



Programme on  
Innovation and Diffusion

# Reimagining the Economy: Harvard Kennedy School Discussion

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# What is Industrial Policy?

- Vertical policy towards specific industries and firms instead of horizontal policy (e.g. tax or competition policy) across all firms
- Often place-based
- Does not have to be focused on manufacturing industries (and generally *should* be wider)

# Why Industrial Policy today?

- **Economists have been traditionally skeptical:**
  - Tendency to *laissez faire* and market efficiency
  - Even with market failure, Gov bureaucratic & limited info. Even if state well intentioned, it create waste & distortions.
  - Also, risk that agency get “captured”
  - Politicians like as they are “doing something”
  - EU experience of industrial policy not encouraging
    - UK example: British Leyland failure, but opening up to FDI & encouraging supply chains was successful

# Why Industrial Policy today?

- **Revisionism in recent times based on:**
  - Greater acceptance of many market failures & frictions
    - New models (e.g. Liu, 2019, Liu and Song, 2022, etc.)
  - Poor GDP & pay growth performance across OECD
  - Seeming success of industrial policies in SE Asia
  - Changes in capitalism? Growth of superstar firms (Autor, Dorn, Katz, Patterson and Van Reenen, 2020)
  - Policy makers will do it anyway (Tirole, 2022, for Deaton Inequality review)!

# What are desirable features of Industrial Policy?

- Don't replicate things market already provides. Focus on activities where there are likely to be market failures
  - **Examples:** Innovation, diffusion and training
- Leverage existing mission-oriented activities
  - Where gov needs to be involved, industrial policy is implicit: e.g. environment, health, defense
- Institutions: expertise & independence to reduce policy ADHD (Bank of England vs. UK Industrial Strategy Council)
- Using evidence on “what works”
  - **Carefully look through evidence (“Policy Toolkits”)**
  - Design policies to enable learning (piloting, RCTs, etc.)
  - Accept some inevitable failures

# Does Industrial Policy work?

- Hard question to answer:
  - Impact of macro level changes hard to identify
  - Case studies useful but limited
  - Subsidized industries/firms/areas usually those “in trouble”, simple correlations likely to find negative effects
- Focus on some elements of industrial policy:
  - **Investment** subsidies (Industry- and place-specific )
  - **Innovation** policies
  - **Diffusion** (management practices, technologies)
  - Others: Active labour market policies, Skills
- My view is that the empirical evidence suggests that well designed policies in these areas *can* raise these investments and deliver better growth

## **Investment subsidies**

Innovation Policy

Diffusion Policy: Management

## Some Causal Effects of an Industrial Policy<sup>†</sup>

By CHIARA CRISCUOLO, RALF MARTIN, HENRY G. OVERMAN,  
AND JOHN VAN REENEN\*

*We exploit changes in the area-specific eligibility criteria for a program to support jobs through investment subsidies. European rules determine whether an area is eligible for subsidies, and we construct instrumental variables for area eligibility based on parameters of these rule changes. Areas eligible for higher subsidies significantly increased jobs and reduced unemployment. A 10-percentage point increase in the maximum investment subsidy stimulates a 10 percent increase in manufacturing employment. This effect exists solely for small firms: large companies accept subsidies without increasing activity. There are positive effects on investment and employment for incumbent firms but not Total Factor Productivity. (JEL E24, G31, H25, L25, L52, R23)*

The Great Recession brought industrial policy back into fashion.<sup>1</sup> Governments around the world granted huge subsidies to private firms: most dramatically in financial services, but also in other sectors like autos. Business support policies are not new, however. Most governments offer subsidies that claim to protect jobs, reduce unemployment, and foster productivity, particularly in disadvantaged geographical

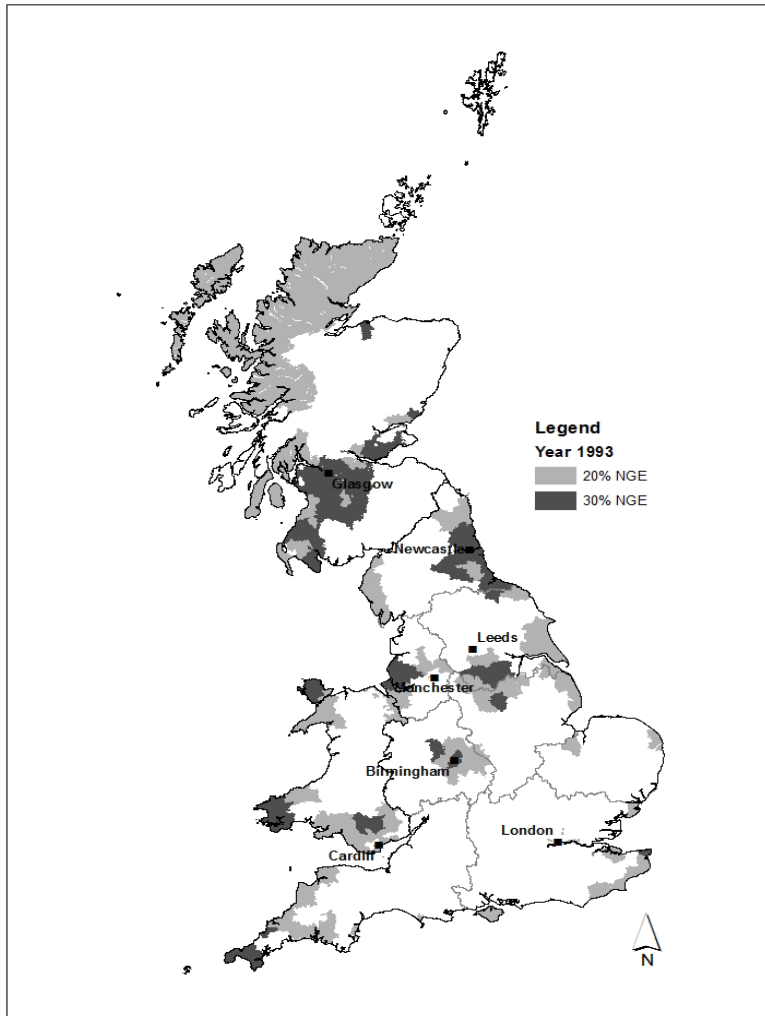


## **Criscuolo et al. (2019)**

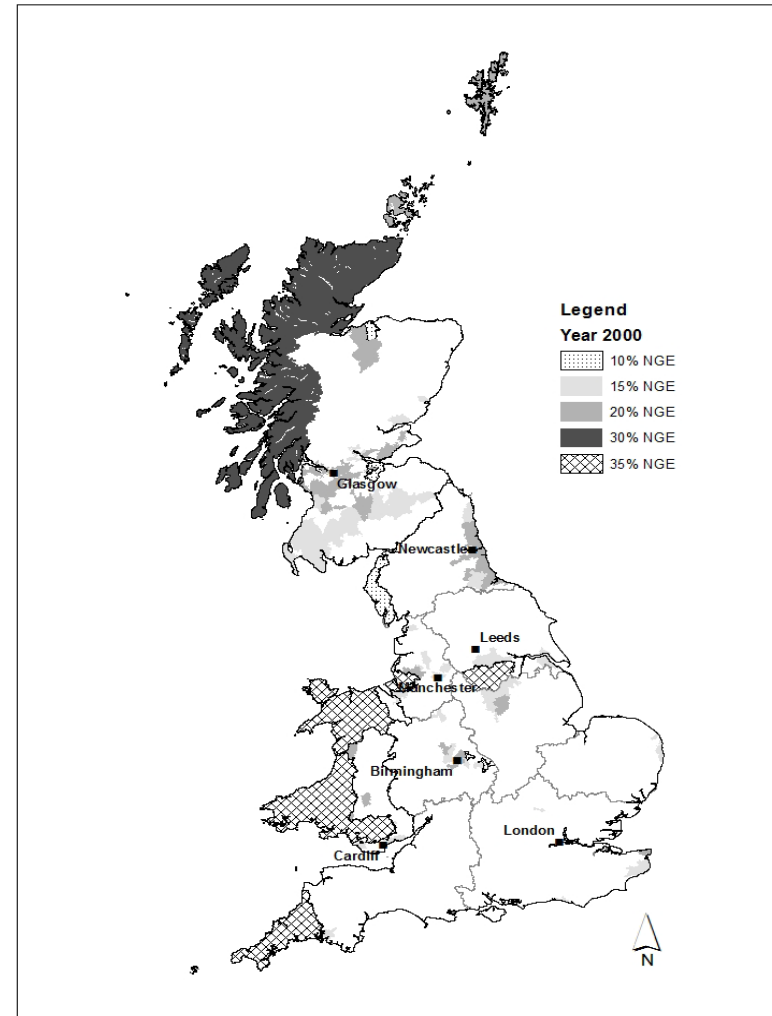
- EU State Aid Rules “randomized” areas in and out of being eligible for investment subsidies
- Enabled an evaluation of area and firm level effects
- Broadly positive assessment
  - Higher investment, more jobs, lower unemployment
  - Cost per job was low
  - Affected areas (by design) were less advantaged
  - Heterogeneity: big impact for SMEs, but near zero for large firms
- Business agency evaluates and decides on proposals

# HOW MAPS OF ASSISTANCE CHANGED IN 2000

## Area Eligibility in 1993



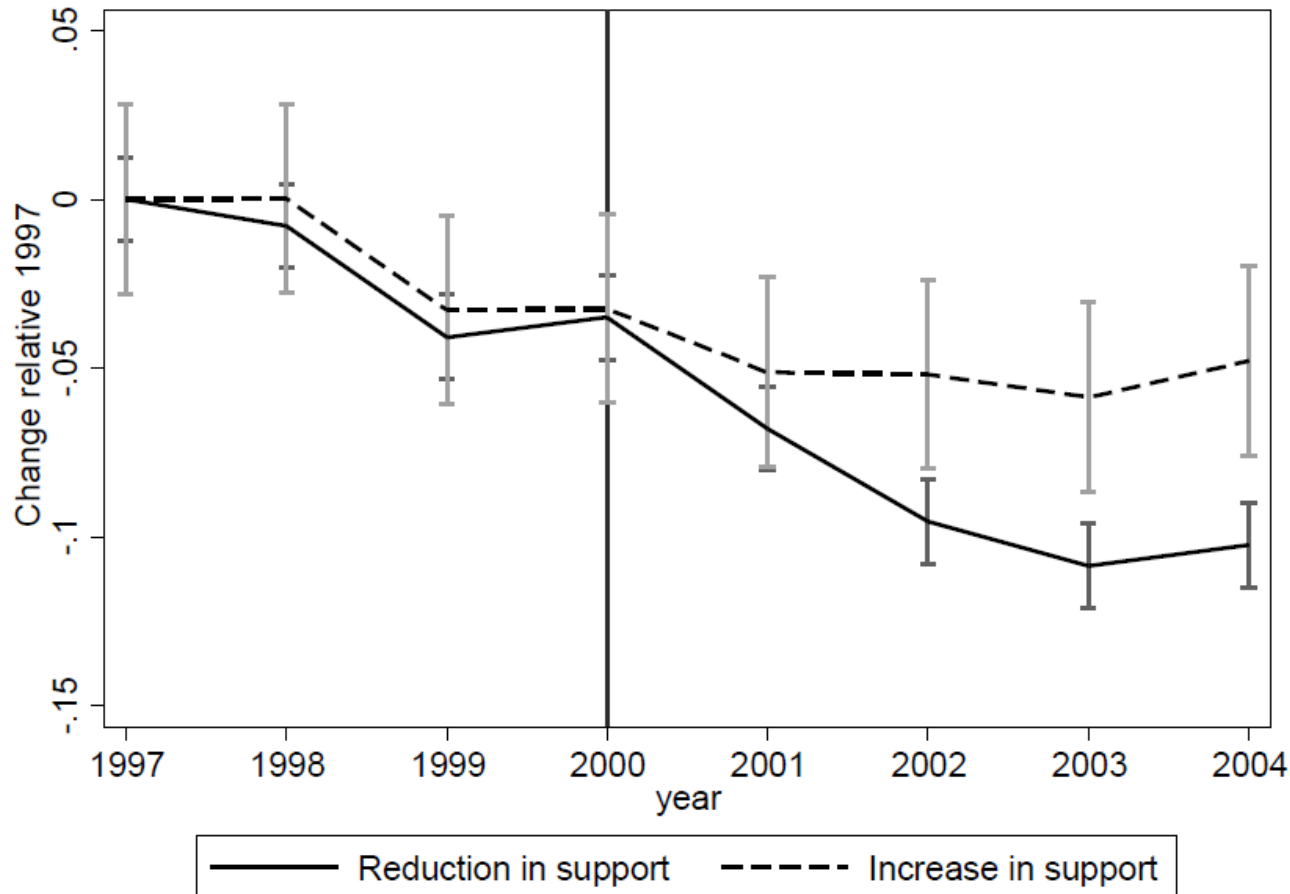
## Area Eligibility in 2000



# UK Regional Selective Assistance (RSA)

- Investment subsidies for manufacturing firms. Aimed to increase employment and growth
- Firms apply for grants and govt. agency gives up to 35% subsidy for project (e.g. building a new plant)
- EU State Aid rules generally ban such subsidies. An exception is if the area is “disadvantaged”:
  - Criteria which determines whether an area is disadvantaged (and therefore eligible for subsidy level) are the same across whole EU and change about every 7 years
  - These criteria are quantitative and their elements (and weights) change over time: e.g. GDP per capita relative to EU average; unemployment; %startups; %less skilled, etc.
- Hence, an area’s eligibility can change even if the *characteristics* of an area does not
  - **Example:** when 8 Eastern EU countries joined, some UK places became ineligible because EU average GDP per capita dropped

# Manufacturing employment increased in areas with exogenously increasing support



**Notes:** Average changes relative to base year of 1997 in  $\ln(\text{employed})$  in a geographical area (“ward”). The dashed line shows average employment in wards that had an increase in support (as predicted by our policy rule IV). The solid line is average manufacturing employment in wards that had a decrease in support (as predicted by our policy rule IV). 95% confidence bands also shown. The vertical line in 2000 shows when the change in policy occurred.

## Other Examples

- Tennessee Valley Authority (Kline & Moretti, 2014)
  - Unlike Criscuolo et al (2022), these advantages lasted even when subsidies removed
- Chinese Solar industry (Burgess & Van Reenen, 2022)
  - Enormous falls in the price of solar
  - City level production subsidies led to more solar capacity and innovation (through learning by doing)

Investment subsidies

**Innovation Policy**

Diffusion Policy: Management

## **Using existing Evidence**

- “Boil the ocean” for all evidence (meta-studies)
- Give greater weights to higher quality studies
- Personally, I have found “Policy Toolkits” an effective way of communicating
- Example of Innovation Policy

## 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	↑

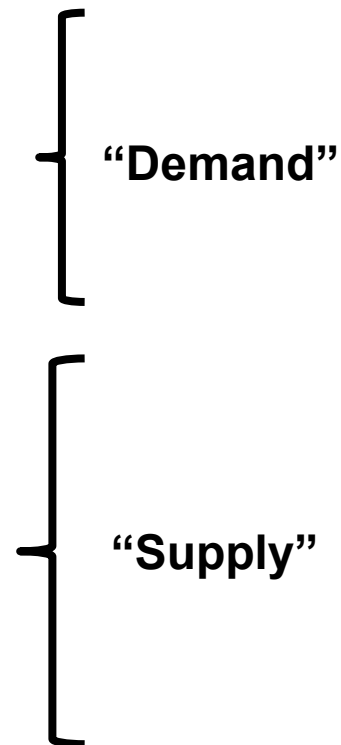
“Demand”



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

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



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

Investment subsidies

Innovation Policy

**Diffusion Policy: Management**

# Diffusion

- Diffusion of new technologies (e.g. ICT)
- Diffusion of productivity-related management practices (WMS, MOPS, etc.)
  - **Structural Policies**
    - Competition
    - Trade
    - FDI
    - Education
  - **Direct policies**
    - Consultancy-style interventions
    - Classroom training
    - Information

# Assessment of Toolkit Approach

- Tries to communicate state of the art with caveats
- Gives options to policy makers depending on their preferences & constraints
- Needs to be crafted to the specific conditions of a country/area
- But piecemeal: marginal cost-benefit. Ideally, bundle together for a mission (e.g. climate change).

# Conclusions

- Tools of industrial policy – investment, innovation & diffusion policies can be effective.
- Important industrial changes happening across OECD:  
**Concentration & aggregate mark-ups rising**
- We often know much more than we think we do
- **Bottom Line:** Industrial policy can work, but should be used with caution

**Thank you!**

## 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.

“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](#)

“OPENING up Military Innovation: An Evaluation of Reforms to the U.S. Air Force SBIR Program” (Sabrina T. Howell, Jason Rathje, John Van Reenen and Jun Wong), [Vox](#) 2021 <https://poid.lse.ac.uk/textonly/publications/downloads/poidwp004.pdf>

“The Intellectual Spoils of War: Defense R&D, Productivity and Spillovers” (Enrico Moretti, Claudia Steinwender and John Van Reenen) <http://cep.lse.ac.uk/pubs/download/dp1662.pdf> [Vox](#)



## 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>

# A New Marshall Plan for Growth

- Big threats, but also opportunities for creative policies, especially around innovation
- We know much about what can be achieved evidence: e.g.:
  - *Structural* (**competition**, trade, skills, tax & subsidies; infrastructure, etc.)
  - *Direct* (e.g. management information and training)
- Country-specific plans based on best evidence:
  - Toolkits for innovation & management policy
- Bind together in a **mission**:
  - Climate Change; Defense; Healthcare

