



Photo: RainervonBrandis/iStock

Is Rising Product Market Concentration a Concerning Sign of Growing Monopoly Power?

Big firms are coming to dominate markets, but that need not imply it's time for government to step in.

By Leena Rudanko

Economic Advisor and Economist
FEDERAL RESERVE BANK OF PHILADELPHIA.

The views expressed in this article are not necessarily those of the Federal Reserve.

Recent evidence suggests that product market concentration has been on the rise in the U.S. since the early 1980s.¹ This means that sales in a broad set of markets appear to be concentrating in a smaller share of firms. In other words, big firms are coming to dominate markets. This rise in concentration concerns policymakers, as it suggests that product markets are becoming less competitive. Healthy competition, most economists agree, is an important feature of a well-functioning market, allowing consumers to get the best possible prices, quantity, and quality of goods and services. And to ensure that competition prevails, government should enact and enforce antitrust regulations.

Rising concentration has coincided with other, related long-run changes: rising firm profit rates and markups, weak wage growth (and a related decline in the share of output paid as compensation to workers), low firm investment, low productivity growth, and a decline in firm entry.

In this article, I review recent studies related to this rise in concentration and consider the economic significance of this trend. I suggest a more positive interpretation of the evidence. It may be that firms are growing larger due to a change in productive technologies that favors larger firm size, as development in information technologies is making it feasible to operate on a larger—even global—scale. In this context, the benefits of concentrating economic activity may outweigh

the costs of larger firms profiting from their market power. But to fully understand the situation, we need more detailed analyses of specific markets.

Interpreting the Evidence

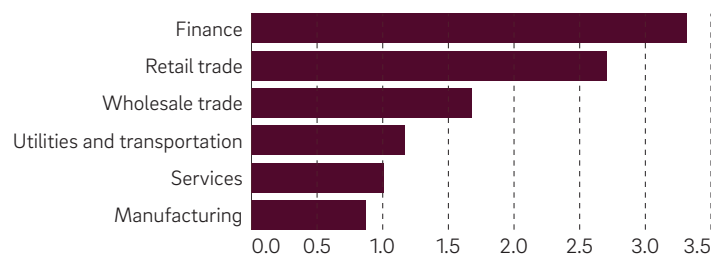
Economists often interpret market concentration as a measure of market power. It's a straightforward analysis: Just use sales revenues to calculate the share of market activity accounted for by large firms.²

The U.S. Census Bureau tracks market concentration by industry, providing measures of industry-level concentration with comprehensive coverage of economic activity across the U.S. This evidence reveals increased concentration since the early 1980s, with product markets in most industries becoming more concentrated (Figure 1). Between 1982 and 2012, the market share of the top four firms increased from 14 to 30 percent in the retail trade, 22 to 29 percent in the wholesale trade, 11 to 15 percent in services, and 39 to 43 percent in manufacturing. In utilities and transportation, furthermore, the same measure increased from 29 to 41 percent between 1992 and 2012.³

FIGURE 1

Top Firms Have Seen Their Share of Total Sales Grow

5-year percentage point increase in share of industry sales going to 20 largest firms in each industrial sector, 1982–2012 for retail trade, wholesale trade, services, and manufacturing, 1992–2012 for finance and utilities and transportation.



Sources: U.S. Economic Census; Autor et al. (2020).

Rising concentration appears to be an international phenomenon. Evidence from Organisation for Economic Co-operation and Development (OECD) sources shows measures of concentration rising between 2001 and 2012 in Europe, with a 2 to 3 percentage point increase in the share of industry sales going to the largest 10 percent of firms.⁴

Before drawing conclusions from this evidence, it is good to recall that market concentration is an imperfect measure of market power because it represents an outcome of competition that in turn depends on various features of the market environment. Market power refers to the ability of a firm to influence the prices it charges, which generally leads to higher prices than in a competitive market. Although market power is generally associated with concentrated product markets, a very competitive product market could also raise market concentration by preventing all but the lowest-cost providers from entering. In other words, the relationship between competition and concentration can go either way.⁵

It is also important to define a product market thoughtfully when calculating market concentration. Concentration statistics

are generally aggregated, so they ignore more-detailed product heterogeneity as well as the geographic aspect of product markets, which can be local rather than nationwide.

Due to these caveats, I see if two alternative indicators of market power are consistent with the suggested increase in monopoly power.

Alternative Measure No. 1: Profit Rates

During this increase in market concentration, the average corporate profit rate for publicly traded firms has risen substantially, from 1 percent in 1980 to 8 percent in 2016.⁶ The increase has been driven by growth in the profitability of the most profitable firms, rather than by an across-the-board increase in firm profitability. The most profitable firms have become even more profitable, attaining profit rates of 15 percent or more.

Extending these calculations to the broader universe of firms is challenging, because information on the balance sheets of privately held firms is private. However, studies using more-aggregated (and hence less-detailed) data covering the broader universe of firms show a rising share of aggregate firm profits since the early 1980s, too.⁷

These calculations suggest that the share of output paid to workers as well as the share of output paid to capital have both declined over this period. As a result, the share of output going to firm profits has risen. We should remain cautious in interpreting these intriguing findings, however, as calculating the share of output paid to capital involves making a number of assumptions that influence the results. Firms own various kinds of capital but do not generally report estimates of the corresponding costs of holding these assets. Moreover, a share of firms' productive assets—such as software and product designs—are not even physical, making it even more difficult to assess the corresponding costs.⁸

Aggregated data have the benefit of allowing us to study the evolution of profits over a longer time horizon. (The data on publicly held firms are less suited to this purpose because, earlier on, fewer firms chose to become publicly traded.) Thanks to the longer time frame, we see that even though the average of firm profits has risen since the 1980s, today's average is not particularly high relative to the broader period since World War II. From this perspective, the changes in profitability are not so alarming.

In any case, firm profitability is also an imperfect measure of market power. Even though there are circumstances where a fully competitive market should drive profits to zero, there are natural circumstances where one would expect to observe positive profits in a competitive market—for example, when firms invest in capital up front and recover related profits later. This capital may be tangible, like equipment and structures (and hence more easily measured), or it may be intangible and thus harder to measure. The growing importance for firms of intangible capital, which is associated with the development of new technologies for producing goods and serving customers, may contribute to the recent changes in profit rates.

Alternative Measure No. 2: Markups

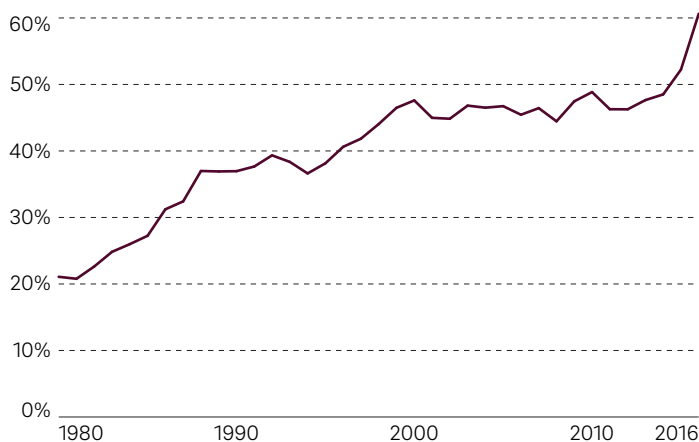
Recently, economists have closely observed an alternative measure of market power, the price-cost markup that firms charge (that is, the ratio of price to the cost of producing an additional unit of output to sell). In a fully competitive market, competition should drive prices down to zero markup. A monopoly producer, on the other hand, would generally set a higher price, selling fewer units at a positive markup.

Recent studies have found that markups, like profit rates, have indeed increased: Based on evidence on public firms, the average markup has risen significantly, from 20 percent in early 1980 to as high as 60 percent in 2016 (Figure 2). And as with profits, this rise in average markups was driven by high-markup firms growing larger and taking over a larger share of industry sales.

FIGURE 2

Average Markup Rose as the Largest Firms Took a Greater Share of Sales

Average markup for publicly traded firms, 1980–2016



Sources: Compustat North America Fundamentals Annual via Wharton Research Data Services (WRDS); De Loecker et al. (2020).

Note: The average markup is revenue weighted.

Again, we must be cautious in interpreting these findings due to the assumptions behind the measurement. Firms use different types of inputs; taking them all into account appropriately poses a challenge, especially when seeking to calculate markups across a broad range of industries at the same time.⁹

If anything, the increase in markups appears to have been larger than the increase in profit rates. We can reconcile the magnitudes of the two effects (that is, the size of the increases in profits vs. markups) if we consider the increase in overhead expenses. If a growing share of firm costs take the form of overhead, markup measures tend to grow for that reason alone. Even in a fully competitive environment where profits remain zero throughout, an ongoing increase in overhead requires firms to raise markups to cover these expenses.¹⁰

Making Sense of It All

Profit rates and markups, in addition to the increase in concentration, suggest that market competition is declining. It seems that sales in many markets are increasingly dominated by large firms making greater profits through higher markups (while leaving their workers with a smaller share of the pie). This suggests that the government needs to use antitrust law to limit the growth in market power of large firms. However, there remain reasons to be cautious when considering this evidence.

For one, the phenomenon is affecting not just the U.S., so it is likely not driven by U.S.-specific policies. This suggests that the underlying causes may be technological rather than institutional. Perhaps modern technology, most notably the development of information technologies, favors a larger scale of operations. There may be social costs associated with firms profiting from their market power, but if the technology has changed to favor operating at a larger scale, the benefits of increased firm size may outweigh the costs.¹¹

Although this economywide evidence helps us observe broad patterns, to ultimately understand what is happening we must analyze individual industries and the concrete changes affecting them. There is substantial heterogeneity across markets, after all. To illustrate this point, I revisit the trends in market concentration from two alternative perspectives. One perspective defines a market as a narrow geographic area, instead of considering total industry sales across the U.S., while the other defines a market in terms of a product.

The Importance of Localized Product Markets

Many product markets are local. Examples include grocery stores, and the retail sector more generally, as well as many services, like haircuts. In these product markets, transportation costs limit the number of providers of goods and services that individual consumers (or firms) can choose from in practice, an issue that economists ignore when they calculate concentration measures using all providers nationwide. It turns out that when we re-define a market as a localized geographic area, we no longer find rising product market concentration.¹²

When a recent study defined a market as all firms in a specific industry in a specific county, it found that average market concentration fell from 1990 to 2014, even while the more broadly defined measures of concentration rose. Local product markets have thus seen sales spreading out among more firms over this period, rather than the opposite.

The finding of falling concentration in more narrowly defined product markets holds across a broad range of industries. This means that for product markets that are truly local, such as many markets for services and retail, the nationwide statistics are misleading. On a national level, sales may be concentrating in a smaller number of large firms, but in local product markets we see the opposite.

How can we reconcile these two opposing trends? National sales may be concentrating in a smaller number of large firms, but these large firms may be expanding into a growing number of local markets served by smaller local firms. Indeed, the study found that the expansion of the largest firms explains much of the divergence in these trends, while local competitors persist despite the entry of these large firms into their local markets.

The Importance of Product-Level Markets


Industry-level concentration statistics also aggregate over different types of products, sometimes more appropriately viewed as separate product markets. A recent study looked at changes in product-level markets, focusing on the retail trade and items generally found in grocery stores.¹³

The study documented a growing number of product varieties per product category available to households. Households' options have thus increased, whatever may have happened to firm competition during this time. And correspondingly, aggregate household spending has also spread out across varieties, with households taking advantage of this increase in options.

Yet the study found that individual households are concentrating their spending on a shrinking number of varieties. Even though the product space is expanding with options, suggesting increasing competition in these markets, individual households are self-selecting into smaller niche markets—making it less clear whether competition in the relevant product markets is increasing or decreasing.

To connect these product-level observations to competition among firms, we must connect product varieties to the relevant firms, something the study did not attempt. However, this example highlights the need to carefully consider the changing competitive environment in individual markets before drawing conclusions from broader aggregate-level patterns.

Conclusion

Faced with evidence of rising concentration, profits, and markups, it is hard to avoid thinking that the economy is seeing a widespread increase in monopoly power, which calls for increased government intervention in markets. However, this conclusion might not be warranted. Technological change may favor a larger scale of operations, justifying larger firm size despite corresponding increases in market power. What's more, aggregated evidence can mask what is actually happening. The bird's-eye view has its benefits, but we need to consider specific markets in more detail before taking action. 

Notes

1 See Council of Economic Advisors (2016) and Autor et al. (2020).

2 The two most common measures of market concentration are the Herfindahl-Hirschman Index—the sum of squared market shares across firms in the market—and the combined market shares of the largest firms in the market.

3 See Autor et al. (2020).

4 See Bajgar et al. (2018) and Criscuolo (2018).

5 See Syverson (2019). There is corroborating evidence that the share of output paid as compensation to workers has declined more in industries that are more affected by rising concentration, which is consistent with firms in these industries retaining greater profits. See Autor et al. (2020)

6 See De Loecker et al. (2020).

7 See Barkai (2020).

8 See Karabarbounis and Neiman (2018).

9 See Basu (2019), Syverson (2019), and Traina (2018).

10 See De Loecker et al. (2020).

11 See Autor et al. (2020) and De Loecker et al. (2020).

12 See Rossi-Hansberg et al. (2020).

13 See Neiman and Vavra (2020).

References

Autor, David, David Dorn, Lawrence F. Katz, et al. "The Fall of the Labor Share and the Rise of Superstar Firms," *Quarterly Journal of Economics*, 135:2 (2020), pp. 645–709, <https://doi.org/10.1093/qje/qjaa004>.

Bajgar, Matej, Giuseppe Berlingieri, Sara Calligaris, et al. "Industry Concentration in Europe and North America," OECD Productivity Working Papers No. 18 (2019).

Barkai, Simcha. "Declining Labor and Capital Shares," *Journal of Finance*, 75:5 (2020): pp. 2421–2463, <https://doi.org/10.1111/jofi.12909>.

Basu, Susanto. "Are Price-Cost Markups Rising in the United States? A Discussion of the Evidence," *Journal of Economic Perspectives*, 33:3 (2019), pp. 3–22, <https://doi.org/10.1257/jep.33.3.3>.

Criscuolo, Chiara. "What's Driving Changes in Concentration Across the OECD?" Organisation for Economic Co-operation and Development working paper (2018).

Council of Economic Advisors Issue Brief. "Benefits of Competition and Indicators of Market Power" (April 2016).

De Loecker, Jan, Jan Eeckhout, and Gabriel Unger. "The Rise of Market Power and the Macroeconomic Implications," *Quarterly Journal of Economics*, 135:2 (2020), pp 561–644, <https://doi.org/10.1093/qje/qjz041>.

Karabarbounis, Loukas, and Brent Neiman. "Accounting for Factorless Income," in Martin Eichenbaum and Jonathan Parker, eds., *NBER Macroeconomics Annual 2018, Vol. 33*, 2018, University of Chicago Press, pp. 167–228, <https://doi.org/10.1086/700894>.

Neiman, Brent, and Joseph Vavra. "The Rise of Niche Consumption," National Bureau of Economic Research Working Paper 26134 (2020), <https://doi.org/10.3386/w26134>.

Rossi-Hansberg, Esteban, Pierre-Daniel Sarte, and Nicholas Trachter. "Diverging Trends in National and Local Concentration," in Martin Eichenbaum and Erik Hurst, eds., *NBER Macroeconomics Annual 2020, Vol. 35*, 2020, University of Chicago Press, <https://www.nber.org/books-and-chapters/nber-macroeconomics-annual-2020-volume-35/diverging-trends-national-and-local-concentration>.

Syverson, Chad. "Macroeconomics and Market Power: Context, Implications, and Open Questions," *Journal of Economic Perspectives*, 33:3 (2019), pp. 23–43, <https://doi.org/10.1257/jep.33.3.23>.

Traina, James. "Is Aggregate Market Power Increasing? Production Trends Using Financial Statements," Stigler Center for the Study of the Economy and the State Working Paper (2018).