

Profits and markups during the post-Covid inflation shock in the U.S.: A firm-level lens

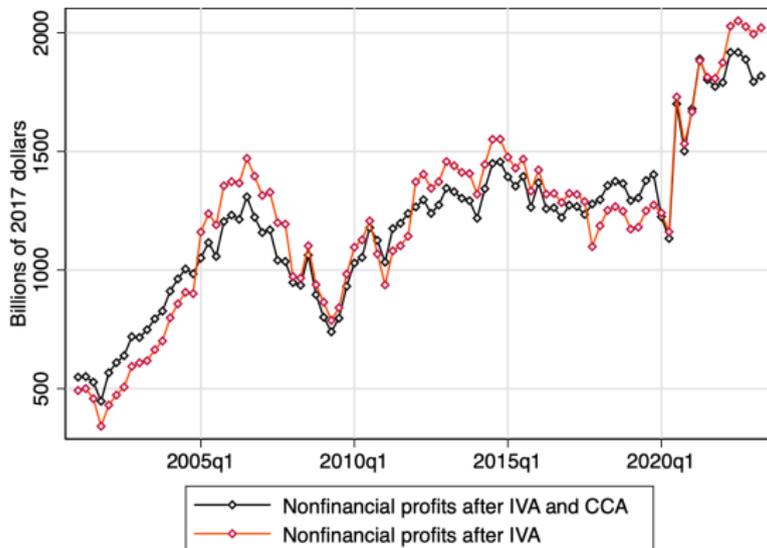
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FMM Conference
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Two pieces of context

1. A post-Covid inflation shock that has come with rising profits.

Total nonfinancial profits (2001q1-2023q2)



Source: Bureau of Economic Analysis

Two pieces of context

2. A long-term rise in market power.

- ▶ The aggregate markup rises to almost 70% by 2016 (De Loecker et al, 2020).
- ▶ Top firms:
 - ▶ Make an outsized contribution to rising markups (De Loecker et al, 2020); profit margins (Davis and de Souza, 2023).
 - ▶ Superstars (Autor et al, 2020).
 - ▶ Rising corporate concentration.
- ▶ Negative and falling profits at bottom of the distribution (Davis and de Souza, 2022).

Profit inflation

- ▶ Profits have driven the bulk of inflation, not wages:
 - ▶ Sellers' inflation (Weber and Wasner, 2023).
 - ▶ In a period of profit inflation, markups are *constant* or rising – despite cost shocks (Nikiforos and Grothe, 2023).

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 - ▶ In a period of profit inflation, markups are *constant* or rising – despite cost shocks (Nikiforos and Grothe, 2023).
- ▶ Rising market power after 1980 set the stage for firms' ability to pass on cost shocks during the pandemic.
 - ▶ As firms protect their markups, workers bear the burden of adjustment.

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 - ▶ In a period of profit inflation, markups are *constant* or rising – despite cost shocks (Nikiforos and Grothe, 2023).
- ▶ Rising market power after 1980 set the stage for firms' ability to pass on cost shocks during the pandemic.
 - ▶ As firms protect their markups, workers bear the burden of adjustment.
- ▶ What has happened with firm markups?

This presentation

Five main patterns:

1. In the aggregate, firms maintained pre-pandemic markups in 2020-22.
2. A long-term reallocation of sales to high-markup firms reverses in 2020.
3. Markups rise at the top *and* bottom of the distribution.
4. Low-markup firms in 2019 see the biggest gains in 2020-22.
5. 'Systemically important' industries play a substantive role, as well as 'downstream' sectors.

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Five main patterns:

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5. 'Systemically important' industries play a substantive role, as well as 'downstream' sectors.

Takeaways?

- ▶ Firms have been able to pass on (rather than absorb) cost shocks.
- ▶ Early evidence that:
 - ▶ *Bottom* firms had a new ability to raise markups.
 - ▶ Spread to 'downstream' sectors.

Firm data

Sample:

- ▶ Compustat data, 1950-2022.
- ▶ Listed U.S. non-financial firms.
 - ▶ I exclude foreign private issuers (approx 1/3 of sample since 2010s).

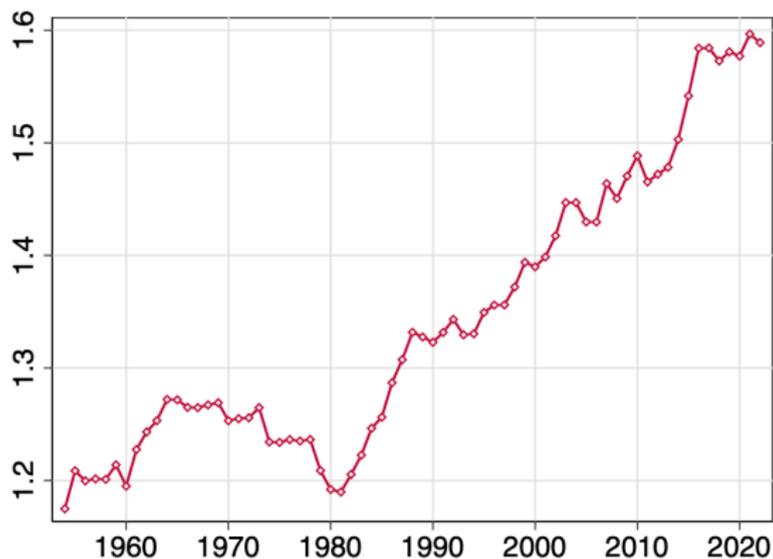
Markup:

- ▶ Over cost of goods sold, following De Loecker et al (2020).
 - ▶ See also Konczal and Lusiani (2022), Nikiforos and Grothe (2023).
- ▶ Similar qualitative patterns for other measures of the markup, the profit margin.

Foreign issuer share

The aggregate markup

The aggregate (sales-weighted) markup (1950-2022)



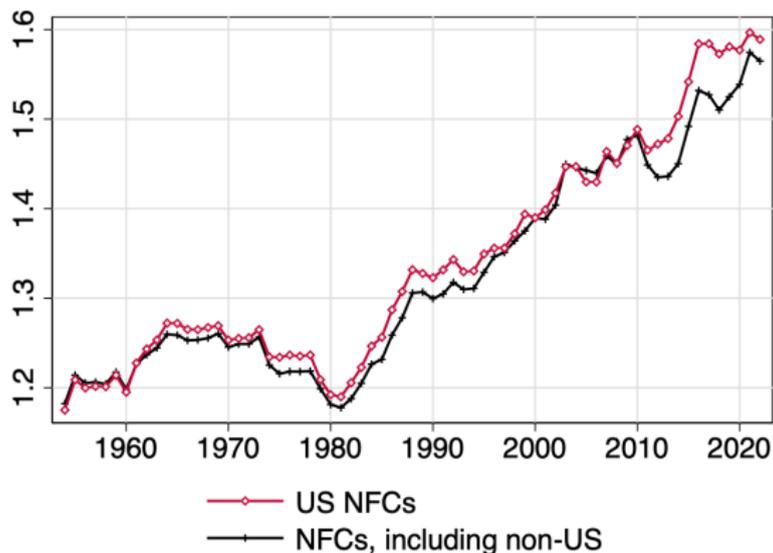
- Rises from an avg. of 1.24 in the 1970s to 1.60 in 2021.

FIRE

Profit margin

The aggregate markup

The aggregate markup (1950-2022):
U.S. firms versus including foreign private issuers



A reallocation to high-sales firms?

The aggregate markup can rise because of:

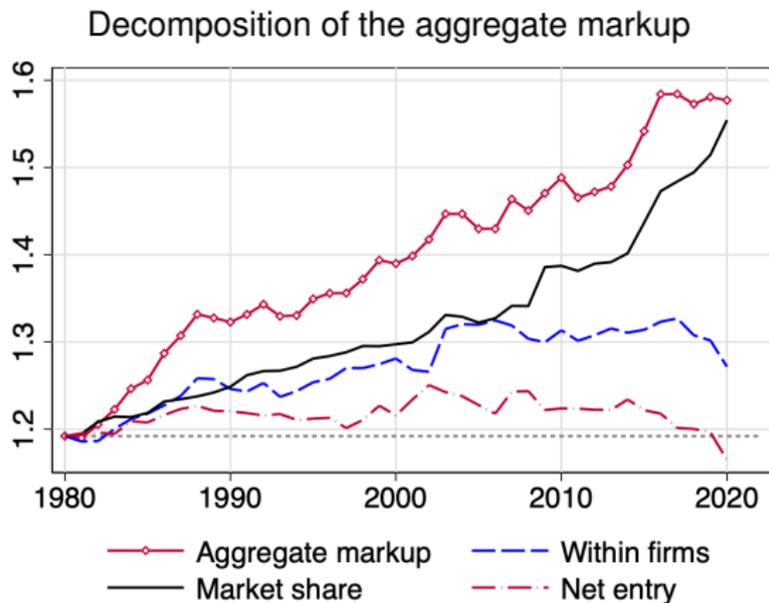
- ▶ Rising markups within firms.
- ▶ A reallocation of economic activity (sales) towards high-markup firms.
- ▶ Entry & exit.

Over the long-term:

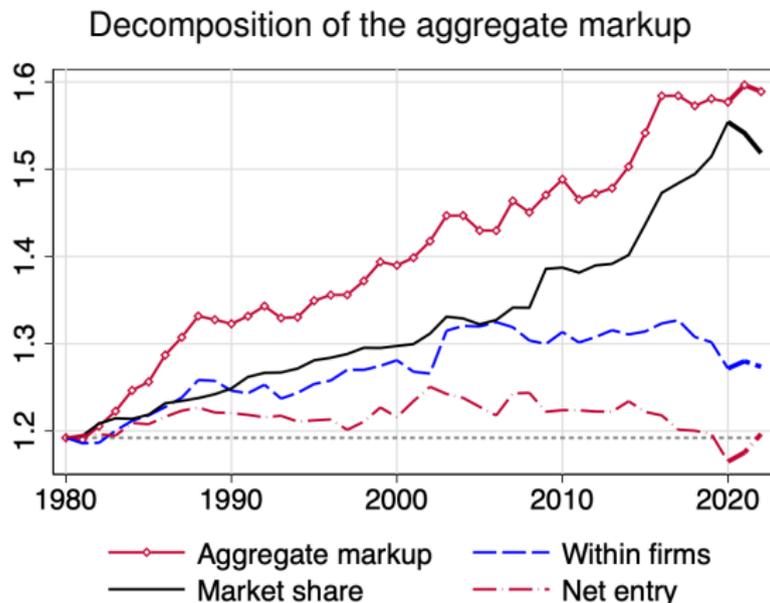
- ▶ Key role for reallocation effect – i.e. high-markup firms get bigger.
- ▶ Reverses after 2020.

Shift share

A reallocation to high-sales firms?



A reallocation to high-sales firms?

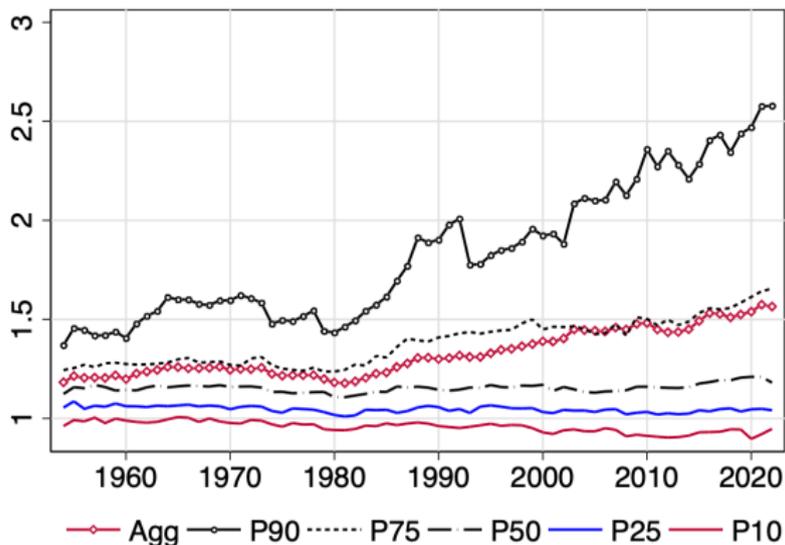


What offsets the falling market share component after 2020?

- ▶ In 2021, some (small) within-firm increase in markups.
- ▶ In 2022, early evidence suggests entry.

The markup distribution

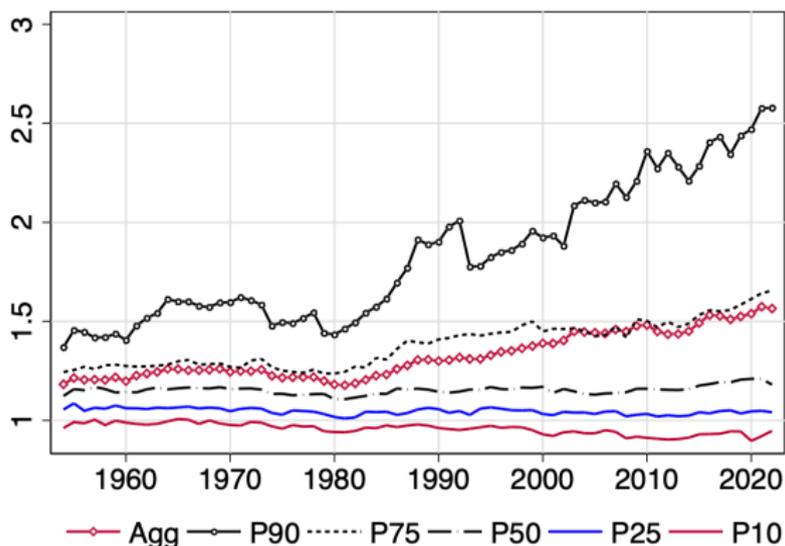
Percentiles of the markup distribution (1950-2022)



- ▶ Above-median markups continue to rise after 2019.

The markup distribution

Percentiles of the markup distribution (1950-2022)



- ▶ Above-median markups continue to rise after 2019.
- ▶ Suggestive evidence of rising markups at very bottom?

Indexed to 2019

Profit rate

Prior market power and post-2020 markups

Do prior markups play a role in post-2020 firm behavior?

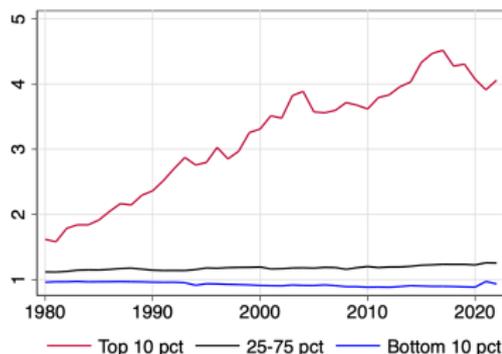
- ▶ I rank firms by pre-pandemic markups & track over time.
- ▶ Early evidence suggests low-markup firms did some 'catching up'.

Prior market power and post-2020 markups

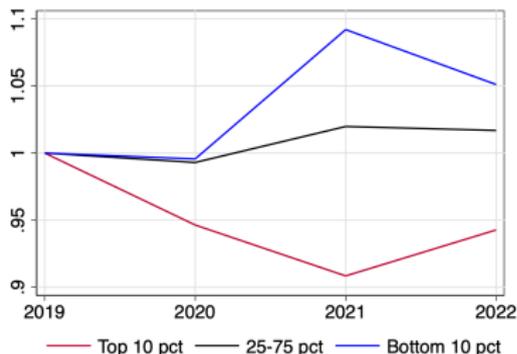
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Average markups, based on 2019 markup distribution



(a) Levels



(b) Index (2019=1)

Sector: systemically important firms

- ▶ Over the long-term, markup growth is driven by within-sector changes.
 - ▶ Rather than structural change.
- ▶ After 2019, markup growth is concentrated in 'systemically-important industries'.
 - ▶ Industries from Weber, Jauregui, Teixeira, and Pires (2022).

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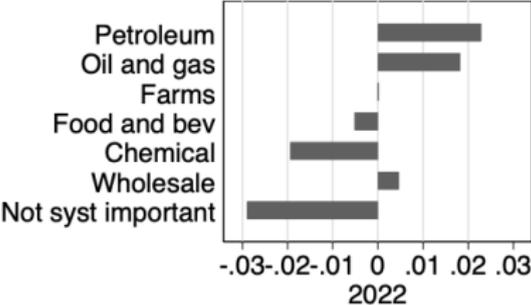
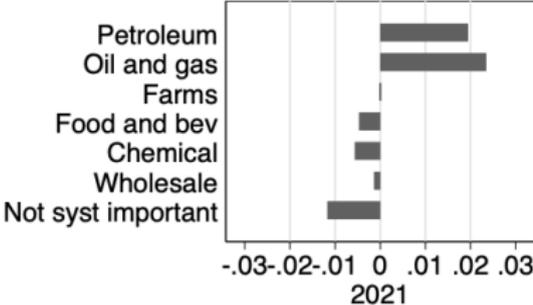
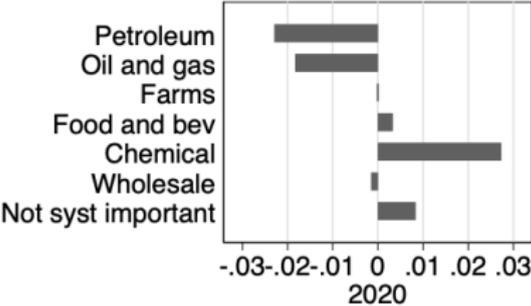
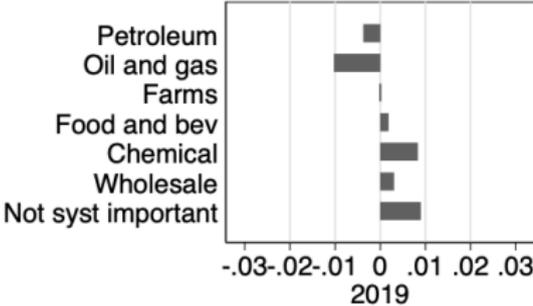
Contribution of systemically important industries to change in markup

Year	Aggregate markup	Annual change in markup	System imp sectors	Non-system imp sectors
2019	1.581	0.0081	-0.0008	0.0089
2020	1.577	-0.0038	-0.0121	0.0083
2021	1.597	0.0196	0.0313	-0.0117
2022	1.589	-0.0076	0.0214	-0.0290

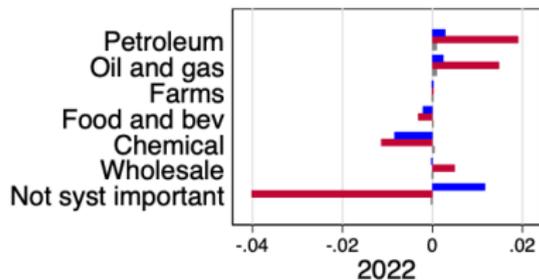
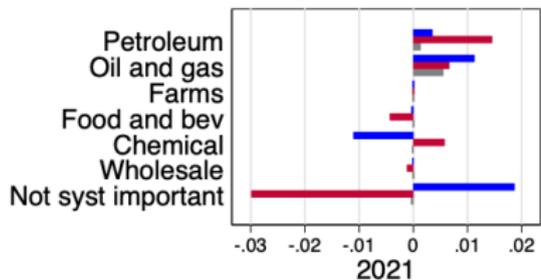
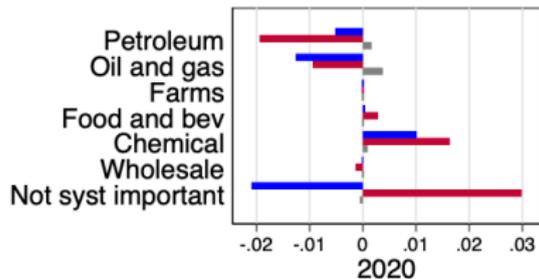
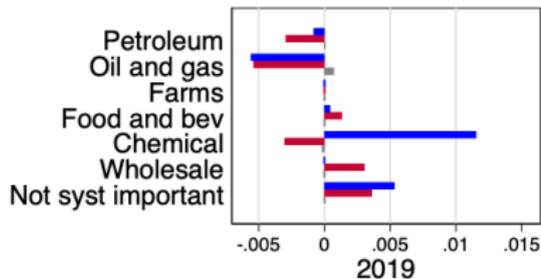
Industry list

Decomposition

Sectoral contributions



Sectoral contributions



■ Within
 ■ Between
 ■ Cross

Conclusions

Firm markups point to profit inflation:

- ▶ Steady aggregate markups after 2019 show that firms could insulate themselves from pandemic-period cost shocks.
- ▶ With markup growth among certain groups of firms:
 - ▶ At the top (90th) percentile in 2020/21...
 - ▶ ... but also evidence that *low* markup firms disproportionately raised markups.
 - ▶ 'Systemically important' sectors. Within 'downstream' sectors.

Looking forward:

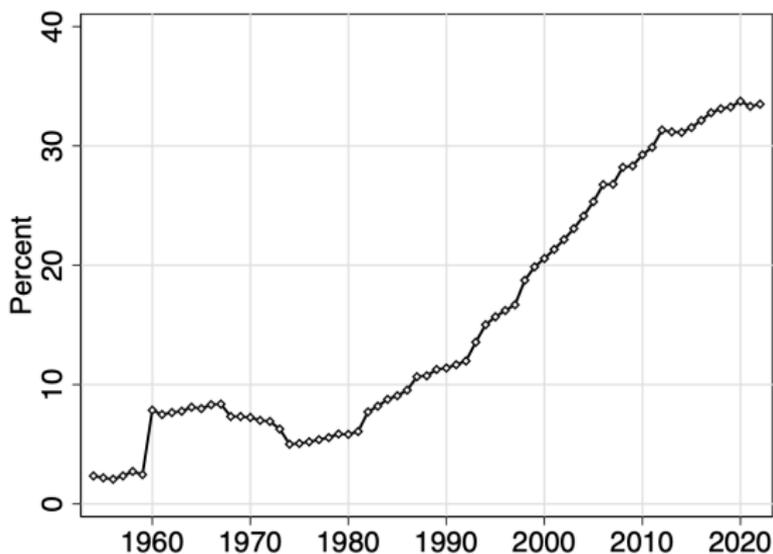
- ▶ Did historically low-markup firms take advantage of confusion & disruption to raise prices?
- ▶ Markups *within* non-systemically-important sectors rise in 2021-22.
- ▶ Do firms 'return' markups when moments of disruption end?

Thank you!

Appendix slides

Foreign private issuers

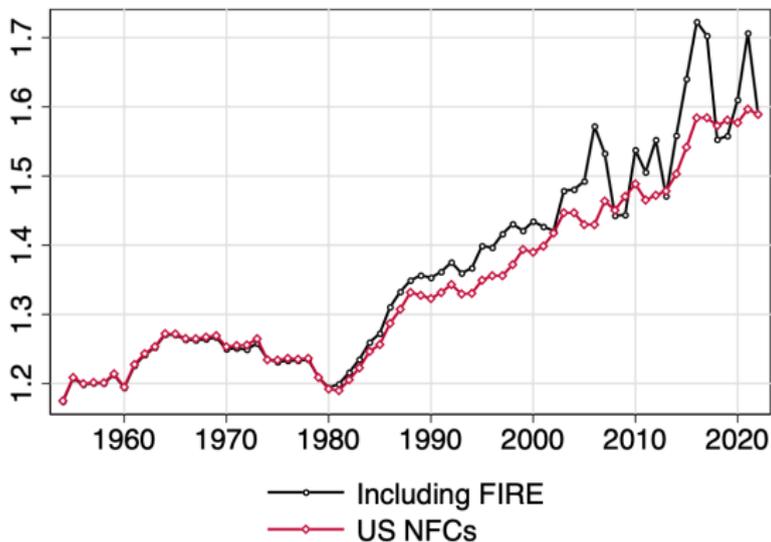
The share of foreign private issuers in Compustat (%)



[Return](#)

The aggregate markup, FIRE

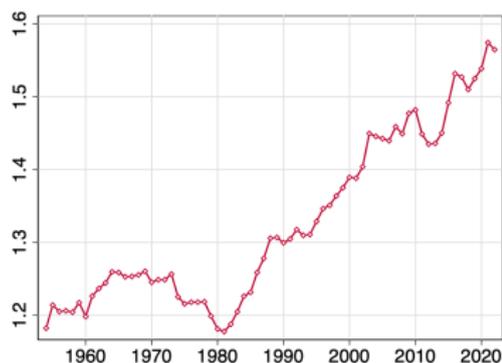
Aggregate markup: with and without FIRE



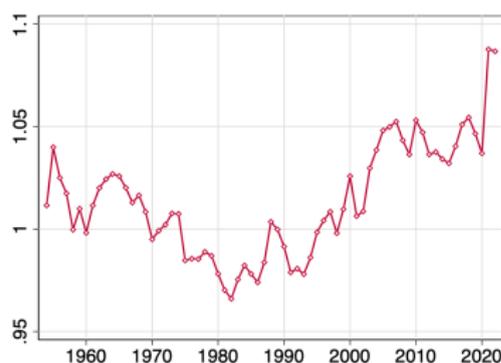
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The aggregate markup over total costs

Accounting for general and administrative expense?



(a) Markup over variable costs



(b) Markup over total costs

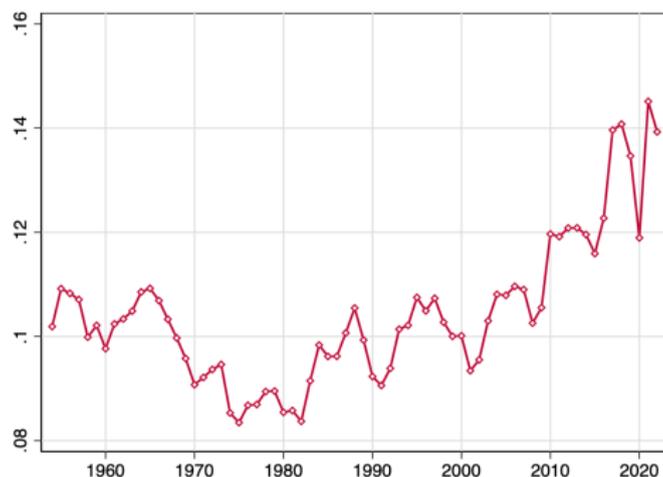
Definitions:

- ▶ Variable costs: cost of goods sold.
- ▶ Total costs: cost of goods sold + general & administrative expense.

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The aggregate profit margin

The aggregate (sales-weighted) profit margin (1950-2022)



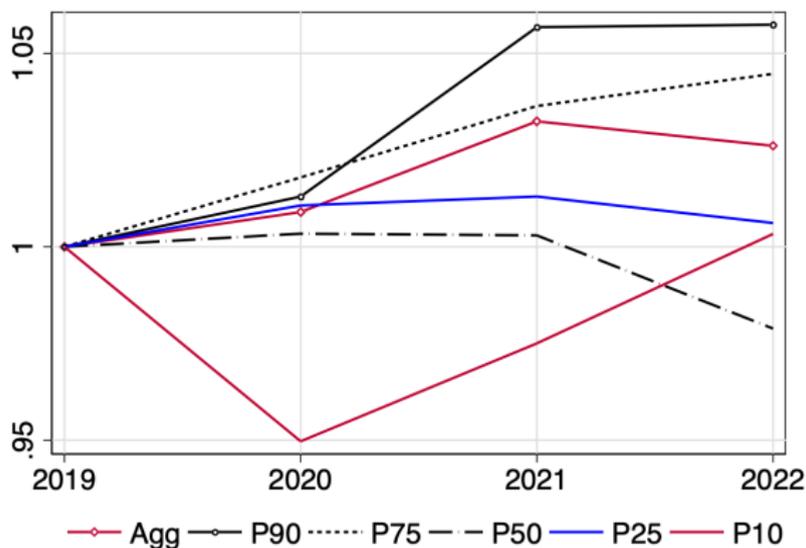
Profit margin from Davis and de Souza (2022):

- ▶ Profit margin = total profits to sales.
- ▶ Profits are (net) operational and nonoperational income, after tax.

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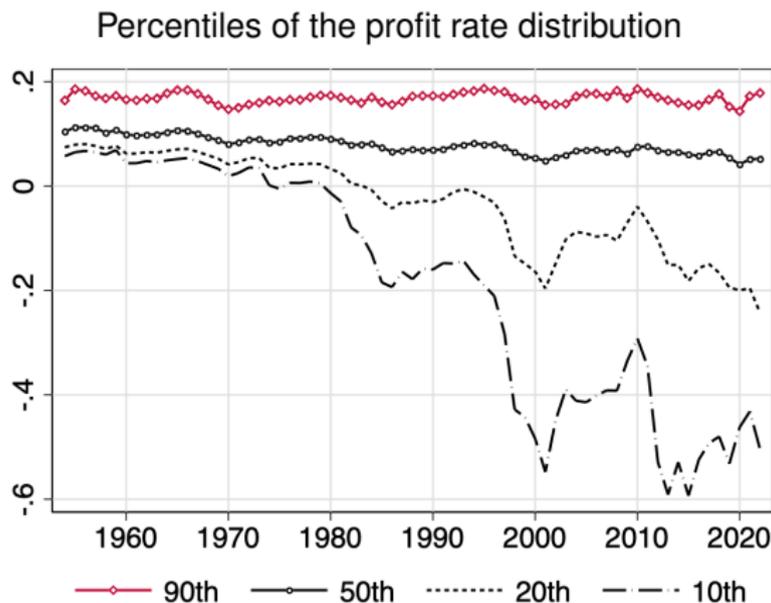
The markup distribution

Percentiles of the markup distribution, 2019 = 1 (2019-2022)



[Return](#)

The profit rate distribution



- ▶ Profit rate = total profits relative to total assets (Davis and de Souza, 2022).
- ▶ Percentiles of unweighted distribution.

Shift-share decomposition

- ▶ I extend the firm decomposition from De Loecker, Eekhout and Unger (2020) through 2022:

$$\begin{aligned} \Delta\mu_t = & \underbrace{\sum_i m_{i,t-1} \Delta\mu_{i,t}}_{\text{Within-firm component}} + \underbrace{\sum_i \tilde{\mu}_{i,t-1} \Delta m_{i,t}}_{\text{Market share component}} + \underbrace{\sum_i \Delta\mu_{i,t} \Delta m_{i,t}}_{\text{Cross term}} \\ & + \underbrace{\sum_{i \in \text{Entering}} \mu_{i,t}^{\tilde{}} m_{i,t}}_{\text{Entry}} + \underbrace{\sum_{i \in \text{Exiting}} m u_{i,t-1}^{\tilde{}} m_{i,t-1}}_{\text{Exit}} \\ & \underbrace{\hspace{10em}}_{\text{Net entry}} \end{aligned}$$

Return

Systemically important sectors

- ▶ Based on BEA crosswalk to NAICS codes.
- ▶ List of industries with observation counts for 2019-2022.

Industry	# firms	N
Petroleum and coal products	65	11,825
Oil and gas extraction	341	11,825
Farms	24	11,825
Food, beverage, and tobacco products	302	11,825
Chemical products	1,844	11,825
Housing	0	11,825
Utilities (excluded)	0	11,825
Wholesale trade	473	11,825
Total	3,049	11,825

[Return](#)

Shift-share decomposition

$$\Delta\mu_t = \underbrace{\sum_s m_{s,t-1} \Delta\mu_{s,t}}_{\text{Within-sector component}} + \underbrace{\sum_i \mu_{s,t-1} \Delta m_{s,t}}_{\text{Between-sector component}} + \underbrace{\sum_i \Delta\mu_{s,t} \Delta m_{s,t}}_{\text{Cross term}}$$

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Sectoral breakdown, 2-digit industries

