Programme on
Innovation and Diffusion

Inequality and Superstar Firms

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Arenagruppen, Sweden

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THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Agenda

Introduction

Increasing differences across firms

Markups

Framework: product & labor markets

Assessment and Policy

Forbes

Apple Becomes 1st Company Worth $3 Trillion—Greater Than The GDP Of The UK

Forbes, Jan 3rd 2022

https://www.forbes.com/sites/zacharysmith/2022/01/03/apple-becomes-1st-company-worth-3-trillion-greater-than-the-gdp-of-the-uk/?sh=2468cc8d5603

Market Valuation at Nov 17th 2023 (GAFAMs)

- ***Apple*** $2.95 Trillion
- ***Microsoft*** $2.80 Trillion
- ***Google/Alphabet*** $1.72 Trillion
- ***Amazon*** $1.48 Trillion
- ***Facebook/Meta*** $0.86 Trillion

The Story

- Rapid growth of “Superstar Firms”
  - Goes beyond the high-tech sector
  - Some benefits, but raises concern that employer market power has increased
- Potential costs
  - **Lower real wages** (higher prices and slower productivity growth)
  - greater inequality between labor and capital (**falling labor share**)
  - Greater inequality between workers (**wage dispersion**)
- Also, broader concerns around democracy (e.g. lobbying to shift “rules of the game”); privacy, etc.

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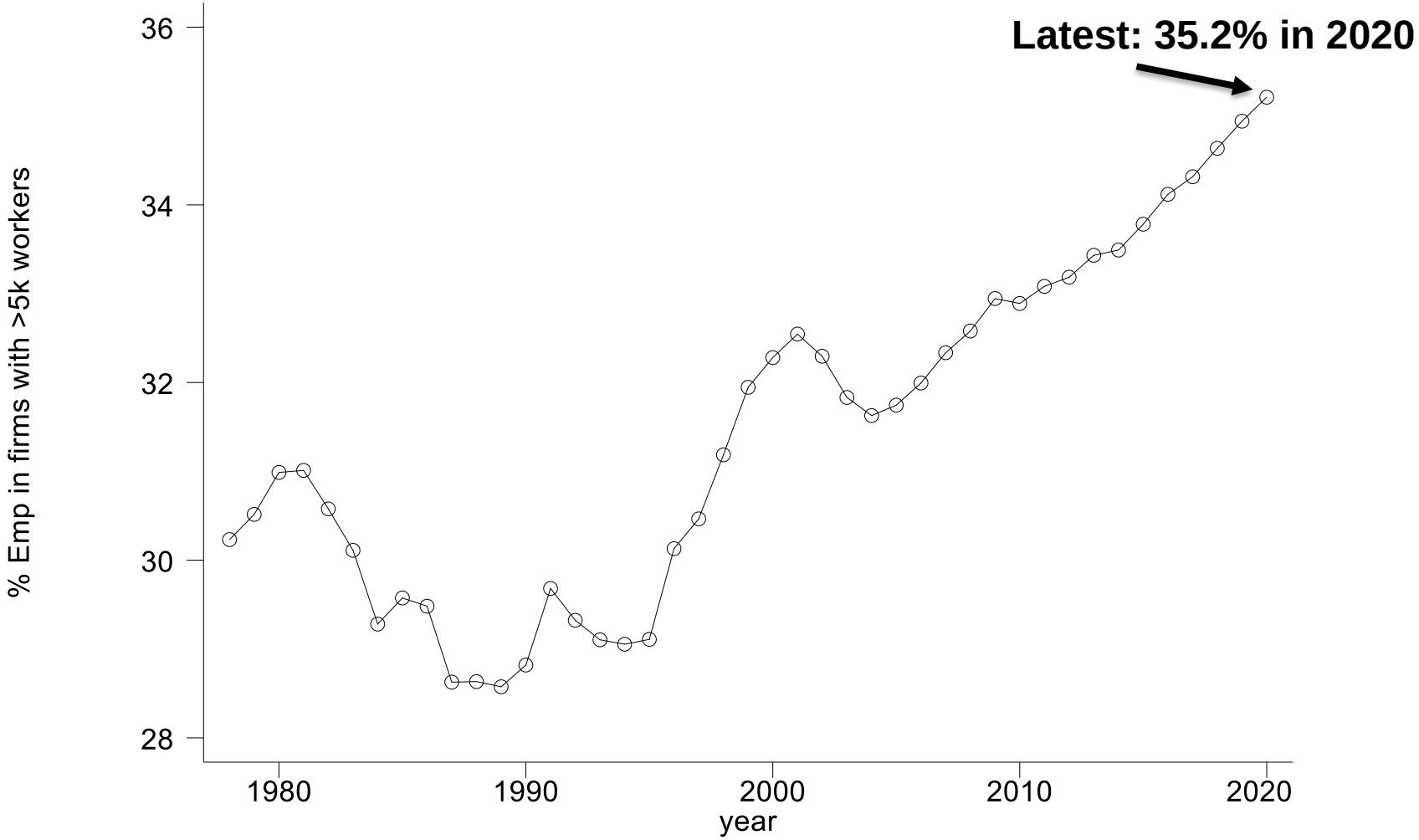
Since mid ’80s, Big Firms get bigger: % domestic jobs in US firms with 5,000+ workers rose ~28% in ‘87 to ~35% in 2020



Source: US Business Dynamics Statistics (2022), https://www.census.gov/data/datasets/time-series/econ/bds/bds-datasets.html

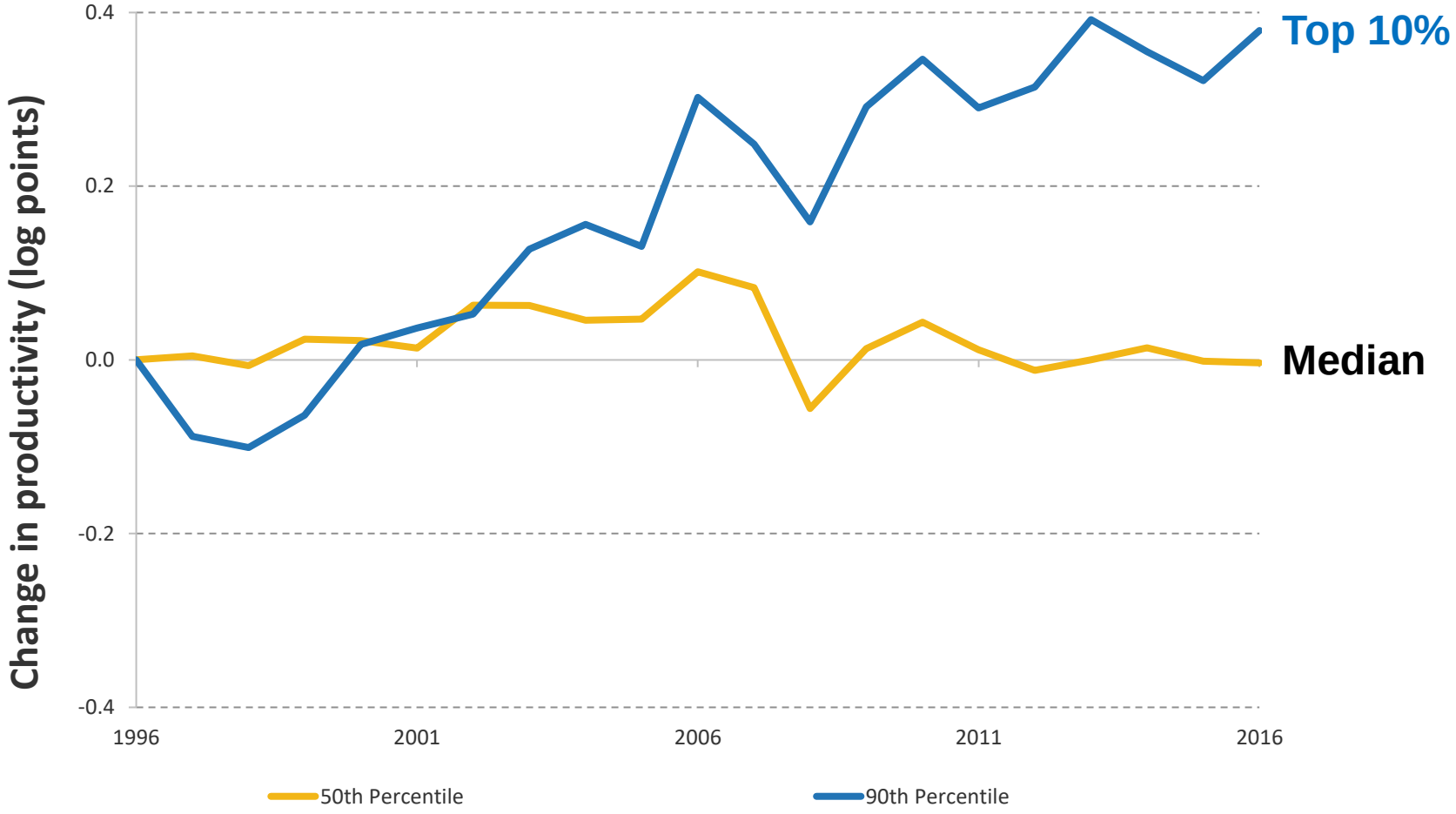
Rising Sales Concentration in US 1982-2017

Notes: Autor et al (2023) from Economic Census; Weighted av. of concentration across the NAICS-6's within each sector. (Manufacturing:388 inds; Retail:58; Services:95; Utilities/Transportation:48; Wholesale:56; Finance: 31)

Like US, Sales Concentration seems to have increased in Europe (country by industry Census micro data)

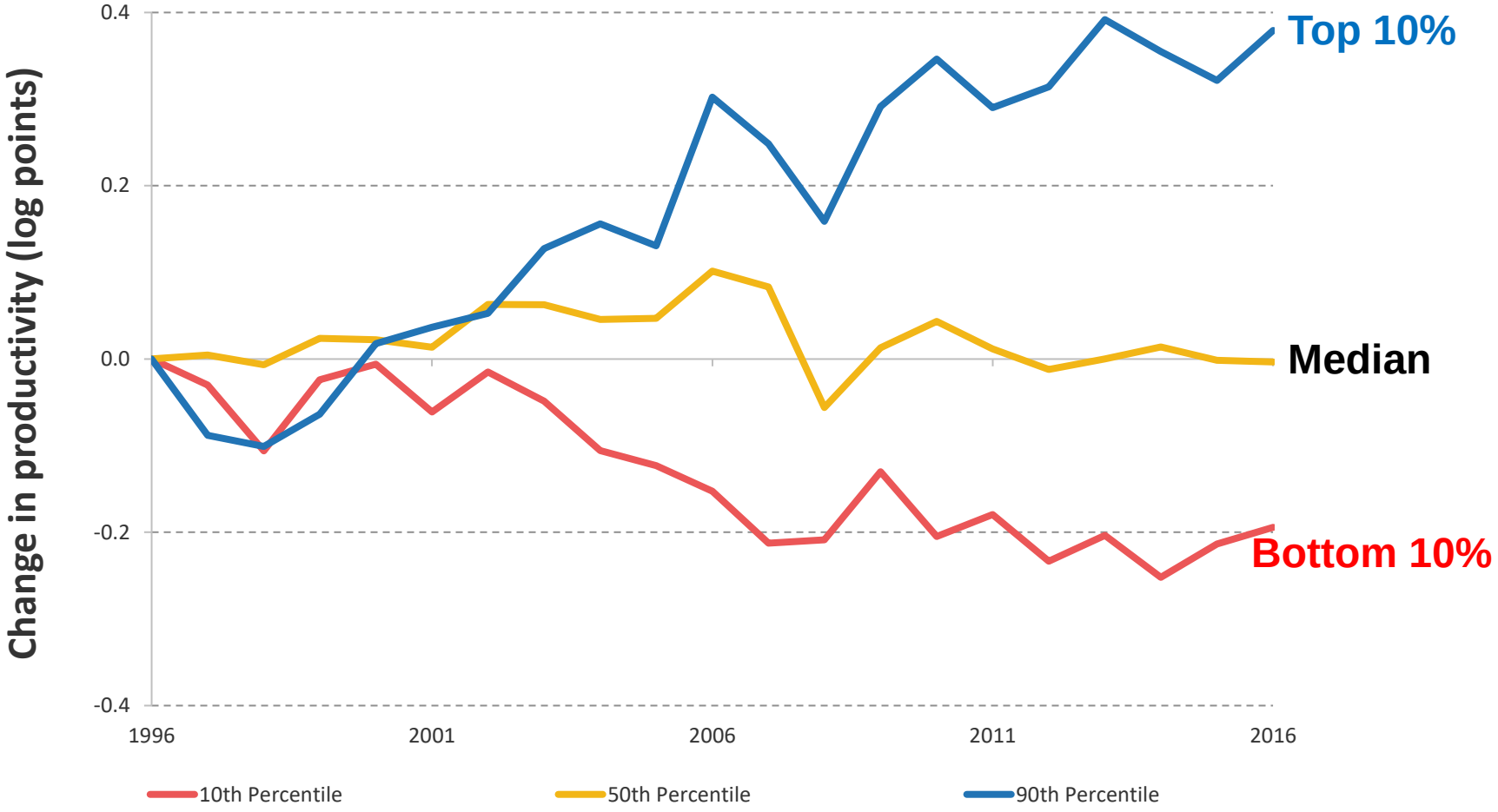
Source: OECD Multiprod; Bajgar et al (2019); **Notes:** Year effects from regressions with country-industry dummies and year dummies (AUT, BEL, DEU, DNK, FIN, FRA, HUN, **NOR**, PRT, SWE). Weights give more importance to larger industries https://www.oecd-ilibrary.org/docserver/2ff98246-en.pdf?expires=1650918252&id=id&accname=guest&checksum=41E36EA0DA6836CB79360195B

“The Best pull away from the Rest”: Superstar Firms have strong productivity growth (UK)



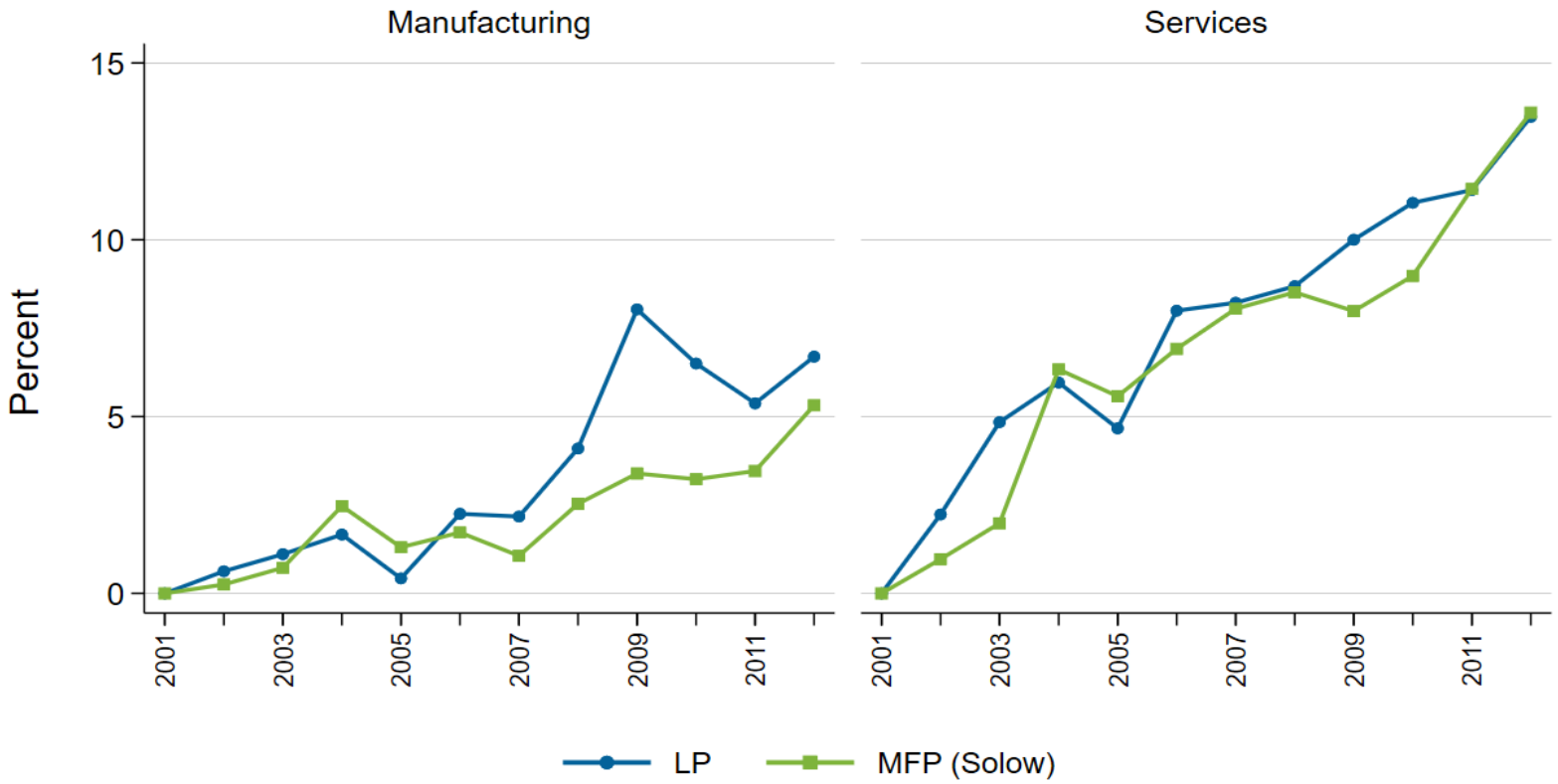
Notes: Historical ORBIS, ln(value added/employee), quantiles weighted by firm employment; values indexed to zero in 1996; Changes in log points, so 0.05 = about 5% growth; 0.4 = $(e^{0.04} - 1)*100 = 50\%$

And poor productivity performance at the bottom of the distribution (UK)



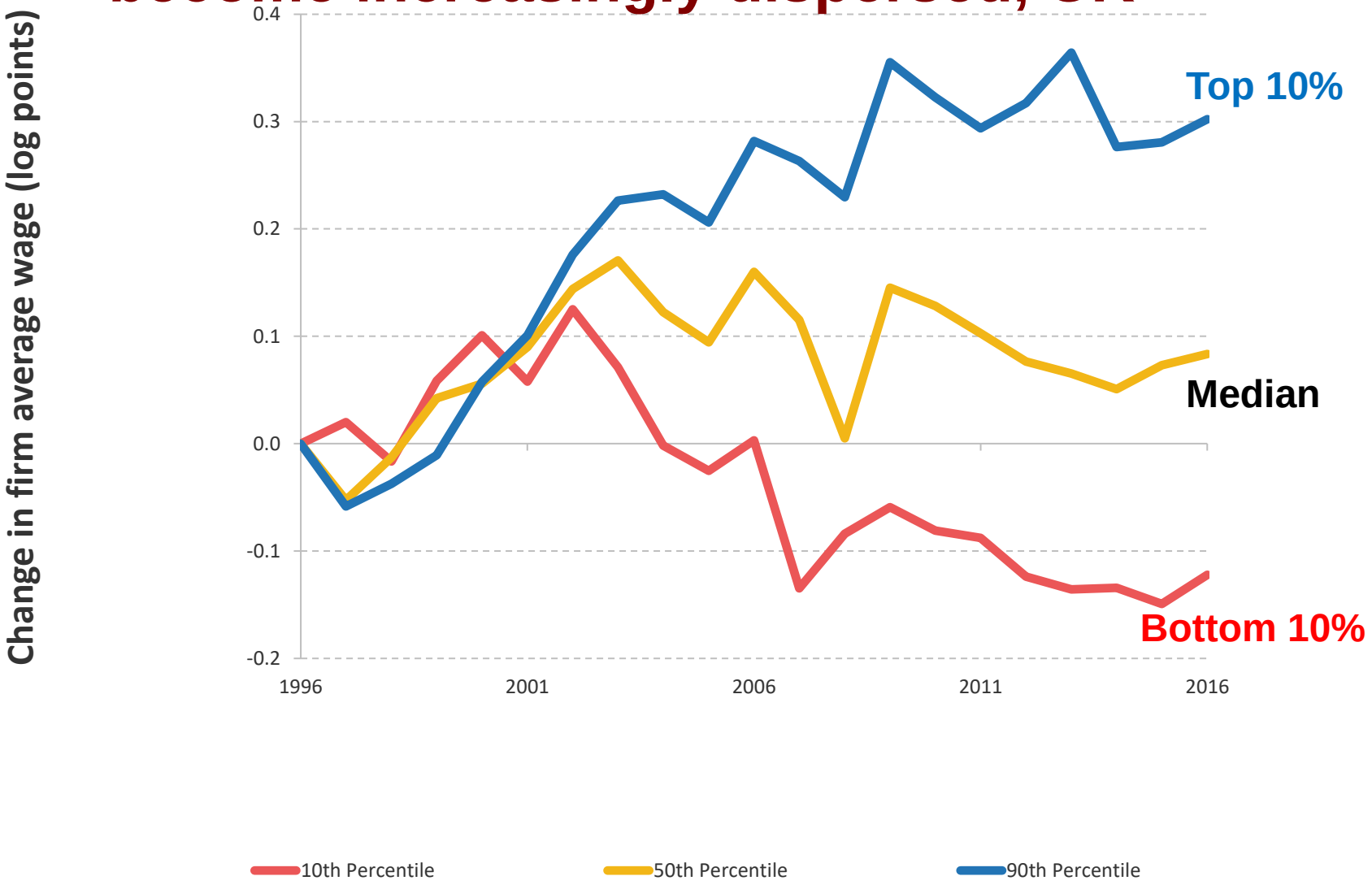
Notes: Historical ORBIS, ln(value added/employee), quantiles weighted by firm employment; values indexed to zero in 1996; Changes in log points, so 0.05 = about 5% growth; 0.4 = $(e^{0.40} - 1)*100 = 50\%$

Rising firm-level productivity dispersion (16 OECD countries), 2001-2012



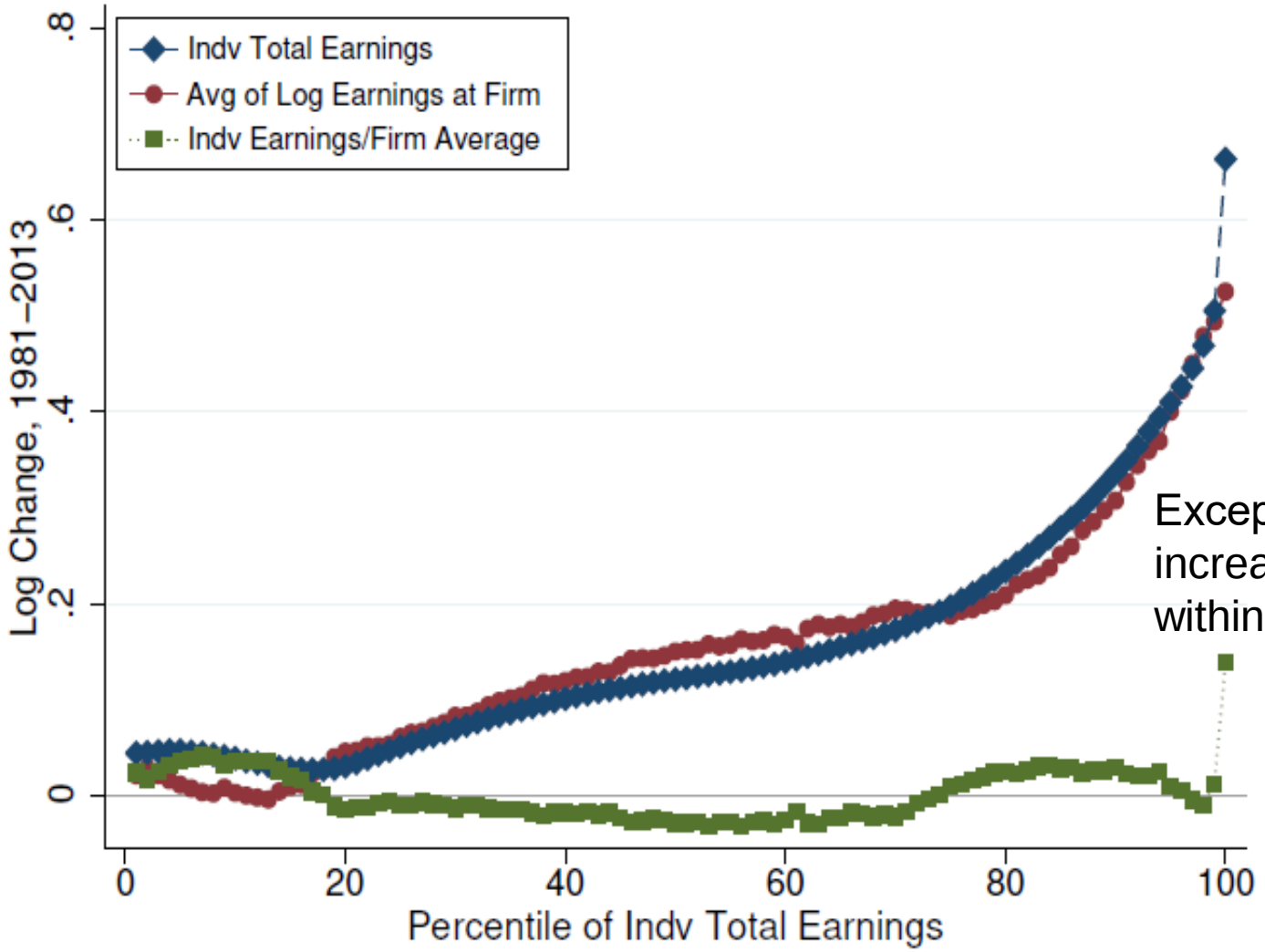
Source: OECD Multiprod, https://www.oecd.org/sti/ind/multiprod.htm
Notes: Coefficients on year dummies from regression of 90-10 log(productivity) within an industry-year cell in 16 OECD countries (AUS, AUT, BEL, CHL, DEU, DNK, FIN, FRA, HUN, ITA, JPN, NLD, **NOR**, NZL, PRT, SWE)

Like productivity, average wages by firm have become increasingly dispersed, UK



Notes: Historical ORBIS, ln(wage bill/employment), quantiles weighted by firm employment; values indexed to zero in 1996; Changes in log points, so 0.05 = about 5% growth; 0.4 = $(e^{0.40} - 1)*100 = 50\%$

Change in individual US earnings inequality is almost all between firm (rather than within firm), US, 1981-2013



Except for "CEO", No increase in inequality within firms

Source: Song et al (2019), SSA data

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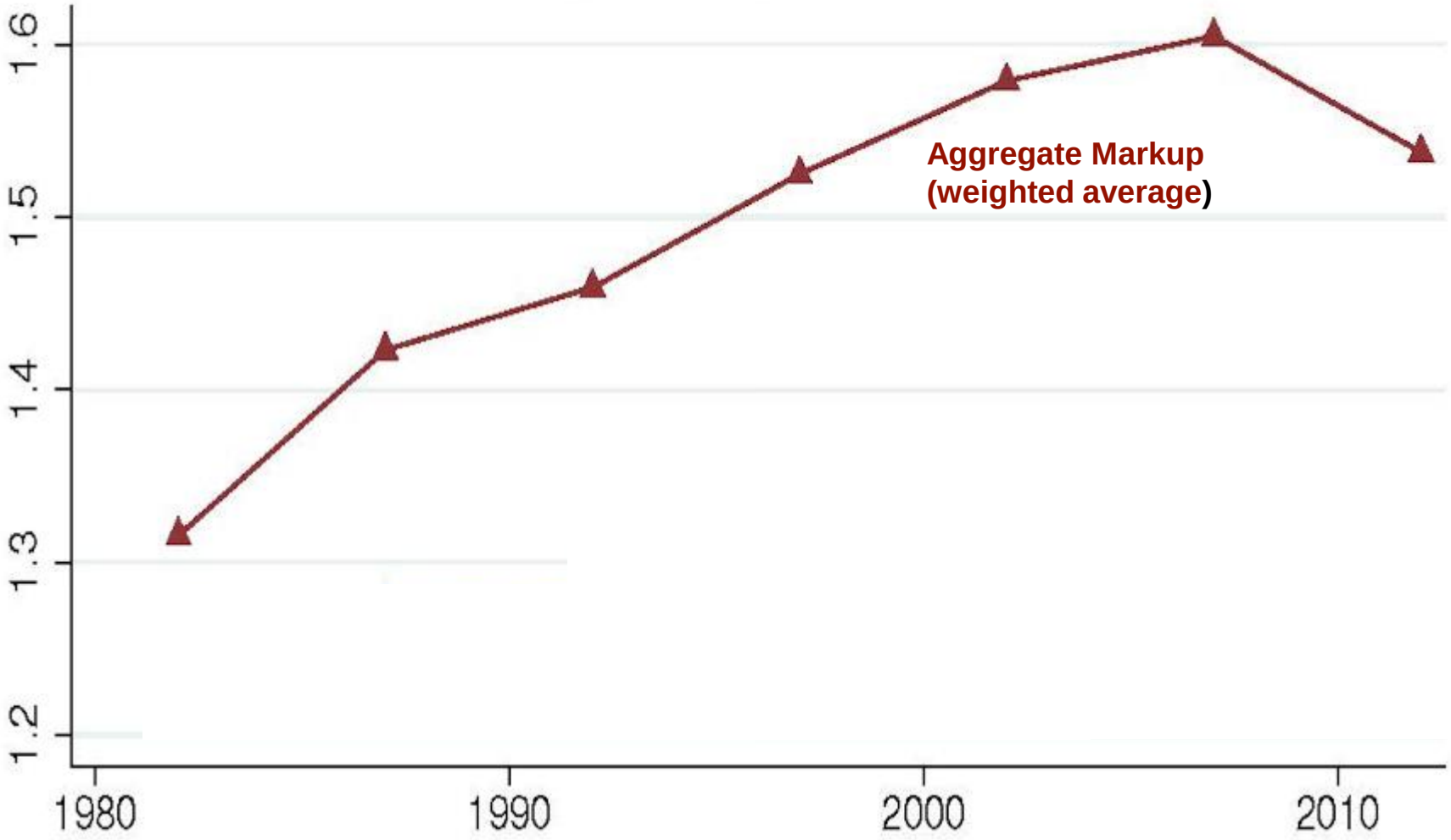
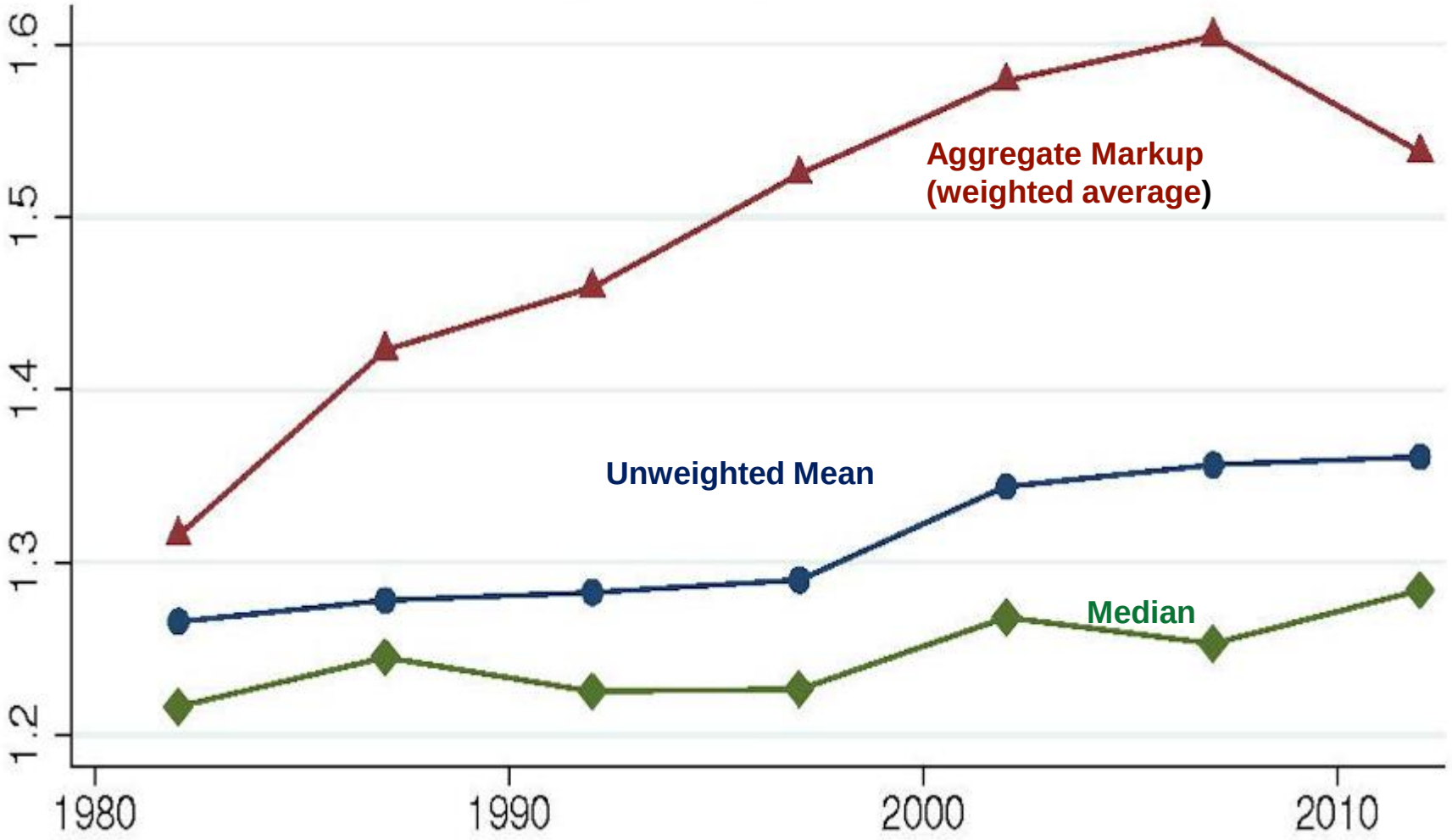
Aggregate size-weighted markup also rises in US Census Data



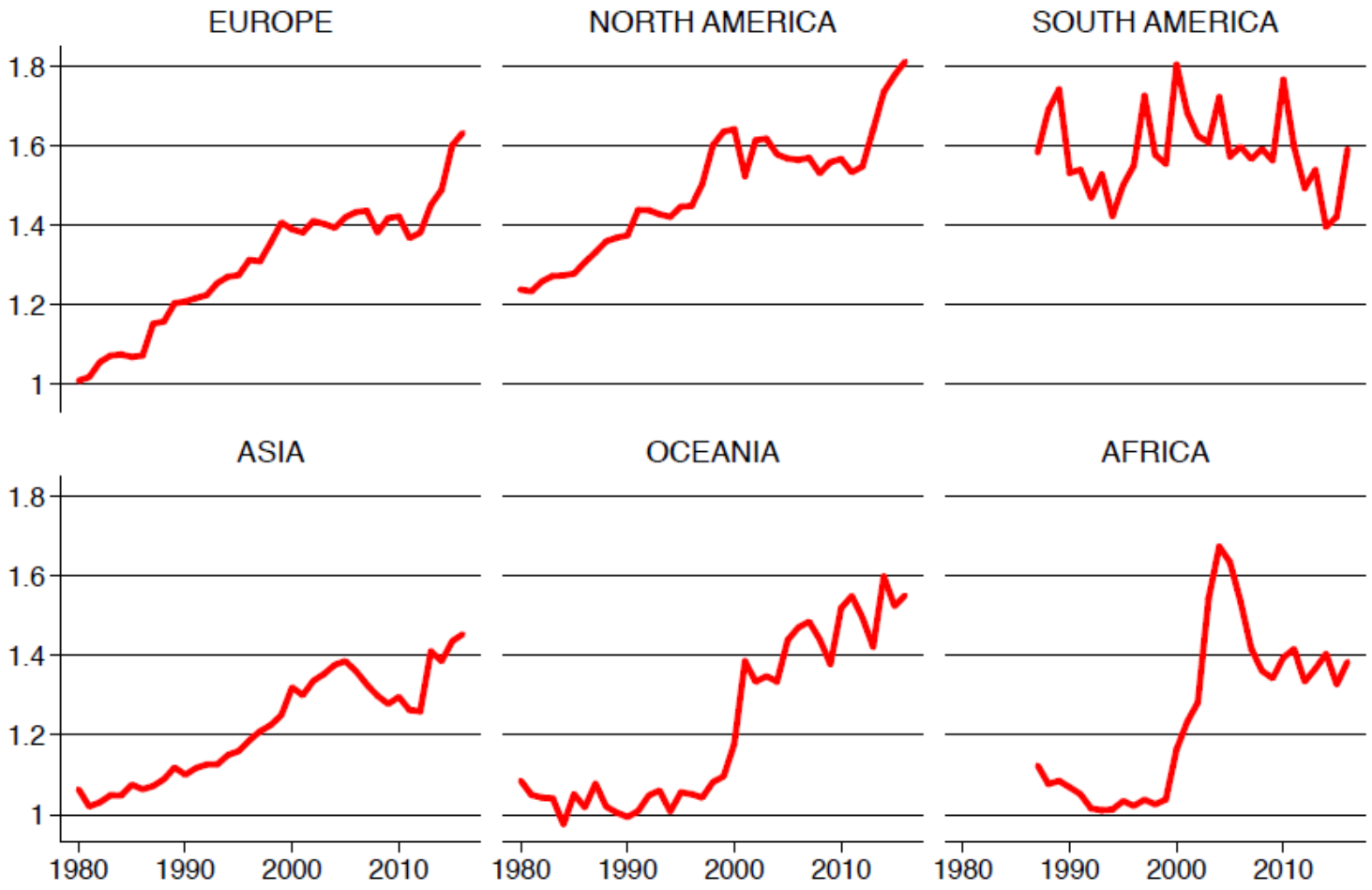
Notes: Accounting markup is defined as sales over total costs. Weight is the sales share of the establishment. **Source:** Autor et al (2020) on Census of Manufactures

Aggregate US markup rises, but median does not (Census Data)



Notes: Accounting markup is defined as sales over total costs. Weight is the sales share of the establishment. **Source:** Autor et al (2020) on Census of Manufactures

Price-Cost Markups increasing the world (listed firms)



Source: Eeckhout and de Loecker (2018) using Worldscope

Taking stock

- Industrial concentration has risen, especially for sales
- Markups over marginal costs have risen, driven by changes at the top of the distribution (“superstar firms”)
- This seems to have happened in other OECD countries like EU, as well as US

Is the rise of Superstar Firms good or bad?

Benefits

1. Superstar Firms more productive, so reallocation towards them implies higher aggregate productivity

2. Superstars not classical monopolists: lots of innovation and low prices (Google story; Wal-Mart Story)

3. Positive productivity spillovers? Examples of multinational literature
   - Amiti, Duprez, Konings and Van Reenen (2023) see this for all Superstar firms, not just those who are globally engaged

Is the rise of Superstar Firms good or bad?

Costs

- Ability to exercise market power could lead to negative outcomes: prices, wages, innovation
- Have Superstars attained their size due to exercise of this power? Are they becoming better at creating barriers to smaller rivals growing?
  - Patents/IP, etc to create barriers to diffusion
  - Lobbying to change rules of game (regulation, subsidies, anti-trust)
  - Tax arbitrage across countries
- Implications for labor markets and inequality

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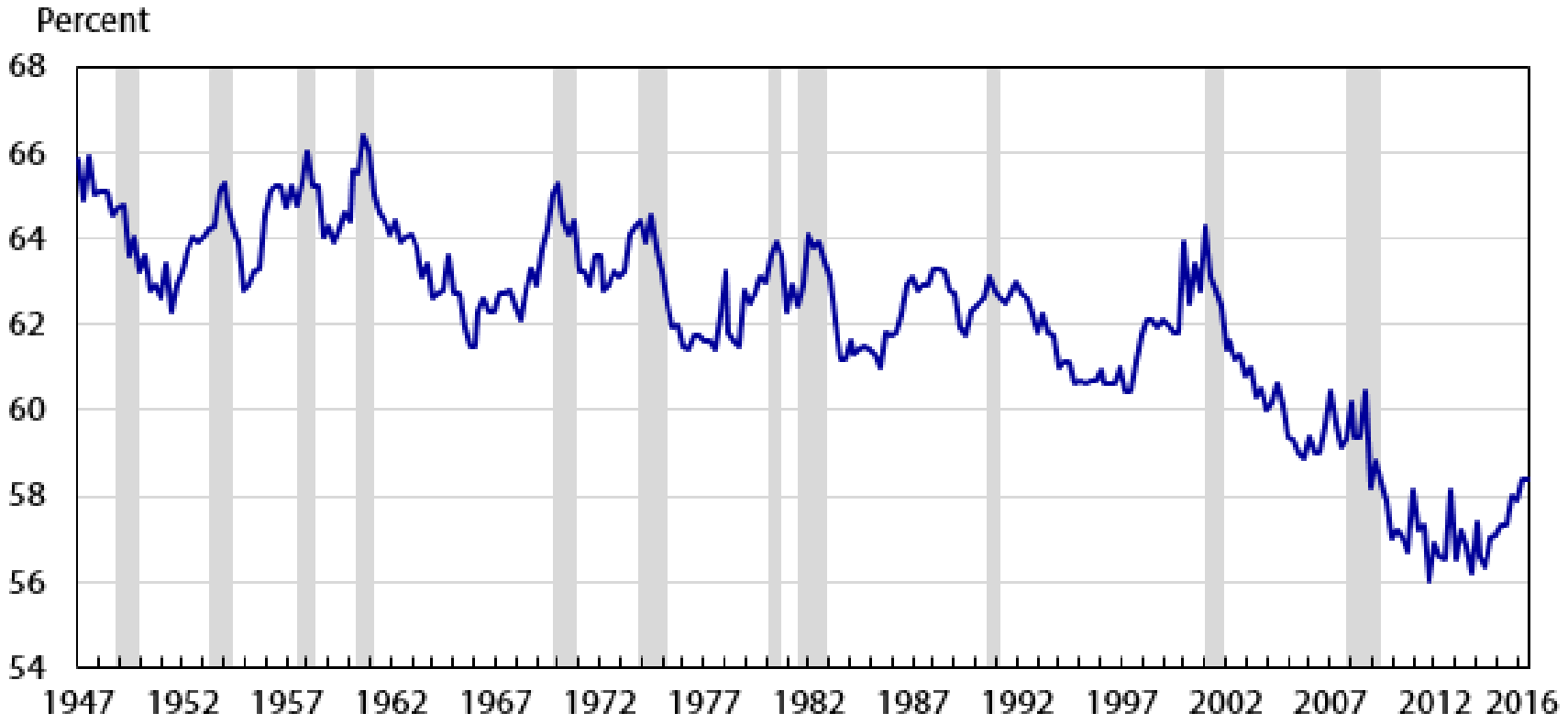
US Labor Share of GDP

Figure 1. Labor's share of output in the nonfarm business sector, first quarter 1947 through third quarter 2016



Note: Shaded areas indicate recessions, as determined by the National Bureau of Economic Research.

Source: U.S. Bureau of Labor Statistics.

Source: BLS https://www.bls.gov/opub/mlr/2017/article/estimating-the-us-labor-share.htm

Falling Labor Share of Corporate sector Value-Added Evident in Many Countries

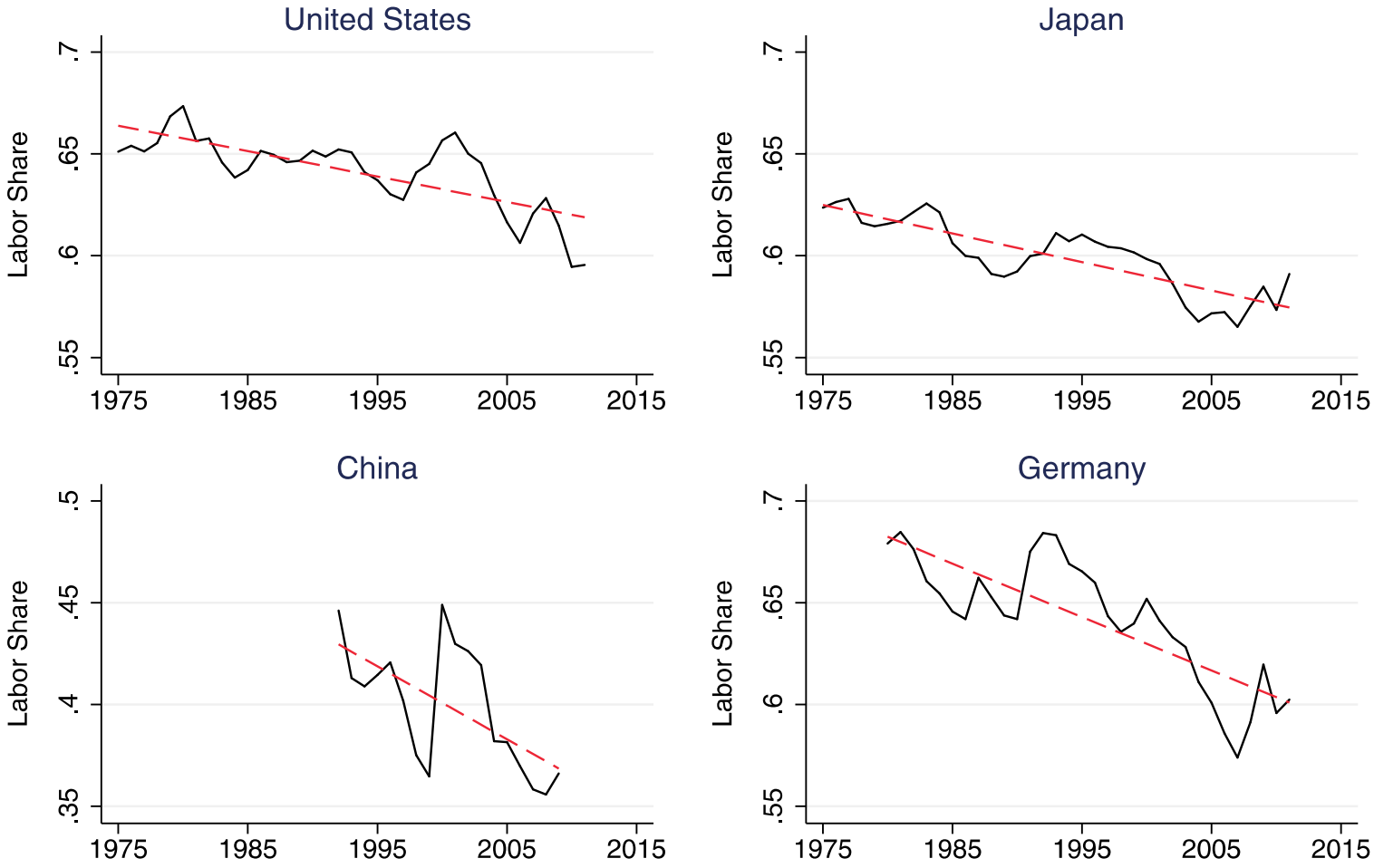
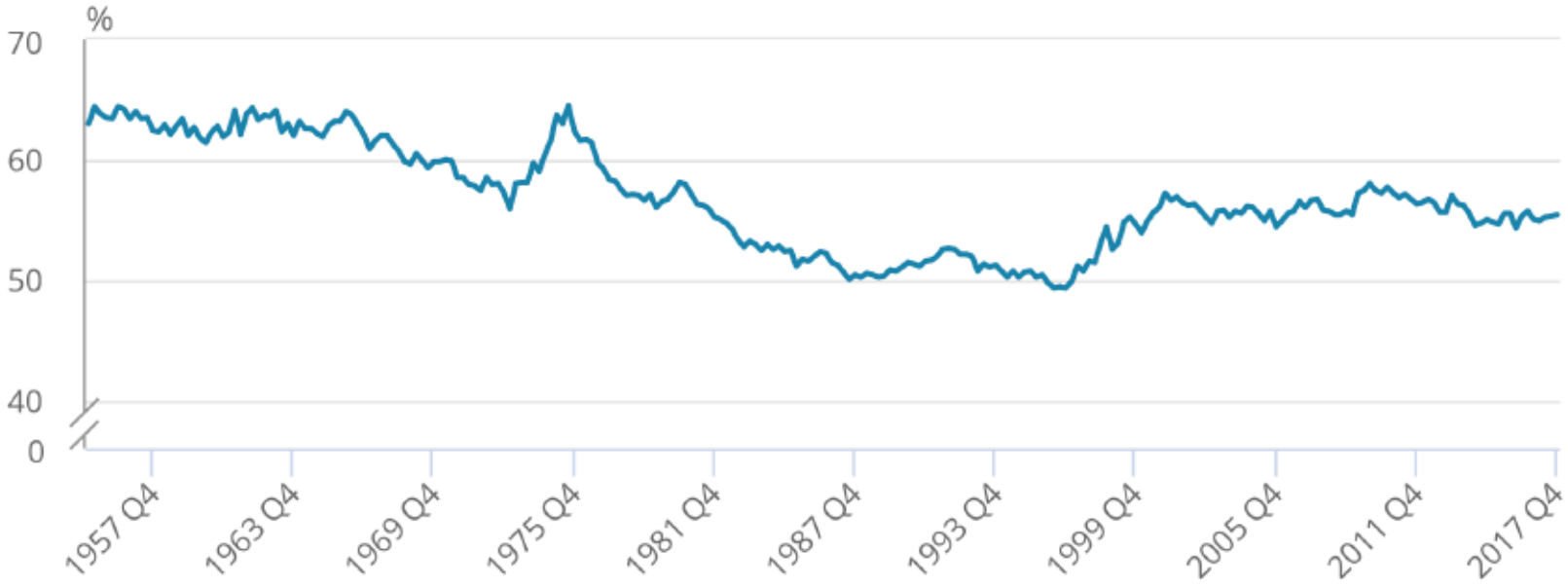


FIGURE II

Declining Labor Share for the Largest Countries

Source: Karabarbounis and Neiman, 2014

Case study: Labor Share of GDP in the UK has not fallen much compared to US



Source: Dunn, Heys and Sidhu, 2018; UK Office of National Statistics
Note: No adjustment for Mixed Income

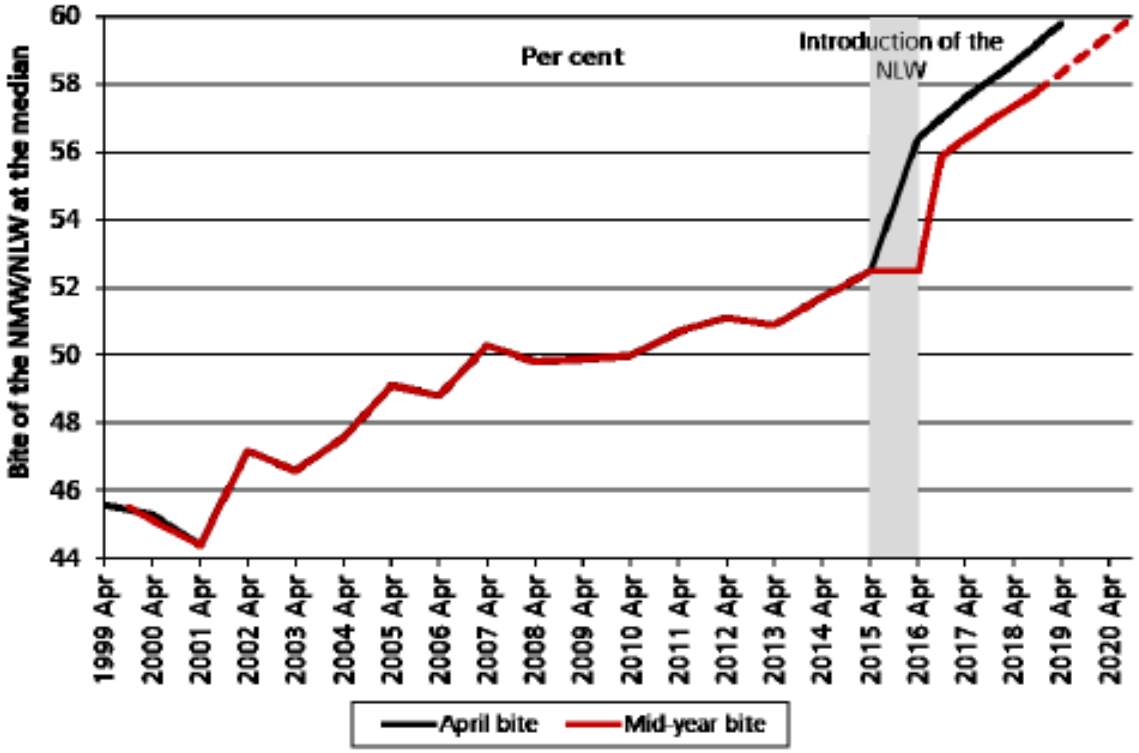
Why didn't labour share fall as much in UK as US?

- **Fall in monopsony power** (smaller markdowns)?
  - UK introduced first National Minimum Wage in 1999. "Bite" of this has become increasingly strong over time
  - Evidence (e.g. Draca, Machin & Van Reenen, 2011) that this wage floor:
    - Increased **wages** at bottom of distribution without significantly reducing **jobs**
    - But **did** squeeze profits, especially when firms had some product market power

UK Minimum wages help counteracts employer market power

- **Fall in monopsony power** (smaller markdowns), $\psi < 0$?
  - UK introduced first National Minimum Wage in 1999. "Bite" of this has become increasingly strong over time

Chart 1.B: The 'bite' of the NMW/NLW for workers aged 25 and over (1999-2020)



Source: Dube (2019)

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Causes/Explanations

- **Institutional**
  - Weak anti-trust enforcement, lowering competition

- **Technological**
  - Innovation (digital sectors)
  - Diffusion (adoption of ICT, digital)

- **Globalization**
  - Falling trade costs
  - Global Value Chains

Assessment

- The similar qualitative patterns across countries suggests some common underlying forces:

- Unlikely that country-specific institutions such as weaker US anti-trust enforcement are the dominant explanation (cf. EU DG-COMP)
  - Can help explain different magnitudes of some effects in different countries

- Technology stories
  - Platform competition (sectors intensively producing digital, GAFAMs)
  - Adoption of digital, growth of intangible capital fixed costs (sectors intensive in using digital)

Policy (1/2)

- Knee-jerk restraints on superstar firm growth or breaking them up is likely to be very costly
- Even if superstar success not mainly due to weaker institutions, in “winner take most world”, important to modernize **anti-trust policy** to reduce risks of harm:
  - **Ex ante regulation**: EU Digital Markets Act, UK DMU, etc. Interoperability, data portability/access
  - **Mergers:** Take into account impact on wages (monopsony) and **innovation/future competition**
  - **Standards of proof** to shift more towards superstars instead of government regulators
  - Finding ways to increase **structural competition** (e.g. EU Single Market for Services; trade agreements)

Policy (2/2)

- Counter-balancing power through **labor market policy (UK example on minimum wage)**

- Strengthen job mobility (stopping non-competes; no-poaching agreements, etc.)

- Increasing human capital (especially through education and training)

- Institutions such as
  - Collective bargaining
  - Labor standards (e.g. Gig economy)
  - Minimum wages

Conclusions

- Growing differences between superstar firms and rest of economy: e.g. increased concentration & markups
- Helps explain falling labor share, but also need to consider imperfect competition in labor market
- Technology is dominant factor, esp. in digital producing sectors and industries/firms using ICT intensively
- Need for reform

Thank you!

Draws on (ongoing) work with many coauthors, especially:

- de Loecker, Obermeier and Van Reenen (2022) “Firms and Inequality” *Deaton Inequality Review*
- Amiti, Duprez, Konings and Van Reenen (2022) “Superstar Spillovers”
- Autor, Dorn, Katz, Patterson and Van Reenen “The Fall of the Labor Share and the Rise of Superstar Firms” (2017, 2020, QJE)
- Bloom, Sadun, Schuh and Van Reenen (2021) “Management as Capital”

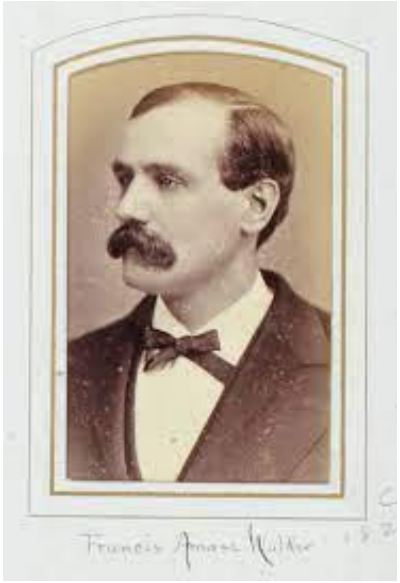
Further reading

- de Loecker, Obermeier and Van Reenen (2022) “Firms and Inequality” *Deaton Inequality Review*
- Amiti, Duprez, Konings and Van Reenen (2022) “Superstar Spillovers”
- Autor, Dorn, Katz, Patterson and Van Reenen “The Fall of the Labor Share and the Rise of Superstar Firms” (2020) Quarterly Journal of Economics
- Bloom, Sadun, Schuh and Van Reenen (2021) “Management as Capital” http://cep.lse.ac.uk/pubs/download/dp1433.pdf
- Bloom, Nick and John Van Reenen)“Measuring and Explaining Management practices across firms and nations” *Quarterly Journal of Economics* (2007) 122(4), 1351–1408.
- Scur, Sadun, Van Reenen, Lemos & Bloom (2021) “The World Management Survey at 18, *Oxford Review of Economic Policy* https://poid.lse.ac.uk/textonly/publications/downloads/poidwp002.pdf
- World Management Survey http://worldmanagementsurvey.org/
- Van Reenen (2018)“Increasing Difference Between Firms” *Changing Market Structures and Implications for Monetary Policy*, Jackson Hole Symposium 19-65 http://cep.lse.ac.uk/pubs/download/dp1576.pdf NYT NPR
- Draca, Mirko, Steve Machin & John Van Reenen (2011) “The Impact of the National Minimum Wage on firm profitability” *American Economic Journal: Applied Economics* 3(1) 129-51 http://cep.lse.ac.uk/pubs/download/dp0715.pdf

Introduction

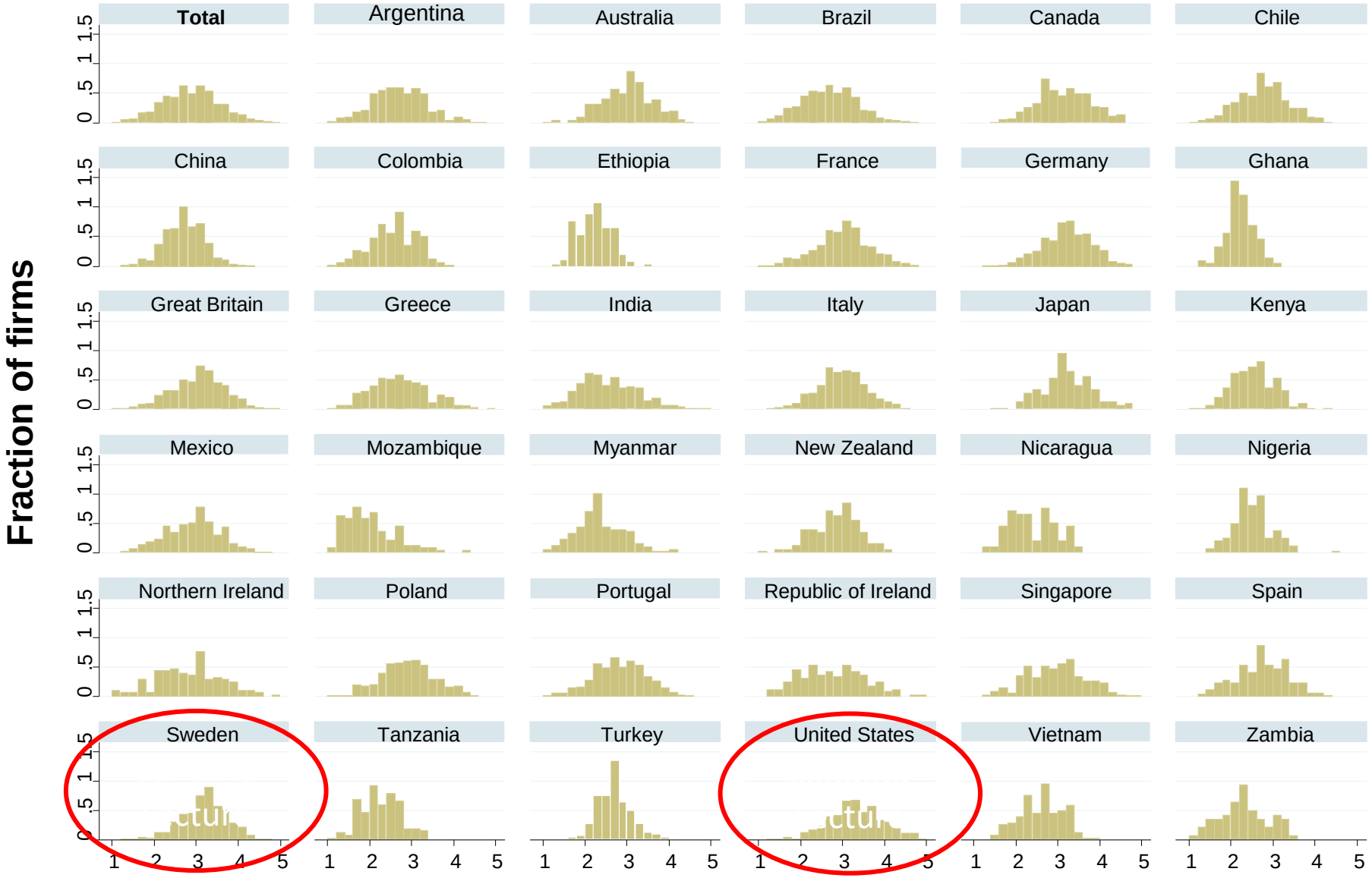
- Explosion of micro data shows huge differences across firms in terms of size, productivity, exports, management practices….

Francis Walker



Robert Gibrat

Example: Firm Management quality varies enormously



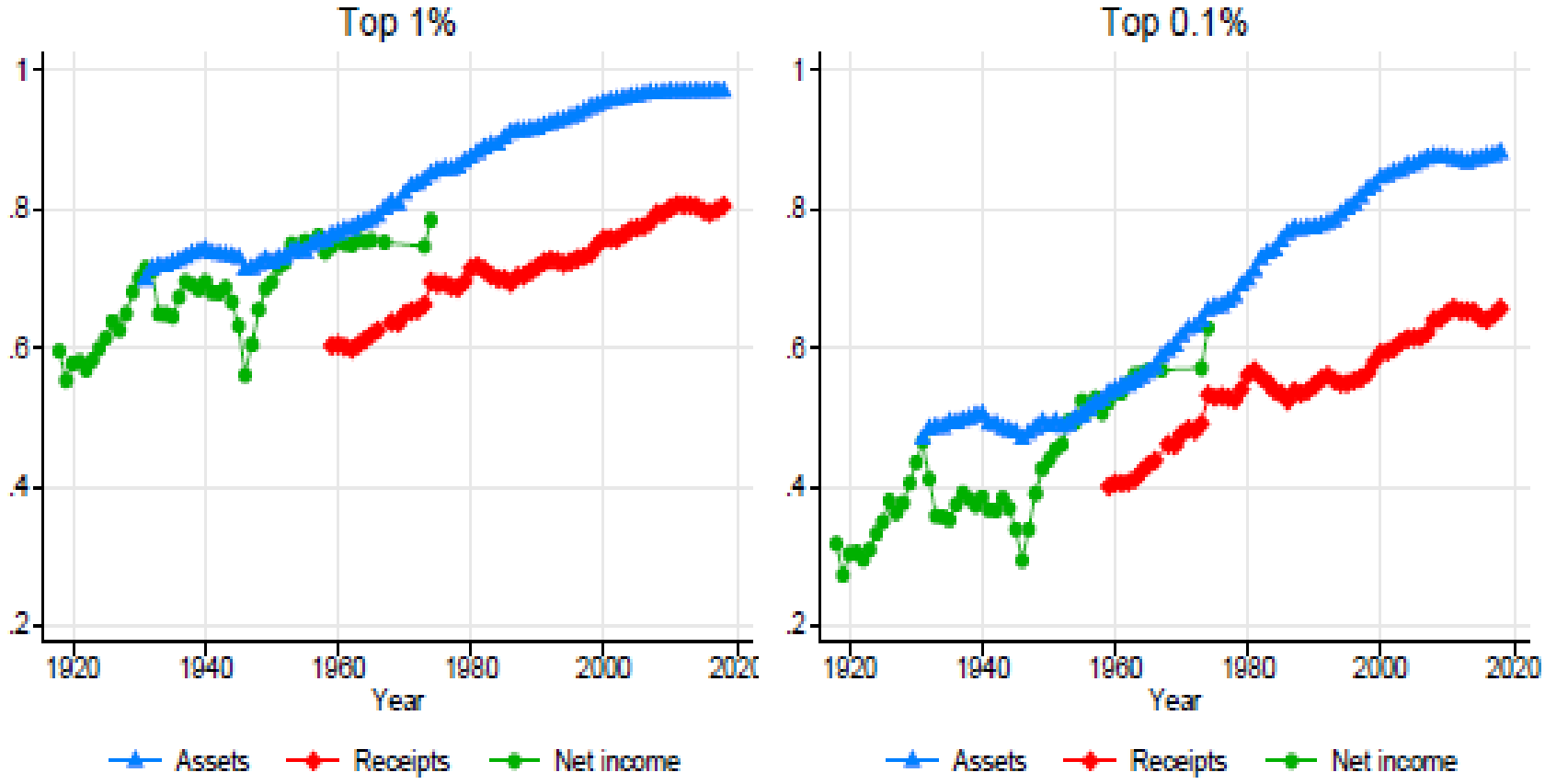
Notes: Firm level average management scores, 1 (worst practice) to 5 (best practice). World Management Survey data from Scur et al (2021)

Big firms account for large fraction of activity (e.g. over a third of all US employees in ~2.7k biggest firms)

Size class	Share firms	Share jobs	#Firms	employees
Under 10 workers	76.50%	10.13%	4,078,732	13,460,861
10 to 4,999 workers	23.53%	54.65%	1,252,823	72,600,106
5,000+ workers	0.05%	35.21%	2,680	46,772,523
Total	100.00	100.00	5,331,555	132,833,490

Source: US Business Dynamics Statistics (2022), https://www.census.gov/data/datasets/time-series/econ/bds/bds-datasets.html

In US corporate concentration seems to have risen over the last 100 years



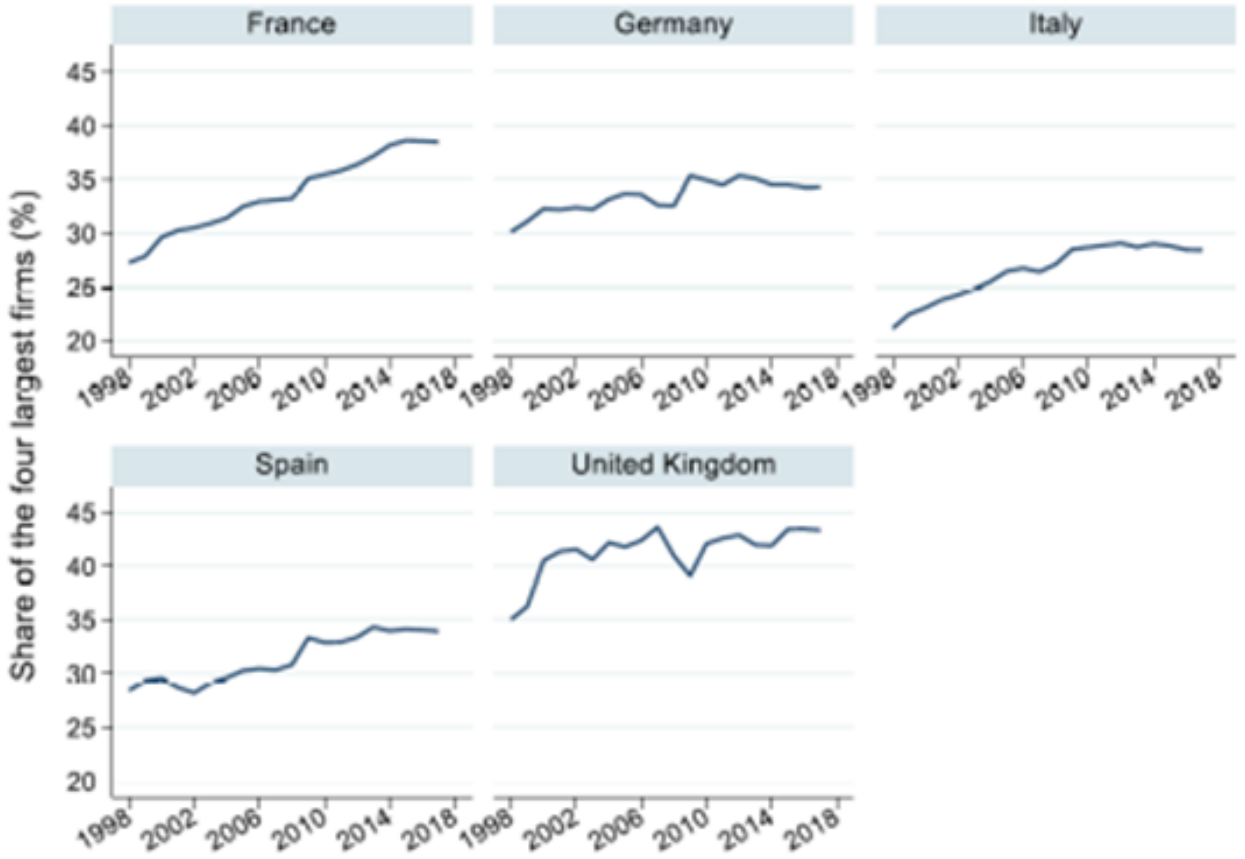
Source: Kwon, Ma and Zimmerman (2021)

The Big Spread: 0.1% of UK firms with 250+ workers account for 2 in 5 jobs and half of all turnover

	Businesses (1,000's)	*Jobs (1,000's)*	*Turnover (£ billion)*	*Businesses (%)*	*Jobs(%)*	*Turnover (%)*
Micro (0–9 workers)	2,397	5,529	802	40.1%	19.9%	18.5%
Small (10–49 workers)	212	4,140	646	3.5%	14.9%	14.9%
Medium (50–249 workers)	36	3,534	694	0.6%	12.7%	16.0%
Large (250+ workers)	**8**	**10,896**	**2,077**	**0.1%**	**39.3%**	**47.8%**
Total	*5,981*	*27,732*	*4,347*	*100%*	*100%*	*100%*

Notes: BEIS Business Demographics (2020); UK registered businesses in 2019

Like US, Sales Concentration seems to have has also increased in Europe (company accounts data)



Source: Authors' calculations based on Euromonitor International's Passport Industrial database.

Source: Koltay, Lorincz and Valletti (2020) DG-COMP Chief Economist Team using ORBIS, Euromonitor Industrial Passport and STAN

Implications for inequalities II: wage inequality

- Pay at the very top (Gabaix on CEOs)
- More generally on the wage distribution:
  - AKM two-way fixed effects models
  - Card, Heining & Kline (2013) find important component from increased variance of firm effects in Germany
  - Song et al (2018) find different result in US: it's almost all increased (i) correlation of high ability workers employed together; (ii) high ability workers employed in high fixed effects firms
  - But general issue of interpretation of AKM fixed effects

Some Potential Explanations

1. *"Google/Apple" Story*. Increased importance of platform competition (network effects, especially in digital markets)
2. *"Wal-Mart Story"* Larger firms better at exploiting intangible capital; e.g. ICT/software – Besson '17; Lashkari et al '19; Eberly & Crouzet '21
3. *Falling competition?* Grullon et al. '16; Philippon '19 on weaker US anti-trust enforcement
4. *Globalization.* Lower communication costs & trade liberalization tend to reallocate greater market share to more successful firms. Melitz, '03