Is there an investment gap in advanced economies? If so, why?

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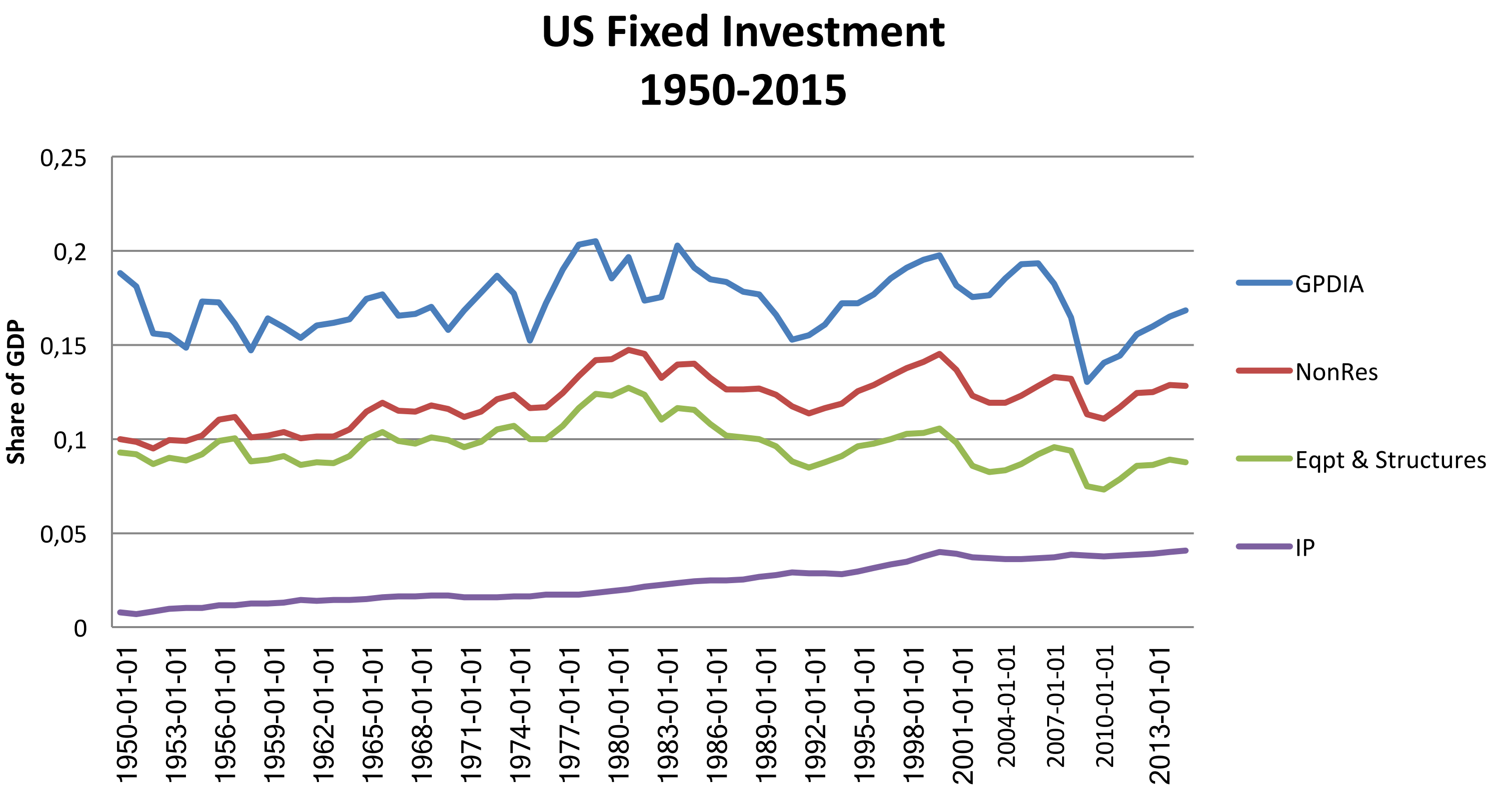
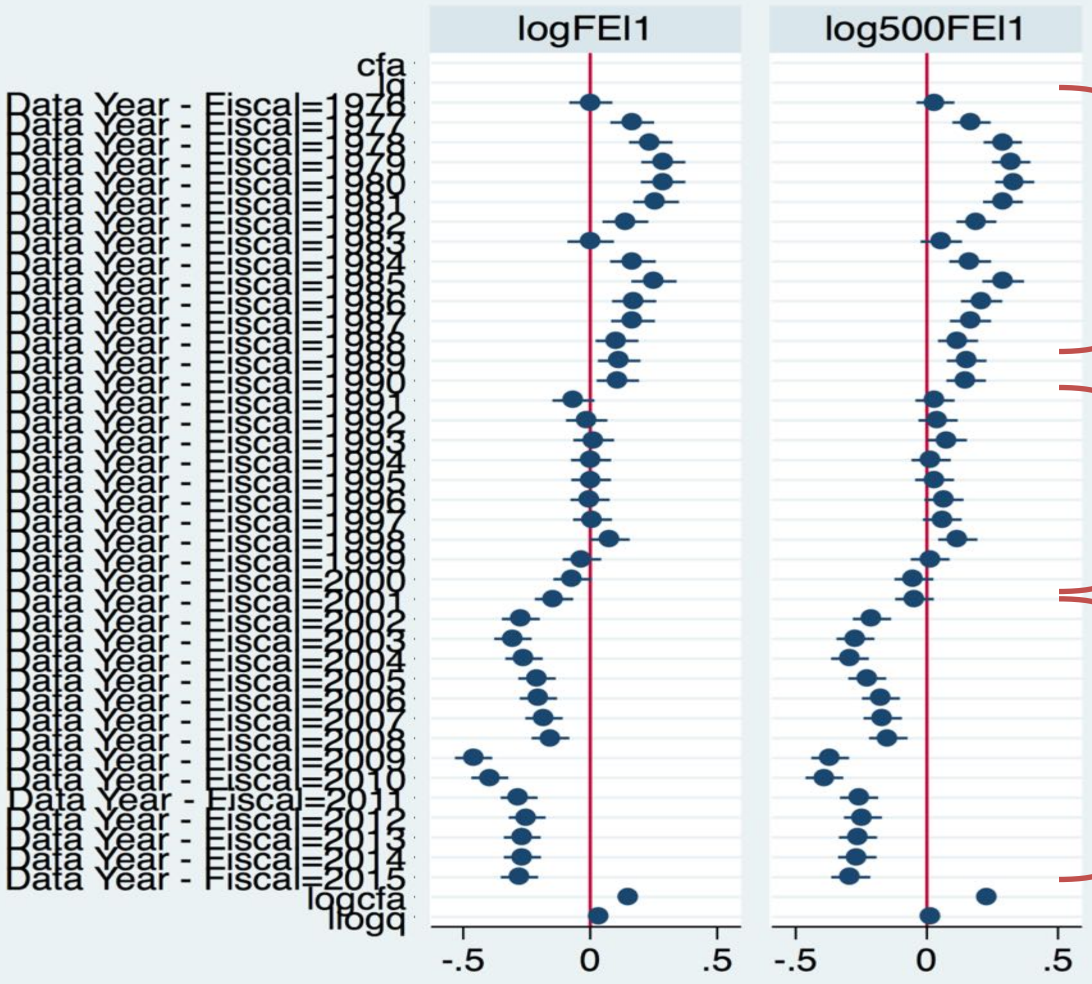
Döttling, Gutiérrez, and Philippon (DGL) provide a nuanced answer – yes and no.

- No – there is no evidence of an investment gap in Europe, conditional on firm performance.
- Yes – there is evidence of an investment gap in the US – but why?
  - Some evidence that intangible investment and concentration are correlated with the shortfall.
- Intriguing open questions
  - Why "yes and no"?
  - And *why are the answers different in Europe and the US*?



Alexander and Eberly, 2016, IMF Annual Research Conference, forthcoming.



Investment regressions on Tobin's Q and Cash Flow with time dummies:

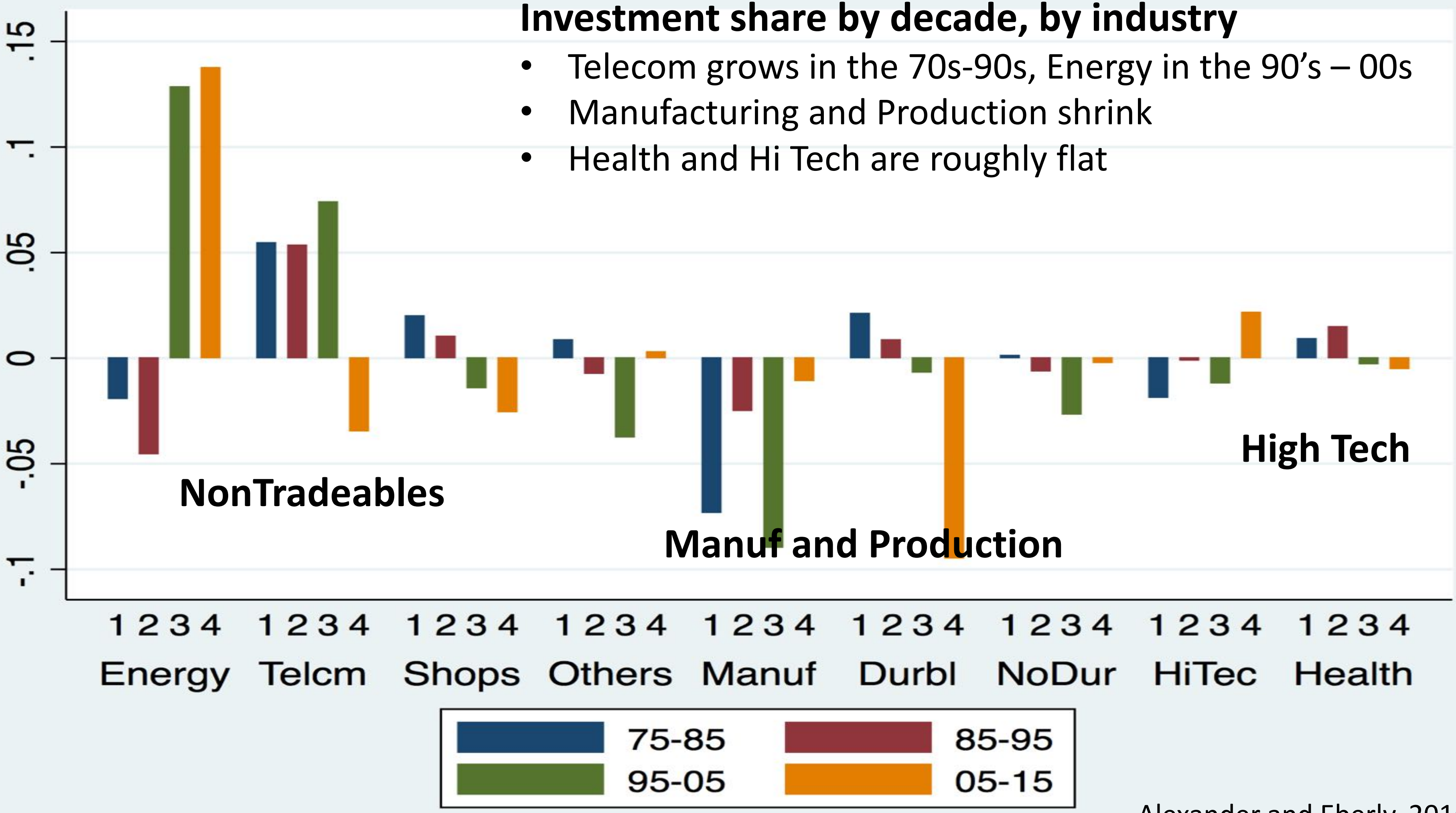
1970s – 80s: positive time effects

1990s: zero time effects

2000s-10s: negative time effects

Investment share by decade, by industry

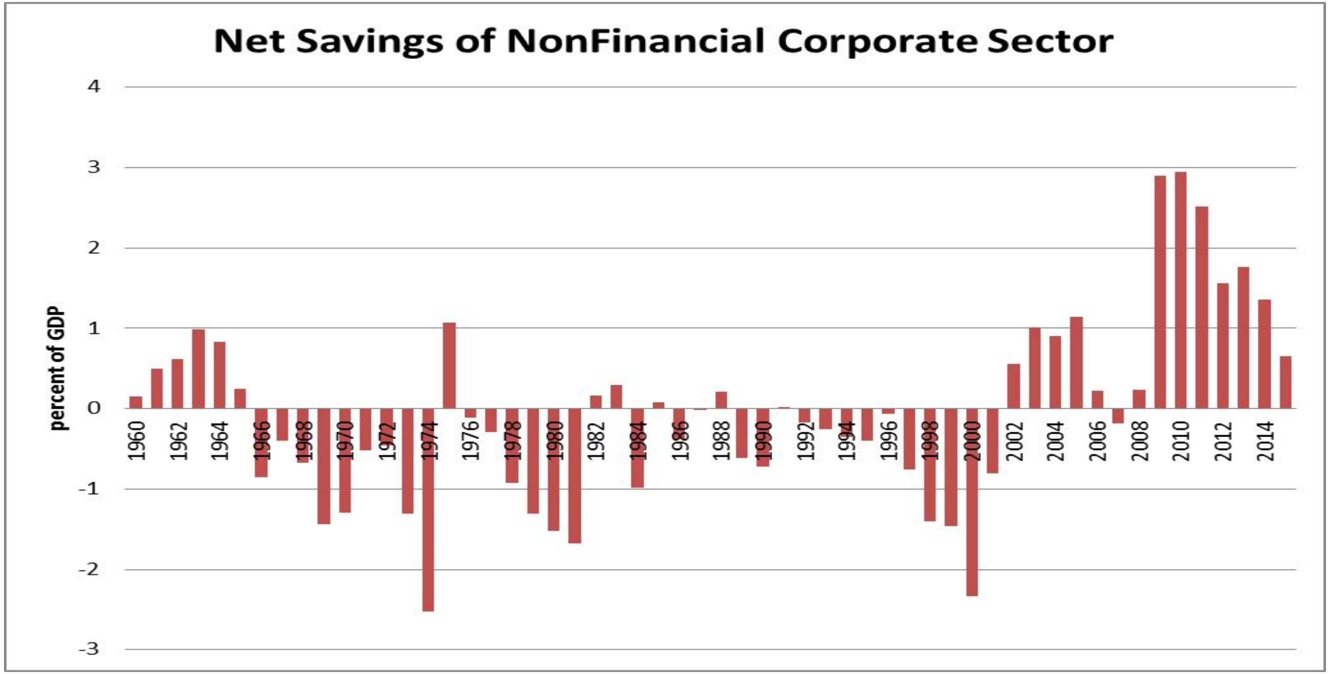
- Telecom grows in the 70s-90s, Energy in the 90’s – 00s
- Manufacturing and Production shrink
- Health and Hi Tech are roughly flat



Alexander and Eberly, 2016,

Measurement issues abound, but are unlikely to be a full explanation.

- Measurement of Q?
  - Cash flows are high also, consistent with high Q in the US.
- Investment and especially intangibles?
  - Suppose firms expense labor used to develop software which is not appropriately measured as investment?
  - Expenses would be too high and investment would be too low.
  - "Too low" business savings matches "too low" investment => ***net business savings*** (savings less investment) is unchanged.
  - But net business savings is historically high, suggesting investment is low relative to savings, which cannot result from this kind of mismeasurement.



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Autor et al suggest concentration may explain the falling labor share

- This work shows concentration is also associated with declining investment.
- A simple explanation?
  - Greater market power suppresses output, reducing investment.
  - In investment regressions, average Q may overstate the marginal incentive to invest.
  - If concentration is rising, this could explain negative time effects in investment.
- Do the data line up?

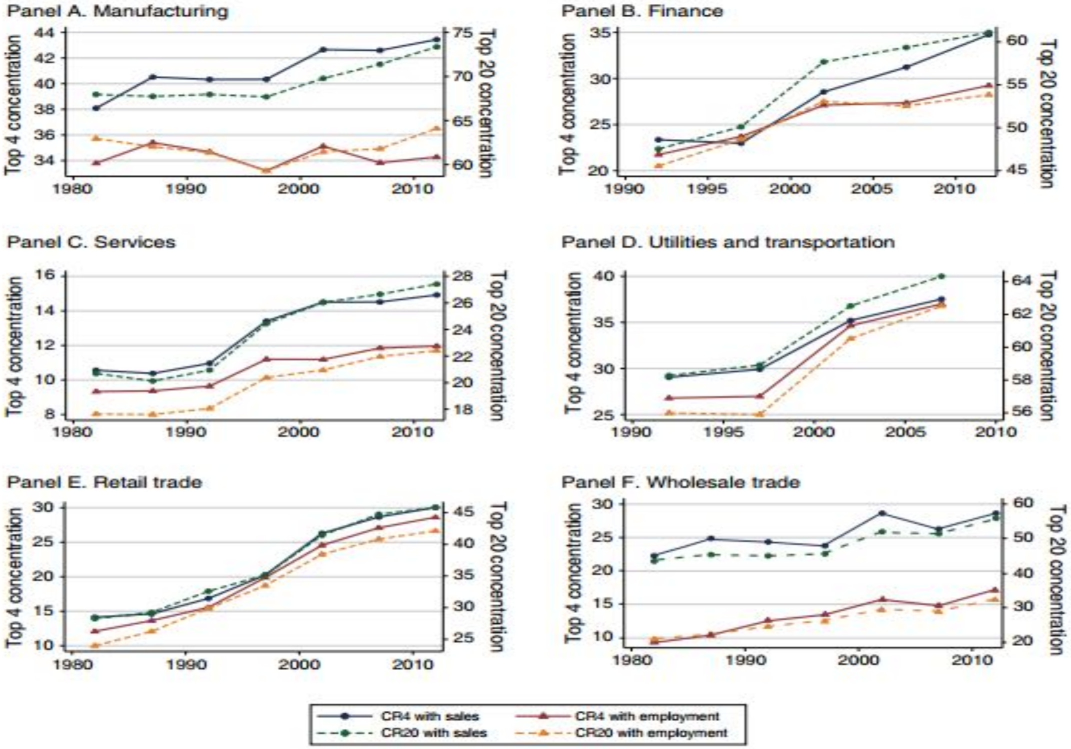


FIGURE 1. AVERAGE TOP 4 INDUSTRY CONCENTRATION BY MAJOR INDUSTRY GROUP

Autor, et al (2017) show that 4-digit industry concentration is rising on average in many industry groups in the US.

Autor, Dorn, Katz, Patterson, and Van Reenen (2017)

… and this rise in concentration is correlated with falling labor share, notably in manufacturing.

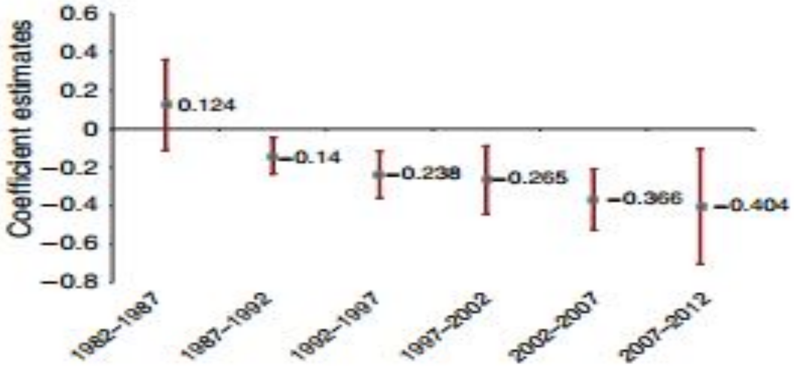


FIGURE 3. CORRELATION BETWEEN CHANGES IN LABOR SHARE AND CHANGES IN INDUSTRY CONCENTRATION IN THE US MANUFACTURING SECTOR AT FIVE-YEAR INTERVALS, 1982–1987 THROUGH 2007–2012

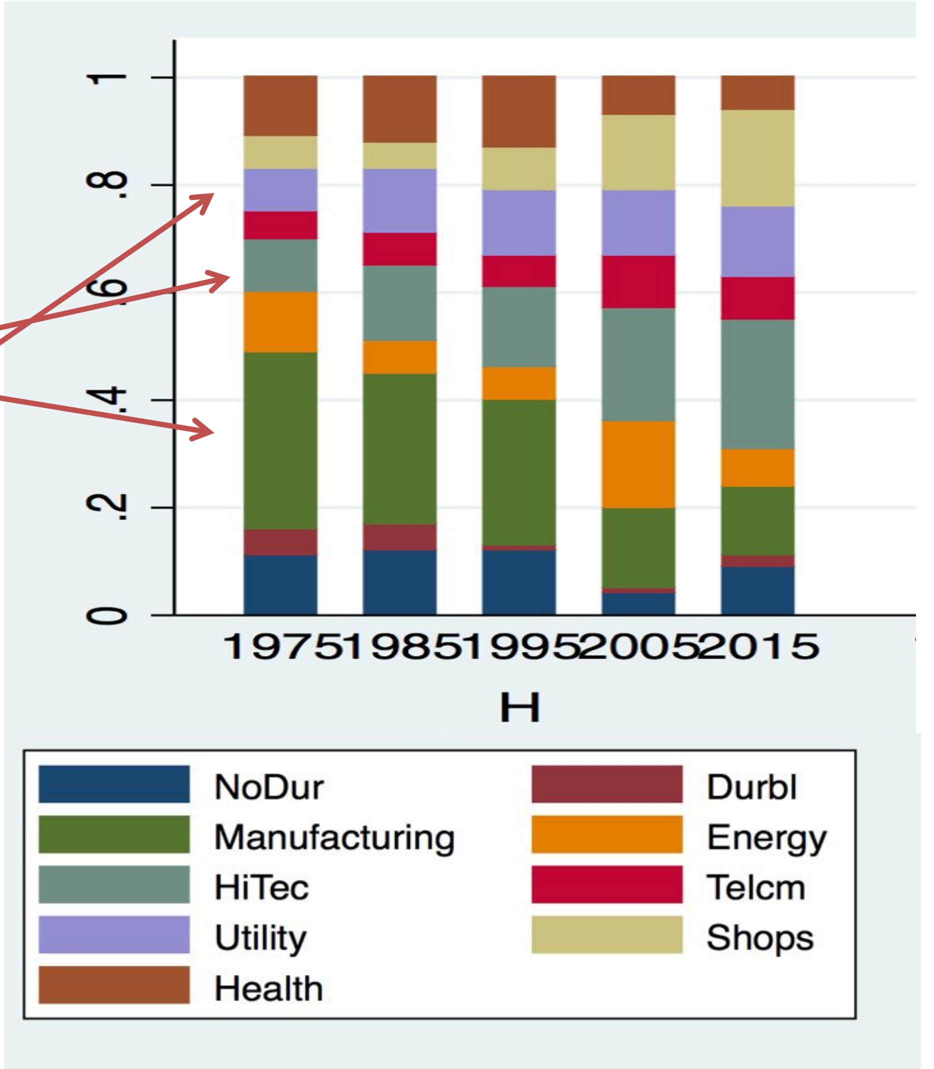
Notes: This figure plots point estimates and 95 percent confidence intervals from Autor et al. (2017) for ordinary least squares bivariate regressions of the change in the payroll to value-added share on the change in the CR20 index and a constant, estimated at the level of four-digit US manufacturing industries and separately for each of the indicated five-year intervals. Regressions are weighted by industries' shares of value-added in 1982.

DGP show that concentration and intangible investment are also associated with lower fixed investment.

- Is the decline in investment driven by concentration per se?
  - The paper suggests antitrust as a policy response
- What drives concentration?
  - Candidates: growth in natural monopolies (Autor, et al, suggest fixed costs)
- But concentration is not really associated with growth

These time effects correspond to changes in industry composition:

- Shrinking of manufacturing
- Rise of Hi Tech
- And to some extent Shops, Telecomm, and Energy



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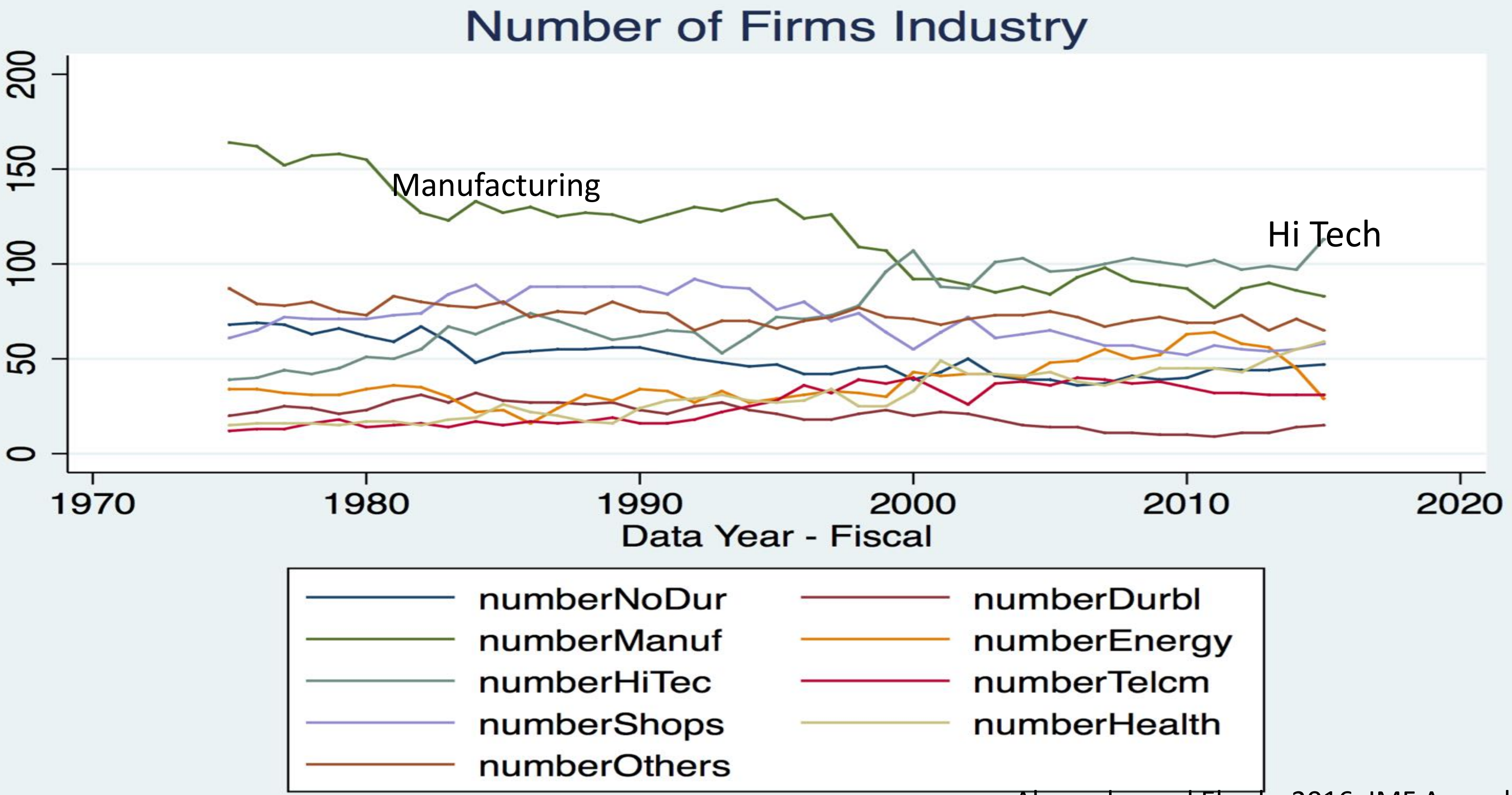

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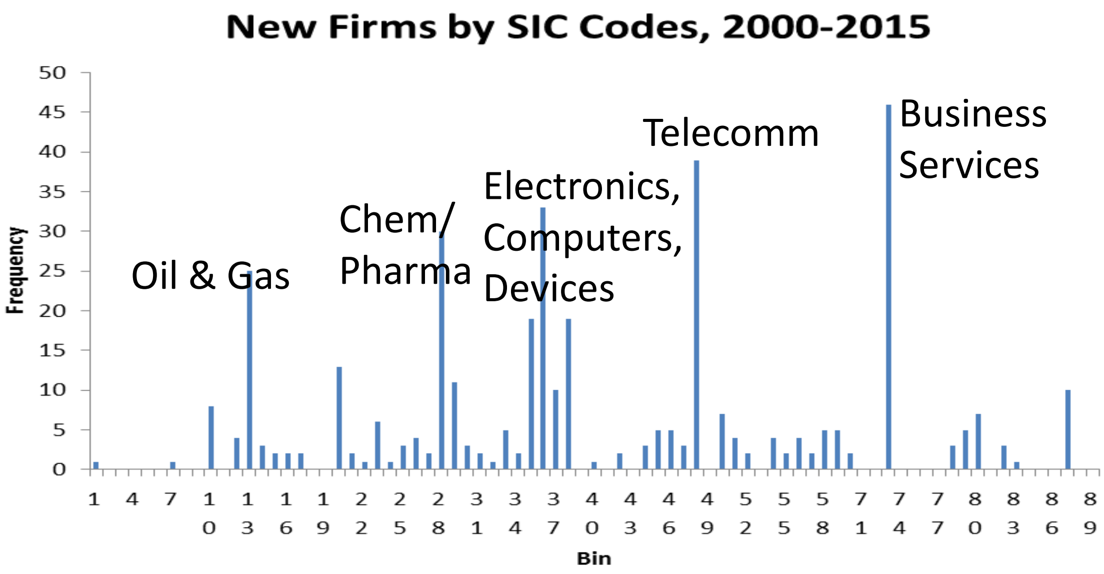

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What drives concentration?

- Entry is in growing industries –
  - High tech, pharmaceutical, business services (software)
  - Telecomm, energy
- Concentration is rising in manufacturing, retail, utilities
  - Consolidation?
  - Manufacturing – declining number of firms, shrinking sector valuation, shrinking employment
  - remaining firms are more profitable, and investment is weak
- Is investment weak because of market power, or because the industry is in decline and lacks growth opportunities?
  - Contrast to growth in High Tech – rising number of firms, valuations, entry
  - Fixed investment in equipment is weak, but IP/intangibles investment is stronger

Table 3: The effect of intangibles and entry on investment.

VARIABLES	Full Sample log(I/A)	Full Sample log(I/A)	Top 500 log(I/A)	Top 500 log(I/A)	Top 500 log(I/A)
log(CF/A)	0.153***	0.145***	0.232***	0.220***	0.232***
	(0.00535)	(0.00535)	(0.00841)	(0.00842)	(0.00841)
log(Q)	0.0369***	0.0468***	0.0141*	0.0233***	0.0144*
	(0.00512)	(0.00513)	(0.00766)	(0.00765)	(0.00766)
log(In/A)		-0.0604***		-0.0588***	
		(0.00369)		(0.00475)	
NewGround*Log(In/A)					-0.0295
					(0.0341)
NewProduction*Log(In/A)					0.0123
					(0.0345)
NewTech*Log(In/A)					-0.107**
					(0.0423)
Constant	-2.747***	-2.990***	-2.555***	-2.797***	-2.562***
	(0.0359)	(0.0387)	(0.0339)	(0.0390)	(0.0342)
Observations	33,699	33,699	14,323	14,323	14,323
R-squared	0.101	0.109	0.176	0.186	0.177
Number of gvkey	3,732	3,732	1,512	1,512	1,512
Firm FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES

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Is there an investment gap?

- Yes – in the US, it seems correlated with intangible investment and concentration.
- Why? – market power that depresses output?
  - Perhaps, and also consistent with intangible investment in "brand" that enhances market power.
  - But also concentrated in low growth industries
    - May derive from low expected return to investment
    - Why do *high* growth industries have low fixed investment => perhaps a transformation of production technology toward intellectual and other intangible forms of capital.
- Intriguing open questions
  - Why "yes and no"?
  - And *why are the answers different in Europe and the US*?

Is there an investment gap?

- *Why are the answers different in Europe and the US*?
  - US equity valuations (and hence Q) are "too high"
  - Fiscal environment
  - Policies are different
    - Toward innovation
    - Toward anti-trust and enforcement
    - Others?