

# Managing Growth

**Royal Economic Society, Glasgow**

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# Summary

- Global Productivity slowdown since ~2008-9 Financial Crisis, but particularly bad in the UK
  - This has fed into dismal real wages
- Many causes, but low UK investment one big problem
- What are policy solutions?

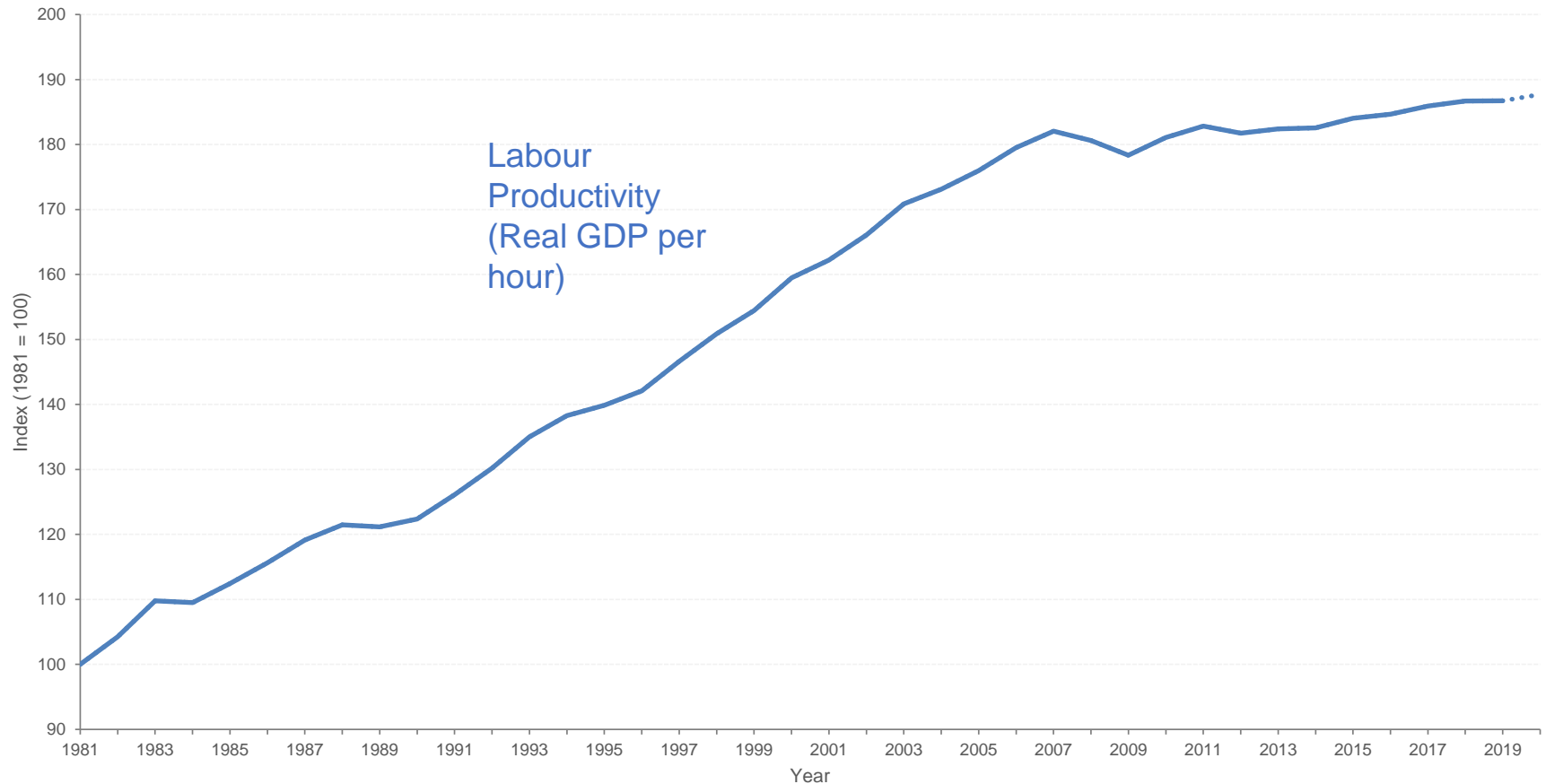
# OUTLINE OF TALK

## **Productivity Facts**

Causes

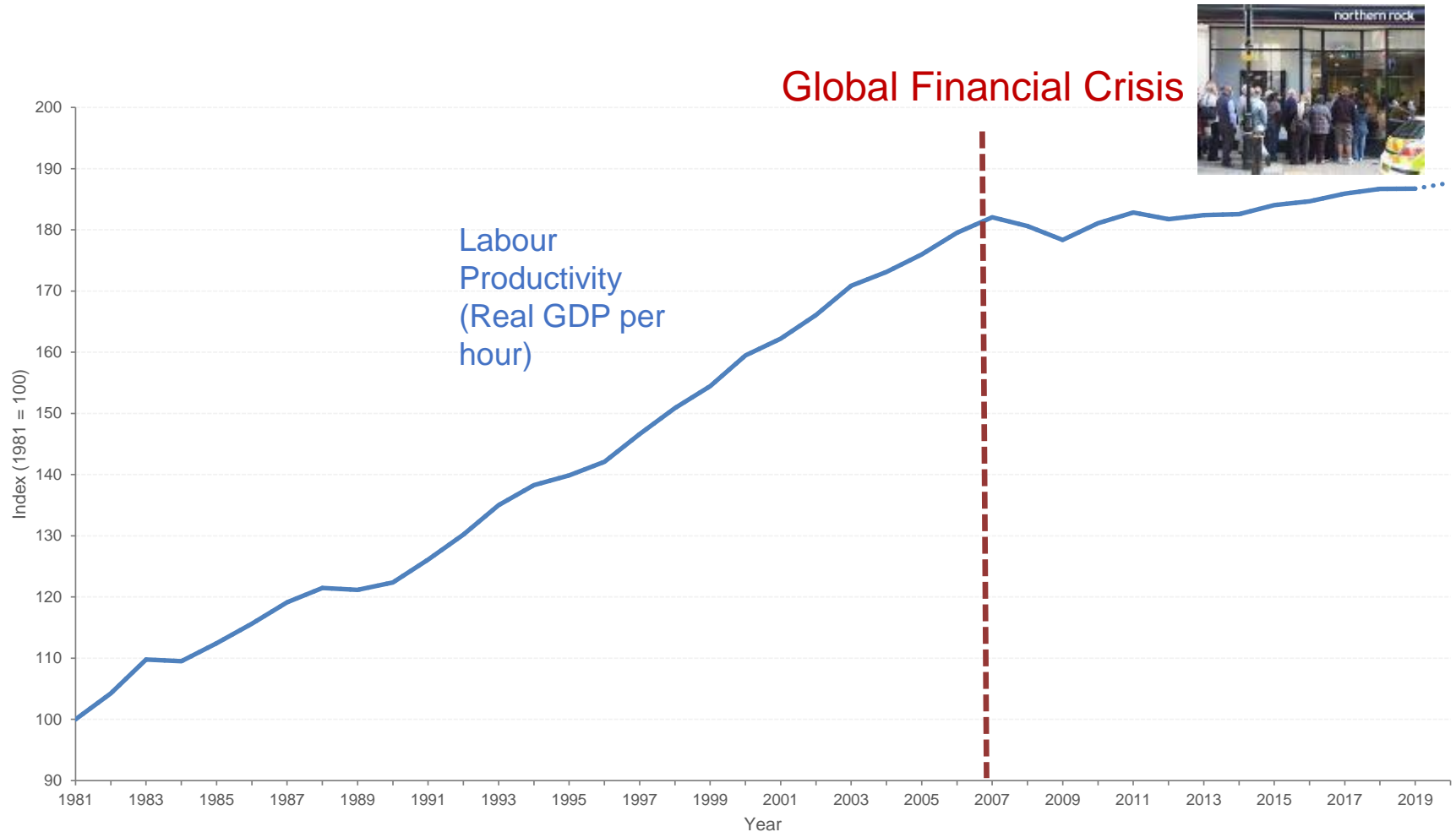
Solutions

# The UK Challenge: Productivity growth dismal since Global Financial Crisis; Output per hour 1981-2019



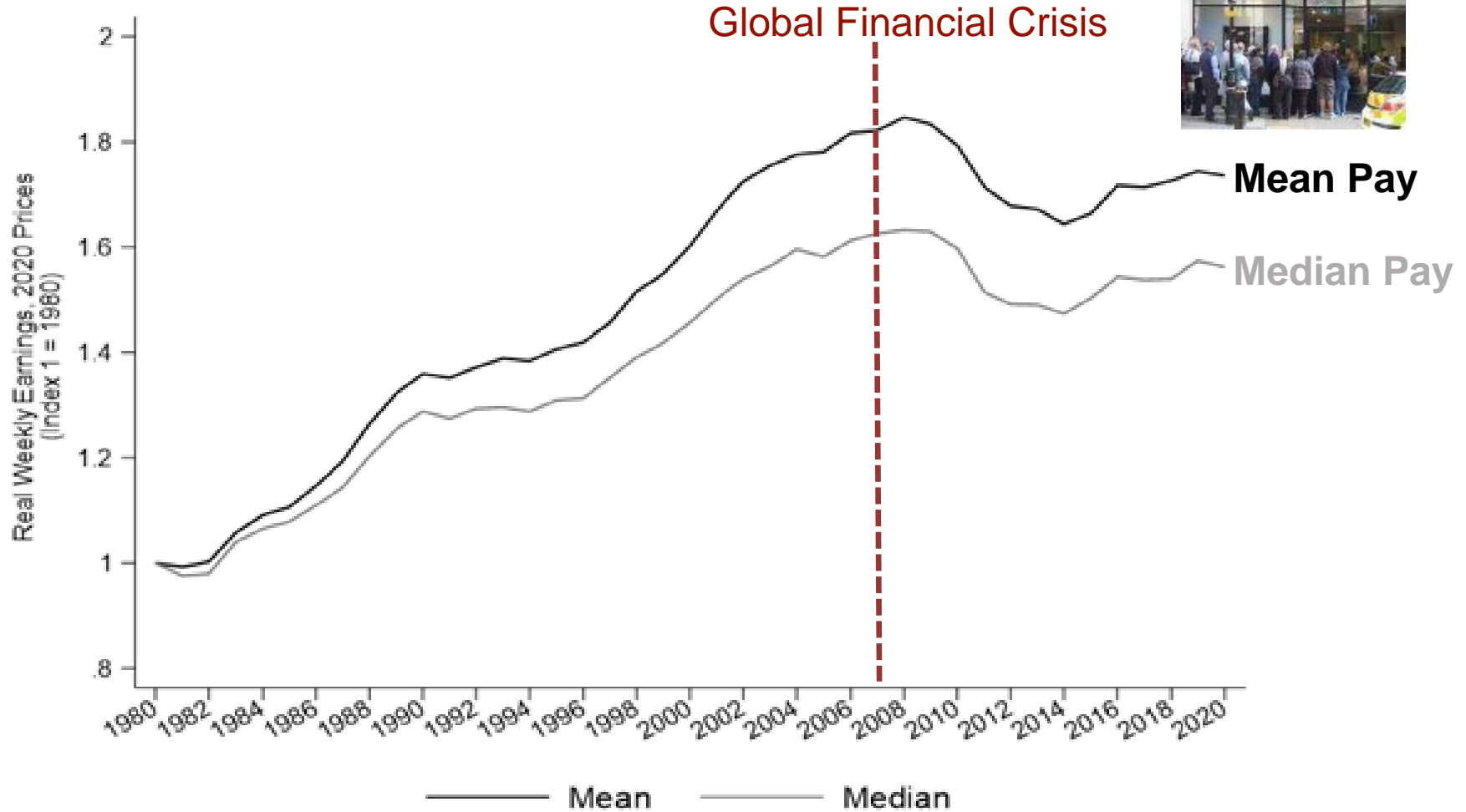
**Source:** Teichgräber and Van Reenen (2021), ONS and OECD data

# The UK Challenge: Productivity growth dismal since Global Financial Crisis; Output per hour 1981-2019



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# Mean and Median worker Wages have also both stagnated since Financial Crisis



Notes: ASHE data

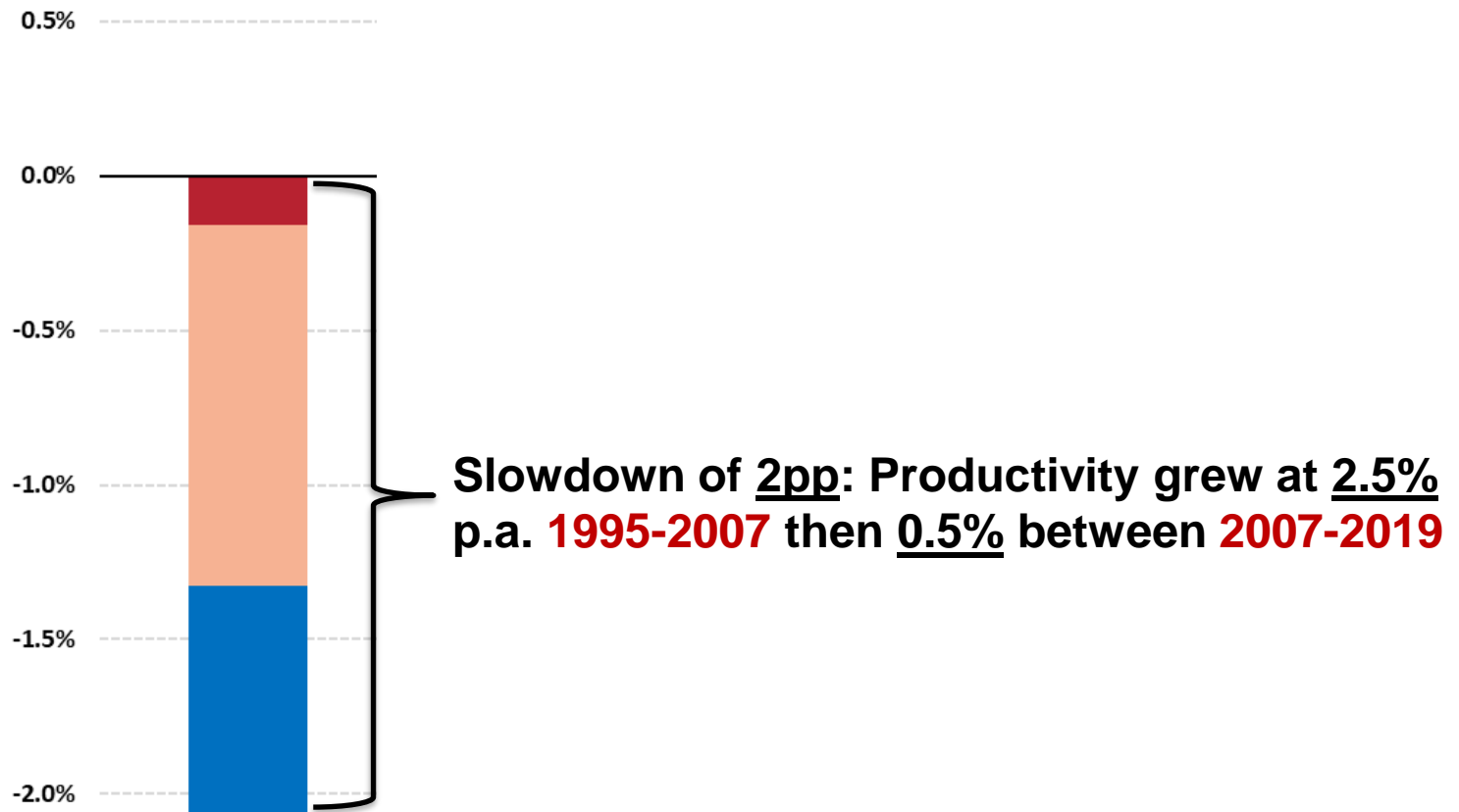
# OUTLINE OF TALK

Productivity Facts

**Causes**

Solutions

# Accounting for the slowdown in UK Labour Productivity Growth pre-post Global Financial Crisis

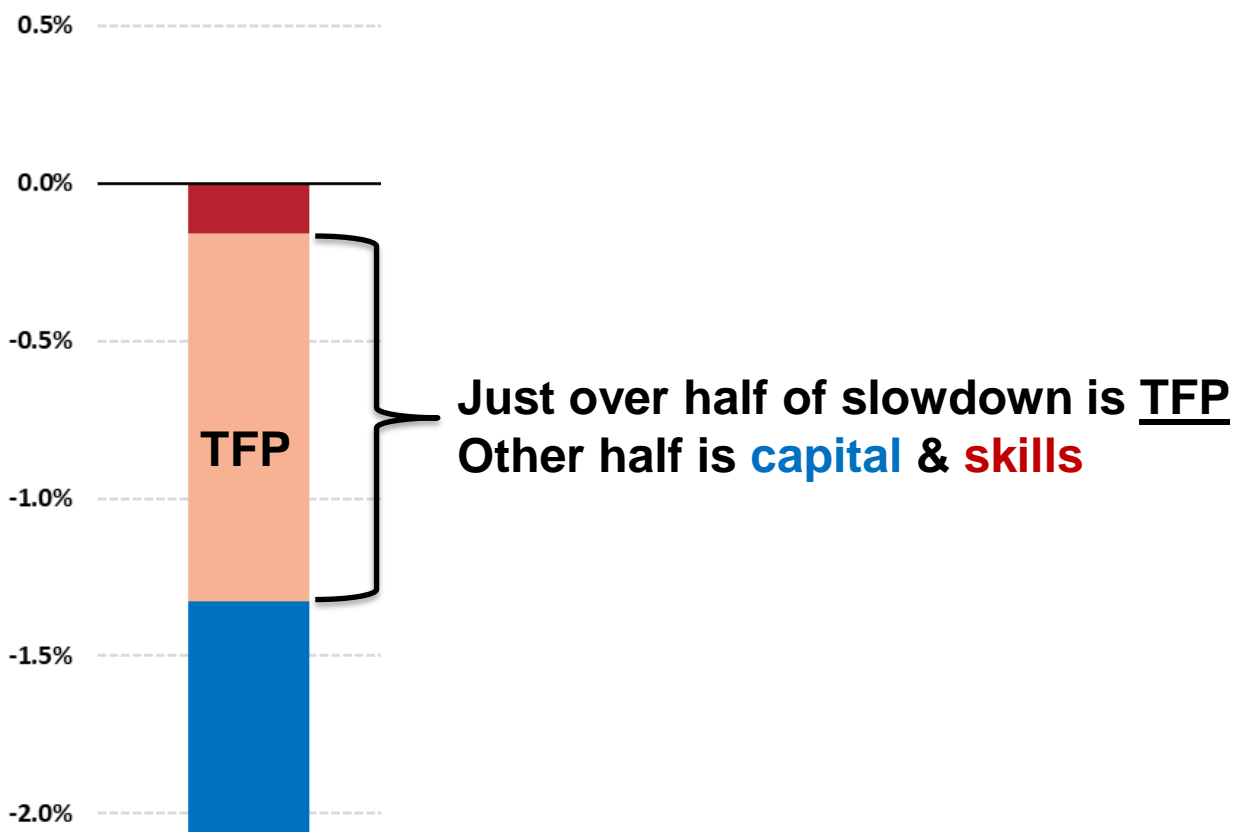


**Note:** Comparison of market-economy GDP per hour growth 2019-2007 vs. 2007-1995. EUKLEMS & INTANProd 2023 release; OECD (2014) and other sources.

**Source:** Van Reenen and Yang (2023)



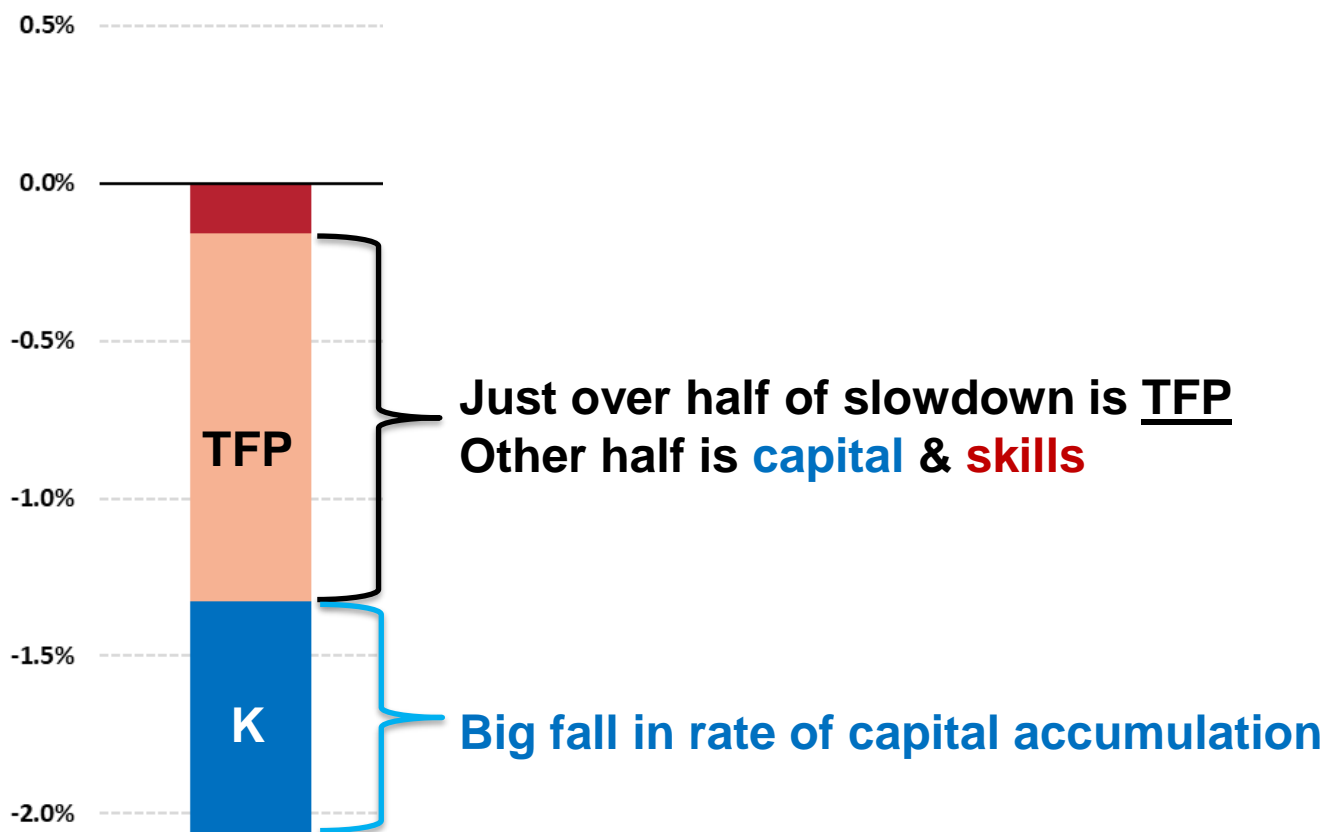
# Accounting for the ~2pp per year slowdown in UK Labour Productivity Growth pre-post Financial Crisis



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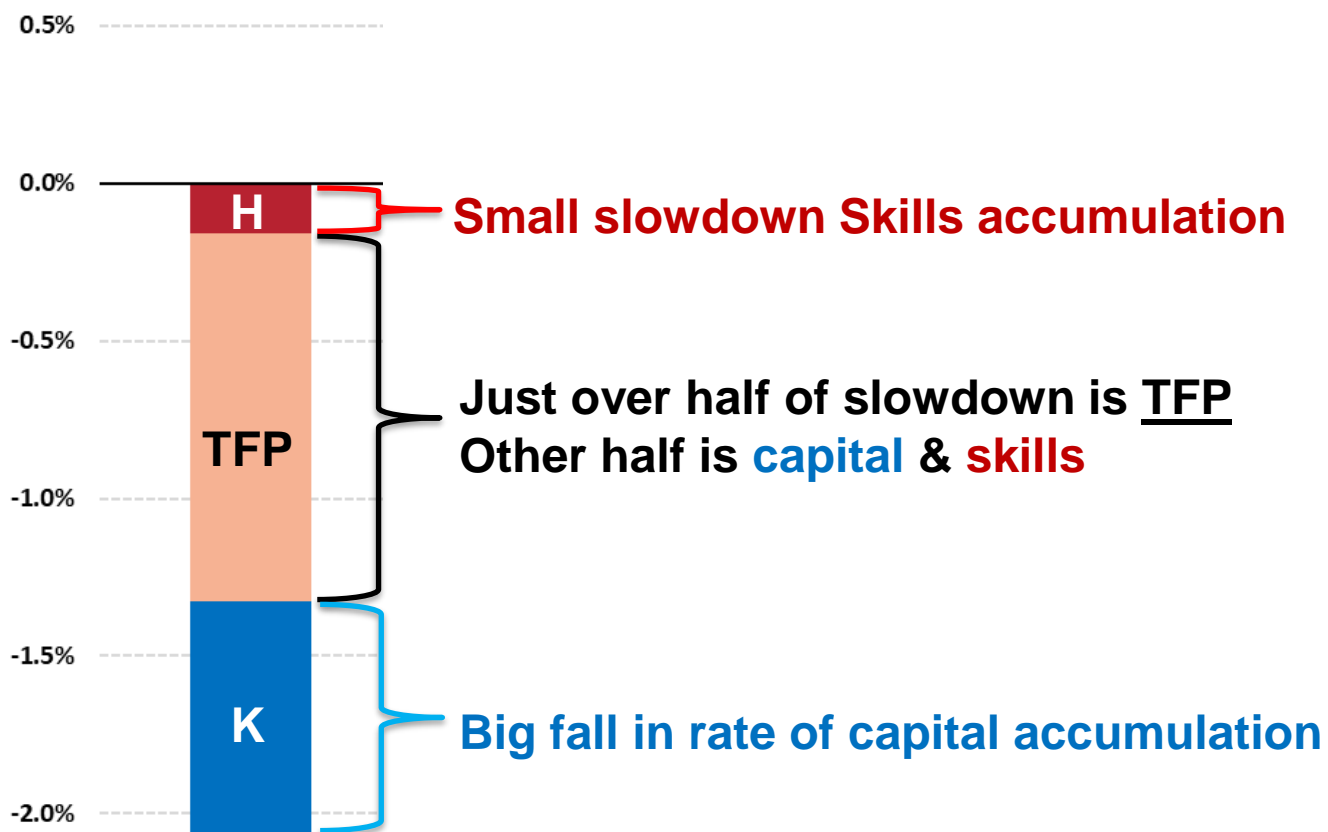
# Accounting for the 2pp slowdown in UK Labour Productivity Growth after Financial Crisis



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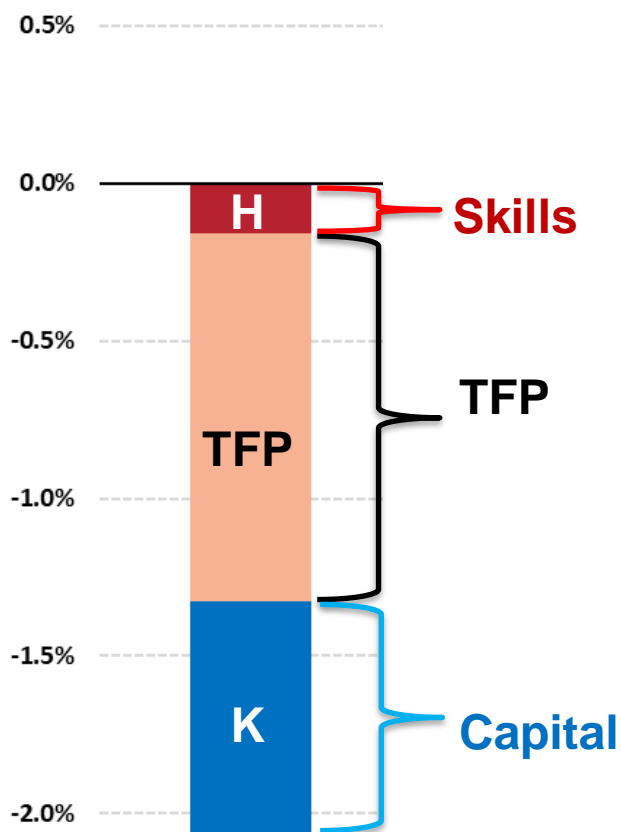
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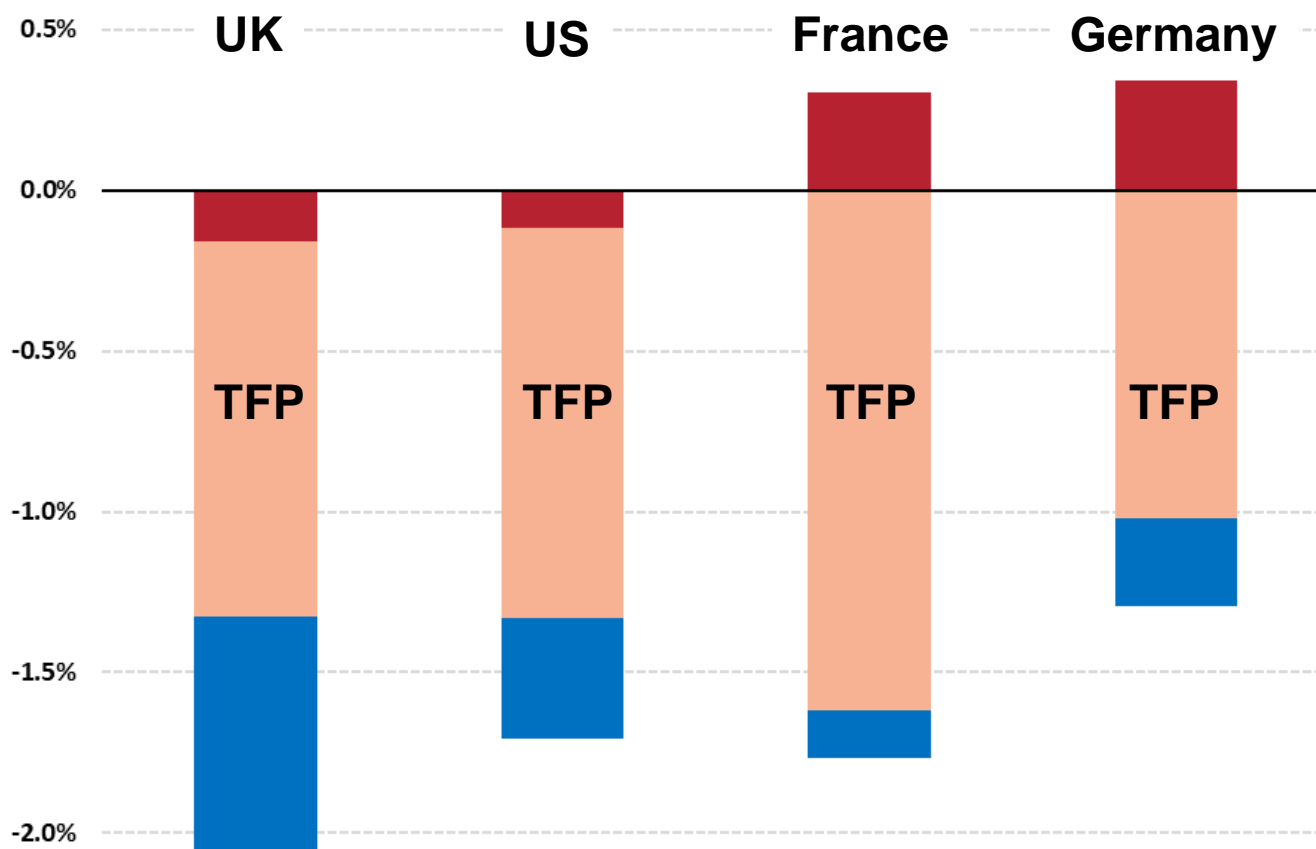
# Accounting for the 2pp slowdown in UK Labour Productivity Growth after Financial Crisis



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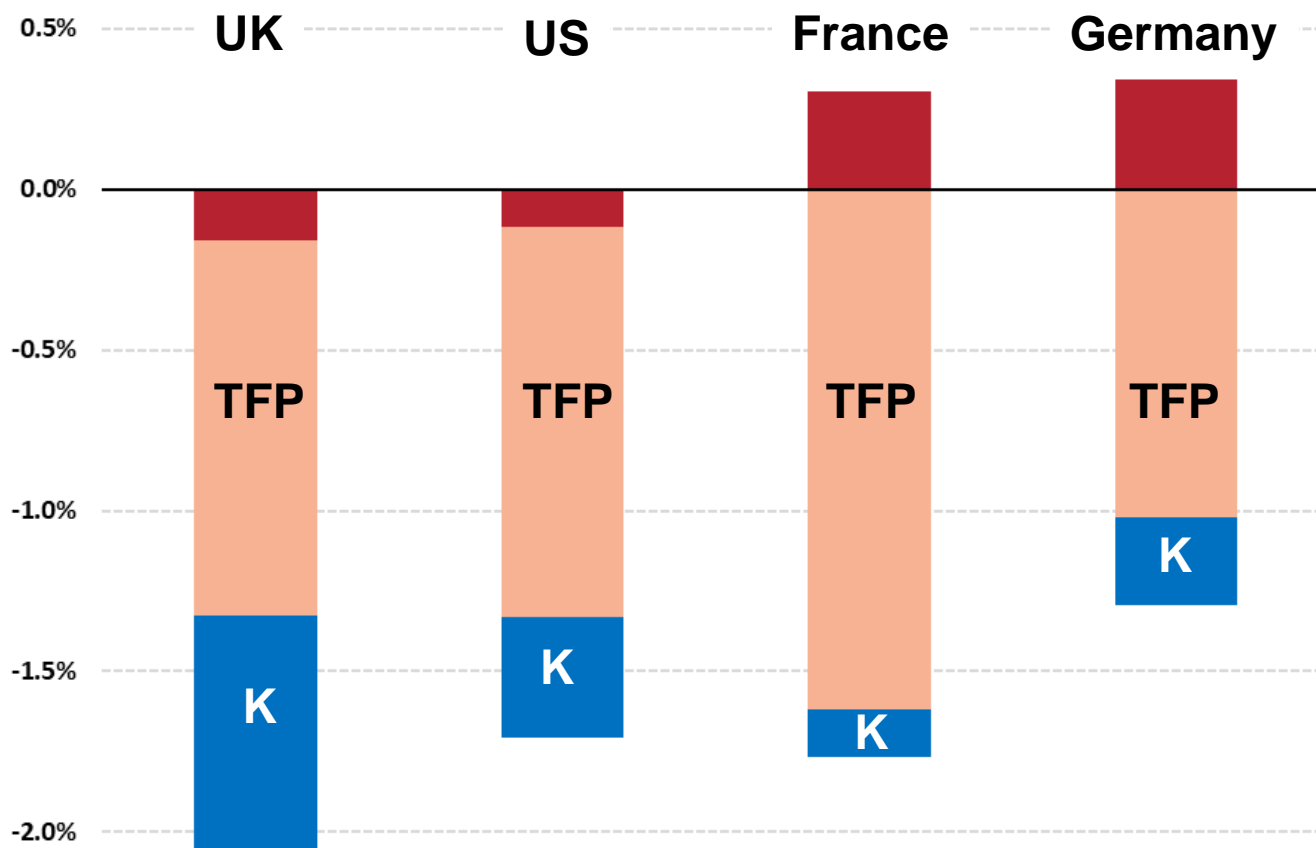
# TFP slowdown pretty common across major economies....



**Note:** Comparison of market-economy GDP per hour growth 2019-2007 vs. 2007-1995. EUKLEMS & INTANProd 2023 release; OECD (2014) and other sources.

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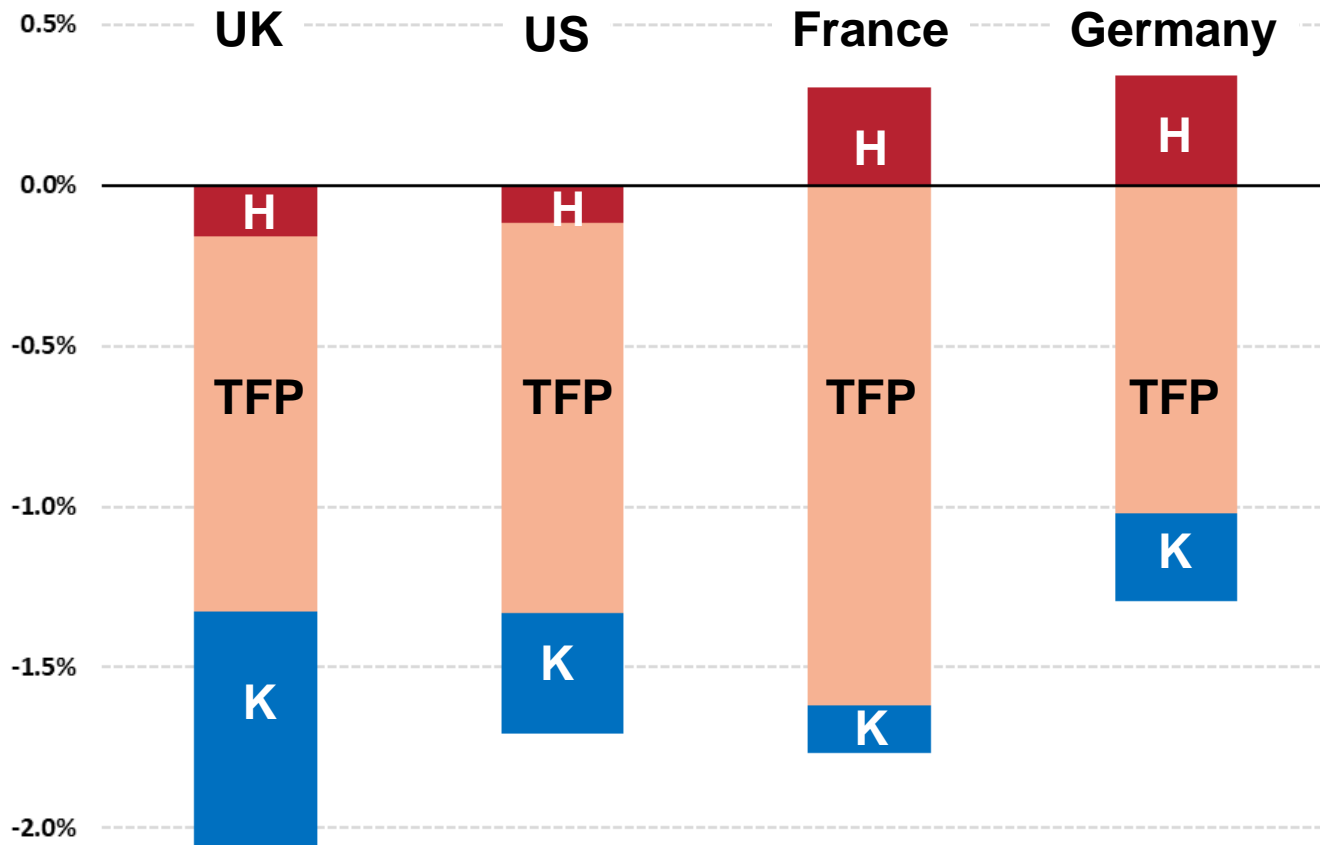
## ... But UK investment (K) particularly bad



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**Source:** Van Reenen and Yang (2023)

## ... And somewhat larger slowdown in human capital accumulation



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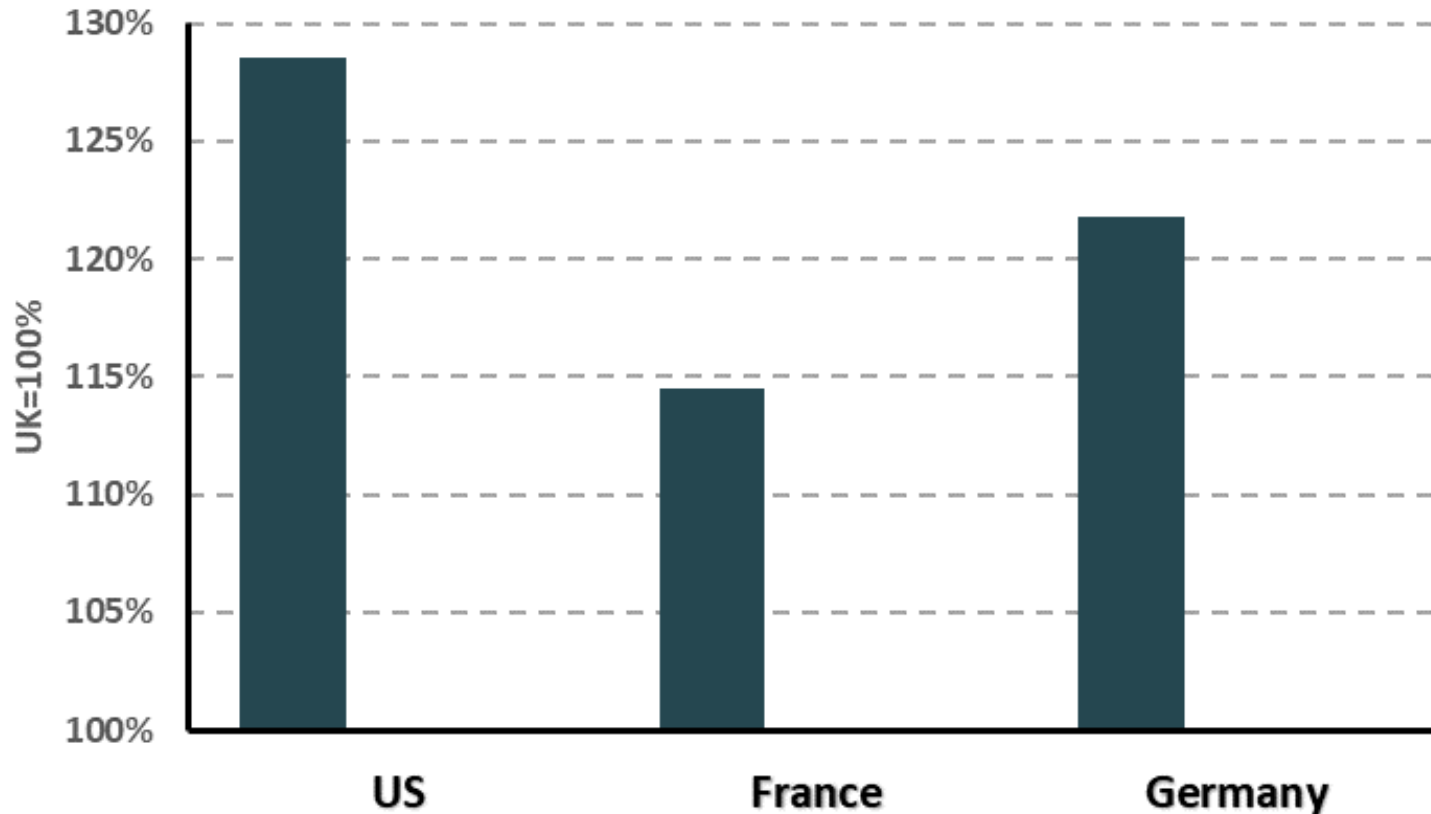
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# Why has UK investment been so bad?

- Major factors
  - UK has relatively large **financial sector**, so bigger hit of Global Financial Crisis and aftermath
  - Tough **austerity** programme, particularly large cuts in public investment 2010-12
  - **Brexit** vote and aftermath: higher trade barriers with closest neighbours
  - **Policy uncertainty**: e.g. 3 Prime Ministers in 7 months
- These recent headwinds have aggravated long-standing problems of low UK productivity and investment



# UK has long had a major deficit in productivity (GDP per hour) in levels compared to other countries



**Note:** 2019 data. EUKLEMS & INTANProd 2023 release; OECD (2014); PPP from OECD (2023) and other sources. Hours measured in consistent way across countries.

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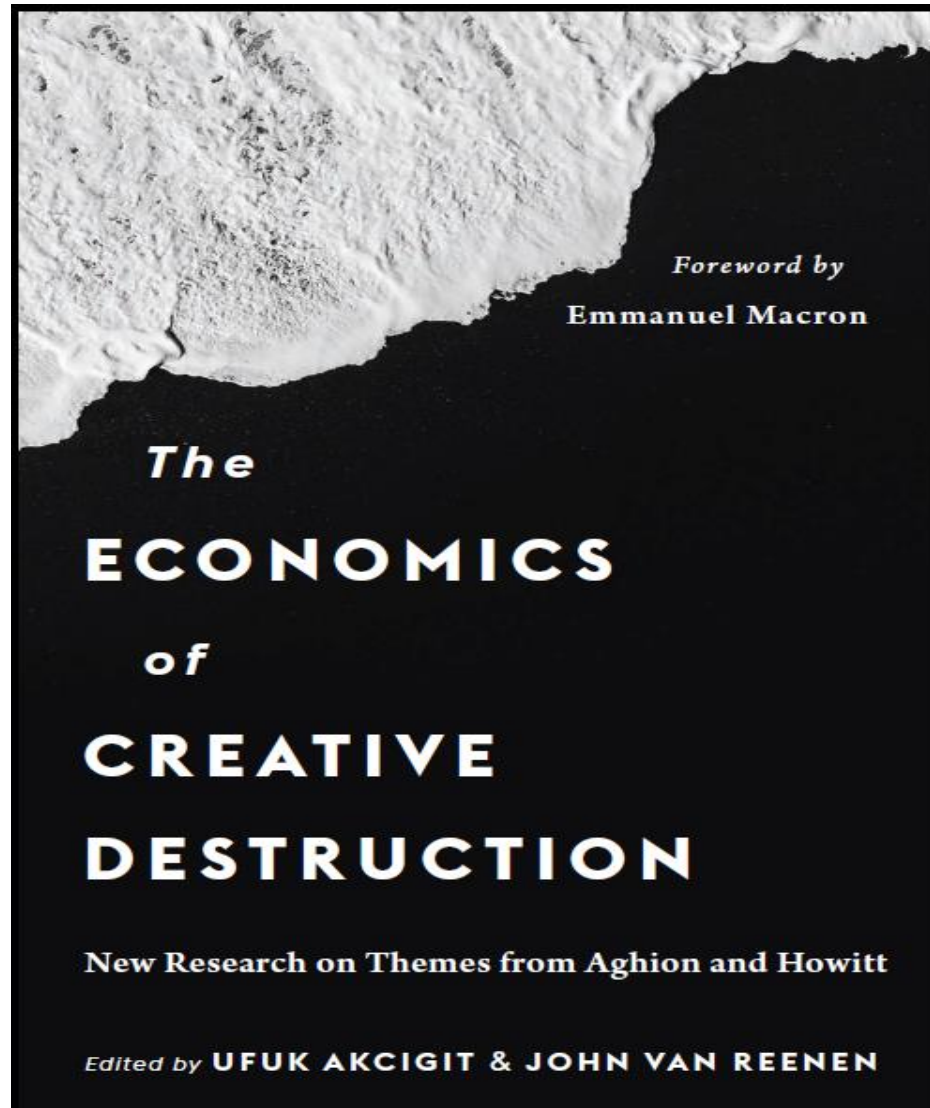
# OUTLINE OF TALK

Productivity Facts

Causes

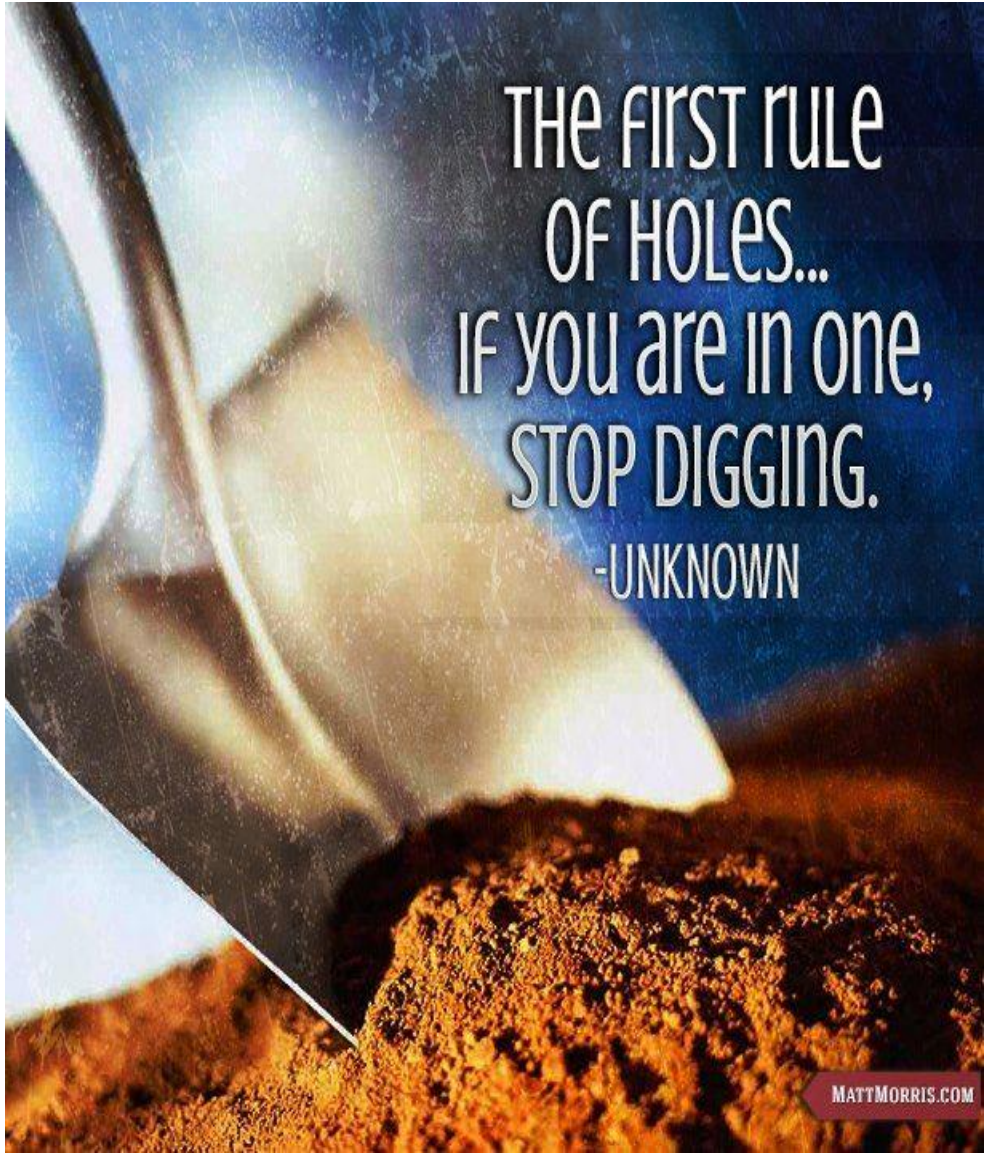
**Solutions?**

# Intellectual Framework: Modern Growth around Creative Destruction



Book launch scheduled for Autumn 2023

# Policy Advice





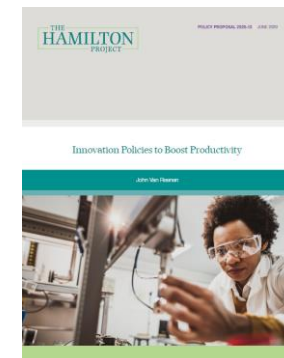
# What can be done to raise productivity growth?

- Big threats, but also opportunities for creative policies where UK weak
  - Infrastructure
  - Skills
  - Private investment
  - Innovation and diffusion



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- We know much about what can be achieved:
  - e.g. “Policy **Toolkits**” for innovation & management



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  - Skills
  - Private investment
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- We know much about what can be achieved:
  - e.g. “Policy **Toolkits**” for innovation & management

- Bind together around key **missions**:
  - Climate Change, (Defense; Healthcare)



- **Build institutions** to foster long-run investment
  - E.g. Infrastructure Bank; Statutory Industrial Strategy Council; DMU

# Innovation Policy: The “Lightbulb” Table

(1)	(2)	(3)	(4)	(5)	(6)
Policy	Quality of evidence	Conclusiveness of evidence	Benefit - Cost	Time frame:	Effect on inequality



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**Source:** Bloom, Van Reenen and Williams (2019, JEP)



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Direct R&D Grants	Medium	Medium	💡💡	Medium-Run	↑
R&D tax credits	High	High	💡💡💡	Short-Run	↑
Patent Box	Medium	Medium	Negative	n/a	↑

“Demand”



Source: Bloom, Van Reenen and Williams (2019, JEP)

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Patent Box	Medium	Medium	Negative	n/a	↑
Skilled Immigration	High	High		Short to Medium-Run	↓
Universities: incentives	Medium	Low		Medium-Run	↑
Universities: STEM Supply	Medium	Medium		Long-Run	↓
Exposure Policies	Medium	Low		Long-run	↓
Trade and competition	High	Medium		Medium-Run	↑

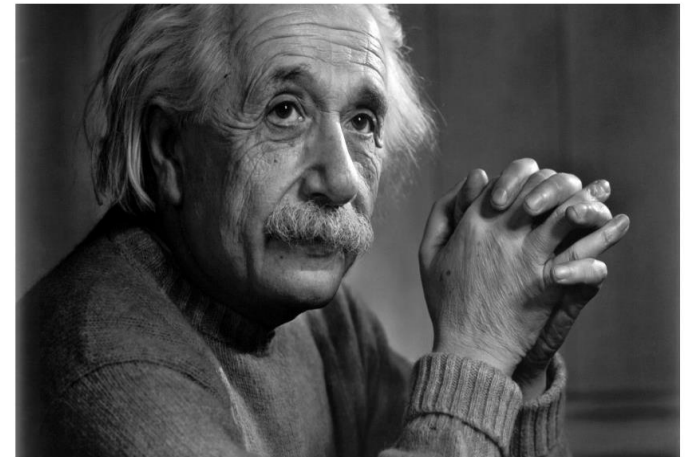
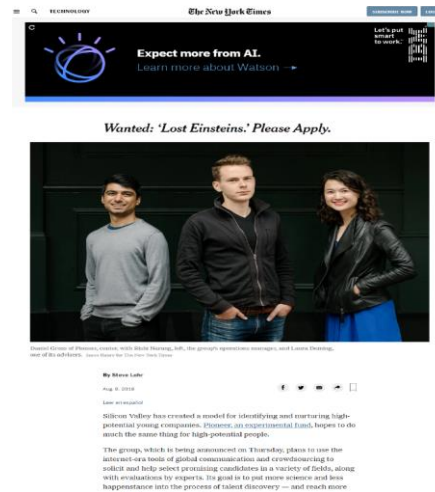
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“Supply”

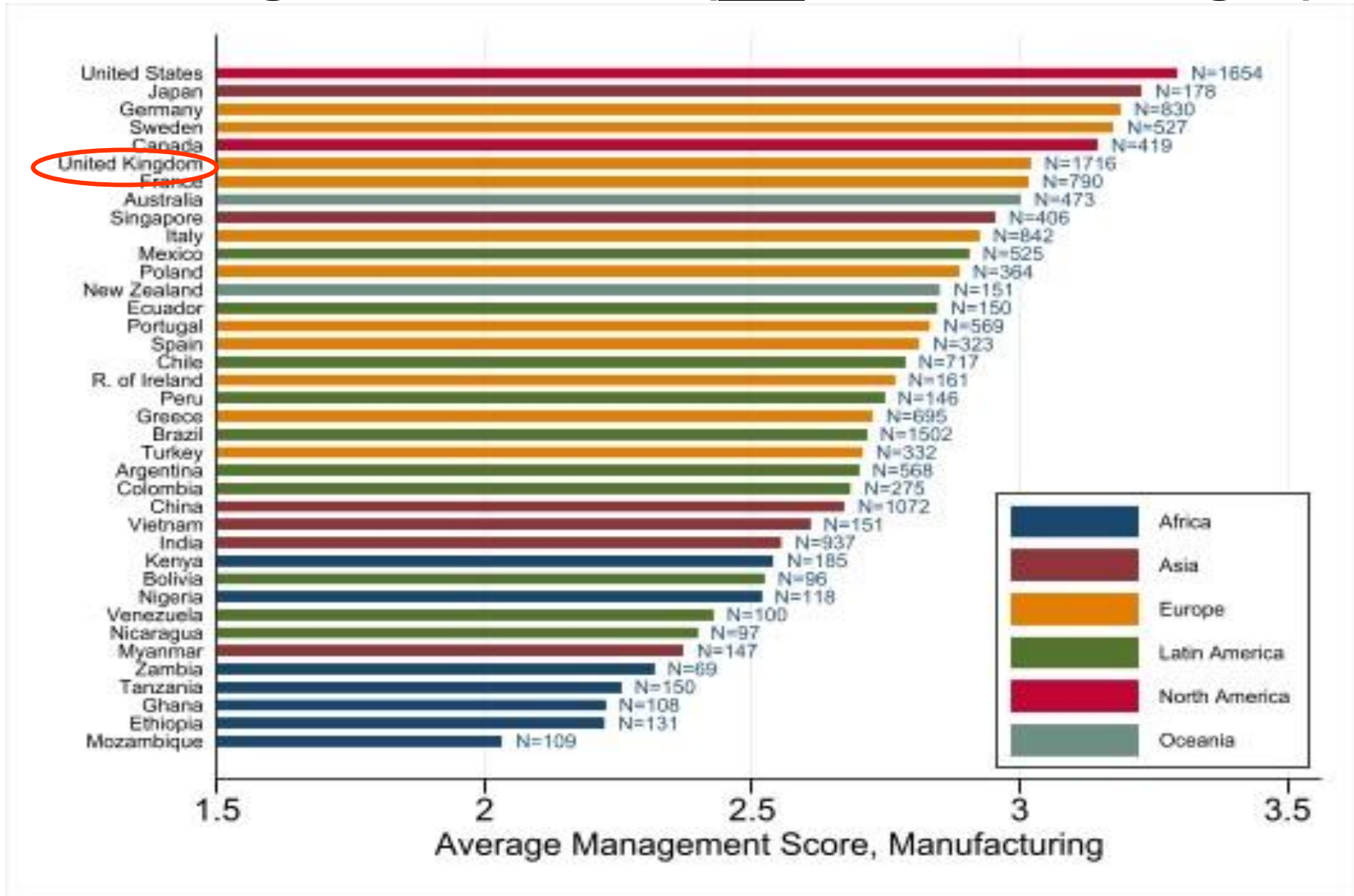
Source: Bloom, Van Reenen and Williams (2019, JEP)

# Finding the “Lost Einsteins” and “Marie Curies”

- Kids born into richest 1% ten times more likely to grow up to be an inventor than those born in bottom 50% (not explained by early ability)
- Unlocking this hidden talent could quadruple innovation rate
- An example of policies that help growth and equity: e.g. education policies



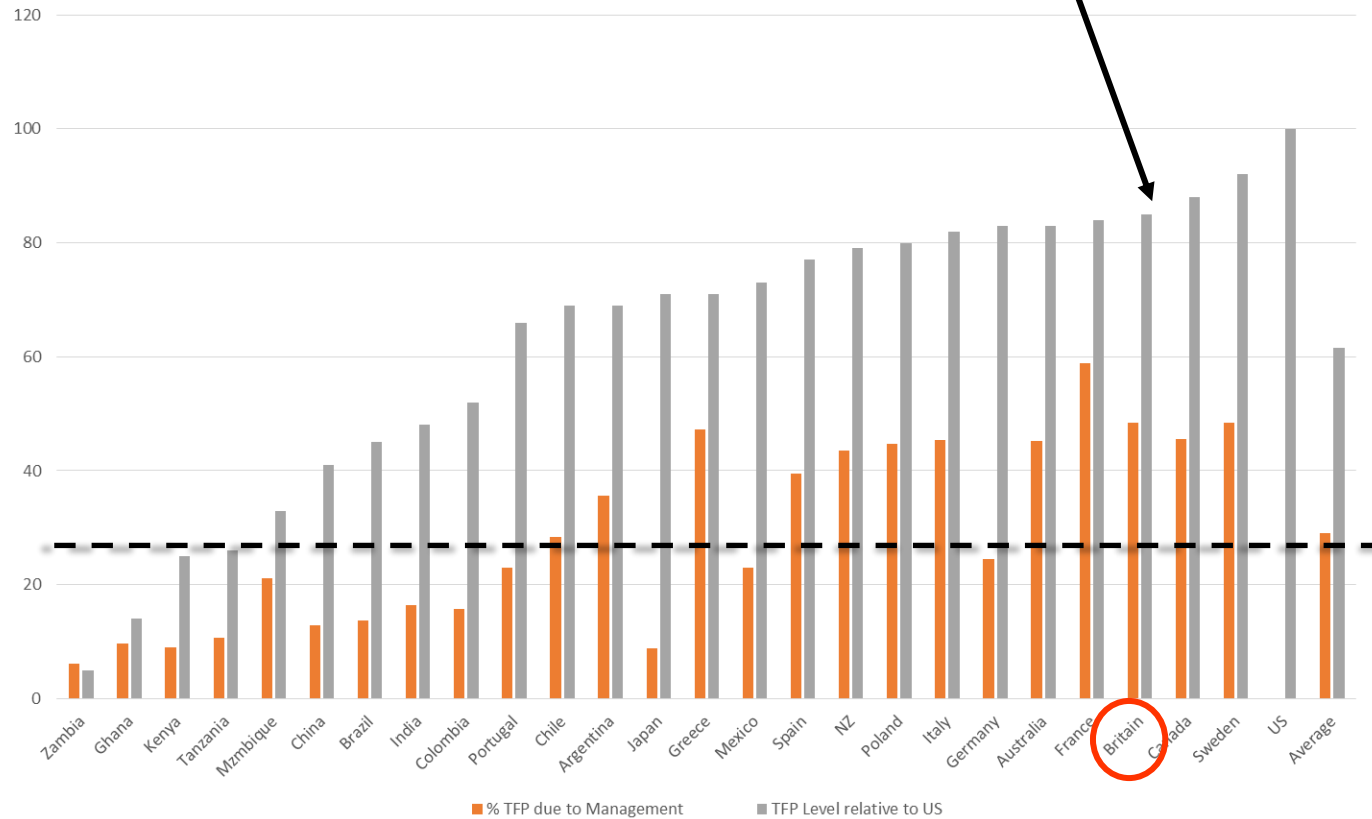
# UK Managerial weakness (not in Premier League)



**Note:** Unweighted average management scores; # interviews in right column (total = 17,783); all waves pooled (2004-2022)

**Source:** Scur et al (2023)

# About half of US-UK productivity gap due to management (compared to ~30% for typical country)



**Source:** Bloom, Sadun & Van Reenen “Management as a Technology”

**Notes:** TFP gaps from Penn World Tables; fraction of lower accounted for by management practices

# Management policies Toolkit: Need for experimentation & evaluation

L = Low; Not politically easy

M = medium

H = Highly possible

Policy type	Strength of evidence	Policy Net benefit (out of 5)	Difficulty of implementation	Time frame
<b>Structural</b>				
Competition	H	⊗⊗⊗⊗⊗	M	medium
Trade and FDI	H	⊗⊗⊗⊗⊗	L	medium
Education	M	⊗⊗	M	long
Labour Deregulation	M	⊗⊗⊗	L	medium
Governance	M	⊗⊗⊗⊗	M/L	long
<b>Direct</b>				
Training - consulting	H	⊗⊗⊗	H	short
Training - formal classroom	M	⊗⊗	H	medium
Information/benchmarking	L/M	⊗⊗⊗	H	medium

**Source:** Scur, Sadun, Van Reenen, Lemos & Bloom (2021)

# Can it be done?

- **Pessimism:** UK productivity deficit is long-standing problem
- **Optimism:** UK Productivity gap **narrowed a lot** in 30 years before financial crisis (after century of relative decline)
  - **Structural policies** played an important role: stronger competition rules; deeper trade through EU; expansion of universities, etc.
- Need similarly **ambitious policy agenda** for next 30 years
  - COVID vaccine is an example of what can be done



## Some Further Reading (and viewing)

“Innovation Policies to Boost Productivity” (2020) Hamilton Policy Proposal 2020-13

[https://www.hamiltonproject.org/assets/files/JVR\\_PP\\_LO\\_6.15\\_FINAL.pdf](https://www.hamiltonproject.org/assets/files/JVR_PP_LO_6.15_FINAL.pdf) webinar

“A Toolkit of Policies to promote Innovation” (Nick Bloom, Heidi Williams and John Van Reenen), *Journal of Economic Perspectives* (2019) 33(3) 163–184 <http://cep.lse.ac.uk/pubs/download/dp1634.pdf>

“Why Do We Undervalue Competent Management” (Raffaella Sadun, Nick Bloom and John Van Reenen) *Harvard Business Review* (2017), September-October

“Measuring and Explaining Management practices across firms and nations” (Nick Bloom and John Van Reenen) *Quarterly Journal of Economics* (2007) 122(4), 1351–1408.

“The Costs and Benefits of Brexit” (Swati Dhingra, Hanwei Huang, Gianmarco Ottaviani, Joao Pessoa, Tom Sampson and John Van Reenen) *Economic Policy* (2017), 32(92) 651–705 [Vox](#)

“Who Becomes an Inventor in America? The Importance of Exposure to Innovation” (Alex Bell, Raj Chetty, Xavier Jaravel, Neviana Petkova and John Van Reenen), <http://cep.lse.ac.uk/pubs/download/dp1519.pdf> [Data](#) *Quarterly Journal of Economics* (2019) 134(2) 647–713, [New York Times](#) [Vox](#) [Atlantic](#) [Fortune](#) [Conversation](#) [VoxUS](#) [Economist](#) [VC](#) [Centrepiece](#) [INET](#)

“Mapping the Two Faces of R&D: Productivity Growth in a panel of OECD industries” (Rachel Griffith, Stephen Redding & John Van Reenen) *Review of Economics and Statistics*, (2004) 86(4) 883-895. <http://cep.lse.ac.uk/textonly/people/vanreenen/papers/wp0002.pdf>

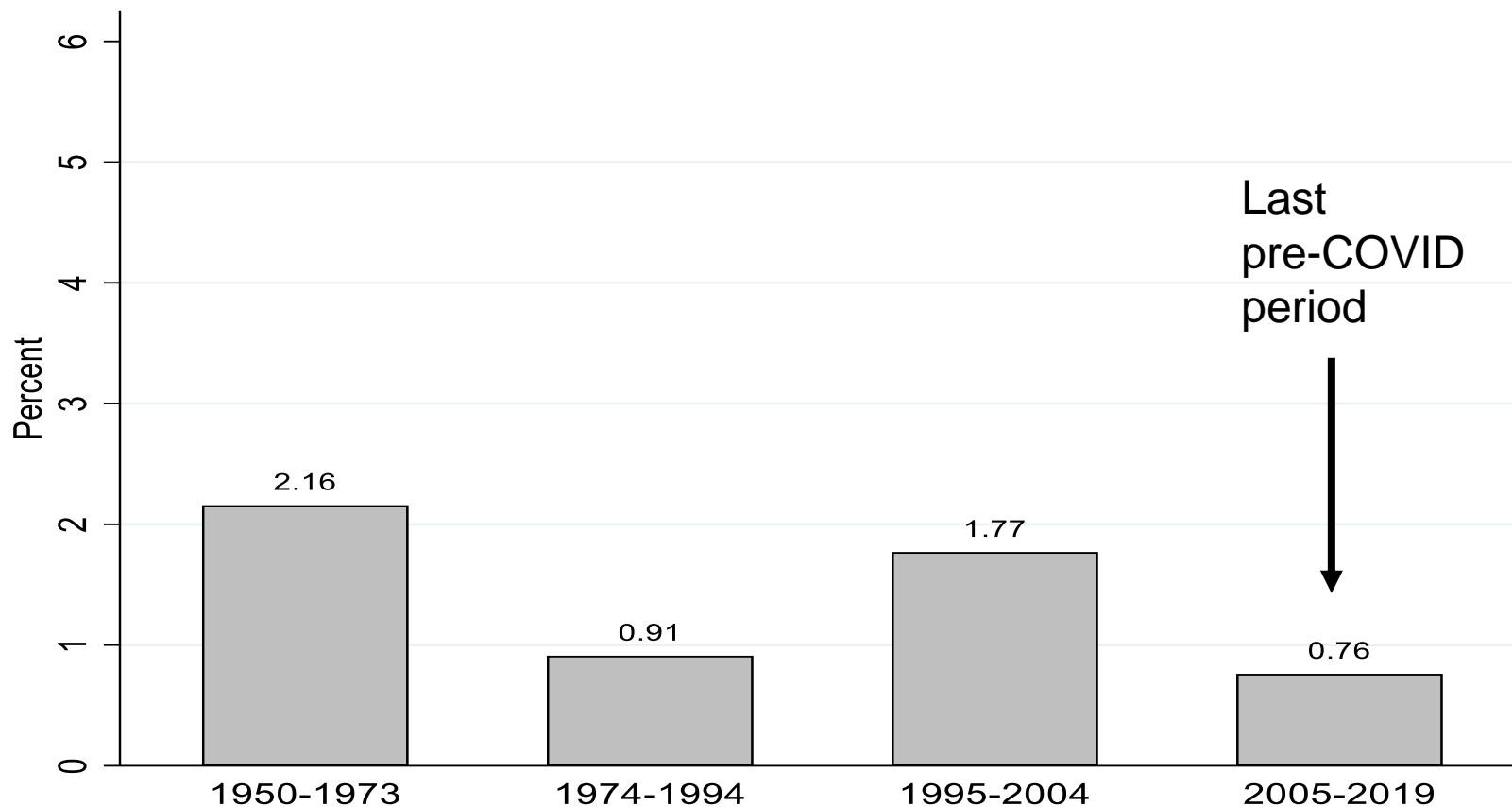


## Further reading

- “The World Management Survey at 18” (Scur, Sadun, Van Reenen, Lemos & Bloom, 2021), *Oxford Review of Economic Policy* <https://poid.lse.ac.uk/textonly/publications/downloads/poidwp002.pdf>
- World Management Survey <http://worldmanagementsurvey.org/>
- “Increasing Difference Between Firms” *Changing Market Structures and Implications for Monetary Policy*, Jackson Hole Symposium (Van Reenen, 2018) 19-65 <http://cep.lse.ac.uk/pubs/download/dp1576.pdf> [NYT](#) [NPR](#)
- LSE Growth Commission Final Report (Aghion et al, 2013) <http://www.lse.ac.uk/researchAndExpertise/units/growthCommission/documents/pdf/GCReportSummary.pdf>
- “Management as a Technology” (Bloom, Sadun and Van Reenen, 2017): <http://cep.lse.ac.uk/pubs/download/dp1433.pdf>
- “Do Fiscal Incentives increase innovation? An RD Design for R&D” (Antoine Dechezlepretre, Elias Einio, Ralf Martin, Kieu-Trang Nguyen and John Van Reenen), CEP Discussion Paper 1413 [Vox](#), <http://cep.lse.ac.uk/pubs/download/dp1413.pdf>

**Back Up**

## Slowdown in Productivity at the frontier (US TFP)

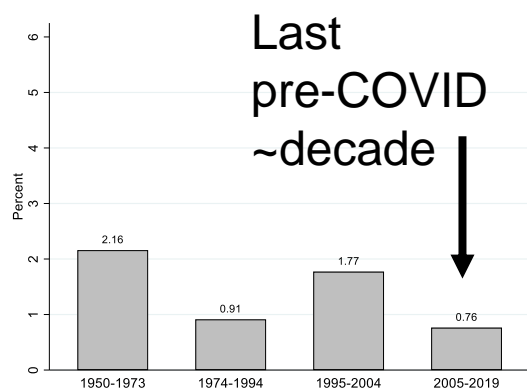


*Source:* Data updated from Bergeaud, Cette, and Lecat (2016). Data available at: <http://www.longtermproductivity.com/>

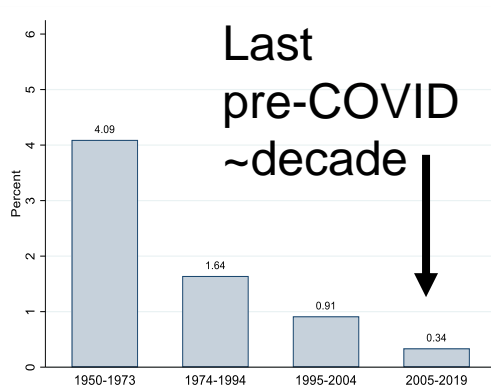
*Notes:* Shown is the average annual TFP growth in the US (panel A), Euro-area (panel B), and UK (panel C). Insufficient data for whole EU, so we use Euro-area, represented by Germany, France, Italy, Spain, Netherlands, and Finland.

# The recent slowdown in productivity is driven by slowdown in TFP

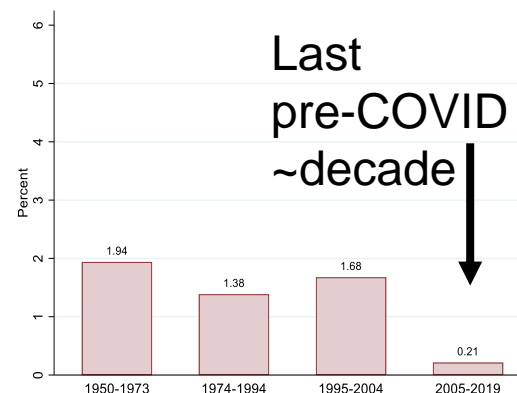
## A. United States



## B. Euro Area

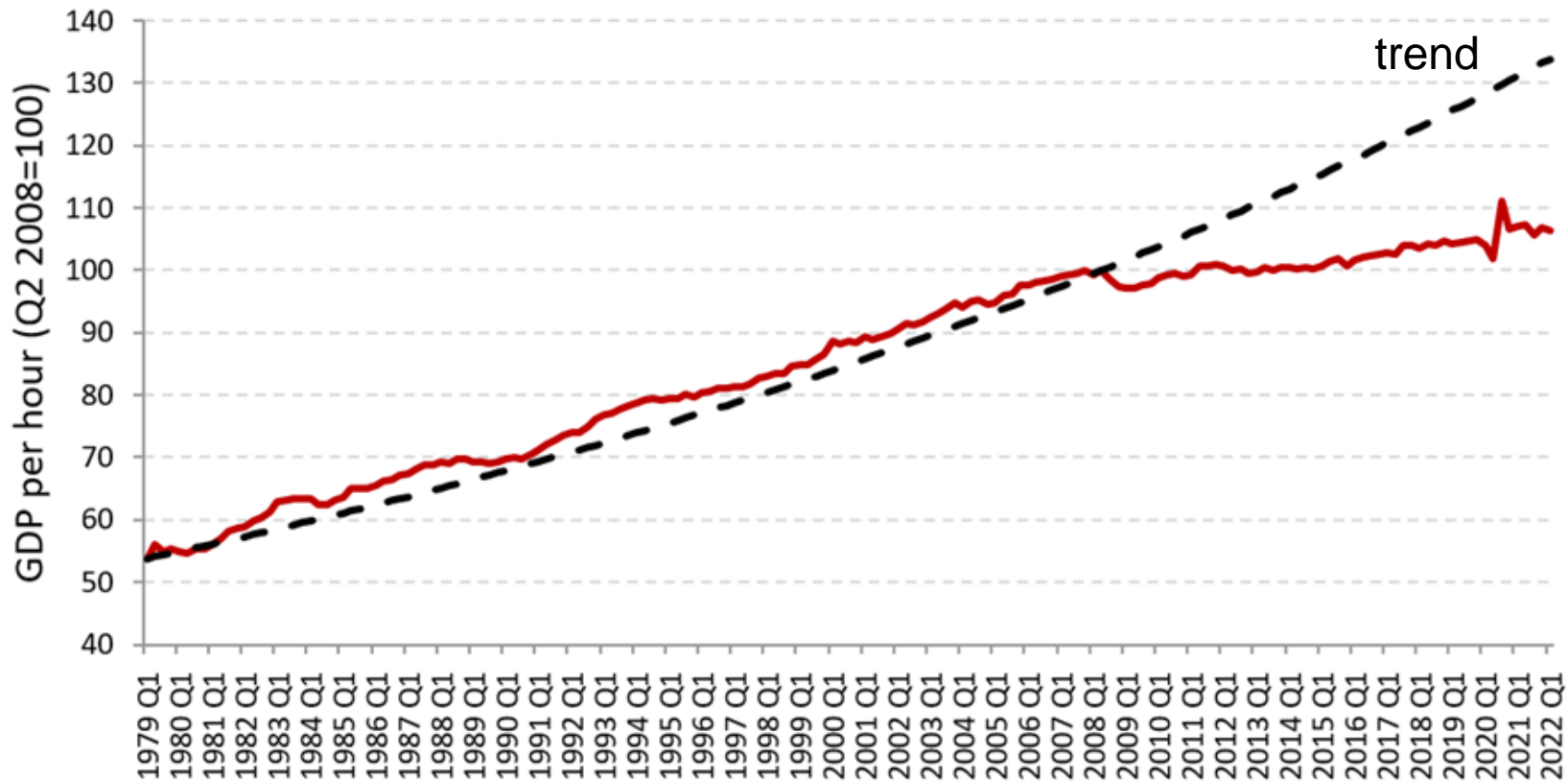


## C. United Kingdom



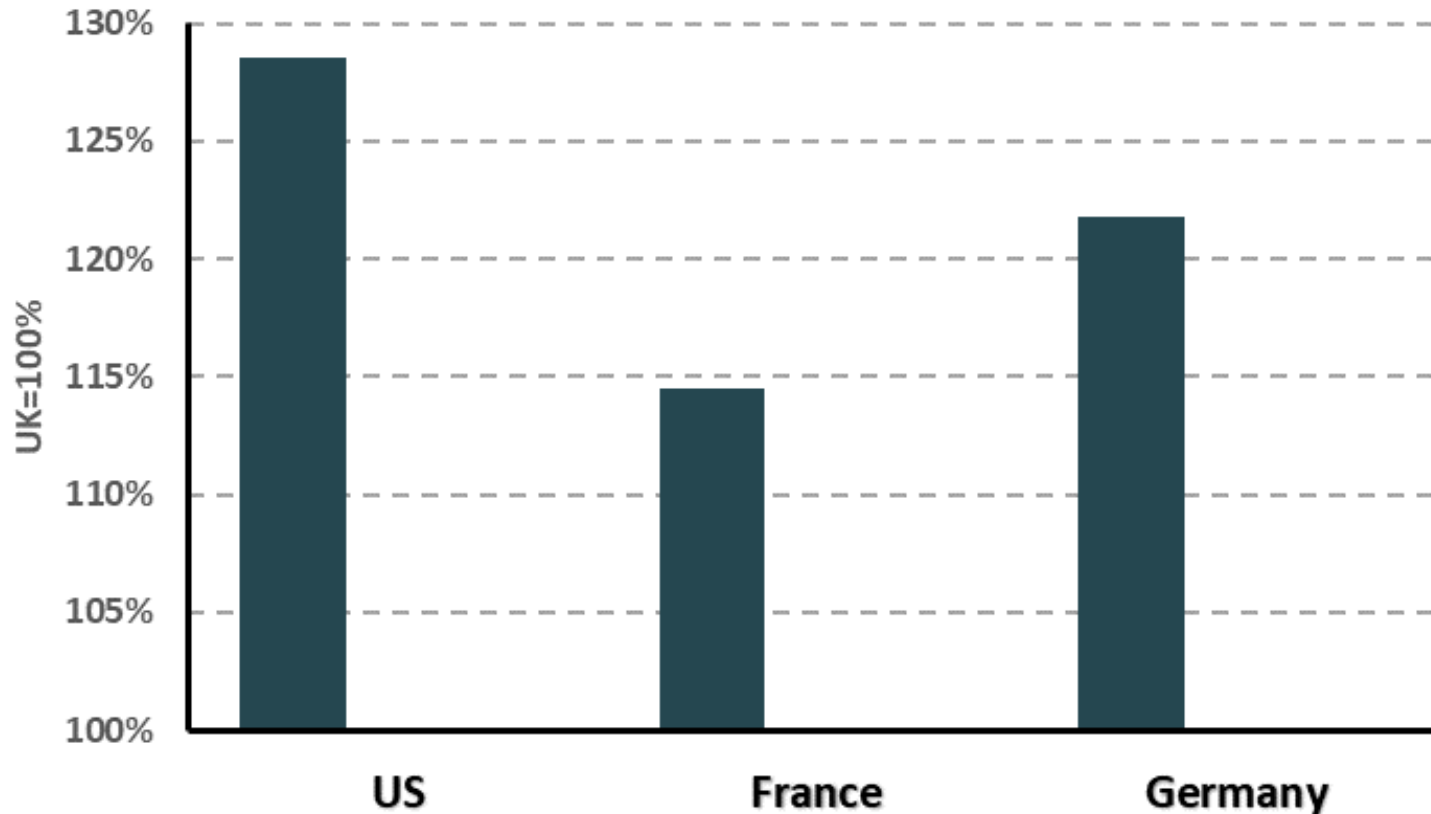
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# The Great British Productivity Slowdown



Note: ONS, Quarterly output per hour worked whole economy chained volume measure (CVM) index (2008 Q2= 100). The dashed line is predicted value after 2008Q2 assuming historical average rate of 2.1%. [Table 32](#). (Contains public sector information licensed under the [Open Government Licence v3.0](#).)

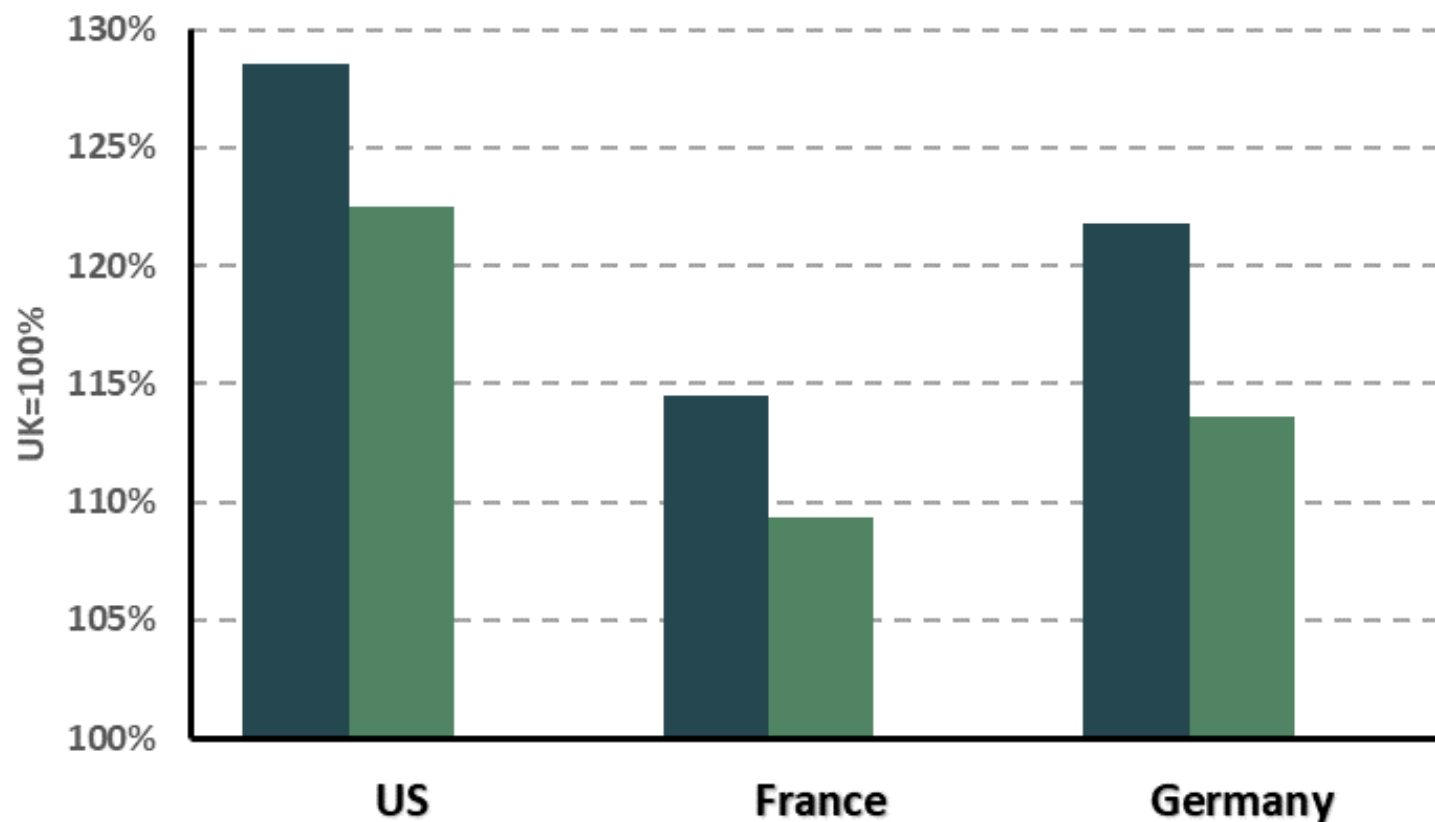
# UK has long had a major deficit in productivity (GDP per hour) in levels compared to other countries



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**Source:** Van Reenen and Yang (2023)

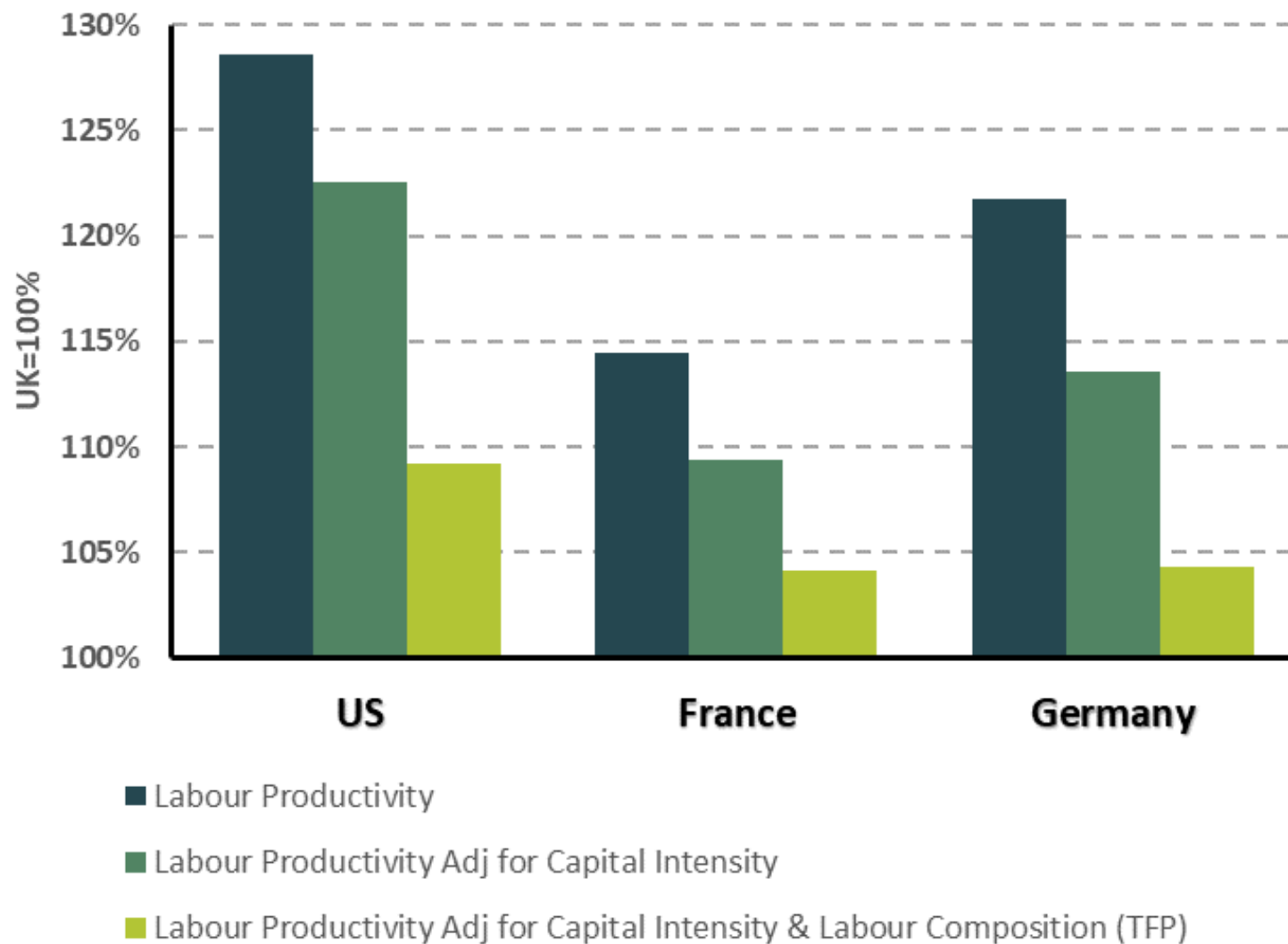
# UK Productivity Gap after controlling for capital intensity



**Note:** 2019 data. EUKLEMS & INTANProd 2023 release; OECD (2014); PPP from OECD (2023) and other sources. Capital is national accounts tangible and intangible capital. Development accounting using bilateral average of capital service share of GDP as weight

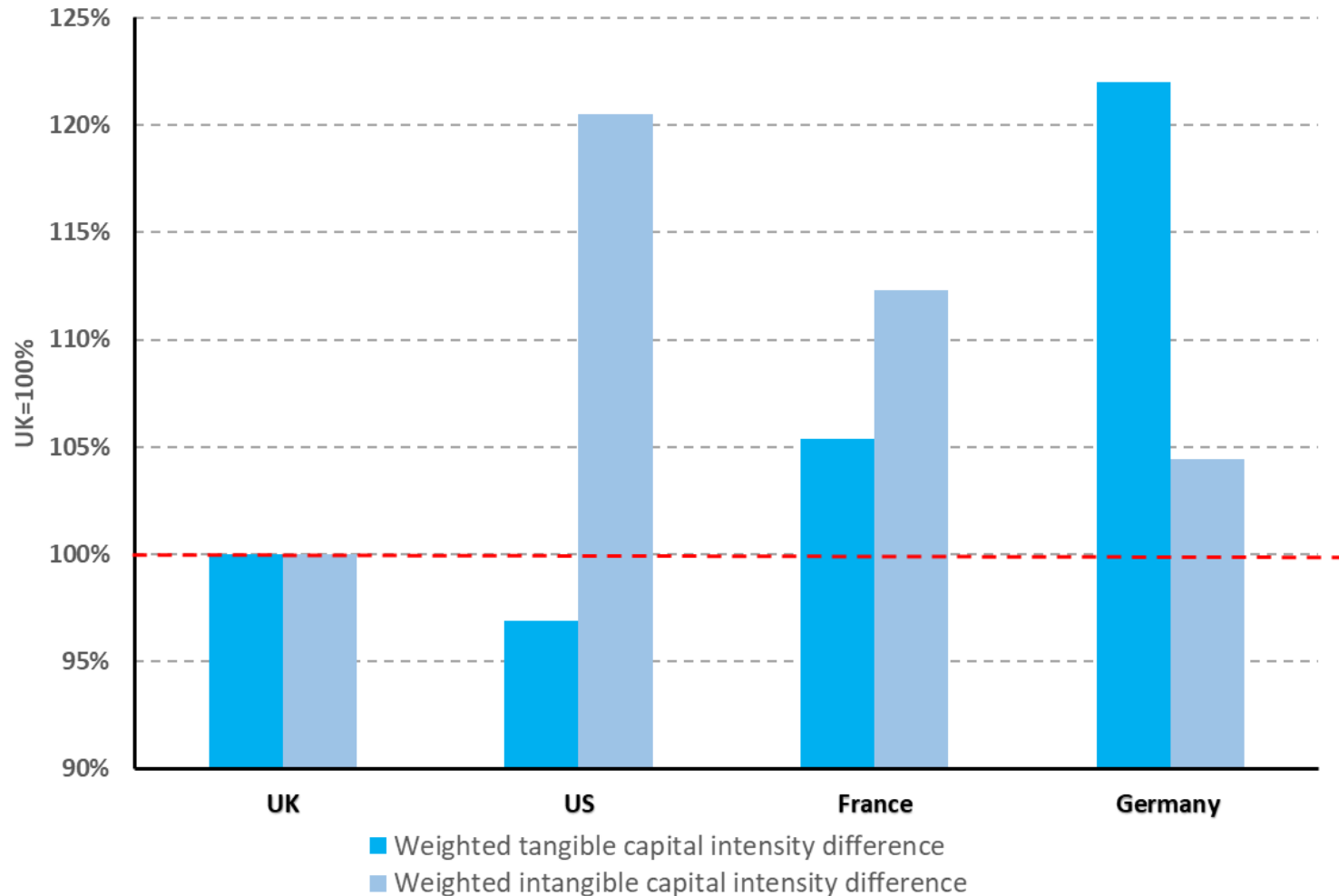
**Source:** Van Reenen and Yang (2023)

## UK TFP Gap (after controlling for capital and skills)





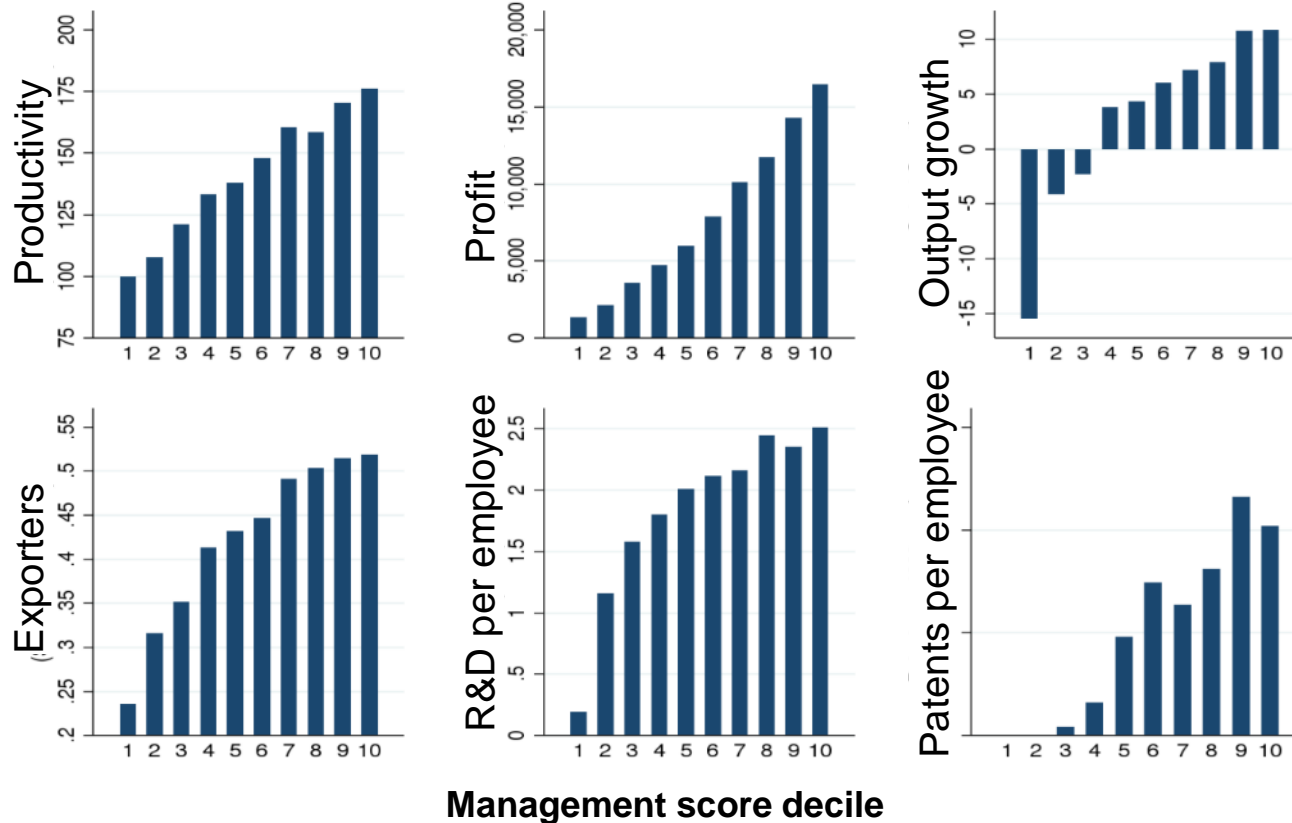
# UK Tangible and intangible capital inputs relative to other countries



**Note:** 2019 data. EUKLEMS & INTANProd 2023 release; OECD (2014); PPP from OECD (2023) and other sources. Bilateral average of tangible or intangible capital stock share of total capital stock is used as weight.

**Source:** Van Reenen and Yang (2023)

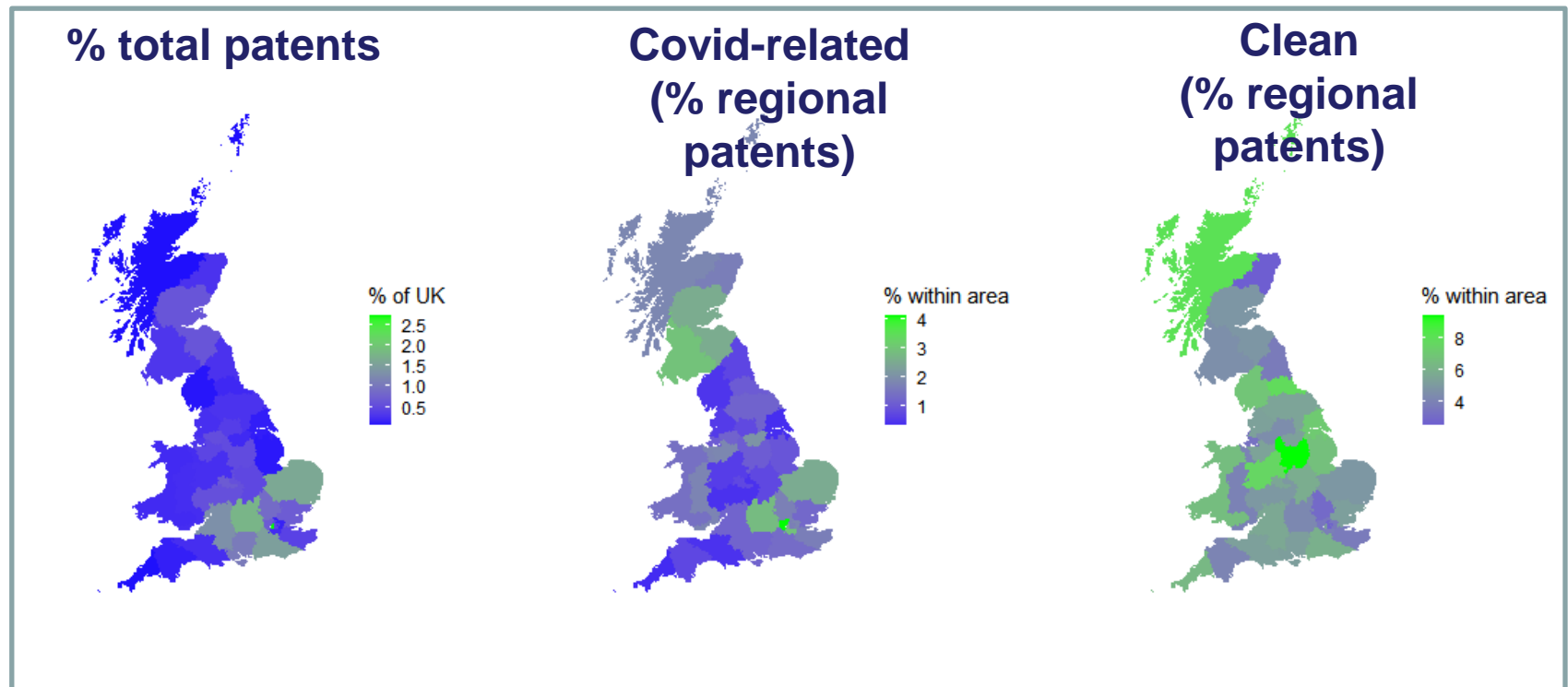
# Management scores positively correlated with many other measures of firm performance, including innovation



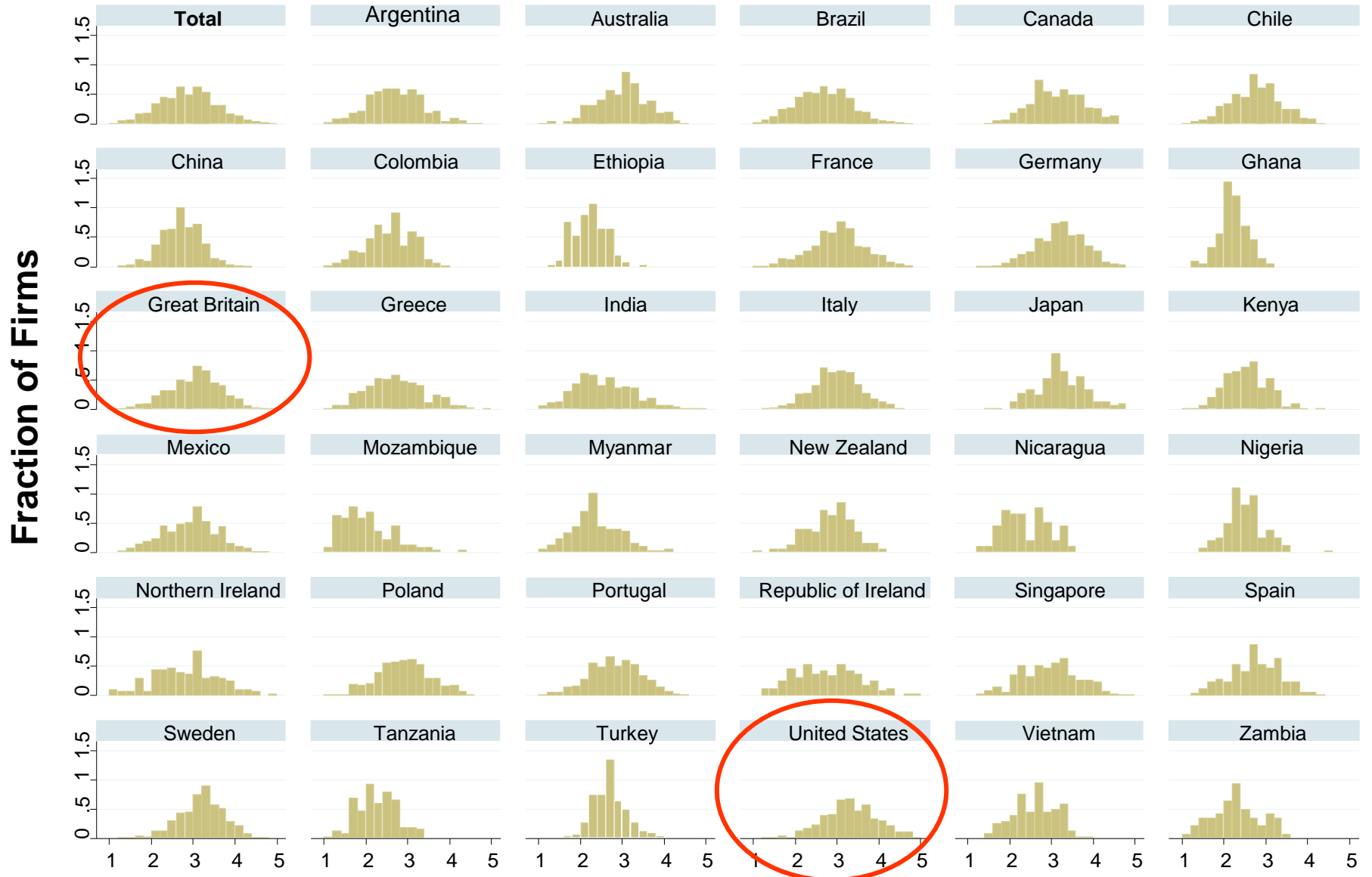
**Source:** Bloom, Brynjolfsson, Foster, Jarmin, Patnaik, Saporta-Eksten & Van Reenen (2019, AER). MOPS

# Green Growth: Informing policy for a sustainable recovery

- Application of innovation spillovers analyses
  - UK has comparative advantage for some clean tech & high returns
  - Regional patterns suggest role in “levelling up”



# Management also varies heavily within countries



Firm level average management scores, 1 (worst practice) to 5 (best practice)