

Taking Competition Policy Seriously: Macro Indicators for Regulators

Introduction section

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August 15, 2018
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This excerpt to a forthcoming paper is being submitted as a comment to “Hearings on Competition and Consumer Protection in the 21st Century.”

Summary:

Recent work has linked increased concentration to poor macroeconomic outcomes. In this spirit, this paper describes a set of quantitative market and labor indicators that can help competition regulators identify those sectors that are showing signs of impeding growth, overcharging customers, or underpaying workers. Conversely, these same indicators can be used to identify sectors that are exerting a positive influence on growth, benefiting customers, and providing jobs and higher pay to workers.

The paper finds that the tech/telecom/ecommerce (TTE) sector—also known as the digital economy--has outperformed the rest of the private sector on every macroeconomic indicator. Indeed, the evidence suggests that to the degree that there are competition problems in the US economy, they are more likely to be found outside the TTE sector.

Introduction

We believe that there's an important gap in competition policy that needs to be filled. Recent economic research suggests concentration in many industries has increased in the United States and Europe, and that market power has become more prevalent across much of the economy. MIT economist David Autor and a group of distinguished colleagues found a “remarkably upward consistent trend in concentration” across manufacturing, finance, retail trade, wholesale trade, utilities and transportation, and services.¹ Jason Furman, while he was head of Obama’s Council of Economic Advisors, noted that evidence for rising concentration has been found in such diverse industries as agriculture and hospitals.² Somewhat less pessimistically, Larry White of New York University and Yang notes there has been a “moderate but continued increase in aggregate concentration since the mid 1990s.”³

Moreover, growing evidence suggests that the lack of competition can hurt macroeconomic performance. Researchers have linked a rise in concentration to economic ills such as rising prices, weak productivity growth, stagnant real wages, slower job growth, and increased inequality. The classic theory of market power, of course, links concentration and market power to the ability to raise prices above competitive levels.

¹ David Autor, David Dorn, Lawrence F. Katz, Christina Patterson, and John Van Reenen. "Concentrating on the Fall of the Labor Share," *American Economic Review*, American Economic Association, vol. 107(5), pages 180-185, May 2017.

² Jason Furman, “Beyond Antitrust: The Role of Competition Policy in Promoting Inclusive Growth,” Remarks to Searle Center Conference on Antitrust Economics and Competition Policy, September 2016

³ Lawrence White and Jasper Yang, “What Has Been Happening to Aggregate Concentration in the U.S. Economy in the 21st Century?” draft manuscript, March 2017.

In that vein, Loeckery and Eeckhoutz found a rise in average markups from 18% above marginal cost in 1980 to 67% today. That's consistent with the idea that concentration leads to higher prices, as theory suggests.⁴

More broadly, a 2016 report from the Obama Council of Economic Advisors argued that “monopolists may be less rigorous in pursuing efficient cost reductions” implying that increased concentration may be one reason why productivity growth has been weak in recent years.⁵ Along the same lines, incumbent businesses with market power may have the ability to resist disruption by new technologies. Regulation can sometimes set up barriers to entry that reduce competition from small companies. Some observers have suggested that the market power of large companies undercuts innovation by making it harder for small innovative companies to thrive and expand⁶.

Economists have also found evidence that concentration has a negative effect on the labor market—jobs, wages, and inequality. To begin with, if monopolists push up prices by restricting output, as theory would suggest, that is likely to hold down hiring as well. Moreover, slower productivity growth would typically translate into slower real wage growth. And market power has the potential to translate into lower wages. Azar, Marinescu, and Steinbaum argue that an increase in employer

⁴ Jan de Loeckery and Jan Eeckhoutz, “The Rise of Market Power and the Macroeconomic Implications,” 2017

⁵ Council of Economic Advisers, “Benefits of Competition and Indicators of Market Power,” updated May 2016.

⁶ Stacy Mitchell, “Monopoly Power and the Decline of Small Business,” Institute for Local Self-Reliance, August 2016.

concentration in a local region lowers pay levels in that region significantly, a result with intuitive appeal.⁷

Perhaps most importantly, Autor et al linked an increase in market concentration in an industry to a reduction of the percent of industry output going to workers—the labor share. In this way, increased concentration can contribute to a growing disparity of income between workers and owners of capital.⁸

The economic analysis of concentration provides a coherent narrative for understanding the post-1990s economic malaise, and guiding pro-growth, pro-consumer, pro-worker policies. If concentration is the problem, then a renewed focus on reducing market power via competition policy could be a win-win for the U.S. economy, by boosting growth, encouraging small innovative companies, reducing prices for consumers, and increasing wages and employment for workers. As a result, competition policy has the potential to become an important macroeconomic tool for assisting the key goals of boosting productivity, lifting real incomes and reducing inequality. History tells us that entrenched incumbents with market power can block growth. Competition policy can help open the path to the future.

⁷ Jose Azar, Ioana Marinescu, and Marshall Steinbaum, “Labor Market Concentration,” NBER Working Paper No. 24147, December 2017.

⁸ David Autor, David Dorn, Lawrence F. Katz, Christina Patterson, and John Van Reenen “Concentrating on the Fall of the Labor Share,” *American Economic Review: Papers & Proceedings* 2017, 107(5): 180–185

Guidelines for Competition Policy

But we want competition policy to be a surgeon’s scalpel rather than a stick of dynamite or a bulldozer. Which industries or companies should competition regulators focus on first? What standards should be used to identify the entrenched incumbents holding back growth? In short, what are the rules that competition regulators should follow, once competition policy has moved beyond the Chicago-school bounds of looking mainly at consumer prices?

Most supporters of aggressive competition policy, both in the United States and Europe, do not stop to ask these questions. Instead, they immediately leap to the conclusion that competition policy should be focused on the most successful and innovative companies in the global economy--household names such as Google, Facebook, Apple, AT&T, Verizon, Comcast, and Amazon.

In a 2017 paper, Shapiro warns that “the coherence and integrity of antitrust require that successful firms not be attacked simply because they obtain dominant positions.”⁹ In a similar vein, we believe that it’s important to adopt an evidence-based approach to competition policy.

This paper therefore describes a set of quantitative market and labor indicators that can help competition regulators identify those sectors that are showing signs of impeding growth, overcharging customers, or underpaying workers. Conversely, these same indicators can be used to identify sectors that are exerting a positive influence on growth, benefiting customers, and providing jobs and higher pay to workers.

⁹ Carl Shapiro, “Antitrust in a Time of Populism,” October 2017

Example: Labor Share and Gross Margin

What kind of quantitative market and labor indicators are we considering? Let's start with labor share and gross margin. In March 2018, the Bureau of Economic Analysis (BEA) released a working paper called "Defining and Measuring the Digital Economy."¹⁰ The working paper presented BEA's initial work "to lay the foundation for a digital economy satellite account."

The BEA authors focus on outlining their definition of the digital economy, and calculating its real growth and share of GDP. The digital economy, by their definition, includes all the digital goods and services you might expect: Tech hardware, software, supporting services, telecommunications, ecommerce and digital media.

However, their data allows us to calculate two other policy-relevant measures of the digital economy: Labor share and gross margin. Labor share is a measure of how much of the income of an industry is going to workers. For the purposes of this paper, we define the labor share as compensation (COMP) divided by value-added (VA), expressed as a percentage.¹¹

Gross margin is a measure of the profitability of an industry per unit of sales. In the business literature, gross margin is a company's total sales revenue minus its cost of goods sold, divided by total sales revenue, expressed as a percentage.¹²

¹⁰ Kevin Barefoot, Dave Curtis, William Jolliff, Jessica R. Nicholson, Robert Omohundro. "Defining and Measuring the Digital Economy," March 2018. https://www.bea.gov/digital-economy/_pdf/defining-and-measuring-the-digital-economy.pdf

¹¹ Several alternative measures of the labor share all have the same general trend.

¹² <https://www.investopedia.com/terms/g/grossmargin.asp>

For our purposes, we define gross margin as an industry’s total gross output (GO), minus the cost of intermediate inputs (II) and labor compensation (COMP), divided by total gross output, expressed as a percentage.¹³

Based on this definition, labor share in the private sector has trended down since at least 1990 (Table 1). Additionally, private sector gross margin have trended up since at least 1990. Since the last business cycle peak in 2007, private sector labor share has fallen by 0.8 percentage points, and private sector gross margin has risen by 1.9 percentage points.¹⁴

Table 1: Private Sector: Falling Labor Share, Rising Gross Margin

	1990	2007	2016
Labor Share	52.2%	50.6%	49.8%
Gross Margin	26.0%	26.7%	28.6%

Data: BEA (as of April 2018)

These trends fit the common narrative of businesses gaining the upper hand over consumers and workers. These are disturbing facts.

¹³ The numerator includes profit-type income, such as profits, rents, and interest. It also includes taxes on production and imports that are chargeable to business expenses, such as state and local sales and property taxes, and a hodgepodge of state, local, and federal excise taxes.

¹⁴ Data in Table 1 and Table 2 is prior to the July 2018 benchmark revision. We focus only on private industries.

Table 2: Digital Sector: Rising Labor Share, Falling Gross Margin

	2007	2016
Labor Share	53.4%	55.4%
Gross Margin	28.4%	27.2%

Private sector industries only. Data: BEA working paper

But now let's dig a bit deeper. The digital economy data from the BEA allows us to calculate the labor share and gross margin for the digital sector of the economy (Table 2). We focus here only on private industries in the digital sector

We see that labor share for the digital sector actually rose by 2 percentage points in the post-2007 "tech boom" period. That means workers have been getting a bigger share of value-added generated by the digital economy.

Over the same period, gross margin in the digital economy fell by 1.2 percentage points. The implication is that customers, workers, and suppliers have been getting a bigger share of the revenues generated by the digital economy.

From the perspective of competition policy, these results suggest that benefits of productivity growth in the digital sector since 2007 are being shared with workers and customers. This is consistent with strong competition in the product and labor markets. So if we take seriously the notion that the goals of competition policy have been broadened to economic variables such as labor share, the companies in the digital sector are performing well.

By contrast, the data show that companies in the broader private sector are benefitting from lower labor share and higher gross margin, which suggest that market power is rising outside of the digital sector. In other words, these indicators make a prima facie case for directing the attention of competition policy to non-digital industries.

Figures 1 and 2 show the change in the labor share over time. Please note that this data was released prior to the July 2018 benchmark revision.

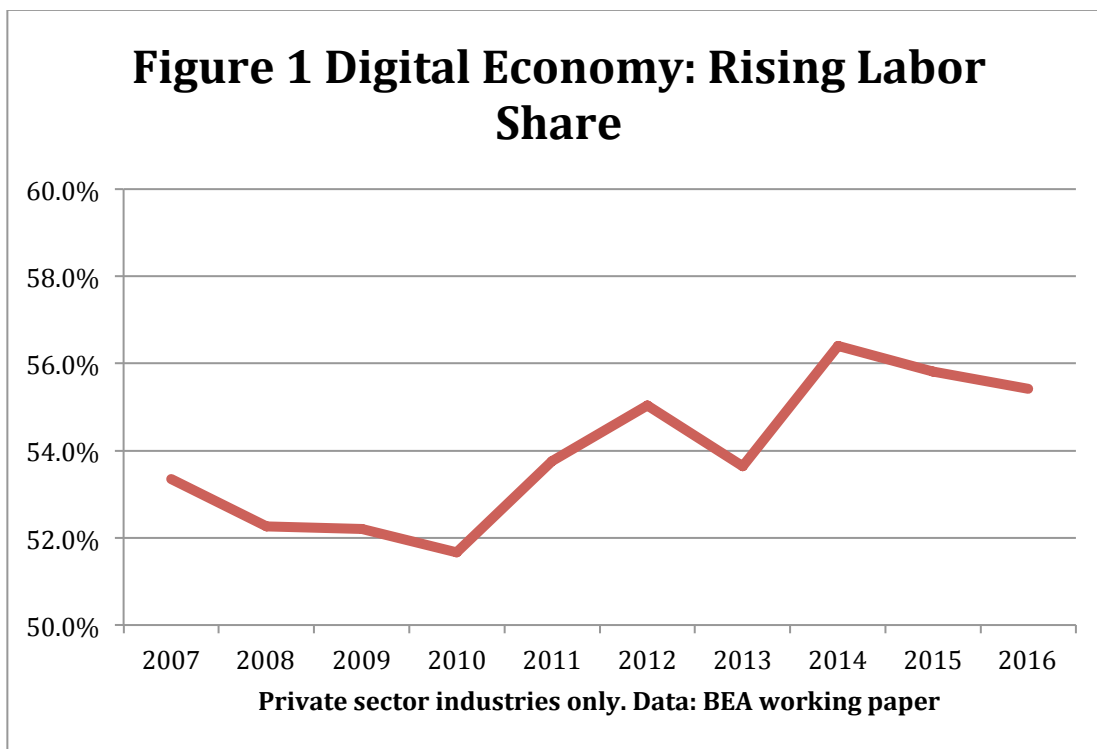
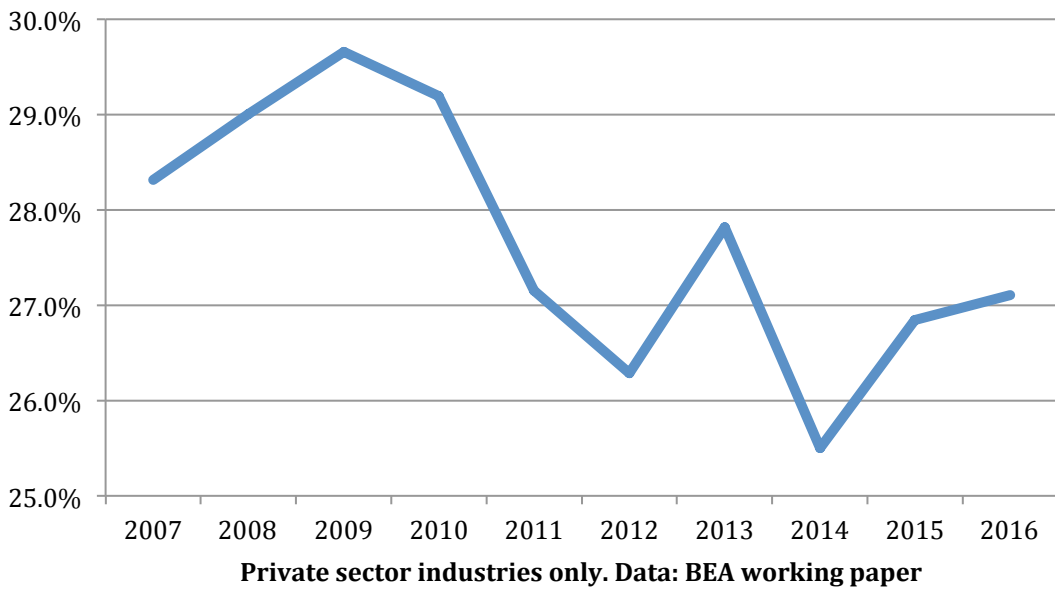


Figure 2 Digital Economy: Falling Gross Margin



Competition Policy Indicators

This paper proposes a set of “competition policy indicators,” encompassing four price and output measures and three labor market measures. These are:

1. Real value-added (percentage change, 2007-2017)
2. Productivity (percentage change, 2007-2017)
3. Prices charged (percentage change, 2007-2017)
4. Gross margins (change in percentage points, 2007-2017)
5. Hours worked (percentage change, 2007-2017)
6. Real annual pay per worker (percentage change, 2007-2017)
7. Labor share (change in percentage points, 2007-2017)

We start with 2007 because that was both the last business cycle peak, and also the beginning of the current tech boom. These measures can be calculated from government data, and give a good starting point for deciding which industries are dragging down the U.S. economy.

All other things being equal, the powerful tools of competition policy should focus on those industries that are performing poorly on these macroeconomic measures.

Outline and Summary of Results

In the paper we first define the competition policy indicators and identify data sources. Next we calculate these indicators for key sectors of the economy. We start with what we call the tech/telecom/ecommerce sector (TTE for short), which corresponds broadly with the digital economy definition used by the BEA paper. As

part of this analysis, we develop a national income account description of the ecommerce industry. Table 3 describes the results of this analysis.

Table 3: How the Tech/Telecom/Ecommerce Sector Performed, 2007-2017

	Tech/telecom/ecommerce sector	Rest of private sector
Growth and price measures		
Real value-added (percentage change)	53.2%	11.0%
Productivity (Percentage change)	39.5%	4.0%
Price (Percentage change)	-7.4%	20.6%
Gross margin (Change in percentage points)*	-0.8	1.6
Labor Measures		
Hours worked (percentage change)	16.9%	6.9%
Real annual pay per worker (percentage change)	16.1%	4.1%
Labor share (change in percentage points)*	2.3	-0.8

* These figures differ somewhat from the results presented in Tables 1 and 2 because they go through 2017. Sources: BEA, BLS, and PPI. Data as of 8/5/18.

We see from Table 3 that the TTE sector has outperformed the rest of the private sector on every macroeconomic indicator. Indeed, the evidence suggests that to the degree that there are competition problems in the US economy, they are more likely to be found outside the TTE sector.

More precisely:

- The combination of deep price drops, real output increases, and declines in gross margin suggest that TTE companies are not behaving as if they have market power versus customers.
- The combination of above-average labor hour increases, real pay gains, and labor share increases suggest that TTE workers are getting their fair share of productivity gains.
- The combination of above-average productivity gains and increases in software investment per worker (not shown) suggest that the TTE companies are aggressively pushing innovation and growth, rather than defending the status quo.

To confirm that analysis, we then drill down further, examining selected competition policy indicators for several large sectors of the economy, including transportation, construction, food, finance and insurance, manufacturing, and entertainment. In addition, we break down the TTE sector into ecommerce, broadcasting and telecom, software and Internet, and tech hardware.

Finally, in the spirit of using competition policy to boost economic growth and improve outcomes for workers, we suggest that competition regulators should develop new top-down tools for systematically monitoring and identifying problematic industries. These include the POM (price-output-margin) indicator, the HPS (hours-pay-share) indicator, and the PS (productivity-software) indicator.