforcement in promoting a market economy, consumer choice, opportunities for entrepreneurs, and the democratic values that undergird the U.S. political-economic system. Among the indicators of declining competition highlighted by authors of economic studies are: rising levels of concentration at the economy, industry, and sector levels; growing wealth and income inequality gaps; and slowing rates of business start-up activity.[1]

The prospect of declining competition should be a priority for antitrust enforcers and legislators engaged in policy making in the areas of antitrust, labor, trade, intellectual property, and even privacy. These trends pose particularly important challenges for merger enforcement, given that preventing economic concentration that makes markets less conducive to competitive outcomes is a central goal.

A current debate in the antitrust community is whether evidence of increasing concentration is relevant to antitrust enforcement. Proponents of more vigorous enforcement warn that long-term trends in lax enforcement have and will continue to produce highly concentrated markets, impede competition, and harm consumers and workers. Rising concentration therefore reinforces concerns over reinvigorating antitrust enforcement. Others are less worried, suggesting that studies of rising concentration have little probative value for enforcement because the measures employed bear little resemblance to how concentration is used in the antitrust context.[2] They also note that rising concentration may be the result of factors other than lax merger enforcement, such as changes in technology, the emergence of winner-take-all markets, or economies of scale.

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Antitrust should not ignore concerns over rising concentration and its implications for competition. Multiple reports, as discussed within, demonstrate that concentration is moving in the same direction—up. While labor economists and macroeconomists have pursued important empirical analyses of the relationship between rising concentration and its effects, industrial organization economists and antitrust scholars remain largely silent on key questions that only they have the tools to answer. Because merger enforcement plays a central role in addressing the problem of rising concentration, it is incumbent upon the antitrust community to set a productive research agenda and shape the contours of constructive, forward-looking potential policy responses.

Reports of Rising Concentration

Reports of rising concentration and its implications for antitrust enforcement appeared around late 2015. For example, the *Wall Street Journal* article, *Wave of Megadeals Tests Antitrust Limits in U.S.*, reported that a "growing number of industries in the U.S. are dominated by a shrinking number of companies."[3] The report cites academic research that uses novel techniques to measure changes in concentration across multiple industry sectors between 1996 and 2013. Results show, for example, that concentration in food and staples retailing, as measured by the Herfindahl-Hirschman Index (HHI), increased from 1000 HHI in 1996 to 3000 HHI in 2013. In internet software, concentration was about 2500 HHI in 2013, up from about 750 in 1996. And in airlines, it was 2000 HHI in 2013, almost double the level in 1996.

In April 2016, the Council of Economic Advisors (CEA) issued *Benefits of Competition and Indicators of Market Power*, which accompanied the Obama administration's *Executive Order Steps to Increase Competition and Better Inform Consumers and Workers to Support Continued Growth of the American Economy*.[4] The order draws support from the CEA report and highlights harmful effects of declining competition on economic growth and opportunities for labor. The CEA report uses data on revenue share earned by the largest 50 firms as a measure of concentration and finds that it increased, on average, about 4 percent across 13 major U.S. industries from 1997 to 2012.[5] Some of the largest changes occurred in industries such as transportation and warehousing (+11%), retail trade (+11%), and finance and insurance (+10%).

In May 2016, *The Economist* published *Too Much of a Good Thing*,[6] with the prominent tag line: "Profits are too high. America needs a giant dose of competition." *The Economist* reported the largest four firms' share of industry revenue for almost 900 U.S. industries in 15 sectors from 1997 to 2012. Some of the highest increases in concentration were: third-party administration of insurance and pension funds, which showed an increase of 10% in 1997 to over 75% in 2012; scheduled passenger air transportation (25% in 1997 to 65% in 2012); and wireless communications (50% in 1997 to 90% in 2012).

More formal economic studies complement the results of more publicized reports on rising concentration. For example, White and Yang find that aggregate concentration in the U.S. economy, as measured by employment, payroll, and profits, appears to have risen moderately but steadily since the mid-1990s.[7] Peltzman finds that concentration in U.S. manufacturing industries has been increasing since around 1980.[8] This trend was a "decisive break with a long history of stability dating back to the beginning of the twentieth century."[9] Brock examines merger activity from 1985 to 2008 across 14 major sectors and industries, ranging from raw materials to finished products and found significant increases in concentration over time.[10] Moreover, numerous studies of sector-specific concentration have emerged in recent years, including hospitals, telecommunications, and agricultural biotechnology, that show clear upward trends in concentration.[11]

The CEA, *WSJ*, and *Economist* reports cover the bases on different measures of concentration, from the top 50 revenue share, to the four-firm ratio, to the HHI. But all are at relatively aggregate economic levels. These statistics raise valid issues of interpretation and their implications for concentration, as applied in the antitrust context. But given that concentration is viewed widely as a fundamental bellwether of competition, even broader measures of increased concentration warrant focused and sustained attention from the antitrust community.

Reaction to Evidence of Rising Concentration

Concern over declining competition was significant enough to make its way into the 2016 Democratic National Committee platform, which contained an antitrust plank for the first time since 1988.[12] In mid-2017, Democrats introduced the "Better Deal," which proposed new merger standards to "re-invigorate and modernize" the antitrust laws.[13] This was followed by legislative proposals for reinvigorating and strengthening antitrust enforcement. For example, Senator Amy Klobuchar introduced two bills in September 2017 that, among other things, would ease the burden on the government to challenge mergers in court, and would increase funding for the antitrust agencies.[14] Political reaction to reports of declining competition, and rising concentration more specifically, prompts the more fundamental question of how the antitrust community will respond. Reaction has differed widely and this divergence falls along the spectrum of progressive to conservative views.

Merger Enforcement Through Two Lenses. Differences between progressive and conservative thinking in the area of merger enforcement are most apparent in two major areas. One is the interpretation of the consumer welfare standard that is the touchstone for determining a merger's legality under U.S. law. The progressive view is that a merger that reduces consumer welfare through adverse price or non-price (e.g., quality, variety, or innovation) effects should generally be considered potentially harmful and therefore warrants close antitrust scrutiny. Most conservative approaches interpret the consumer welfare standard as a total welfare standard. Under this view, significant enough merger-related cost savings can result in gains in total welfare, thus rendering a merger procompetitive, even if consumers suffer harm.

Another point of divergence between progressives and conservatives is the significance of market concentration. Progressive ideology has long emphasized the notion that more concentrated markets are more conducive to the exercise of market power.[15] Indeed, Section 7 of the Clayton Act is designed to prevent mergers that *may* enhance market power and lead to anticompetitive effects.[16] A close companion to this "incipiency" doctrine is the "structural presumption," namely that mergers resulting in highly concentrated markets are presumed to enhance market power.[17]

In contrast, conservative ideology places less weight on the structural presumption. The pre-1980s era of antitrust enforcement, where some mergers involving the combination of relatively small market shares were challenged, is generally viewed to have been overly hostile to mergers.[18] Conservative thinking counsels that market concentration is not necessarily an indicator of the increased likelihood of competitive and consumer harm.[19] Rather, the potential effects of mergers should be evaluated on the basis of the specific fact patterns they present. Moreover, the Chicago School's vision, rooted in Robert Bork's *Antitrust Paradox*, counsels that merger enforcement "abandon its concern with such beneficial practices" as small horizontal mergers and all vertical and conglomerate mergers, among other potential competitive issues.[20]

From Ideology to Rising Concentration. Concerns over rising concentration are better understood against the backdrop of progressive and conservative views on merger enforcement. Evidence of rising concentration bolsters progressives' longstanding concerns about lax merger enforcement. Prior to the 1980s, enforcers and courts actively pursued enforcement aimed at stopping anticompetitive mergers in their incipiency. Since then, the weight given to the structural presumption by enforcers lessened substantially, and the focus of merger analysis shifted toward complex economics with a potentially diminished role for evidence of higher prices from previous mergers. Many mergers went unchallenged, or were challenged with no or weak remedial conditions attached, leading to higher concentration in key markets over time. Together with growing concern that past mergers have not delivered on claims of cost savings and consumer benefits, progressives therefore advocate that enforcers and courts should give significant attention to the systematic effects of lax enforcement on increasing market concentration over time.[21]

The conservative response to concerns over rising concentration centers on two issues. One is that the aggregate measures of concentration cited in recent reports have little probative value for antitrust. Arguably, antitrust focuses on

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the likely effects of particular transactions within "relevant" antitrust markets. The concentration levels associated with these inherently narrower antitrust markets are therefore potentially different from more aggregate measures of concentration. Any connection between rising levels of concentration at the sector or economy level and in antitrust relevant markets should therefore be viewed with skepticism.

Conservative critics also highlight other reasons why concentration may be on the rise. For example, higher levels of concentration have been viewed as necessary for generating the investment in R&D that leads to innovation. Rising concentration may also be related to scale and scope economies that enable firms to "enter markets more readily than other firms, especially when entry barriers are high."[22] The policy implication, in sum, is that studies of rising concentration do not impugn the effectiveness of past merger enforcement.[23]

Reconciling the Different Views. Progressives recognize that the measures of concentration used in most reports and studies do not map precisely or perfectly over to antitrust. Leading former enforcers have noted the important distinctions between the studies of concentration that have animated the public conversation over declining competition, and those that would be appropriate for antitrust enforcement.[24] And to be sure, reasons for why concentration might rise over time, but that are not related to enforcement vigor, should not be rejected outright. But it is worth noting that many of these rationales are being put to the test. Recent empirical work, for example, calls into question the longstanding argument for why concentration in agricultural biotechnology is necessary to spur innovation. Indeed, higher levels of concentration are no longer closely correlated with higher levels of research and development "intensity."[25]

Progressives also do not purport to link the implications of rising concentration directly to catastrophic errors in enforcement. But it is also important to note that some of the same conservative scholars who once highlighted the folly of the overly aggressive merger policy of the pre-1980s era have taken a closer look at rising concentration and merger policy. For example, one economist concluded in the late 1970s that the prevalence of cost efficiencies cast doubt on any general legal rule hostile to industrial concentration.[26] Over 30 years later, the same scholar identified a nexus between increases in concentration in the manufacturing sector and adoption of the more lenient merger enforcement policies adopted in the early 1980s.[27] He noted in particular that concentration, which had been unchanged on average for all of the 20th century, "began rising at the same time that merger policy changed…. [and] has increased steadily over the entire post-Bork period."[28]

In sum, the fact that recent studies of concentration generally show results that point in the same direction (i.e., concentration is going up) should serve as a call to action to frame a research agenda that will usefully inform antitrust enforcement and policy moving forward. Moreover, the debate over rising concentration highlights why it is important for the antitrust community to subject arguments for any beneficial effects of concentration to the *same* scrutiny given to those focused on the adverse effects of concentration.

Evidence of Rising Concentration Matters for Merger Enforcement

Concentration is a generally recognized gauge of "competitiveness." There are many ways to report it, both in terms of the level of economic aggregation and the measure of control of economic resources. Aggregate levels of concentration reflect control of resources across the economy as a whole. Concentration can also be calculated for major sectors and industries, and for more precisely defined relevant antitrust markets. Regardless of the measure, it remains that in more concentrated markets, fewer sellers account for a larger proportion of output. Such markets are recognized by antitrust enforcers to be relatively more conducive to the exercise of market power, either by a dominant firm acting alone or rival firms acting together.[29] Because concentration is therefore central to antitrust, and merger control in particular, it is important to examine the role of antitrust in the context of concerns over rising concentration.

Merger Enforcement Has a Central Role in Rising Concentration. Concentration takes center stage in antitrust scrutiny of mergers—both horizontal and vertical. Horizontal mergers eliminate a competitor, change the structure of a market, and increase market concentration. While vertical mergers do not eliminate rivals, they nonetheless can have horizontal effects by enhancing the incentive and ability to exclude rivals or raise their costs. These risks are exacerbated by higher levels of concentration in upstream and downstream markets for inputs or distribution.

John Kwoka has examined Federal Trade Commission data on merger enforcement over four periods spanning the timeframe 1996 to 2011.[30] He asks whether agency merger investigations in instances of highly concentrative mergers resulted in enforcement action.[31] Enforcement actions include lawsuits, remedies, forced abandonments, and substantial modifications by the parties to their deals in the face of government opposition. Results show that highly concentrative horizontal mergers, defined by post-merger concentration in excess of 5000 HHI, show a higher level of enforcement consistency over time.[32] But mergers producing lower levels of concentration do not. For example, in cases involving post-merger concentration levels of 3000–5000 HHI, the percentage of cases enforced dipped markedly between 2004 and 2007 but appeared to rebound from 2008–2011. And for cases with post-merger HHIs of less than 3000 HHI points, enforcement trended downward after 2003, with little, if any, recovery through 2011.

The implications of these results are significant. They support the notion that a change in merger policy around the 1980s led to a failure to enforce more moderately concentrative mergers. Multiple successive mergers that are subjected to lax enforcement scrutiny can create a steady ratcheting up of concentration over time. Kwoka's results, and their implications, should therefore raise concerns about the role of past lax enforcement in contributing to rising concentration. These results should be both assessed against the backdrop of, and reconciled with, empirical findings showing increases in more aggregate levels of concentration. The logical takeaway is that closer examination of the role of lax enforcement in potentially contributing to rising concentration should be high on the antitrust research agenda.

Is Enforcement Responding to Concerns over Concentration? Given the central role of antitrust in controlling concentration, and concerns over its upward trend, it makes sense to ask if we are seeing a responsive course correction in enforcement. At this early stage, a definitive answer is unlikely. Empirical work on merger enforcement and its relationship to growing concentration is still relatively new and evidence from past enforcement actions is scattered. We do know that merger retrospectives are a valuable tool for evaluating how consummated mergers affect consumers through price and non-price effects (e.g., quality, choice, and innovation).

For example, analysis of merger retrospectives confirms that highly concentrative mergers have produced post-merger price increases in a number of cases.[33] Indeed, data on past FTC merger enforcement actions shows a relatively strong correlation (~80 percent) between enforcement action and level of post-merger concentration in cases where mergers produced adverse effects.[34] This observation also highlights the importance of asking whether remedies taken by the agencies in previous merger cases have been effective in fully restoring competition. The FTC's 2017 retrospective study of its divestiture remedies reveals that targeted asset divestitures in horizontal mergers are much less effective than line of business divestitures.[35] Merger retrospectives therefore are, and will likely continue to be, an important source of information regarding whether enforcement is responding to concerns over rising concentration.

Notable merger enforcement by late-era Obama antitrust enforcers provides additional anecdotal evidence on the relationship between concentration and enforcement vigor. Between 2015 and 2017, for example, the DOJ and FTC successfully blocked or forced the abandonment of numerous large mergers that would have left just a few firms in control of important markets. These included: multi-video programming distribution (Comcast/Time Warner Cable), broadline food distribution (Sysco/US Foods), distributors of office supplies to business-to-business customers (Staples/Office Depot), oilfield equipment and services (Baker Hughes/Halliburton), and health insurance (Anthem/Cigna). Complaints in some of these cases include allegations of concentrated relevant markets in the range where enforcement declined between 2003 and 2007, but rebounded beginning in 2008.[36]

Most recently, the DOJ's challenge to the merger of media content and distribution giants Time Warner and AT&T may signal broader attention to vertical merger enforcement. At the same time, the DOJ approved the merger of agricultural biotechnology giants Bayer and Monsanto subject to what is purportedly the largest divestiture in history. Objectors have cautioned, however, that the agreed remedies pose considerable execution risk.[37] In sum, while the foregoing observations do not constitute systematic evidence that enforcement is at an inflection point, future enforcement actions are likely to be evaluated with this question in mind.

Framing an Active Antitrust Agenda to Address Rising Concentration

The foregoing analysis highlights why antitrust enforcement plays a vital role in controlling harmful concentration and suggests that a more active and coherent research agenda is important. Only then will the contours of a responsive policy approach be clearer. What these observations *do not* suggest is that we should—as some conservative commentators have suggested—minimize or dismiss indicators of rising concentration. Rather, antitrust scholars should train their sights on more closely examining rising concentration and its relationship to antitrust enforcement and policy.

Labor economists and macroeconomists have recently analyzed relationships between concentration (or drivers of concentration such as M&A activity), and a variety of metrics for consumer and worker welfare. This includes the distribution of corporate profits, price-cost markups, wage levels, and inequality gaps. Many of these studies show that concentration is positively related to adverse price and wage effects. For example, one study shows that mergers and acquisitions are associated with increases in average price-cost markups.[38] Another shows a positive relationship between profits or industry concentration and firm markups and other indicators of market power.[39] Yet another study demonstrates that at higher levels of labor market concentration, wages are lower.[40]

Industrial organization economists, antitrust scholars, and enforcement agencies should pursue similar analyses of the role merger enforcement has played in the trend toward higher concentration in the markets that are relevant for antitrust analysis. This inquiry would pave the way for a more informed assessment of the relationship between rising concentration and systematic effects on prices and the non-price dimensions of competition. This inquiry involves asking and answering a number of different questions.

- ***Policymakers should attempt to clarify how aggregate concentration factors into antitrust enforcement.*** As one international survey of antitrust explains, "A notable percentage of jurisdictions deal with at least some aspects of aggregate concentration through their competition laws."[41] Given the impact of rising aggregate concentration on consumers, workers, economic growth, and inequality, some attempt should be made to better assess what role aggregate concentration does, and should reasonably play, in the broader principles underpinning U.S. merger enforcement. Recent legislative proposals to strengthen, reinvigorate, and clarify the antitrust laws for merger enforcement are a step in this direction.[42]
- ***Research should focus on assessing whether there have been systemic increases in concentration using measures that are appropriate for antitrust analysis.*** If skeptics are uneasy about drawing implications for antitrust enforcement from studies that employ highly aggregate measures of concentration, a constructive research agenda calls for focusing on measures that are relevant to antitrust. This responds directly to criticism that more aggregate measures of concentration bear little resemblance to those used in the antitrust context. This inquiry would focus on collecting concentration data for the same or similar relevant markets that have been repeatedly evaluated in challenged merger cases over time. Candidate markets for initial analysis may include airlines, multi-video programming, and wireless telecommunications.
- ***Economists should tackle the question of how more aggregate measures are related to the narrower markets where antitrust focuses.*** Before abandoning aggregate measures of concentration and how they have increased over time, economists might dig a little deeper into how changes in concentration at sector or industry levels map over to the narrower relevant markets that are analyzed for the purposes of merger enforcement. For example, under what circumstances would observed increases in sector or industry level concentration not translate in some form to increases in concentration resulting from lax merger enforcement? And what criteria or circumstances would need to be present to give us confidence that increases in aggregate measures of concentration have material implications for antitrust enforcement and policy?

Conclusion

The antitrust community should be at the center of the debate over rising concentration. Concentration is central to merger law, and there is a clear link between merger enforcement and market concentration. Important debates naturally bring forth differing views and policy prescriptions, but given these fundamental relationships, we should expect antitrust experts to move quickly beyond rejecting the notion that rising concentration has few, if any, implications for antitrust enforcement. Antitrust scholars can and should move to further examine how rising concentration has affected competition, consumers, and workers.

Industrial organization economists and the enforcement agencies have the tools, data, and perspective to focus on the implications of the important studies performed by labor economists and macroeconomists. In doing so, antitrust experts can shed light on the important relationship between enforcement vigor, systematic changes in concentration, and the competitive effects of higher concentration in economic markets. More important, they can suggest ways in which antitrust can be responsive to those concerns.

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1 *See, e.g.*, *A National Competition Policy: Unpacking the Problem of Declining Competition and Setting Priorities Moving Forward*, Am. Antitrust Inst. (Sept. 28, 2016), https://www.antitrustinstitute.org/wp-content/uploads/2018/08/AAINatlCompPolicy-1.pdf.

2 *See, e.g.*, Gregory J. Werden & Luke M. Froeb, *Don't Panic: A Guide to Claims of Increasing Concentration*, Antitrust, Fall 2018, at 75.

3 Theo Francis & Ryan Knutson, *Wave of Megadeals Tests Antitrust Limits in U.S.*, Wall St. J. (Oct. 18, 2015), http://www.wsj.com/articles/wave-of-megadeals-tests-antitrust-limits-in-u-s-1445213306 (citing Gerard Hoberg & *Gordon Phillips, Product Market Synergies and Competition in Mergers and Acquisitions: A Text-Based Analysis*, 23 Rev. Fin. Stud. 3773 (2010)).

4 Exec. Order No. 13,725, 81 Fed. Reg. 23,417 (Apr. 15, 2016).

5 Council of Economic Advisers Issue Brief, Benefits of Competition and Indicators of Market Power at 4 (May 2016), https://obamawhitehouse.archives.gov/sites/default/files/page/files/20160502_competition_issue_brief_updated_cea.pdf.

6 *Too Much of a Good Thing*, Economist (Mar. 26, 2016), http://www.economist.com/news/briefing/21695385-profits-are-too-high-america-needs-giant-dose-competition-too-much-good-thing. The concentration measure is essentially the 4-firm ratio, which measures the percentage of output controlled by the four largest firms.

7 Lawrence J. White & Jasper Yang, What Has Been Happening to Aggregate Concentration in the U.S. Economy in the 21st Century? (Mar. 30, 2017) (unpublished manuscript) (on file with New York University), https://www.ssrn.com/abstract=2953984. The authors note that the increase in concentration does not appear to have raised aggregate concentration above the levels of the early 1980s.

8 Sam Peltzman, Productivity and Prices in Manufacturing During an Era of Rising Concentration (Apr. 25, 2018) (unpublished manuscript) [hereinafter Peltzman, Productivity and Prices], https://ssrn.com/abstract=3168877.

9 *Id.*

10 *See, e.g.*, James W. Brock, *Economic Concentration and Economic Power: John Flynn and a Quarter-Century of Mergers*, 56 Antitrust Bull. 681 (2011).

11 *See, e.g.*, Martin Gaynor, Kate Ho & Robert J. Town, *The Industrial Organization of Health-Care Markets*, 53 J. Econ. Literature 235 (2015); Federal Commc'ns Comm'n, Eighteenth Mobile Wireless Competition Report (2015), https://docs.fcc.gov/public/attachments/DA-15-1487A1.pdf; U.S. Dep't Agric., Research Investments and Market Structure in the Food Processing, Agricultural Input, and Biofuel Industries Worldwide, Econ. Research Report No. 130, 15 (2011) [hereinafter USDA Investments Report], https://www.ers.usda.gov/webdocs/publications/44951/11777_err130_1_.pdf?v=41499.

12 Promoting Competition and Stopping Corporate Concentration, 2016 Democratic Party Platform 11 (July 21, 2016), http://s3.amazonaws.com/uploads.democrats.org/Downloads/2016_DNC_Platform.pdf.

13 Nancy Pelosi, *Cracking Down on Corporate Monopolies and the Abuse of Economic and Political Power* 3 DemocraticLeader.gov, https://www.demo

craticleader.gov/wp-content/uploads/2017/07/A-Better-Deal-on-Competition-and-Costs.pdf.

14 *See* Consolidation Prevention and Competition Promotion Act of 2017, S. 1812, 115th Cong. (2017); Merger Enforcement Improvement Act, S. 1811, 115th Cong. (2017). In the U.S. House of Representatives, a package of four bills was introduced in April 2018. Two of these bills address merger enforcement by tightening standards for merger-related efficiencies to ensure non-consideration of job cuts and prohibiting mergers that would create monopsony power that can harm workers. *See* Restoring and Improving Merger Enforcement Act of 2018, H.R. 5642, 115th Cong. (2018); Economic Freedom and Financial Security for Working People Act of 2018, H.R. 5630, 115th Cong. (2018).

15 *See* U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines (2010) [hereinafter Horizontal Merger Guidelines], https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf. The Guidelines support this notion. Section 5.3 explains, for example, that higher levels of merger-induced changes in market concentration and higher post-merger concentration generate more scrutiny. "Mergers resulting in moderately concentrated markets that involve an increase in the HHI of more than 100 points potentially raise significant competitive concerns and often warrant scrutiny," but "[m]ergers resulting in highly concentrated markets that involve an increase in the HHI of more than 200 points will be presumed to be likely to enhance market power." *Id.* at 19.

16 *See* 15 U.S.C. § 18.

17 *See* United States v. Phila. Nat'l Bank, 374 U.S. 321, 338 (1963); Brown Shoe Co. v. United States, 370 U.S. 294, 317 (1962).

18 *See* Robert Pitofsky, *Introduction: Setting the Stage*, *in* How the Chicago School Overshot the Mark: The Effect of Conservative Economic Analysis on U.S. Antitrust 3, 5–6 (Robert Pitofsky ed., 2008).

19 *See* Daniel A. Crane, *Chicago, Post-Chicago, and Neo-Chicago*, 76 U. Chi. L. Rev. 1911, 1911–12 (2009) (citing United States v. Gen. Dynamics Corp, 415 U.S. 486, 509–10 (1974) (rejecting the use of structural presumptions based on post-merger concentration and allowing the merger of coal mining companies)).

20 Jonathan B. Baker, *Taking the Error Out of "Error Cost" Analysis: What's Wrong with Antitrust's Right*, 80 Antitrust L.J. 1, 2 (2015) (quoting Robert H. Bork, The Antitrust Paradox: A Policy at War with Itself 406 (1978)).

21 *See, e.g.*, Peter C. Carstensen, *The* Philadelphia National Bank *Presumption: Merger Analysis in an Unpredictable World*, 80 Antitrust L.J. 219 (2015).

22 Michal S. Gal & Thomas Cheng, *Aggregate Concentration: A Study of Competition Law Solutions*, 4 J. Antitrust Enforcement 282, 282 (2016).

23 Werden & Froeb, *supra* note 2, at 10–11.

24 *See, e.g.*, Renata Hesse, Acting Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, And Never the Twain Shall Meet? Connecting Popular and Professional Visions for Antitrust Enforcement (Sept. 20, 2016), https://www.justice.gov/opa/speech/acting-assistant-attorney-general-renata-hesse-antitrust-division-delivers-opening. The antitrust agencies evaluate market concentration using the Herfindahl-Hirschman Index (HHI), which is the sum of the squares of the market shares for all sellers in the market. *Id.*

25 Usda Investments Report, *supra* note 11, at 15. R&D Intensity is measured by the R&D-to-sales ratio. The ratio was 11% in 1994, increased to 15% in 2000, but declined precipitously to 10.0% in 2009.

26 *See* Sam Peltzman, *The Gains and Losses from Industrial Concentration*, 20 J.L. Econ. 229, 230 (1977) (finding that "while price effects [of the usual profit-concentration ratio] are not absent, the cost effects so dominate as to cast doubt on the efficacy of any general legal rule hostile to industrial concentration.").

27 *See* Sam Peltzman, *Industrial Concentration Under the Rule of Reason*, 57 J.L. Econ. S101 (2014) [hereinafter Peltzman, *Industrial Concentration*]. *But see* Peltzman, *Productivity and Prices*, *supra* note 8. The conclusions appear to retrench from the 2014 Peltzman study, *supra*, highlighting other reasons for rising concentration not related to lax enforcement policy in the post-Bork era.

28 Peltzman, *Industrial Concentration*, *supra* note 27, at S101.

29 *See* Horizontal Merger Guidelines, *supra* note 15, §§ 5.3, 6–7.

30 John Kwoka, *The Structural Presumption and the Safe Harbor in Merger Review: False Positives or Unwarranted Concerns?*, 81 Antitrust L.J. 837, 860–61 (2017).

31 *Id.* at 838.

32 *Id.* at 867.

33 *See generally* John Kwoka, Mergers, Merger Control, and Remedies: A Retrospective Analysis of U.S. Policy (2015).

34 Kwoka, *supra* note 30, at 862.

35 Federal Trade Comm'n, The FTC's Merger Remedies 2006–2012: A Report of the Bureaus of Competition and Economics (2017), https://www.ftc.gov/system/files/documents/reports/ftcs-merger-remedies-2006-2012-report-bureaus-competition-economics/p143100_ftc_merger_remedies_2006-2012.pdf; Federal Trade Comm'n, Ralau Erv., USDA, Report No. 13 Bureau of Competition, A Study of the Commission's Divestiture Process (1999), https://www.ftc.gov/sites/default/files/attachments/merger-review/divestiture.pdf.

36 *See, e.g.*, Complaint, United States v. Halliburton Co., No. 1:16-cv-00233-UNA (D. Del. Apr. 6, 2016). The DOJ's complaint in *Baker Hughes-Halliburton* indicates that of the 23 relevant markets defined, three (drill bits, offshore cementing, and onshore production packers) involved post-merger concentration between 3100 to 3500 HHI. *See also* Complaint, FTC v. Sysco Corp., No. 1:15-cv-00256-APM (D.D.C. Feb. 20, 2015). Post-merger concentration in some regional relevant markets was below 3000 HHI; Kwoka, *supra* note 30, at 871 n.86.

37 *See* Comments of the Attorneys Gen. of Cal., Iowa, Mass., Miss. & Or. on the Proposed Final Judgment in United States v. Bayer AG, Case 1:18-cv-01241 (D.C. Cir. May 29, 2018).

38 Bruce A. Blonigen & Justin R. Pierce, *Evidence for the Effects of Mergers on Market Power and Efficiency* 24 (Fed. Reserve Bd., Working Paper No. 2016-082, 2016).

39 Federico J. Díez et al., *Global Market Power and its Macroeconomic Implications* (Int'l Monetary Fund, Working Paper No. WP/18/137, June 15, 2018).

40 See José Azar et al., *Labor Market Concentration* (NBER, Working Paper No. 24147, Dec. 2017), http://www.nber.org/papers/w24147; *see also* Efraim Benmelech et al., *Strong Employers and Weak Employees: How Does Employer Concentration Affect Wages?* (Nat'l Bureau of Econ. Research, Working Paper No. 24307, Feb. 2018), http://www.nber.org/papers/w24307.

41 Gal & Cheng, *supra* note 22.

42 *See, e.g.*, H.R. 5642, *supra* note 14; H.R. 5630, *supra* note 14.