



Trends in industry concentration, market power and competition policy

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Introduction

Recent debate **started in US** observed that over the past decades

Many industries have become **increasingly concentrated**

Profit margins and firm market power **steadily increasing**

Profit inequality increased – a few firm rips most returns

Income inequality increased while labour income's GDP share decreased

Has merger policy **gone too far** in allowing mergers?

Council of Economic Advisers (US, 2016) expressing concerns

Perception: Quotes from mainstream media

"Markets work best when there is healthy competition among business. In too many industries, that competition just doesn't exist anymore."

The New York Times

"The rise of the corporate colossus threatens both competition and the legitimacy of business."

The
Economist

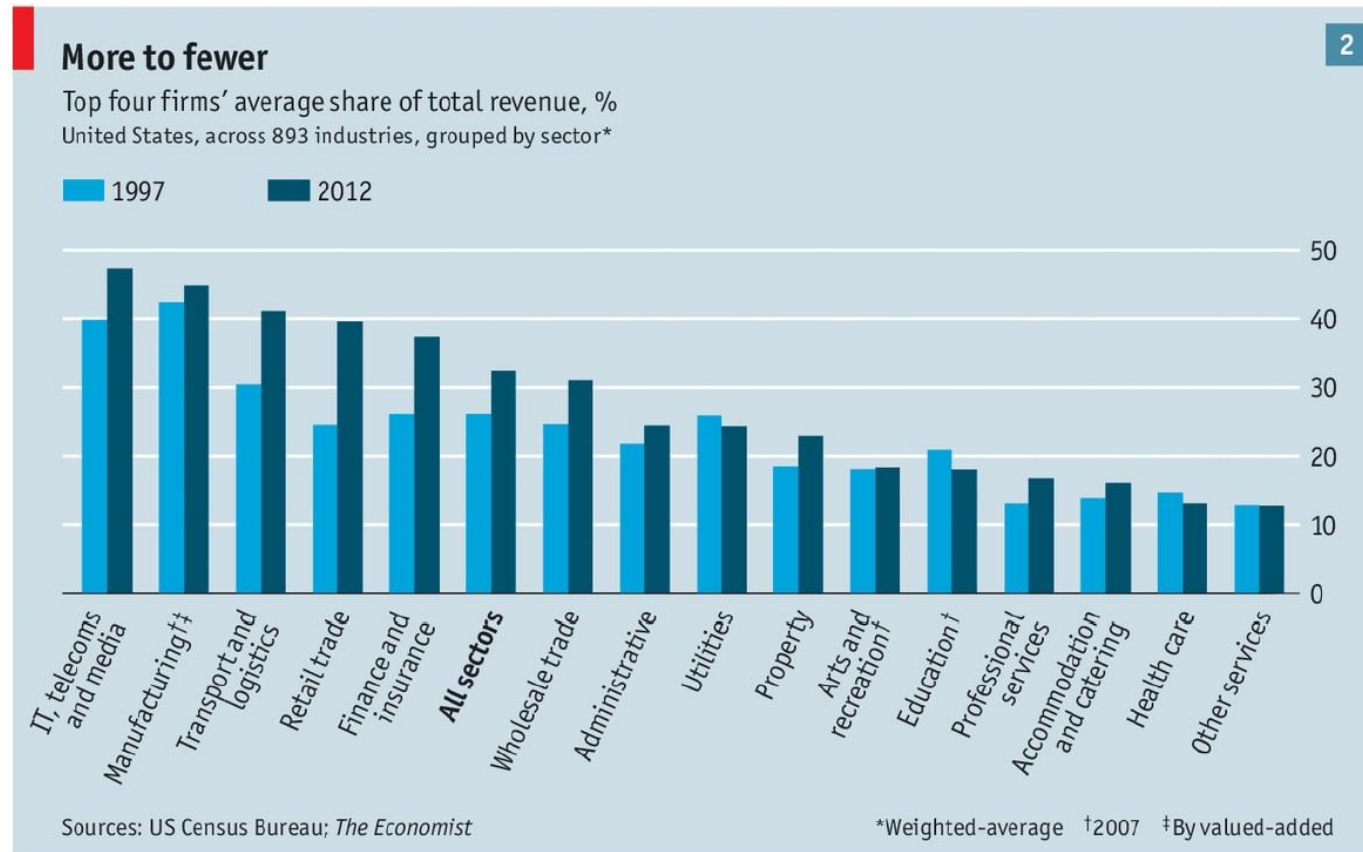
"From health insurance to internet search, fewer firms control more of their markets."

THE WALL STREET JOURNAL.

"Very persistent and very high profit margins are a sign of weak competition. [...] This is bad for consumers, innovation and capital allocation. It is time for antitrust regulators to start blocking deals."

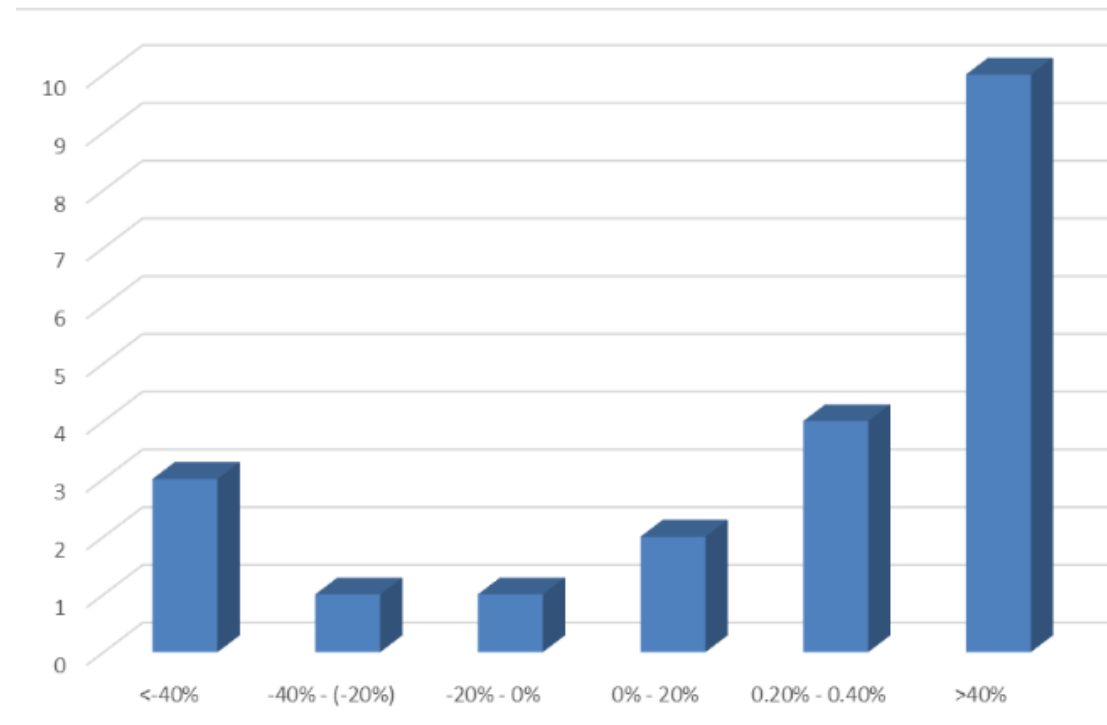
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US: Concentration is increasing



Economist.com

US: Concentration is increasing (HHI)



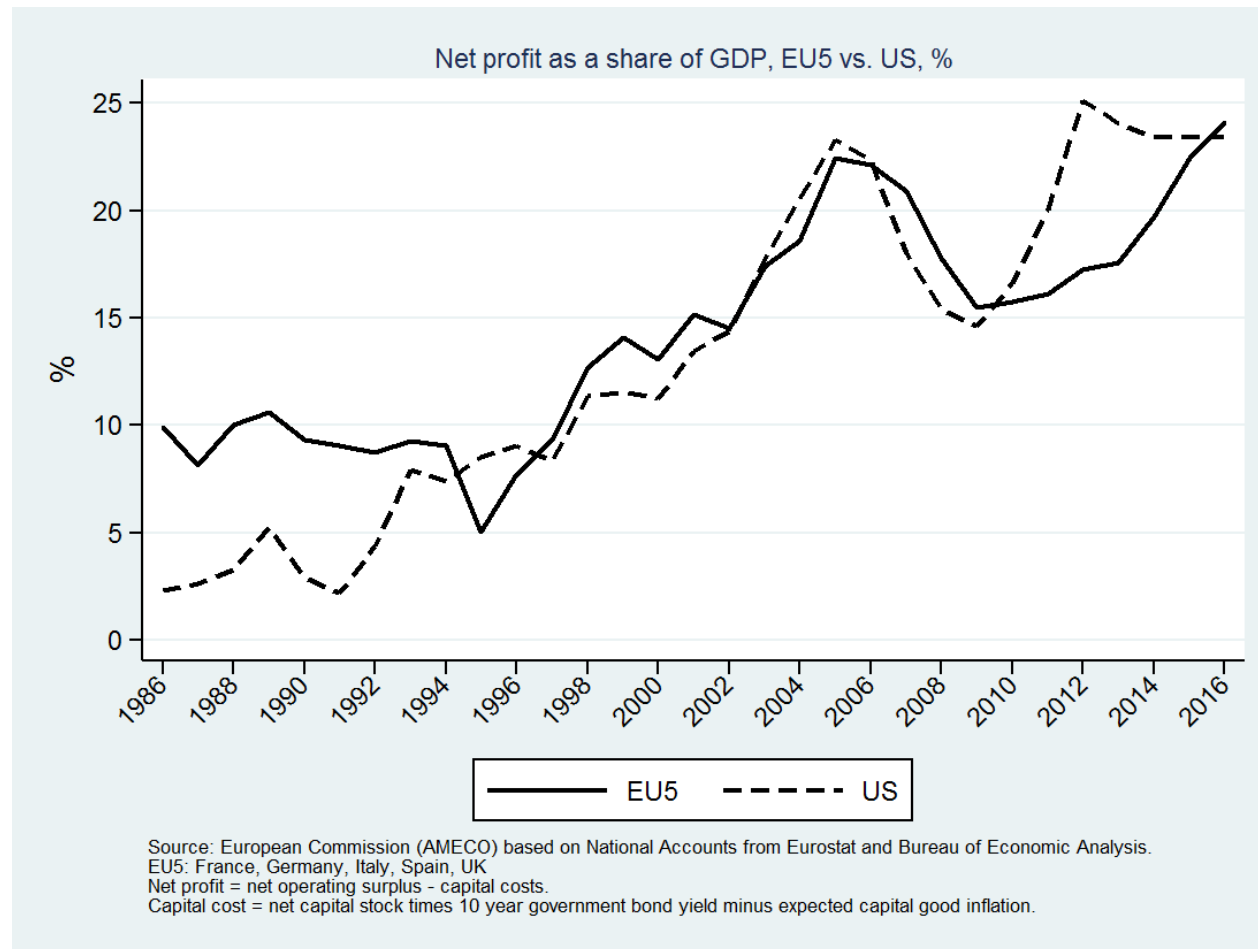
Period: 1997-2014. Industries: NAICS 3-digit classification
See Grullon, Larkin and Michaely (2019)

US: Profit share of GDP has skyrocketed

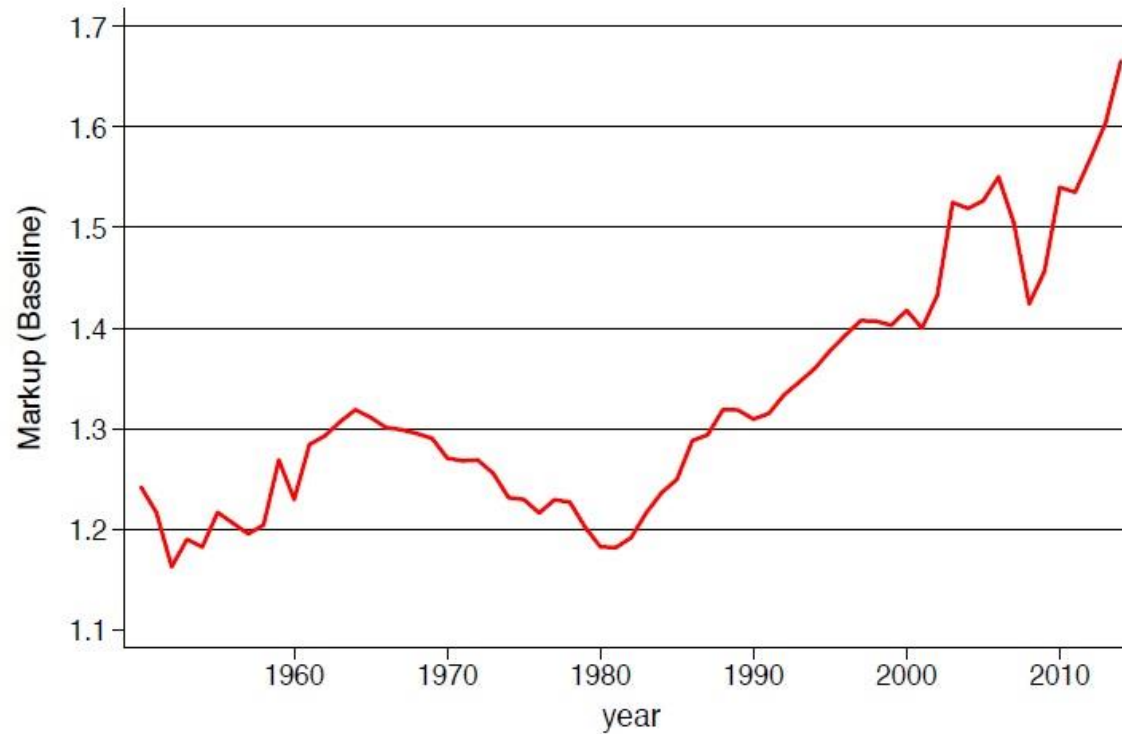


See Barkai (2017): Increase in profit share from around 5% (1990) to 15% (today)

US and EU: Profit share of GDP is increasing

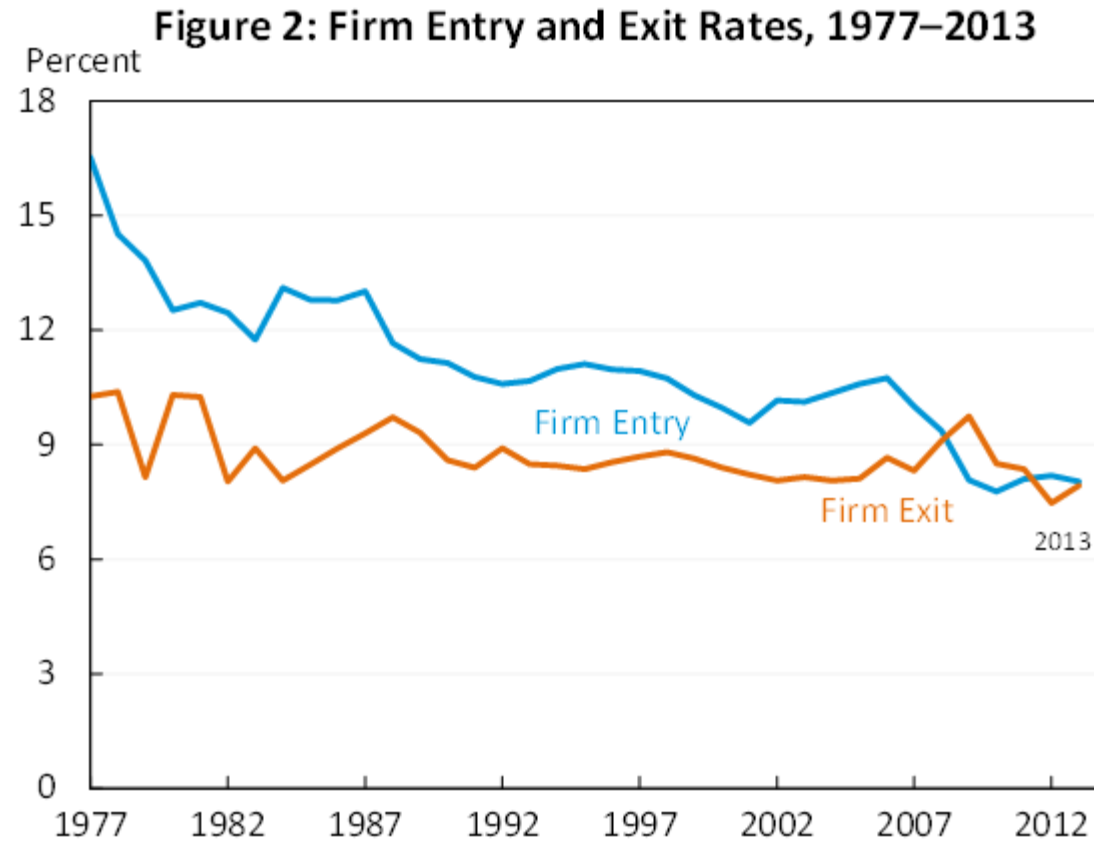


US: Economic markups have increased even more



See De Loecker & Eeckhout (2017): This increase in markups implies an increase in the economic profit margin from around 20% (1980s) to 30% (2000) to 40% (today)

US: Downward trend in business dynamism

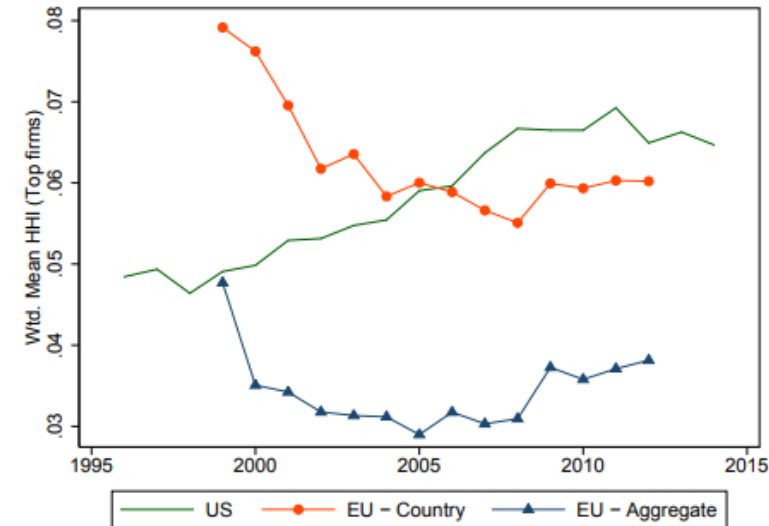
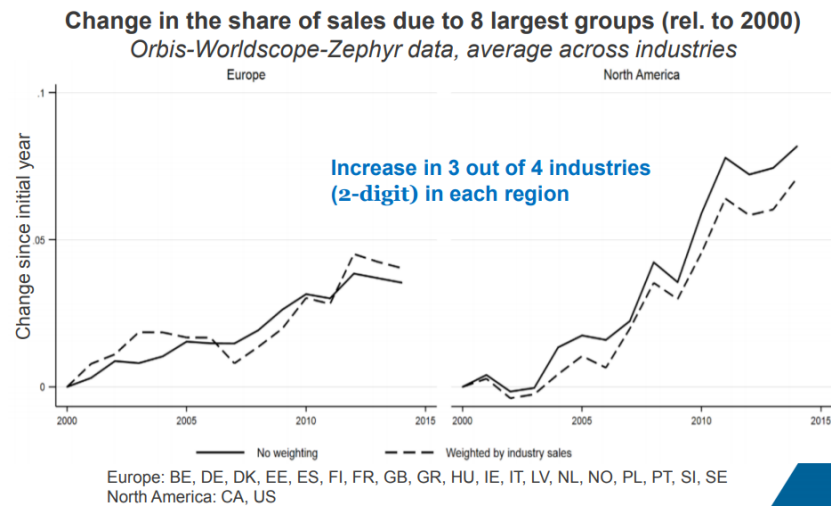


Source: U.S. Census Bureau, Business Dynamics Statistics.

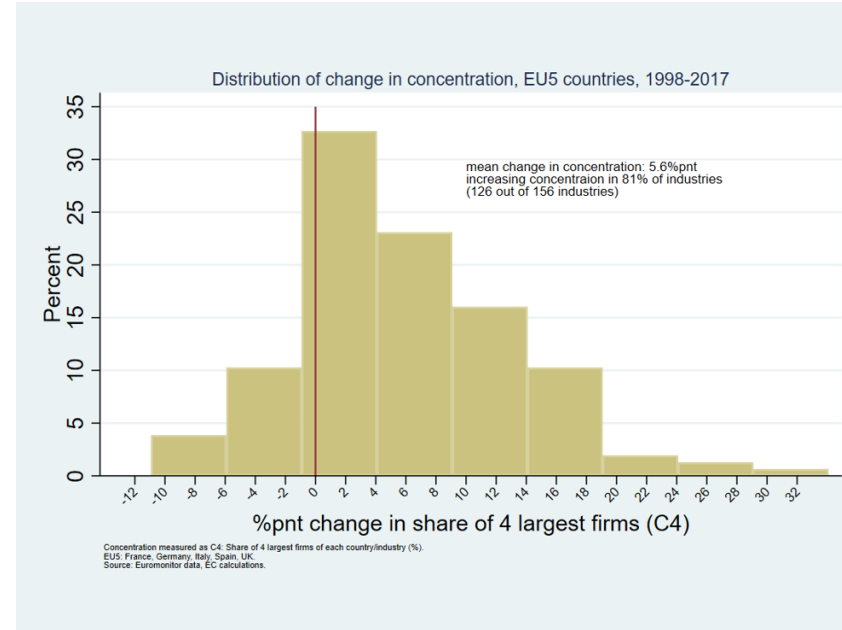
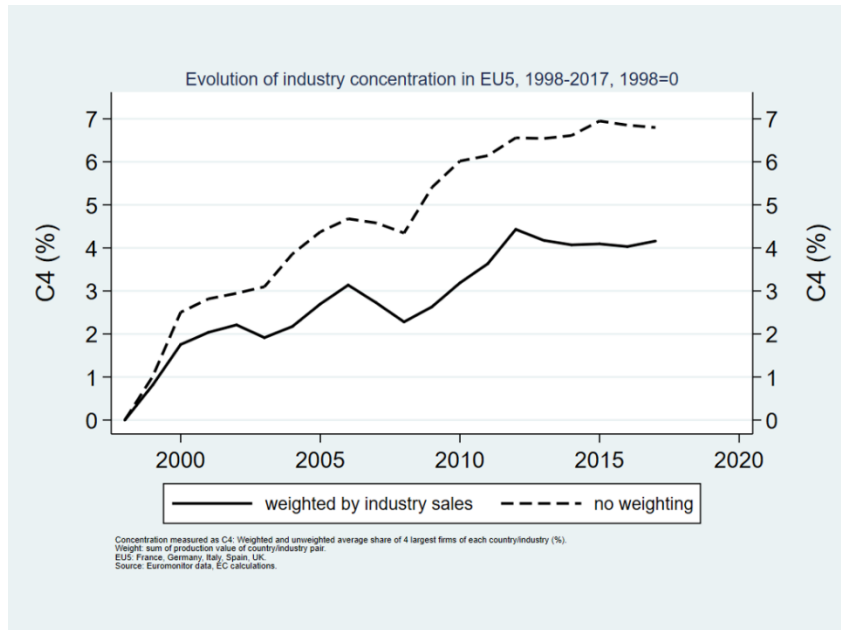


European
Commission

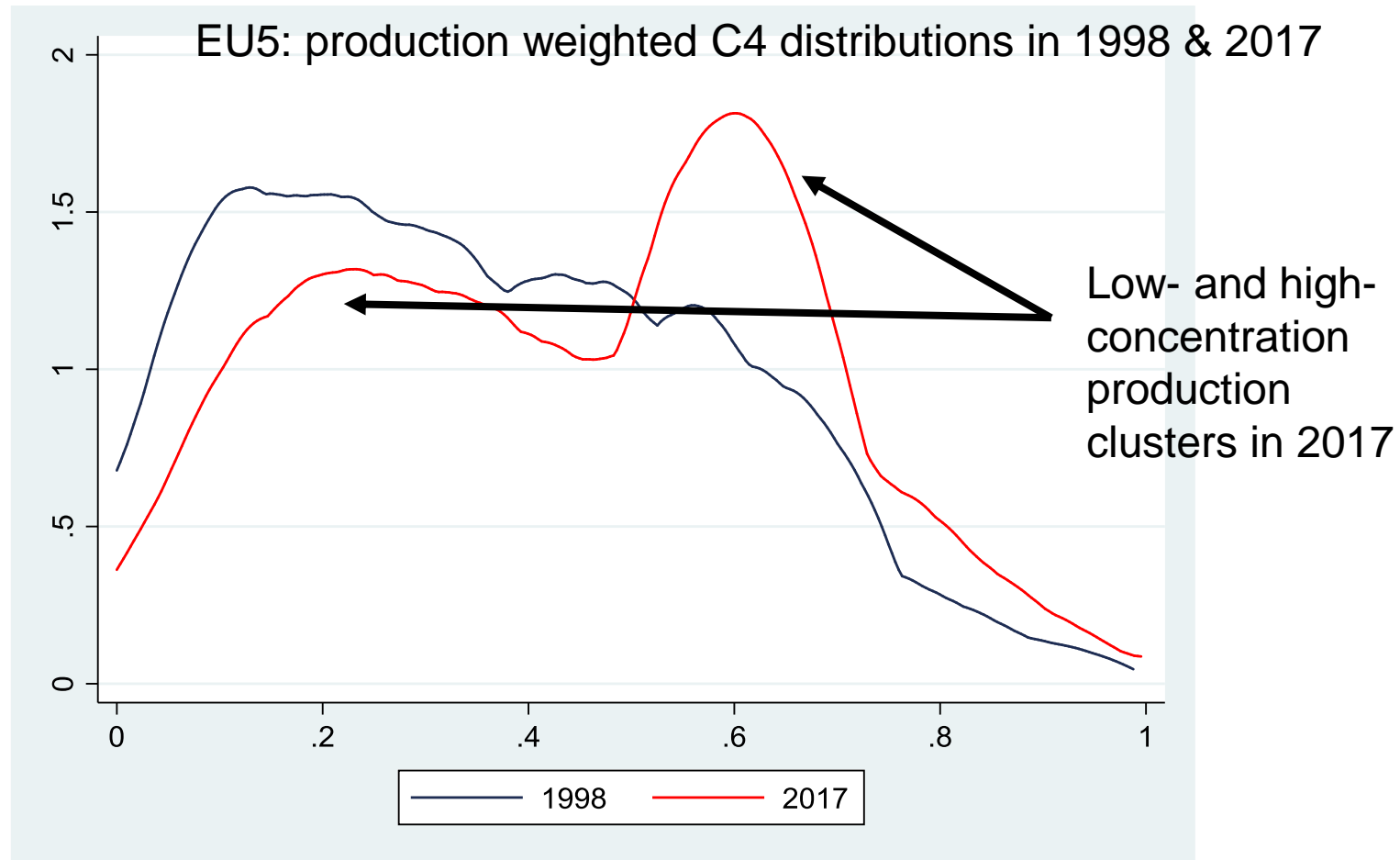
Europe? OECD (Calligaris et al.) vs Gutierrez and Philippon



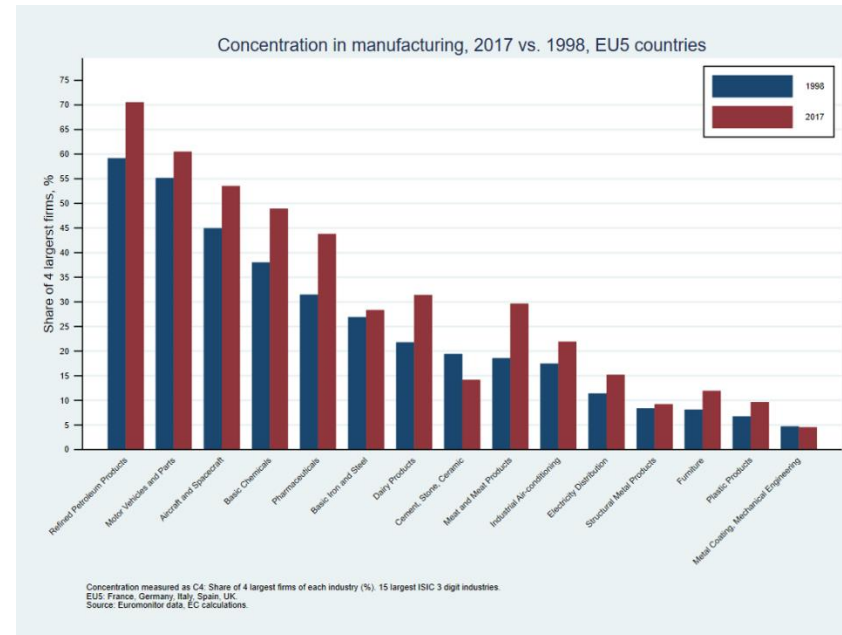
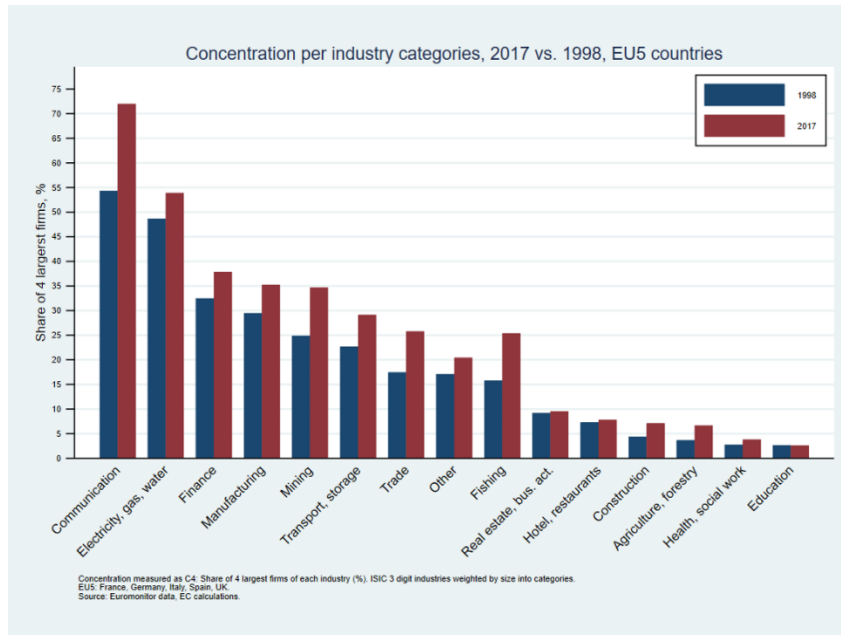
CET ongoing work (1)



CET ongoing work (2)



CET ongoing work (3)



Reactions to these trends

There have been many:

... not properly defined **antitrust markets**

... not **suitable data** (e.g., fixed costs not taken into account)

... analysis takes **market boundaries as given** over time (e.g., U.S. census data), but **markets have become wider** with both globalization and digitization

...higher concentration must not necessarily be **merger-induced**, but can also stem from efficiencies of **superstar firms** (they benefit from these changes and their **efficiency** results in high market shares and high profit margins)

If you really want to know... **Do more ex-posts!**

Implications for **merger policy**

The implications can be viewed from **two different vantage points:**

Ex-ante perspective: Was competition enforcement too lax and has *caused* market power? Or are there are plausible alternative explanations?

Ex-post perspective: Given that large firms' margins have considerably increased (and potentially also concentration), what does it imply for competition policy *going forward*?

Implications for **merger policy**

Determinants of anticompetitive merger effects:

- ... concentration (parties have high *market shares*)
- ... closeness of competition (high *diversion ratios*)
- ... market power (parties have high *profit margins*)

In other words: The higher the merging parties' margins in a given case, the more likely traditional market share thresholds will **underestimate competitive effects** (all else equal).

"Is 5-4 the new 4-3"? See Valletti and Zenger (2018).

Killer mergers

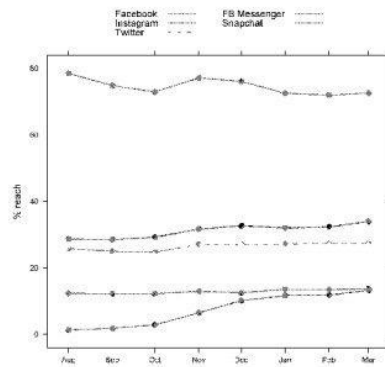
[Cunningham et al. \(2018\)](#)

https://en.wikipedia.org/wiki/List_of_mergers_and_acquisitions_by_Alphabet

August 6, 2014	Director	Mobile video	 USA	—	YouTube, Android	[192]
August 17, 2014	Jetac	Artificial intelligence, image recognition	 USA	—	Picasa	[193]
August 23, 2014	Gecko Design	Mechanical design	 USA	—	X	[194]
August 26, 2014	Zinc Render	Cloud-based visual effects software	 USA	—	Google Cloud Platform	[195]
September 10, 2014	Lit Labs	Lithium	 USA	—	Vanity	[196]
September 11, 2014	Polar	Social polling	 USA	—	Google+	[197]
October 21, 2014	Firebase	Application development platform	 USA	—	Google Cloud Platform	[198]
October 23, 2014	Dark Blue Labs & Vision Factory	Artificial intelligence	 UK	Stars of millions	Google DeepMind	[199]
October 24, 2014	Revolv	Home automation	 USA	—	Nest Labs	[200]
November 19, 2014	RelativeWave	Mobile software prototyping	 USA	—	Android	[201]
December 17, 2014	Vidmaker	Video editing	 USA	—	YouTube	[202]
February 4, 2015	Launchpad Toys	Onio-friendly apps	 USA	—	YouTube for Kids	[202204]
February 8, 2015	Cojase	Multimedia sharing and storage	 USA	—	Google+	[205]
February 23, 2015	Softcard	Mobile payments	 USA	—	Android Pay	[206207]
February 24, 2015	Red Hat Labs	App advertising and discovery	 USA	—	Google Play	[208]
April 16, 2015	Thrive Audio	Burround sound technology	 IRL	—	Google Carboard	[209]
April 16, 2015	Bklimen & Hockett	Virtual reality software	 USA	—	Tilt Brush	[210]
May 4, 2015	Timeful	Mobile software	 USA	—	Google Inbox, Google Calendar	[211]
May 28, 2015	Pulse.io	Mobile app optimizer	 USA	—	Android	[211]
July 21, 2015	Plaxte	Mobile software prototyping	 USA	—	Android	[212]
September 21, 2015	Oyster	E-book subscriptions	 USA	—	Google Play Books	[213]
September 30, 2015	Jobe Mobile	Rich Communication Services	 USA	—	Android	[214]
June 18, 2015	Agavi	Mobile application streaming	 USA	—	Android, Google Play	[215]
October 17, 2015	Digitalers	360-degree photography	 POR	—	Brexit View	[216]
November 11, 2015	Fly Labs	Video editing	 USA	—	Google Photos	[217]
November 11, 2015	beop	Cloud software	 USA	\$180,000,000	Google Cloud Platform	[218]
February 12, 2016	BendPage	Platform for musicians	 USA	—	YouTube	[219]
February 18, 2016	Pie	Enterprise communications	 GBR	—	Spaces (app)	[220]
May 2, 2016	Synergys	Interactive tutorials	 CAN	—	Google Docs	[221]
June 22, 2016	Webpass	Internet service provider	 USA	—	Google Fiber	[222]
July 6, 2016	Moodstocks	Image recognition	 FRA	—	Google Photos	[223]
July 8, 2016	Arvato	Cloud-based video services	 USA	—	Google Cloud Platform	[224]
July 12, 2016	Kiri	Link management	 USA	—	Spaces (app)	[225]
July 27, 2016	LaunchKit	Mobile tool maker	 USA	—	Firebase	[226]
August 8, 2016	Orologia	Cloud software	 USA	\$100,000,000	Google Cloud Platform	[227]
September 8, 2016	Adplex	API management and predictive analytics	 USA	\$625,000,000	Google Cloud Platform	[228]
September 15, 2016	Urban Engines	Location-based analytics	 USA	—	Google Maps	[229230]
September 19, 2016	APLAI	Natural language processing	 USA	—	Google Assistant	[231232]
October 11, 2016	FameBit	Blended content	—	—	YouTube	[233]
October 24, 2016	Eyefluence	Eye tracking, virtual reality	—	—	Google VR	[234235]
November 8, 2016	LeapDroid	Android Emulator	 USA	—	Android	[236]
November 21, 2016	Qualitas	Cloud based hands-on training platform	—	—	Google Cloud Platform	[237]
December 13, 2016	Oronologica	Smartwatches	 USA	—	Android Wear	[238]
January 5, 2017	Limes Audio	Voice communication	 SWE	—	Google Duo, Google Hangouts	[239]
January 19, 2017	Fabric	Mobile app platform	 USA	—	Firebase	[240]
March 8, 2017	Kaggle	Data science	 USA	—	Google Cloud Platform	[241]
March 9, 2017	AppBridge	Productivity suite	 USA	—	Google Docs	[242]
May 10, 2017	Catchem Labs	Virtual reality studio	 USA	—	Google VR	[243]
July 12, 2017	Hill Labs	Artificial intelligence	 IND	—	—	[244]
August 16, 2017	AllMatter	Computer vision	 BLR	—	YouTube	[245246247]
September 21, 2017	HTC (various)	Talent and intellectual property licenses	 TWN	\$1,100,000,000	Google Pixel	[248249250]
September 26, 2017	Bitum	Single sign-on and identity management	 USA	—	Google Cloud Platform	[251]
October 9, 2017	Relay Media	AIIP converter	 USA	—	Accelerated Mobile Pages	[252]
October 11, 2017	53io	Podcasts	 USA	—	Google Play Music, Google Podcasts	[253]
March 27, 2018	Tensor	QIP image search	 USA	—	Google Images	[254]
May 9, 2018	Velostate	Cloud Migration, Google Cloud Platform	 USA	—	Google Cloud Platform	[255]
May 14, 2018	Cask	Big Data, Hadoop	 USA	—	Google Cloud Platform	[256]

US mobile apps (iPhone)

US iPhone App Reach, Aug 2012 - Mar 2013 (source: Onavo)



	% Reach, Mar.	Rank
Facebook	72.6% +0.6	1 ---
Instagram	34.0% +1.7	3 ---
Twitter	27.2% +0.1	6 ---
FB Msgr	13.7% +0.2	15 ---
Snapchat	13.2% +1.6	16 +4
Pinterest	11.3% +0.2	20 +1
WhatsApp	8.6% +0.3	30 ---
Tumblr	5.9% +0.4	43 +3
foursquare	5.0% +0.2	57 +1
Vine	3.9% +1.2	71 +25
Google+	2.9% -0.2	97 -4
Path	1.0% +0.1	243 +22

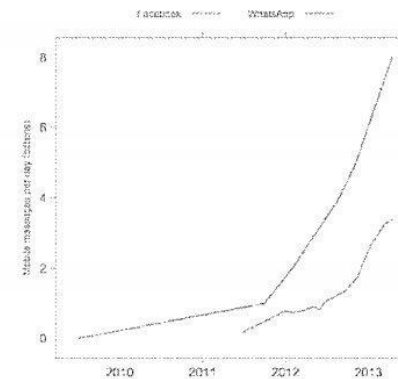
source: Onavo

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WhatsApp message sends

Mobile messages per day by service



Message sends/day

WhatsApp	8.2 billion
Facebook (mobile)	3.5 billion
Facebook (mobile + web)	11.5 billion

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Discussion/proposals

1. Systematically examine data for acquisitions, price paid, nature of business acquired, internal documents giving reasons for transactions (academia)
2. Value of the transaction is informative for digital:
 - Thresholds
 - Use evaluation methods to catch pre-emption (large, unexplained payments)
3. For super-dominant firms, shift the burden of proof (larger general debate on structural presumptions):
 - Parties should show efficiencies, else adopt an anticompetitive presumption

Advertising and attention

Move away from anonymous “eyeballs” analogy

Study how hyper-targeted advertising works:

- Markets defined at the *individual* level (and then apply standard economic analysis)

“Attention” markets (Wu, 2018; Prat and Valletti, 2018)

Importance of overlaps

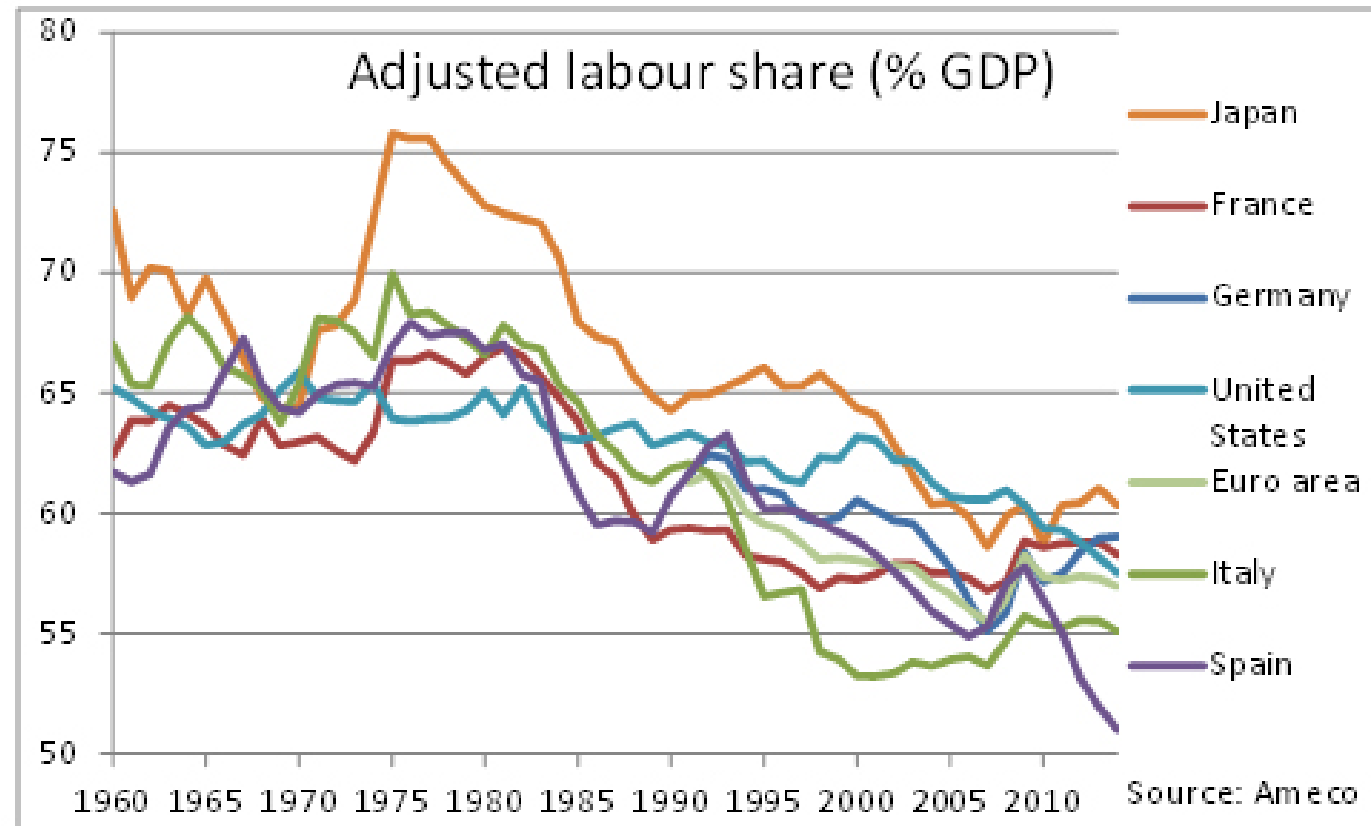
<i>Platform</i>	<i>Reach</i>	<i>Market Share (Equal Spending)</i>
Facebook	0.707	65.9%
Instagram	0.193	18.0%
Twitter	0.173	16.1%

<i>J</i>	<i>m_J</i>
\emptyset	0.263
Facebook	0.459
Twitter	0.014
Instagram	0.011
Facebook, Instagram	0.094
Facebook, Twitter	0.070
Instagram, Twitter	0.005
Facebook, Instagram, Twitter	0.084
<i>Total</i>	<i>1.000</i>

- supply-side market shares not always informative

4. Look for attention “overlaps”: need micro-data/surveys

Labour share





Labour market concentration

Analogy with product market concentration: Calculate labour market concentration using the Herfindahl-Hirschman index (HHI).

Azar et al. (2017) use 2010-2014 job postings data from the largest online job board in the United States, CareerBuilder.com

- Calculate *vacancy shares* and HHIs of market concentration for over 8,000 labour markets, defined by a combination of occupation at the "Standard Occupational Classifications" and commuting zone.
- E.g., "accountants in the Philadelphia commuting zone in Q1 2011".

Labour market concentration: evidence

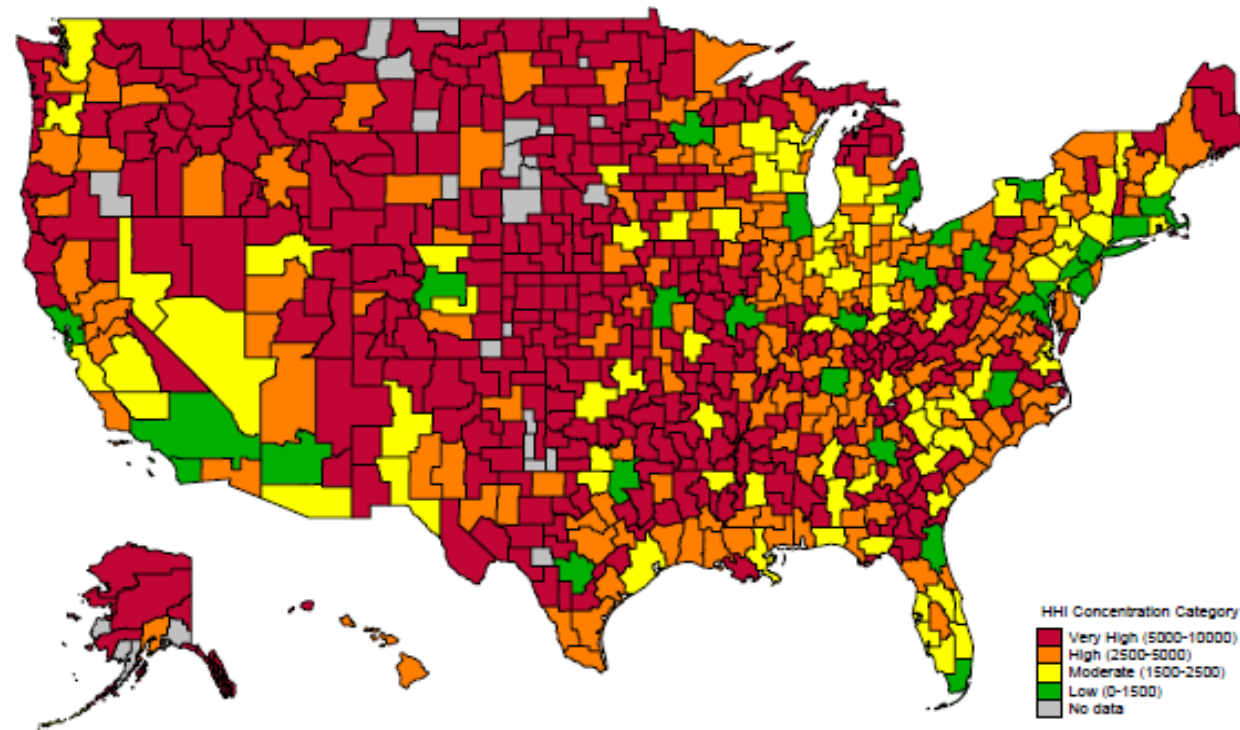


Figure 1. Average HHI by commuting zone, based on vacancy shares. This figure shows the average of the Herfindahl-Hirschman Index by 6-digit SOC occupation code for labor markets over the period 2010Q1–2013Q4. The categories we use for HHI concentration levels are: "Low": HHI between 0 and 1500; "Moderate": HHI between 1500 and 2500; "High": HHI between 2500 and 5000; "Very High": HHI between 5000 and 10000. These categories correspond to the DOJ/FTC guidelines, except that we add the additional distinction between high and very high concentration levels around the 5,000 HHI threshold. Market shares are defined as the sum of vacancies posted in CareerBuilder.com by a given firm in a given market and year-quarter divided by total vacancies posted in the website in that market and year-quarter.

Labour market concentration: monopsony

Findings of Azar et al. (2017):

- On average, labour markets are highly concentrated
- The average HHI is 3,157, well above the 2,500 threshold for high concentration (US Merger Guidelines)
- An increase in HHI is associated with lower wages:
 - a 10% increase in concentration leads to a 1% decrease in wages
 - going from 25th to 75th percentile of concentration distribution -> wage down by 17%
- Concentration varies by occupation and city (larger cities less concentrated)



Merger policy

Some rethinking/adaptation of merger policy, without altering fundamentals.

Mergers that threaten wage suppression are horizontal when the merging firms compete in the labour market, and this may be true whether or not they are competitors in any product market.

The mechanisms of market definition, measurement of concentration, the construction of prima facie cases based on concentration effects, and assessments of consumer welfare, can readily be adapted to merger cases involving labour markets.



Efficiency defense?

- Distinguish between purchases of inputs in a competitively structured input market (no power to suppress amount in output by reducing the price) from monopsonistic price suppression (with output decrease).
- In the case of **labour**, resorting to quantity or “bulk” discounts is probably not a feasible efficiency, because each worker sells her/his labour individually.
- Employers more typically obtain lower wages by *breaking* unions, forcing individual bargaining, rather than entering into collective bargaining with them.
- One could argue that hiring more people can save companies some HR costs, but these would show up as administrative costs, not as lower wages. Furthermore, **empirical evidence** does not offer strong support for economics of scale in hiring.