Kaldor and Piketty's Facts: The Rise of Monopoly Power in the United States

Eggertsson, Robbins, Wold

Discussion by Maarten De Ridder

15 October 2020

Five puzzling trends

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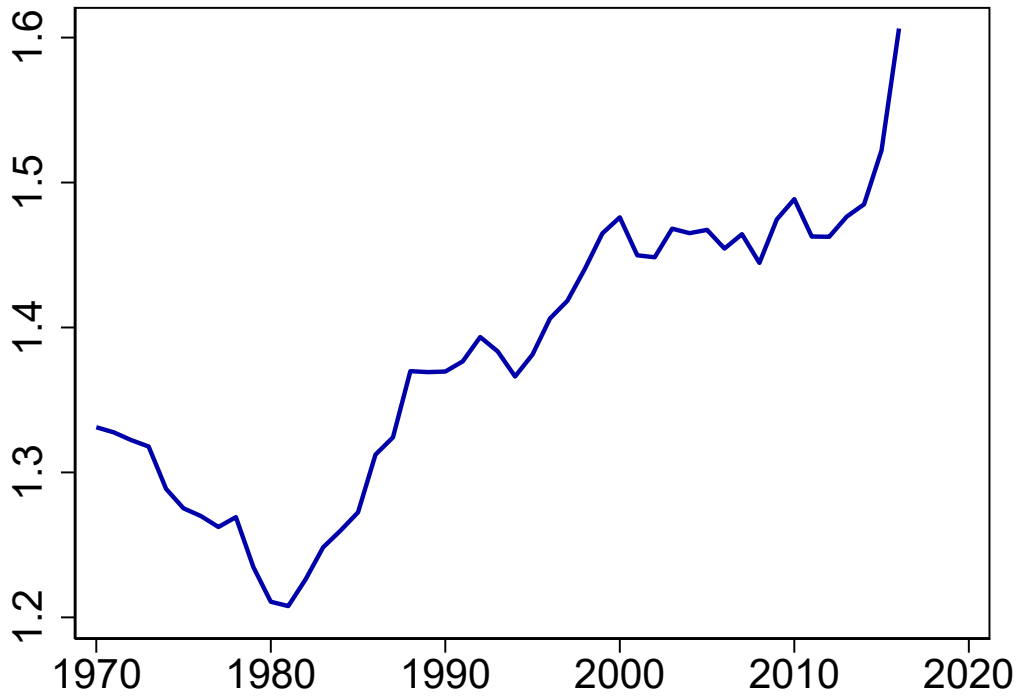
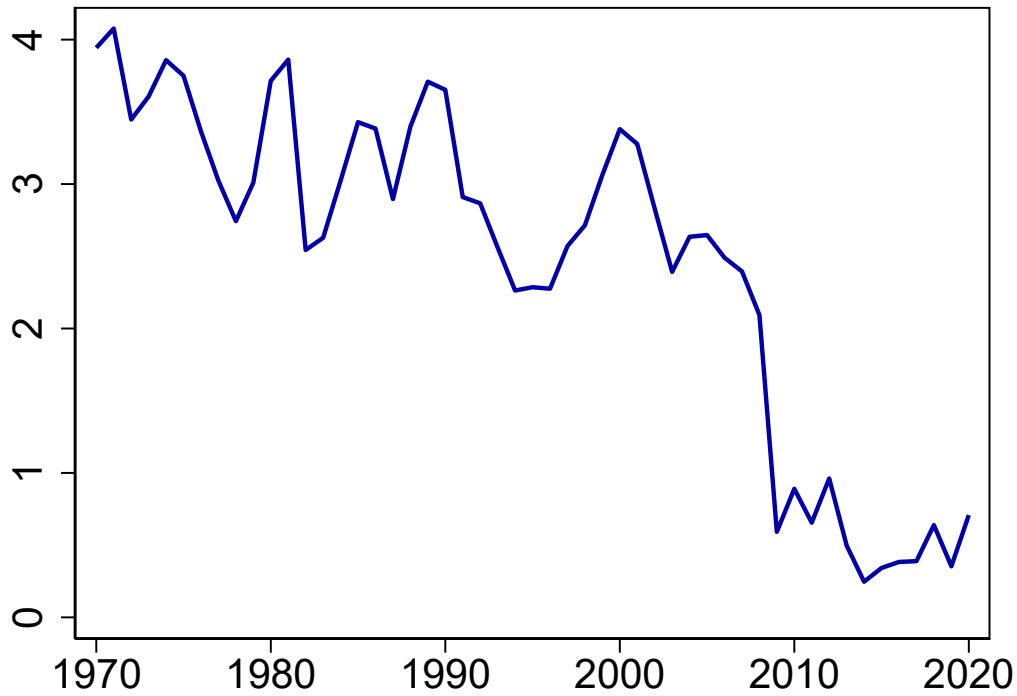
5. Investment-to-output has decreased

Explanation: market power



Markups for U.S. listed firms (Compustat data, estimates from De Loecker, Eeckhout, Unger 2020)

Explanation: interest rates



Natural real interest rate for the U.S. (estimates from Holston, Laubach, Williams 2017)

This Paper

- Build a DSGE model, minimal changes from the standard Neoclassical model
  - Dixit-Stiglitz monopolistic competition with exogenous entry and exit
  - Profits are traded on financial markets (asset pricing)
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- Calibrate the model to match **initial moments** for U.S. economy (1970)
- Assess effect of a jump in markups and interest rates on model's predictions
  - Compare ergodic mean of variables before and after shock

Intuition

Increase in markups:

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Decline in interest rates:

- MPK has been constant $\Rightarrow$ rise of μ raises MPK; fall of r offsets ✓
- Contributes **quantitatively** to increase in financial wealth, Tobin's Q ✓

Results

Moment	Δ Model	Δ Data
Wealth-to-output	0.77	1.10
Capital-to-output	0.24	0.31
Tobin's Q	0.20	0.26
Real interest rate (pp)	-2.16	-2.00
Average return to capital	-0.19	-0.14
Profit share (pp)	7.45	7.66
Labor share (pp)	-5.45	-5.51
Capital share (pp)	-2.00	-2.15
Investment-to-output (pp)	-0.57	-4.09
Equity premium (pp)	2.24	0 to 2

Change in ergodic mean of moments relating the 5 economic puzzles versus change in data

Eggertsson et al. (2020) Table 6. Targets: interest rates, markups (profit share)

Discussion

- Inequality versus representative agent
- Note: model versus data predictions on concentration
- Markups: diagnosis or symptom?

Inequality versus representative agent

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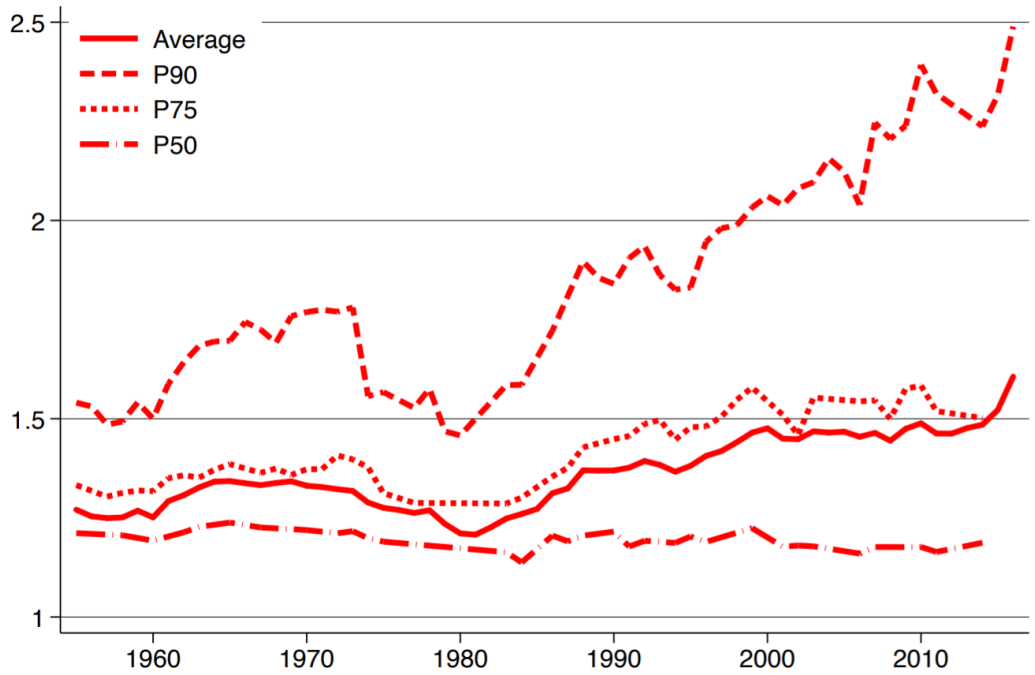
Important feature of markup rise: unequal across firms

- Markup **dispersion** has increased: rise is concentrated in **top deciles**
- **Reallocation**: markups increased because **high-markup** firms became larger
- Raises questions about welfare effects and **mechanisms**

Markup dispersion



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.. but it also tells something about **mechanisms**

Markups and growth

Key mechanism:

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$$I_{it}/Y_{it} = \phi_i + \psi_t + \beta \ln \mu_{it} + \varepsilon_{it}$$

ln μ_{it}	0.059***	0.032***	0.037***	0.035***
	(0.004)	(0.006)	(0.006)	(0.006)
Fixed effects	No	Firm	Firm & Year	Firm & Ind-year
Observations	123,915	123,915	123,915	123,915
R-squared	0.015	0.002	0.022	0.052

Firm-clustered standard errors in parentheses. 1% winsorization. Compustat data.

Markups from replication of De Loecker, Eeckhout, Unger (2020)

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Δ ln μ_{it}	-0.004***	-0.004***	-0.004*	- 0.001
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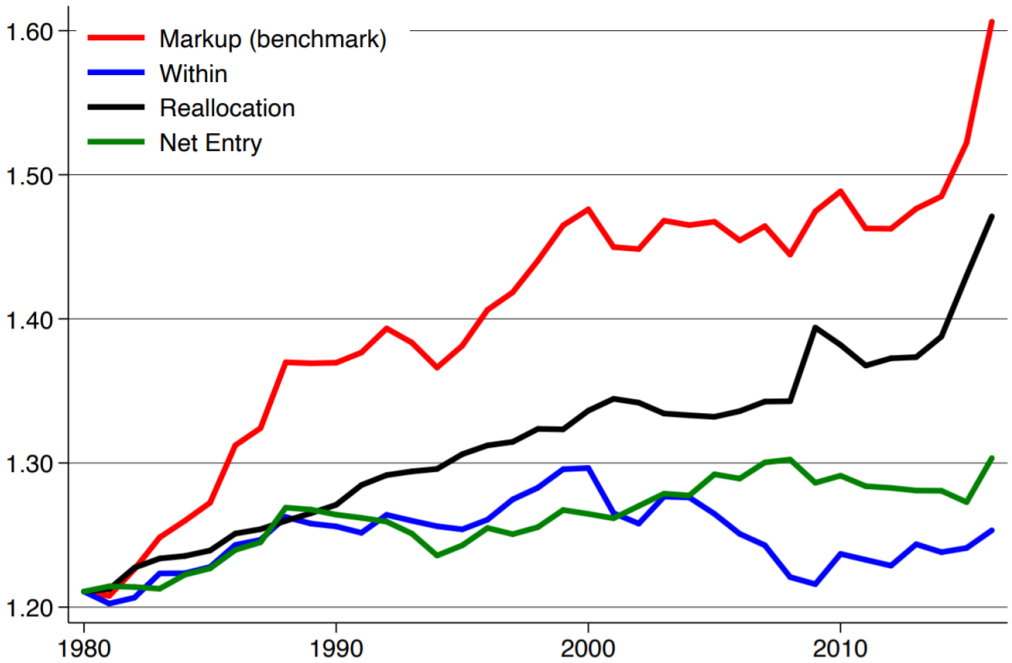

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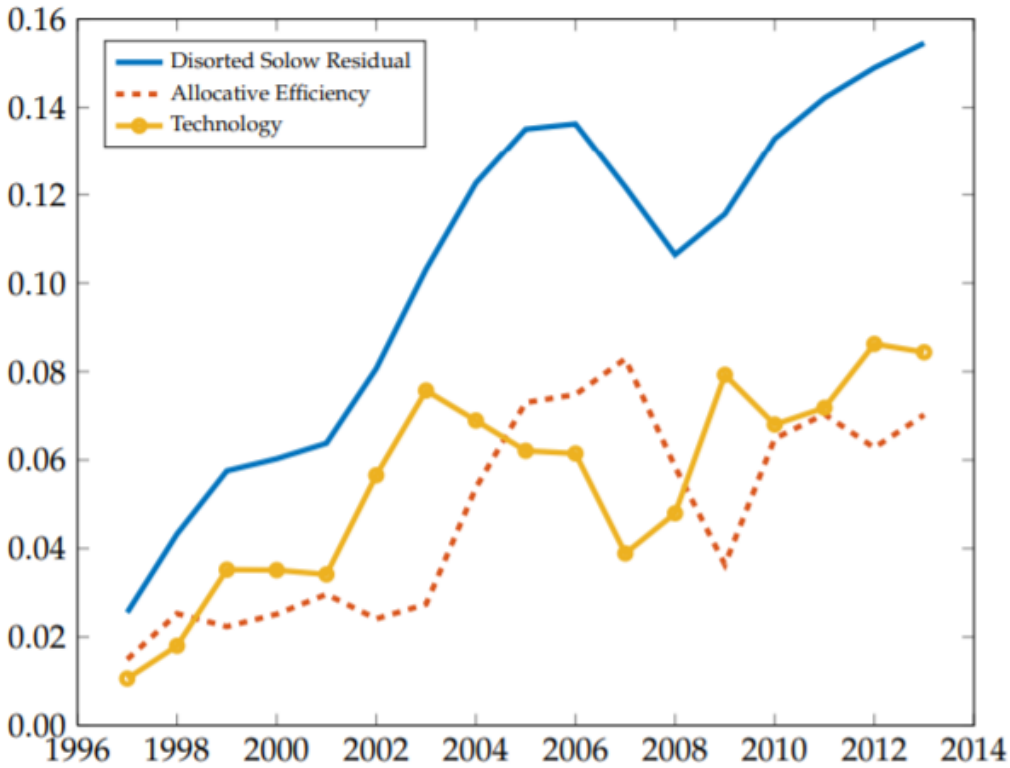

Productivity: Efficiency of Allocation versus Technology (estimates from Baqaee and Farhi 2020)

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- **Note: model versus data predictions on concentration**
- Markups: diagnosis or symptom?

Predictions for concentration

Introduce simple form of heterogeneity: low a_l and high productivity a_h firms

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Predictions for concentration

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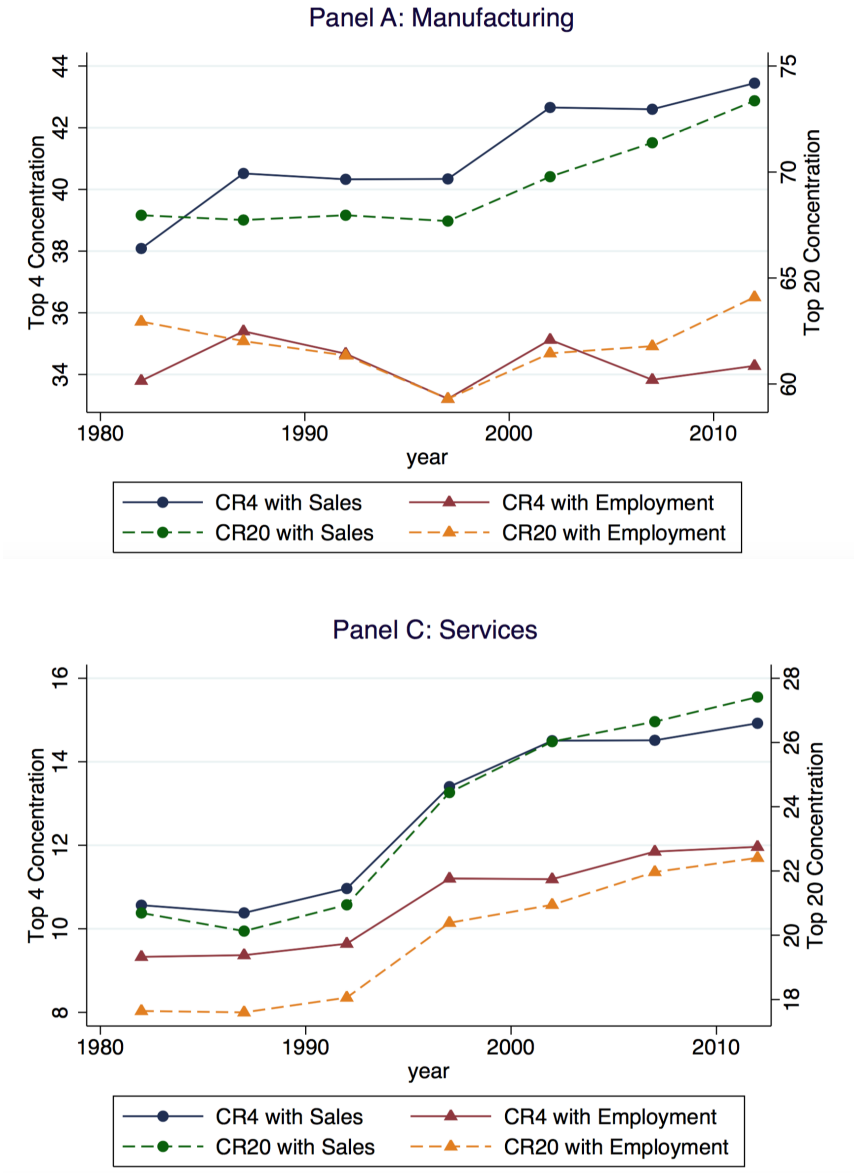
- Relative output of high productivity firms:

$$\frac{y_h}{y_l} = \left(\frac{a_h}{a_l}\right)^{\Lambda_t}$$

- Relative output productive firms increases in elasticity of substitution Λ_t

  $\Rightarrow$ negative correlation between markups and concentration

Concentration



Fraction of sales and employment by top 4 or 20 firms.

Source: Autor et al (2017) based on U.S. Census

Markups and concentration

Inverse markup	$\mu_{s,t}^{-1}$	$\mu_{s,t}^{-1}$	$\mu_{s,t}^{-1}$	$\mu_{s,t}^{-1}$
$HHI_{s,t}$	-.73***	-.73***	-0.43***	-0.44***
	(0.23)	(0.23)	(0.11)	(0.11)
Year F.E.	N	Y	N	Y
Sector F.E.	N	N	Y	Y
Sectors	504	504	504	504

Sector-level relationship between concentration and average markups.

French data for universe of firms 1994-2016. Source: Burstein et al (2020)

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- Recent literature: Jointly explains trends in market power, labor share, capital share, business dynamism, productivity growth
  - Software/intangibles: Aghion Bergeaud Boppart Klenow Li ('19); De Ridder
  - Anti-competitive behavior: Akcigit and Ates (2019)
  - Aging: Peters and Walsh (2019), Hopenhayn Neira and Singhania (2018)
  - Low interest rates: Liu Mian and Sufi (2019),

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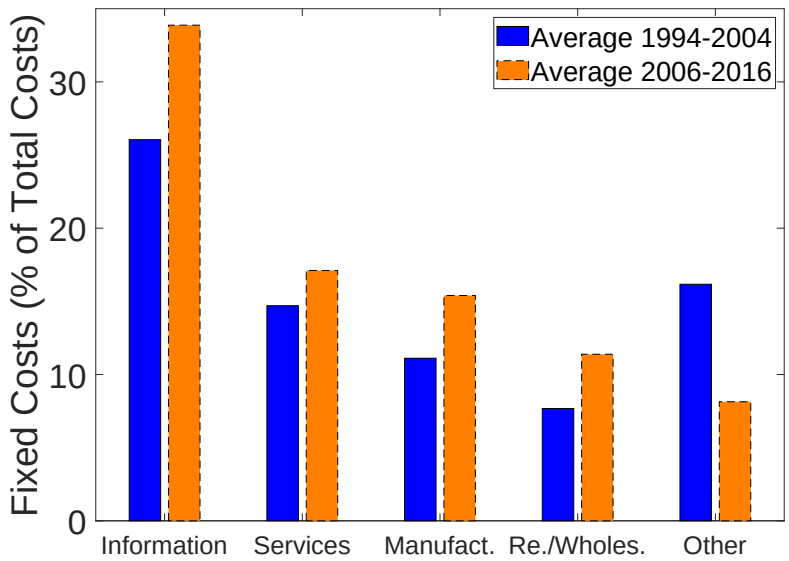
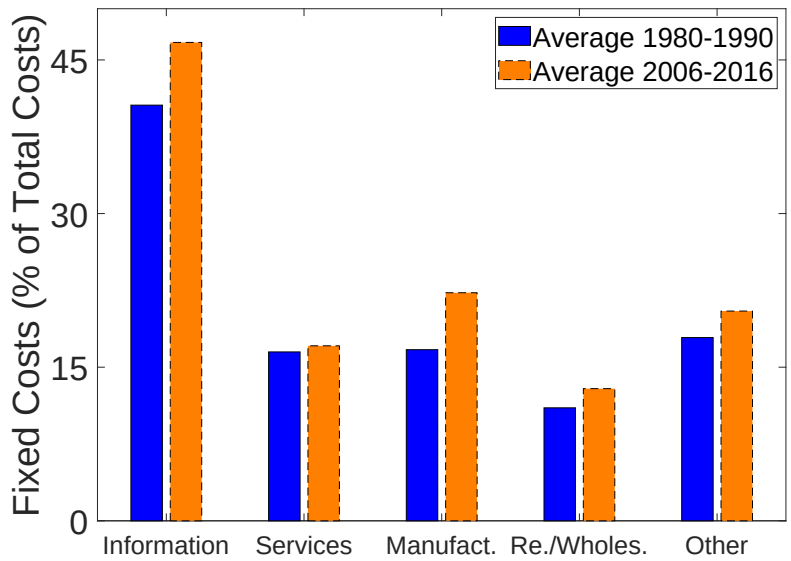
Fixed costs across sectors



(a) France



(b) United States

Sales-weighted average of fixed costs as a percentage of total costs

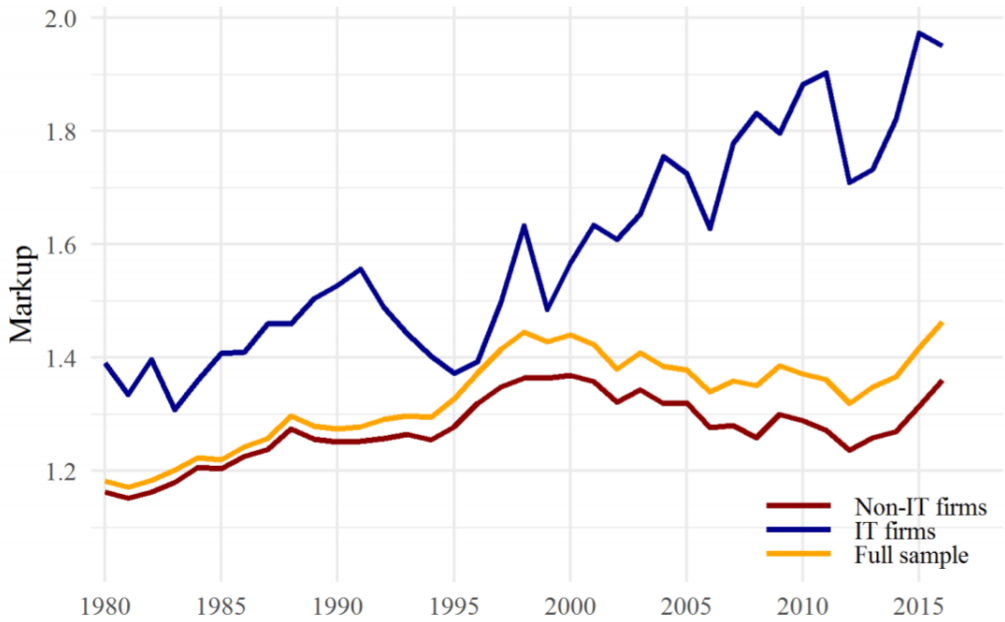
Fixed costs and markups

$$\mu_{it} = \alpha_i + \psi_t + \gamma \cdot \frac{f_{it}}{tc_{it}} + \beta' g(p_{it} \cdot y_{it}) + \varepsilon_{ijt},$$

Markups	United States (1980-2016) OLS	France (1994-2016) OLS	France (1994-2007) 2SLS
Fixed-Cost Share	1.66***	1.28***	0.67***
	(0.031)	(0.002)	(0.224)
R^2	0.62	0.52	
Observations	125,231	9,457,679	140,861
Year fixed effects	✓	✓	✓
Firm fixed effects	✓	✓	✓
Size polynomial	✓	✓	✓

Firm-clustered errors in brackets. Data: Compustat, FARE-FICUS merged with EAE. 2SLS IV: third-degree polynomial in the ratio of software to sales (F-stat 16.6).

Markups and technology



Trends in markups at high and low-IT U.S. listed firms.

Source: Van 't Klooster (2020) based on replication of De Loecker, Eeckhout, Unger (2020)

Fixed costs and sales growth

$$\Delta(p_{it} \cdot y_{it}) = \alpha_i + \psi_t + \gamma \cdot \frac{f_{it-1}}{tc_{it-1}} + \beta' g(p_{it-1} \cdot y_{it-1}) + \varepsilon_{ijt},$$

Sales Growth	United States (1980-2016)	France (1994-2016)
Lagged Fixed-Cost Share	.125***	.514***
	(.009)	(.002)
R^2	0.02	0.05
Observations	111,397	8,670,007
Year fixed effects	✓	✓
Firm fixed effects	✓	✓
Size polynomial	✓	✓

Firm-clustered standard errors in brackets. Data: Compustat, FARE-FICUS.

Balanced Growth Path

	Δ Model	Δ Data
Growth and Innovation		
Productivity growth rate	-0.4 pp	-0.9 pp
Aggregate R&D over value added	41.9%	64.5%
Dynamism		
Entry rate (target)	-5.8 pp	-5.8 pp
Reallocation rate	-42.0%	-23%
Market Power		
Average Markup	21.8 pt	30 pt
Cost Structure		
Intangibles over value added (target)	1.5 pp	2.1 pp
Average fixed-cost Share	3.8 pp	10.6 pp

↑ denotes increase, ↓ denotes decrease

Δ data: change in U.S. data for 2016 vs 1980.

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Note: this is **not** a measurement story $\Rightarrow$ see Crouzet and Eberly (later!)

Summary

- Clear analysis of the **powerful** effect that rise of markups can have
- Diverse trends both qualitatively and **quantitatively** explained
  - Model explains puzzles, but maintains tractability
  - Combines real factors with **asset pricing**; model for Tobin's Q
- Representative agent approach
  - Model does not analyse effect of **heterogeneity** in markup trends
  - Are markups endogenous?