

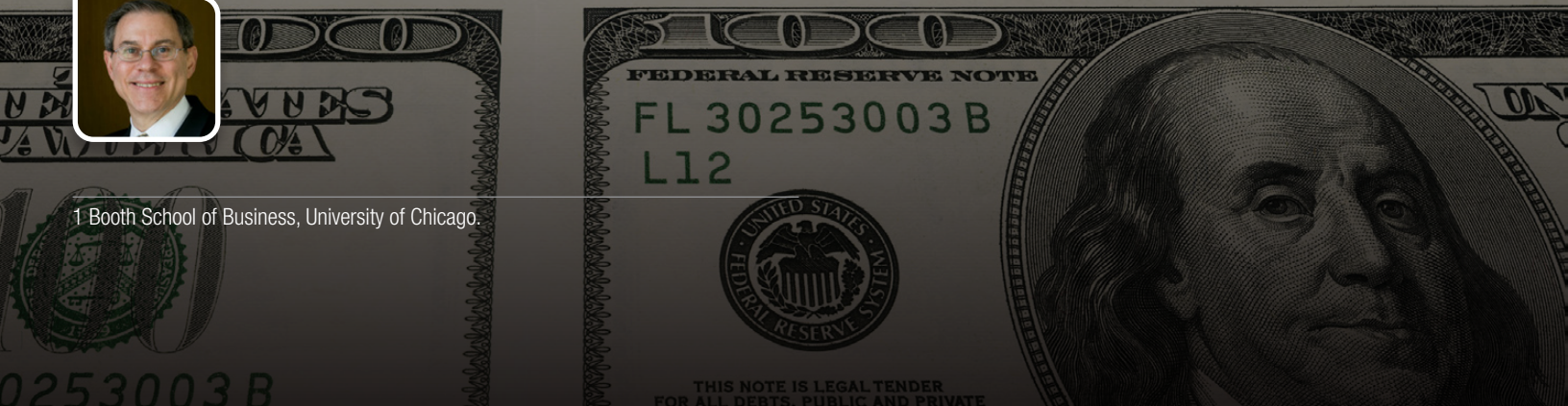
# SOME OBSERVATIONS ON CLAIMS THAT RISING MARKET POWER IS RESPONSIBLE FOR U.S. ECONOMY ILLS AND THAT LAX ANTITRUST IS THE VILLAIN



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## I. INTRODUCTION

There has been an outpouring of scholarly articles in economics linking increases in market power throughout the U.S. economy to poor economic performance, often with the implication that lax antitrust is a primary cause of the increase in market power. A good deal of this literature has its origins in the macroeconomic literature, but microeconomists also have contributed. The FTC has held hearings on the topic of market power. There has also been a huge non-economic and popular literature calling for increased antitrust enforcement including, for example, breaking-up some large companies. Certain presidential platforms have focused on antitrust in a way not seen since the early 1900s. I will focus only on the economics literature in this essay. But even this literature is so vast that I cannot analyze it adequately in this short essay and instead highlight a few key observations that I have tentatively drawn from some articles in this evolving literature on increases in market power throughout the U.S. economy.<sup>2</sup> I primarily focus on studies covering the U.S. economy in general and not on more detailed and typical industrial organization studies of individual industries. I apologize in advance to authors whose important papers I cannot analyze but I refer the reader to some references<sup>3</sup> that do provide more comprehensive analyses of this literature.

My key conclusion is that although this literature raises issues deserving of continued research, it does not support calls for dramatic changes in antitrust policy. I base this conclusion on the following observations:

1. The facts indicate that industry concentration has increased in many industries, but even if these measures of concentration were a good predictor of competitiveness the fact remains that the U.S. economy is generally characterized by levels of concentration that antitrust economists, based in large part on empirical observations and studies, would not consider to raise significant competition concerns.
2. As Demsetz (1973) pointed out long ago, rising concentration can be a desirable feature of competition as efficient firms expand.<sup>4</sup> There is evidence indicating that the observed increase in concentration and increased productivity go together.
3. However, the implication that such increased productivity would lead to lower prices seems not to have materialized, leading instead to higher price-cost margins, though not to higher prices. The firms that are growing seem to be the ones that are most productive and

<sup>2</sup> I only briefly discuss monopsony power here, though that topic deserves more study.

<sup>3</sup> See, for example, the symposium in the summer 2019 issue of the *Journal of Economic Perspectives*, especially Chad Syverson, *Macroeconomics and Market Power: Context, Implications, and Open Questions*, 33 J. ECON. PERSP. 23-43 (2019). See also Thomas Philippon, *THE GREAT REVERSAL: HOW AMERICA GAVE UP ON FREE MARKETS* (2019).

<sup>4</sup> Harold Demsetz, *Industry Structure, Market Rivalry, and Public Policy*, 16 J. LAW & ECON. 1-9 (1973).

those are the ones enjoying elevated price-cost margins. Such evidence would be consistent with increased rates of return on measured capital, as seems to be the case. But since consumers are choosing to buy from these growing firms, it suggests that these firms are being rewarded for their products which may well be high quality or innovative; otherwise it is hard to figure out why such firms are expanding.

4. Work by DeLoecker, Eeckhout & Ungar (2020), following Hall's (1988) pioneering work, suggests a very large increase overall in the U.S. ratio of price to marginal cost (ranging from 33 to 45 percent, depending on the data set used) over the last 40 years.<sup>5</sup> Other work casts doubt on the magnitude of that increase and smaller increases seem more likely. Plausible estimates find an increase of 5 percent or even less.
5. The increase in the ratio of price to marginal cost appears highest in finance, utilities, and health care, three industries that are subject to numerous state and federal regulations. This suggests that not surprisingly regulation rather than inadequate competitive forces is an important factor explaining increases in the ratio of price to cost in these industries.
6. Technological change is likely an important, if not the most important, influence in altering industry structure and measured price-cost margins. The increased importance of intangible capital and computer technology is an important consequence of this technological change. Elevated price cost margins and elevated returns to measured capital (excluding intangible capital) are what one would expect to see in firms subject to high fixed costs associated with the creation of intangible capital.
7. Attempts to blame increased market power as the primary cause of large declines in labor's share of value added, in productivity growth, in the rate of new business formation and in investment are likely misplaced, though the data raise some puzzling issues that need further investigation.
8. There can be no disagreement with the claim that antitrust case law can be improved. That has always been true and remains so today. However, the basic framework of the antitrust statutes should be adequate for dealing with competition issues. Claims that antitrust policy has been lax and that drastic changes in antitrust policy are needed often fail to distinguish between whether the laws are inadequate, the agencies are not sufficiently enforcing the laws, or litigation has produced the wrong result. Recommendations regarding tighter merger policy often rely on retrospective studies, several of which show price increases following mergers. But those recommendations often fail to explain how those retrospective studies would enable enforcers to know enough beforehand to identify those mergers that will raise price. The case law seems adequate for dealing with competition problems, with the possible exception of the recent *American Express* case.<sup>6</sup>
9. Other than attempts to control market power on the selling side through antitrust enforcement, there are many other avenues to pursue if one wants to increase competition in the economy. As already mentioned regulations at the state and federal level, misuse of intellectual property protection, and contractual restrictions on workers are some of the prime candidates to examine.
10. Antitrust is not regulation. The history of regulation especially in rapidly changing industries is not encouraging for thinking that regulators perform better than the market even when some markets are highly concentrated. But, of course, that does not mean that there should never be additional regulation, just that the nirvana fallacy — that regulators can costlessly improve market performance — should not dominate decision-making.

I would also add that continued study of these topics is not only needed to advance the knowledge of academic researchers but also to inform policy of what to do and not to do. Let me now explain my reasoning behind these observations.

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<sup>5</sup> Jan DeLoecker, Jan Eeckhout & Gabriel Ungar, *The Rise of Market Power and the Macroeconomic Implications*, 135 Q. J. ECON. 561-644 (2020); Robert E. Hall, *The Relation Between Price and Marginal Cost in U.S. Industry*, 96 J. POL. ECON. 921-47 (1988).

<sup>6</sup> *Ohio et al. v. American Express Co. et al.*, 138 S Ct 2274 (2018). Although I did not testify as an expert in that matter, I have appeared in other matters as an expert adverse to credit card companies.

## II. IS CONCENTRATION IN THE U.S. ECONOMY RISING TO LEVELS THAT RAISE ANTITRUST CONCERNS?

The general answer to this question is no, though it is undeniably true that some industries have become more concentrated. Most antitrust economists pay attention to an HHI (the squared sum of market shares) or perhaps CR4 (the aggregate market share of the four largest firms) as initial possible indicators of competition once an antitrust market has been defined.<sup>7</sup> As is well-known, it is not a trivial task to define the product and geographic scope of an antitrust market, but no study of the U.S. economy could do that for every relevant antitrust market. So, most studies rely on some variant of using readily available data. That of course can be a serious problem, but even if one uses such data, it does not support the conclusion that the antitrust critics claim. For example, consider the chart below that appeared in Shapiro's 2018 article.<sup>8</sup> It shows that across the U.S. economy concentration indeed increased from 1997 to 2012 but overall CR4 is on average only around 30 percent. Even in the most highly concentrated sectors, the CR4 remains below 50 percent, a level that many antitrust economists would consider to be so low that competitive concerns do not arise. And this is under the assumption that the measured levels of concentration and its increases over time are good indicators of competitiveness or the change in competitiveness in the relevant industries.

Figure 1



Source: Shapiro (2018), p. 728.<sup>9</sup>

An analysis covering a longer time period is based on the work of Peltzman (2020) who examined and adjusted manufacturing data to enable an analysis of concentration over the 1982 to 2012 period for about 300 industries.<sup>10</sup> There are no doubt limitations to the underlying data (*e.g.*, imports are excluded) as Peltzman clearly acknowledges, but using the data that Professor Peltzman kindly provided, I created Figure 2 which shows how HHI has evolved over time for the industries in his data set. What the figure shows is that, generally, concentration in U.S. manufacturing is not at levels that U.S. antitrust authorities would consider troubling and that despite a trend toward increasing concentration, it would be inaccurate to suggest that U.S. manufacturing industry is concentrated. For example, about 85 percent or more of manufacturing industries in both 1982 and 2012 are in the “unconcentrated” category, with HHIs under 1500.

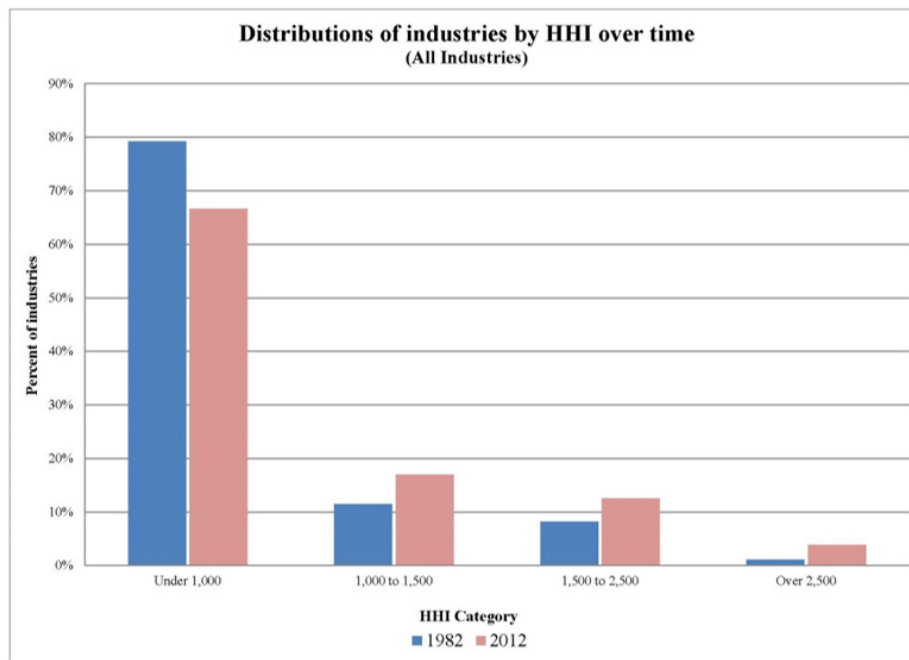
7 The Council of Economic Advisers (“CEA”) published a report in 2016 sounding the alarm about increased concentration but relied on measures such as the share of the top 50 firms that most antitrust economists would not consider meaningful. Council of Economic Advisers, *Benefits of Competition and Indicators of Market Power*, CEA ISSUE BRIEF (April 2016).

8 Carl Shapiro, *Antitrust in a Time of Populism*, 61 INT. J. IND. ORG. 714-48 (2018).

9 *Id.*

10 Sam Peltzman, *Productivity, Prices and Concentration in Manufacturing: A Demsetzian Perspective*, working paper (2020).

Figure 2



Source: Data from Peltzman (2018).<sup>11</sup>

### III. HAS INCREASED CONCENTRATION LINKED TO INCREASED MARKET POWER?

As Demsetz (1973) pointed out long ago, efficient firms grow and their growth would be expected to lead to increased concentration.<sup>12</sup> This is just one possibility, of course, and increased concentration can sometimes harm consumers. What do the data show? Peltzman (2020) studies this question in some detail for manufacturing.<sup>13</sup> He finds that increased concentration and increased productivity seem to go hand in hand: Industries with increasing concentration, especially industries with initially higher levels of concentration, enjoy increased productivity.<sup>14</sup> This sounds good for the story that there is really nothing undesirable or unexpected going on when we observe concentration increasing over time. But Peltzman also finds that this increase in productivity, which should translate into lower costs, does not result in lower prices as concentration increases, though it also does not result in higher prices either. Although there may be explanations for this (such as improved product quality), such evidence raises the question of why competition in the market does not lead to lower prices. It also suggests that even though prices may not have increased, price-cost margins have likely increased over this time period, a theme I will return to below. Ganapati (2018) finds similar results to Peltzman for all industries.<sup>15</sup>

Bessen (forthcoming) has studied the role of firm investment in proprietary software across the U.S. economy.<sup>16</sup> He identifies when a firm invests in IT software of their own and then traces the relationship between such investments and increased industry concentration. To provide some idea of the importance of these investments, firms invested about \$250 billion in in proprietary software in 2016, which Bessen reports is nearly as much as all private, nonresidential investment in equipment and structures. Bessen finds that most of the increase in concentration can be explained by focusing on this technological channel by which firms become more efficient.

<sup>11</sup> *Id.*

<sup>12</sup> Demsetz, *supra* note 4.

<sup>13</sup> Peltzman, *supra* note 10.

<sup>14</sup> See Blonigen & Pierce (2016) for some counter evidence showing that mergers do not appear to lead to increased productivity. Bruce A. Blonigen & Justin R. Pierce, *Evidence for the Effects of Mergers on Market Power and Efficiency*, NBER WORKING PAPER 22750 (Oct. 2016).

<sup>15</sup> Sharat Ganapati, *Growing Oligopolies, Prices, Output, and Productivity*, WORKING PAPER, GEORGETOWN UNIVERSITY (2018).

<sup>16</sup> James Bessen, *Industry Concentration and Information Technology*, J. LAW & ECON. (forthcoming).

Adding to this evidence of increased concentration reflecting increased efficiency, Autor, *et al.* (2020) show that so-called “superstar firms” have expanded where such firms have higher productivity implying lower costs, all else equal, and higher price-cost margins than their rivals.<sup>17</sup> If consumers are buying more from these firms than from their rivals, and especially in the absence of evidence of price increases, it likely reflects that these firms are doing something right, providing desirable new products, better products, or both.

## IV. HAS MARKET POWER INCREASED IN THE U.S. ECONOMY?

Starting with Hall’s (1988) pioneering study, studies that usually would be characterized as part of the macroeconomic literature have looked at how to measure market power.<sup>18</sup> Perhaps the most noteworthy of such recent studies and the one that has attracted lots of attention is the impressive study by DeLoecker, *et al.* (2020).<sup>19</sup> They explain that the ratio of price to marginal cost can be measured as the ratio of an output elasticity to the share of a variable factor of production, where the output elasticity is the percentage change in output in response to a one percent change in the variable factor. A variable factor of production is one with no adjustment costs such as labor which is often (perhaps wrongly) assumed to be easy to increase and decrease at a constant wage. They find that the ratio of price to marginal cost rose by about 33 or 45 percent (depending on which data they use) from 1980 to 2014. That is certainly enough of an increase that it should capture everyone’s attention, and it has. They also find, like Autor, *et al.* (2020), that aggregate mark-ups increase because large firms with high mark-ups expand their share.<sup>20</sup> Again, this suggests that these large firms must be providing consumers some benefit over and above other firms. That is good, not bad, for consumers.

There have been numerous criticisms of DeLoecker, *et al.*’s work, though that should not detract from the value of their study in stimulating research on an important topic. Some of the most important critiques concern their methodology. First, if a factor of production, such as labor, really entails adjustment costs in the sense that it takes time and effort to train and add labor to the work force, then ignoring these adjustment costs would bias the results of the estimation. Second, if wage payments include some fixed component of compensation that does not vary with hours worked, then that too will bias the calculation and lead to an incorrect measure of labor’s share relevant for DeLoecker, *et al.*’s methodology. Third, in theory it should not matter which “variable” factor of production one uses to do the estimation, but, in practice, it does matter (see Raval (2020)<sup>21</sup>) and one obtains lower estimates of markups if one uses other factors of production that exclude labor. Fourth, DeLoecker, *et al.* assume that technological change is “Hicks neutral.” (This basically means that the production function that depends on capital and labor grows over time by being multiplied by a productivity number.) If technological change is not Hicks neutral but instead reflects primarily more productive capital, then this too matters to the calculation. Fifth, suppose one treats SGA (selling, general and administration expense) as a variable cost, not a fixed cost, because an analysis of SGA shows that it rises with output rather than stays fixed as it should if it is a non-variable factor of production. (See Traina (2018)).<sup>22</sup> That too matters for DeLoecker, *et al.*’s calculations. Finally, one potentially devastating criticism of the methodology comes from Bond, *et al.* (2020).<sup>23</sup> They explain that the output elasticity that DeLoecker, *et al.* use incorrectly ignores the fact that when there is market power, prices are affected as one expands output. That means that a revenue elasticity is different from an output elasticity, even though if price remained unaffected, they would be equal. Since Bond, *et al.* explain that DeLoecker, *et al.* use a revenue elasticity, they show that the methodology is fundamentally flawed.

Although there is no consensus yet on the magnitude of the increase, if any, in market power (as measured by the ratio of price to marginal cost) throughout the U.S. economy, my reading of the literature indicates that many of these adjustments lower the large increases that DeLoecker, *et al.* find by considerable amounts. For example, Traina shows that the ratio of price to marginal cost has gone from about 1.15 in 1950 to a low of about 1.10 in 1980 to about 1.15 in 2020. That is an increase of about 5 percent, not 33-45 percent, from 1980 to 2014. Although such an increase is far lower than that found by DeLoecker, *et al.*, it still poses the question as to why profitability (rates of return to mea-

<sup>17</sup> David Autor, David Dorn, Lawrence Katz, Christine Paterson & John Van Reenan, *The Fall of the Labor Share and the Rise of Superstar Firms*, 135 Q. J. ECON. 645-709 (2020).

<sup>18</sup> Hall, *supra* note 5. To make my biases clear, I regard Hall’s work and the related research as central to industrial organization and have long included such studies on my reading lists for my Ph.D. courses in industrial organization.

<sup>19</sup> DeLoecker *et al.*, *supra* note 5.

<sup>20</sup> See also David Autor, *et al.*, *supra* note 17.

<sup>21</sup> Devesh Raval, *Testing the Production Approach to Markup Estimation*, WORKING PAPER (March 2, 2020).

<sup>22</sup> James Traina, *Is Aggregate Market Power Increasing? Production Trends Using Financial Statements*, WORKING PAPER (Feb. 2018).

<sup>23</sup> Steve Bond, Arshia Hashemi, Greg Kaplan & Piotr Zoch, *Some Unpleasant Markup Arithmetic: Production Function Elasticities and Their Estimation from Production Data*, NBER WORKING PAPER 27002 (April 2020).

sured capital) should appear to be rising. This is especially puzzling in the recent period of low interest rates since the usual relationship is that rates of return to capital should be directly related to the interest rate. One answer that Traina suggests is that even his much smaller estimate of the ratio of price to marginal cost should be adjusted for the changing composition of his data set; once he makes that adjustment, he finds no general increase in market power over the period 1980 to 2016. But other evidence in addition to DeLoecker, *et al.*'s evidence on profitability does suggest that profits appear to have risen.<sup>24</sup> Perhaps complications in measuring returns to capital such as measuring the value of intangible capital complicate the calculations. But again, as discussed already, even if such returns have risen, the evidence discussed earlier suggests that that may reflect that consumers are choosing to buy new and better products from innovating firms that are being rewarded for their efforts.

Hall (2018) provides some additional clues as to what is going on with mark-ups. Hall presents a new derivation for calculating the ratio of price to marginal cost and then applies it to recent data.<sup>25</sup> Like DeLoecker, *et al.*, Hall finds that market power is increasing over the time period he considers (1988-2015), as measured by the price-cost ratio; but Hall's estimates of the increase is much less than DeLoecker, *et al.* Hall's method shares some of the same problems as the DeLoecker, *et al.* methodology. But the interesting part of the Hall paper I want to focus on are his estimates of the growth in market power by sector of the U.S. economy. Hall reports in his Table 4 that of the 19 sectors on which he reports, the top three in terms of growth in market power are Finance and Insurance, Utilities, and HealthCare and Social Assistance, with the first one the clear leader in growth of market power. The one striking fact to me regarding these industries is that many of them are highly regulated, suggesting that regulation may be the primary cause of any decrease in competition in these industries.<sup>26</sup> In contrast, Hall finds that manufacturing seems to have had only tiny growth in its price-cost ratio over the time period he studies.

## V. IS INCREASED MARKET POWER RESPONSIBLE FOR POOR PERFORMANCE OF THE U.S. ECONOMY?

Some have suggested that increased market power is responsible for the especially poor performance of the U.S. economy on a number of dimensions. These dimensions include decreased share of value added going to labor, low productivity growth, depressed rate of new business formation, and low investment. If the evidence is as the prior sections suggest — namely some increase in market power between 1980 and today reflected in an increase in price-cost ratio from 1.10 to 1.15, a level that also existed in 1950 — then it raises the question whether it is sensible to attribute a large decline in performance to such an increase in market power. (And the answer to the question depends on what “large” means.) In any event, let's look at each measure of performance and see if there is any obvious relation to increased market power over the past several years. Such an analysis does not substitute for a more sophisticated analysis, of course, but it can be helpful in figuring out initially if there likely is strong evidence linking an increase in market power to a decline in a variety of performance measures in the national economy. Let me raise one caveat: Macroeconomics is concerned with movements in aggregate measures of performance for the entire economy and I will focus on those. I do not discuss individual industries and recognize, as readers surely do too, that the answers for individual industries could differ.

Let's consider first the share of value added going to labor. One claim is that the increased market power of firms has been used to offset whatever bargaining power workers have and that this has led to labor having a lower share of value added. That share was fairly stable in the U.S. at around 66 percent until about 1980, and then it fell fairly steadily to about 58 percent in 2012.<sup>27</sup> The problem with attributing this decline to market power is that such a decline is evident throughout much of the world, including in economies that supposedly did not suffer the same increase in market power as did the U.S.<sup>28</sup> For example, the decline in labor's share in Germany was similar to that in the United States.<sup>29</sup> This suggests that technological conditions are the driving force of this change in labor's share of revenue, as labor is being replaced by capital, or, alternatively, that there is an increase in the effective supply of labor (through, for example, globalization).

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<sup>24</sup> See, e.g. Philippon, *supra* note 3, chapter 3.

<sup>25</sup> Robert E. Hall, *New Evidence on the Markup of Prices over Marginal Costs and the Role of Mega-Firms in the US Economy*, NBER WORKING PAPER 24574 (May 2018).

<sup>26</sup> In health care, there have been numerous, detailed studies showing how several (though not all) mergers and increased concentration in the health care sector have led to a decline in competition. See Martin Gaynor, Kate Ho & Robert Town, *The Industrial Organization of Health Care Markets*, 53 J. ECON. LIT, 235-84 (2015).

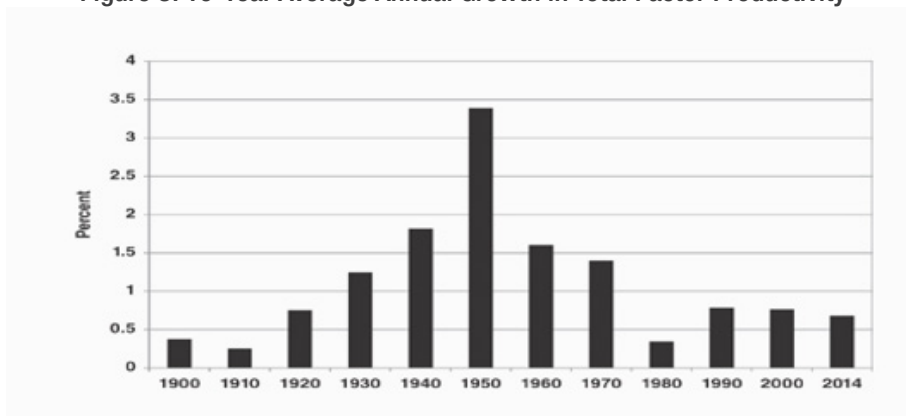
<sup>27</sup> Loukas Karabarbounis & Brent Neiman, *The Global Decline of the Labor Share*, 129 Q. J. ECON. 61-103 (2014).

<sup>28</sup> See Philippon, *supra* note 3, chapter 6.

<sup>29</sup> Karabarbounis & Neiman, *supra* note 27.

Now consider productivity growth. I have reproduced a figure from Robert Gordon's excellent book (2017) on technological change.<sup>30</sup> Figure 3 shows the decline in the 10-year rate of productivity growth over time. As the figure makes clear, (except for the 1980 figure) that decline has been pretty steady since 1950 and has, if anything, tapered off over the last couple of decades. Based on this figure, it is hard to see an association between the recent claimed increases in market power and the observed decline in productivity growth since 1950.

**Figure 3: 10-Year Average Annual Growth in Total Factor Productivity**

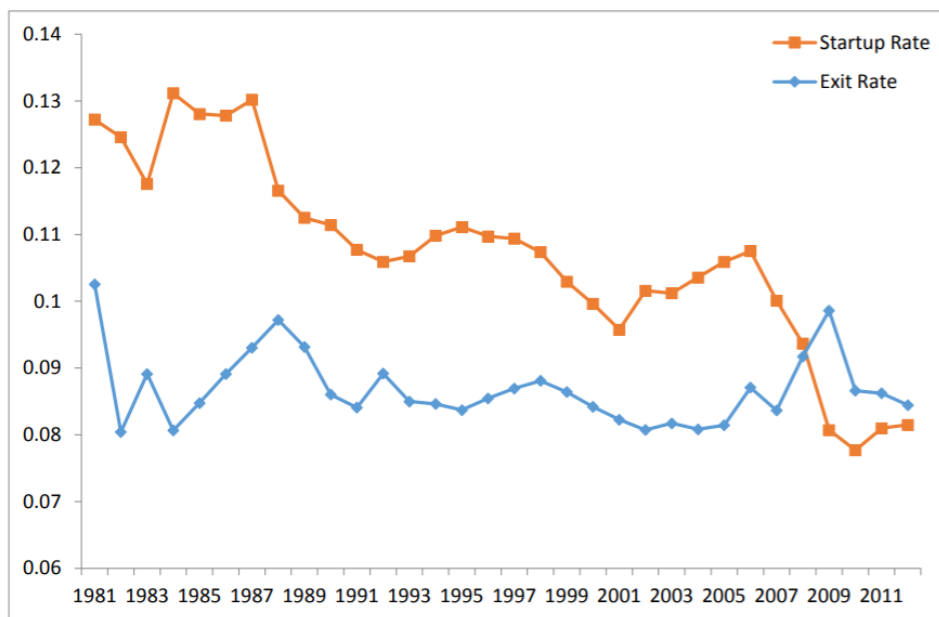


Source: Gordon (2017).<sup>31</sup>

Note: The average annual growth rate is for the ten years prior to the year shown, and the bar labeled 2014 shows the average annual growth rate for 2001-14.

Let's next turn to the rate of new business formation. I have reproduced a chart from Haltiwanger (2015) showing that new business formation has declined by over 30 percent since 1981.<sup>32</sup> This is a potentially troubling fact and deserves further research. But one can note that the decline has been pretty steady since about 1990 and has been especially severe since the Great Recession.

**Figure 4: Startup and Exit Rates for Firms in the U.S. Non-Farm Sector, 1981-2012**



Source: Haltiwanger (2015), figure 2a, p. 16.<sup>33</sup>

<sup>30</sup> Robert J. Gordon, *THE RISE AND FALL OF AMERICAN GROWTH* (2017).

<sup>31</sup> *Id.*

<sup>32</sup> John Haltiwanger, *Top Ten Signs of Declining Business Dynamism and Entrepreneurship in the U.S.*, WORKING PAPER (Aug. 2015).

<sup>33</sup> *Id.*



Although it is possible that market power, to the extent one reads the evidence as showing large increases over time, could be a factor, Hopenhayn, *et al.* (2018) have provided another explanation in which demographics explain most, if not all, of what is going on.<sup>34</sup> Old workers do not typically start new firms, and the aging of the U.S. workforce means that one should expect that the U.S. will generate fewer start-ups than in the past, all else equal. This should not necessarily be taken as the full explanation but I think it is plausible and find their evidence persuasive. Moreover, entrants tend to be small and a small firm has more difficulty than a large firm in overcoming any fixed costs, including the fixed costs of investing in intangible capital or of adhering to regulations. It is plausible that such costs have risen over time. Finally, I note that according to the World Bank, although the US economy ranks 6<sup>th</sup> out of about 200 countries in terms of the overall ease of doing business in 2020, it ranks 55<sup>th</sup> (better than Niger but worse than the Democratic Republic of Congo) in terms of how easy it is to start a business.<sup>35</sup> It is possible that impediments to starting a new firm are higher now because of the increased market power of an incumbent, but I would need to see more evidence to be convinced that it is a general phenomenon, especially in light of alternative plausible mechanisms.

Finally, let's evaluate the claim that increased market power is the cause of low investment. A monopolist restricts output, and therefore in steady state needs less capital, and hence less investment, than do firms in a competitive industry. Philippon (2019) has estimated that the U.S. capital stock is about 10 percent lower than it would be had the increase in market power not occurred.<sup>36</sup> Of course, if the increase in market power is coming from the introduction of a new product, then asking whether the capital stock would be greater had the firm invented the new product but charged a lower price is a strange question to ask. It would seem that we should applaud the firm for the introduction of the new product at whatever price it chooses to charge and at which consumers are willingly purchasing. Interestingly, this estimate of 10 percent lower capital stock is about the magnitude of what one might expect if, all else equal, prices rose by about 10 percent because of increased market power and the demand elasticity was near 1. One might want to consider, of course, the impact of other factors affecting investment such as the increased uncertainty in the wake of the Great Recession. Still, I do find that Philippon's evidence on this point raises valid concerns that merit further investigation.

## VI. IS LAX ANTITRUST RESPONSIBLE FOR A RISE IN MARKET POWER AND, IF SO, WHAT SHOULD BE DONE?

Among the calls for antitrust reform, it is useful to distinguish between calls for legislative change, enforcement change, and somehow altering how judges interpret the antitrust statutes. My own sense, reflecting in part my experience on the Antitrust Modernization Commission, is that the antitrust laws are basically on target, although some improvements to various provisions undoubtedly could be made. The antitrust laws reflect the ideas that cartels are bad, mergers that create market power are bad, and firms with market power should not engage in conduct that enhances or maintains that power without benefitting consumers. Those basic ideas seem correct to me, and so I see no basis to ask for a dramatic rewriting of our antitrust laws.

What about enforcement? Are the government agencies doing a good job in enforcing the laws or not? This is a hard question but no matter what one thinks, if one thought that an agency was doing a good job some time ago then as the economy expands one has to recognize that that level of performance likely requires increased resources. For the Antitrust Division at the Department of Justice, the ratio of total funding appropriated to GDP has fallen by about 30 percent since 2000.<sup>37</sup> One disturbing finding of Wollman (2019) is that as reporting thresholds for mergers have increased, a surprising number of mergers that took place fell just below the reporting thresholds.<sup>38</sup> That at least raises the possibility that mergers are getting through because of inadequate scrutiny, suggesting that some anticompetitive mergers may be overlooked.

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34 Hugo Hopenhayn, Julian Neira & Rish Singhania, *From Population Growth to Firm Demographics: Implications for Concentration, Entrepreneurship and the Labor Share*, NBER WORKING PAPER 25382 (Dec. 2018).

35 World Bank Doing Business 2020: <https://www.doingbusiness.org/en/data/exploreeconomies/united-states>.

36 Philippon, *supra* note 3.

37 U.S. Department of Justice, "Appropriation Figures for the Antitrust Division, Fiscal Years 1903-2021," <https://www.justice.gov/atr/appropriation-figures-antitrust-division>.

38 Thomas G. Wollman, *Stealth Consolidation: Evidence from an Amendment to the Hart-Scott-Rodino Act*, 1 AM. ECON. REV.: INSIGHTS 77-94 (2019).

There has been a concern that too many anticompetitive mergers are going unchallenged. The evidence supporting this concern is based largely on retrospective studies of allowed mergers. Kwoka (2015) summarizes several of these studies, as does Ashenfelter, *et al.* (2014).<sup>39</sup> Such studies can be criticized on a number of grounds, most importantly as to whether the mergers studied are representative of mergers today since several of the mergers studied are from long ago and are concentrated in a few industries (*e.g.*, hospitals, airlines, and banking).<sup>40</sup> Those studies do not necessarily show that the government systematically underestimates adverse effects of mergers, as Carlton (2009) explained, because they are not a random sample of mergers.<sup>41</sup> Although I agree with the criticisms of retrospective studies, I cannot see that researchers surveying the literature have a choice other than to report the existing studies. The conclusion I draw from these retrospectives is similar to that of Ashenfelter, *et al.* (2014). The evidence refutes the notion that mergers in industries with only a few firms will always be pro-competitive. The evidence also refutes the notion that mergers in concentrated industries are always anti-competitive. The message to the policy maker is not to dismiss competitive concerns too quickly in concentrated industries, but also not to jump to the conclusion that mergers in concentrated industries should be stopped. Moreover, the evidence shows that generally, even if these studies could be assumed to be based upon a representative sample of mergers and if the price increases could be associated with the merger, the price increases are often below 5 percent.<sup>42</sup> Hence the message also is that attributing large (*e.g.* 45 percent) increases in the ratio of price to marginal cost across the entire U.S. economy to lax merger enforcement seems like a stretch especially since not all industries experience mergers that significantly increase price.

From a policy point of view, these retrospective studies raise a deeper point that I once made<sup>43</sup> and that I want to repeat. For retrospective merger analysis to have policy relevance, the studies need to show that the agency, with the information it had at the time, incorrectly estimated the merger's effect. Is there a systematic bias that leads the FTC or DOJ to underestimate price effects? Showing that some mergers raise price by 10 percent while others lower price by 10 percent tells the policy maker nothing unless one can tell him what he is doing wrong and how to predict in advance which mergers will raise price. Stopping all mergers in order to prevent ones that raise price is the wrong lesson to draw, especially since most mergers raise few, if any, competition issues. For economists, that means evaluating the models and methods used to analyze the merger. The government agencies are the ones best suited to know what models they used or did not use, and to evaluate which of those models did a good job and which did a poor job of predicting the merger effect. Is there another mode of analysis that was not pursued that would have predicted an adverse effect? It is only with that type of retrospective analysis, admittedly time-consuming and requiring post-merger data, that merger policy can significantly improve its methodology.

One cannot ignore that, in addition to stopping a particular anticompetitive merger or particular anticompetitive conduct, there are other policy considerations in bringing an antitrust case that affect the government's enforcement decisions. One important concern that has received little, if any, attention from proponents of more aggressive antitrust enforcement is the effect of aggressive enforcement on reducing desirable merger activity or otherwise efficient conduct for fear of mistaken prosecution or of triggering a lengthy and costly process. That is a hard policy question to evaluate but it is not possible to have a sensible policy without making at least some attempt to assess that issue.

Enforcement decisions are also affected by the case law, not simply by the agency's (or a private party's) assessment of whether an anticompetitive effect is likely. Why bring an antitrust case if the case is sure to fail because of the case law? The question therefore becomes whether the existing case law is significantly off-track. For the most part, I think the judicial framework for figuring out whether a merger or some individual firm conduct will lead to harm is sensible in that the overall economic effect of the merger or conduct is considered, though reasonable parties can disagree about whether the courts are getting it correct in particular cases. But that is where the beauty of the case law should work. For example, if studies show undesirable effects of, for example, mergers in a particular industry, then that evidence can be explained at trial. There are plenty of smart economists that can rely on their own case research as well as studies in the literature to convince a judge or jury that a merger is bad.

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39 John Kwoka, *MERGERS, MERGER CONTROL, AND REMEDIES: A RETROSPECTIVE ANALYSIS OF U.S. POLICY* (2015); Orley Ashenfelter, Daniel Hosken & Matthew Weinberg, *Did Robert Bork Understate the Competitive Impact of Mergers? Evidence from Consummated Mergers*, 57 J. LAW & ECON. S67-S100 (2014).

40 See, *e.g.* Michael Vita & F. David Osinki, *John Kwoka's MERGERS, MERGER CONTROL, AND REMEDIES: A Critical Review*, 82 ANTITRUST L.J. 361-388 (2018).

41 Dennis Carlton, *Why We Need to Measure the Effect of Merger Policy and How to Do It*, 5 COMPETITION POLICY INT. 77-90 (2009).

42 See Orley Ashenfelter & Daniel Hoskins, *The Effect of Mergers on Consumer Prices: Evidence from Five Mergers on the Enforcement Margin*, 53, J. LAW AND ECONOMICS 417-466 (2010). Kwoka (2015) *supra* note 38 at p.96 finds an average price increase of about 5 percent from the merger studies he reports. Of course, there can be mergers in specific industries that are harmful to competition. Studies of certain past airline mergers find price increases above 5 percent. However, although there has been much criticism heaped on the recent airline mergers, the evidence does not show that such mergers led to adverse effects on routes that would have been predicted to become more concentrated as a result of the merger. See Dennis Carlton, Mark Israel, Ian MacSwain & Eugene Orlov, *Are Legacy Airline Mergers Pro- or Anti-Competitive? Evidence from Recent U.S. Airline Mergers*, 62 INT. J. IND. ORG. 58-95 (2019).

43 Carlton (2009), *supra* note 41.

There is, however, one important recent antitrust decision that may have far-reaching, undesirable consequences in today's economy but hopefully will not. In what I consider a very muddled decision in *American Express*,<sup>44</sup> the Court ruled that when firms operate in a two-sided market, under certain circumstances the plaintiff has a burden, normally borne by the defendant, to analyze the total (including pro-competitive) effect of conduct in an antitrust market that consists of both sides of the market in order to get past the first hurdle in a trial. This ruling will make it harder for plaintiffs to succeed in an antitrust case against a firm in a two-sided market than was true prior to the decision. Although the exact definition of an antitrust market can sometimes be helpful, it is not helpful if legal formalism precludes consideration of an undisputed adverse effect.<sup>45</sup> *American Express* has already affected subsequent antitrust cases. For example, Sabre's recent attempt to purchase Farelogix was challenged by the government. Sabre provides software that enables airlines and travel agents to book tickets for passengers. Farelogix provides software that enables airlines to book passengers. Relying on *American Express*, the district court denied the government challenge to the merger since Farelogix did not compete in the same two-sided market that Sabre did, despite evidence that the court credited that Farelogix was a competitive influence on the pricing of Sabre.<sup>46</sup> The UK competition authority blocked the merger and the merger was called off, at least for now. In our common law system, hopefully the adverse effects of *American Express* can be limited by subsequent rulings.

The Antitrust Modernization Commission, a bi-partisan Congressionally authorized committee, issued a report in 2007 providing a comprehensive review of antitrust policy based on several years of hearings and studies. It looked at not just the need for legislative change but also suggested where the case law needed redirection. That report is now almost 15 years old. Since that time numerous changes in the economy have occurred and case law has further developed. Given the heightened scrutiny of antitrust today, it may well be appropriate to consider another such study.<sup>47</sup> Indeed, the FTC's recent Hearings on Competition and Consumer Protection in the 21<sup>st</sup> Century may provide useful information for such a study.<sup>48</sup>

## VII. WHAT FACTORS ARE THERE OTHER THAN ANTITRUST THAT COULD IMPROVE COMPETITION?

Aside from antitrust, there are many other factors that affect competition and thereby the performance of the U.S. economy. I will mention just a few that I would urge policy makers to examine if they wish to promote competition.

The notion that an incumbent has an incentive to restrict competition in its industry is an easy one for an economist to understand, as is the harm such restrictions create. State licensing boards are a good example of such restrictions. Over the last 50 years, the number of professions requiring licenses has exploded. The fraction of the work force subject to some requirement for licensing has risen from about 5 percent in the 1950s to over 25 percent.<sup>49</sup> Although some licensing can be justified, it is hard to believe that someone selling flowers, for example, should need a license in one state but not another. Moreover, in healthcare, the various and varied state rules restricting use of dental assistants or physicians' assistants strikes an unbiased observer as lacking justification. The health sector in particular has drawn scrutiny because of its many regulations including banning new hospitals unless a regulator determines that one is "needed." Local rules restricting distribution of liquor are another example.

Regulations generally harm small businesses compared to larger firms to the extent that there is a fixed cost associated with complying with the regulations. This implies that having lots of regulation is incompatible with having lots of small firms, all else equal. I have already mentioned that the United States ranks 55 out of about 200 countries in the World Bank survey of how hard it is to start a business. That does not mean that there should be no regulations but those proposing regulations should understand the consequences of their actions.

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44 *American Express*, *supra* note 6.

45 See Carlton & Winter (2018) and the dissent by Justice Breyer in *American Express* for a discussion of several economic mistakes in that decision. Dennis Carlton & Ralph A. Winter, *Vertical MFN's and Credit Card No-Surcharge Restraints*, 61 J. LAW & ECON. 215-52 (2018).

46 I was not involved in this matter. I was involved in a case on behalf of American Airlines adverse to Sabre in 2012.

47 I was the only economist serving on that 12 member Commission. I would recommend having more than one economist if another such commission is created.

48 Information on the hearings can be found at <https://www.ftc.gov/policy/hearings-competition-consumer-protection#:~:text=The%20Pitofsky%20Hearings%20were%20the,on%20private%20parties%20or%20governmental.>

49 Morris Kleiner & Alan Kruger, *Analyzing the Extent and Influence of Occupational Licensing on the Labor Market*, J. of LABOR ECONOMICS, 31 (2) S173-202.

The creation of intellectual property is a driving force for technological change. But too much protection of intellectual property can be harmful to technological change. This could occur, for example, when owners of standard essential patents (patents that are required to be used if one must meet an industry standard), protected by IP laws, charge high royalties to exploit *ex post* market power after a standard is set, and standard setting organizations fail to institute mechanisms to prevent this exploitation.

Finally, contractual terms in labor contracts that could plausibly protect intellectual property (such as restrictions governing where a former employee can work if the employee has firm-specific intellectual property such as a customer list) could also have adverse effects on competition. Although it is easy to justify such terms in certain circumstances, it is somewhat surprising that about 20 percent of workers are covered by such terms, including workers with low incomes.<sup>50</sup> Such terms not only reduce worker mobility, creating the possibility of monopsony or bargaining power, but also can prevent the efficient allocation of labor. Again, this is an area worthy of further investigation.

## VIII. CONCLUSION

The recent literature claiming large increases in market power and a decline in competition generally in the U.S. economy raise issues deserving of continued research but do not justify drastic changes to antitrust policy.

Nor should that literature be used to justify calls for the replacement of antitrust with regulation. Calls for widespread regulation of economic activity or the breakup of large firms seem to me extreme based on the evidence. The notion that a regulator can solve problems better than markets may sometimes be true, but I caution that those calling for enhanced regulation should remember the historical experience with regulation in the United States, including the possibility that the regulators will protect the regulated firms and harm, not help, consumers.<sup>51</sup> It is hard to regulate a firm, especially one engaged in a rapidly changing industry. Furthermore, breaking up an efficient large firm into several firms does not solve the problem of efficient production unless one can somehow figure out how to preserve scale efficiencies.

We should keep the basic antitrust structure in place and improve it, not dismantle it.

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<sup>50</sup> Evan Starr, J.J. Prescott & Norman Bishara, *Noncompetes in the U.S. Labor Force*, J. LAW AND ECON. (forthcoming). Restrictions on worker mobility between independent firms raise different issues than those between franchisees of the same franchisor.

<sup>51</sup> See Dennis W. Carlton & Randall C. Picker, *Antitrust and Regulation*, in Nancy L. Rose ed., *ECONOMIC REGULATION AND ITS REFORM: WHAT HAVE WE LEARNED?* (2014).

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