



BETTER POLICIES FOR BETTER LIVES



**FIW-Workshop**

**An Industrial Renaissance in Europe**

# Beyond Industrial Policy: Emerging Issues and New Trends

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# Industrial policy beyond the crisis

- The revival of industrial policy
- What do we mean by Industrial Policy?
- The evolving rationale
- The instruments of industrial policy
- Typology by policy orientation
- New industrial policy in practice
- Industrial strategy in the UK
- Conclusions

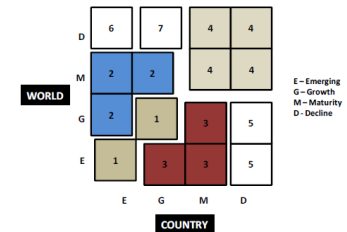


OECD Science, Technology and Industry Policy Papers No. 2

## Beyond Industrial Policy

EMERGING ISSUES AND NEW TRENDS

Ken Warwick



# Renewed interest in industrial policy worldwide



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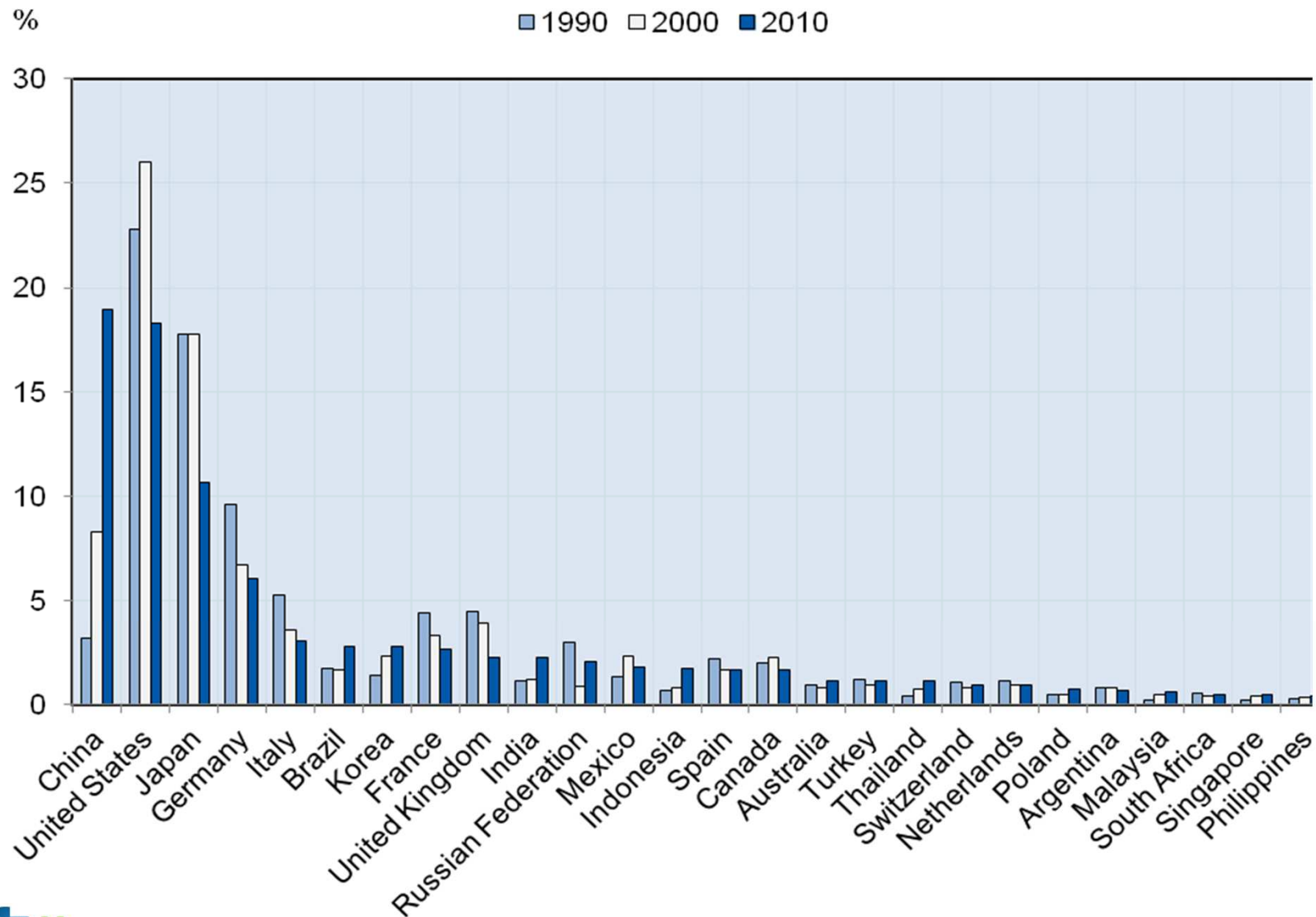
## Examples of industrial policy initiatives

- Brazil – *Plano Brasil Major*
- China - *Plan for National Strategic Emerging Industries*
- India – *National Manufacturing Policy*
- Japan – *Industrial Structure Vision*
- Netherlands – *Top Sectors Policy*
- UK – *Plan for Growth and Industrial Strategy*
- US – *American Recovery and Reinvestment Act and National Innovation Strategy*

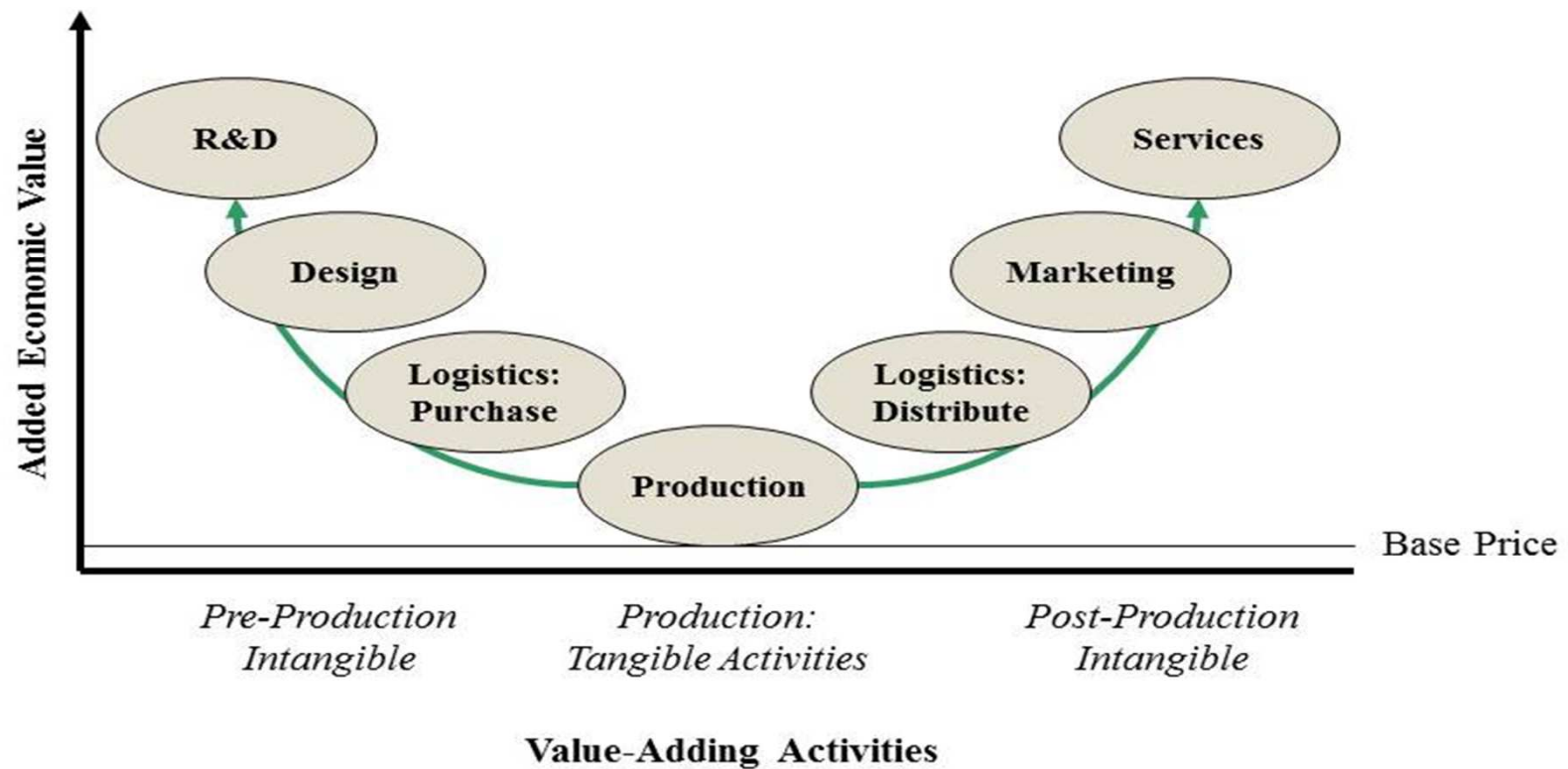
# Why the resurgence of interest?

- Search for measures to stimulate growth and employment in response to the crisis
- Concerns over structural imbalances
- Prevalence of market failure
- Political economy of bail-out finance
- Challenge of emerging market economies

# Share of global manufacturing value added



# Location of value added in the value chain



# An inclusive definition of industrial policy

“Industrial Policy is *any type of intervention or government policy that attempts to improve the business environment or to alter the structure of economic activity toward sectors, technologies or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of such intervention.*”



# The evolving rationale for industrial policies

- Laissez faire
- Traditional, state-aids, ownership-based
- Neoclassical, market-failure correcting
- New growth, technological capabilities
- Institutional, neo-Schumpeterian, evolutionist, systems-based

# Dimensions of industrial policy

- ***Aim:*** Industrialisation, productivity, sector growth, employment, social welfare, distribution.
- ***Target group:*** Sector (or technology, input, or stage of the value chain), firms or clusters?
- ***Rationale:*** Underlying philosophy that justifies active industrial policy (market failures, capacity building etc).
- ***Orientation:*** Is policy horizontal/functional or vertical/selective? Is targeting strategic or in response to market pressures? Is intervention time-limited or longer-term? Conditional or unconditional? Does policy work with existing comparative advantage or explore new areas?
- ***Policy domain:*** Product or factor markets – labour, capital, land and technology. Role for policies to develop entrepreneurship or facilitate coordination or the creation of new networks?

# Typology of instruments by policy domain

**Policy domain:** Product or factor markets – labour, capital, land and technology. Role for policies to develop entrepreneurship or facilitate coordination or the creation of new networks.

Product markets

Factor markets  
(Labour, Capital, Land, Technology)

Systems and institutions

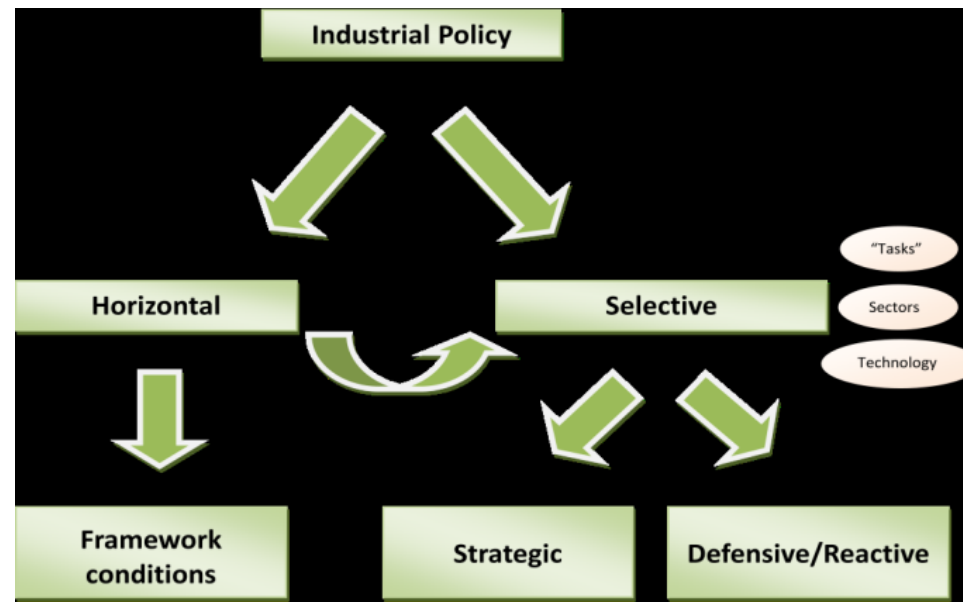
Domain	Horizontal Policies	Selective Policies
<b>Product markets</b>	Competition and anti-trust Indirect tax Product market regulation Exchange rate policy	National Champions Nationalisation/privatisation Output subsidies/state aids Export promotion Price regulation (e.g. pharma) Public procurement Trade policy Car scrappage
<b>Labour and skills</b>	Skills and education policies Training subsidies Wage subsidies Income and employment tax Management advisory services Labour market regulation	Targeted skills policies Apprenticeship policies  Sector-specific advisory services
<b>Capital markets</b>	Loan guarantees Corporate tax/capital allowances Macro/financial stability Financial market regulation	Strategic Investment Fund Emergency Loans State Investment Bank Inward investment promotion
<b>Land</b>	Planning regulation Land use planning	Enterprise zones Place-based clusters policy Infrastructure
<b>Technology</b>	R&D tax credit Science Budget IPR regime	Green technology Lead Markets Public procurement for innovation Patent Box Selective technology funding Centres of expertise
<b>Systems/Institutions</b>	Entrepreneurship policy Scenario planning Distribution of information Overall competitiveness strategy	Indicative planning Foresight initiatives Identifying strategic sectors Sectoral competitiveness strategy Clusters policy

# Typology of instruments by policy domain

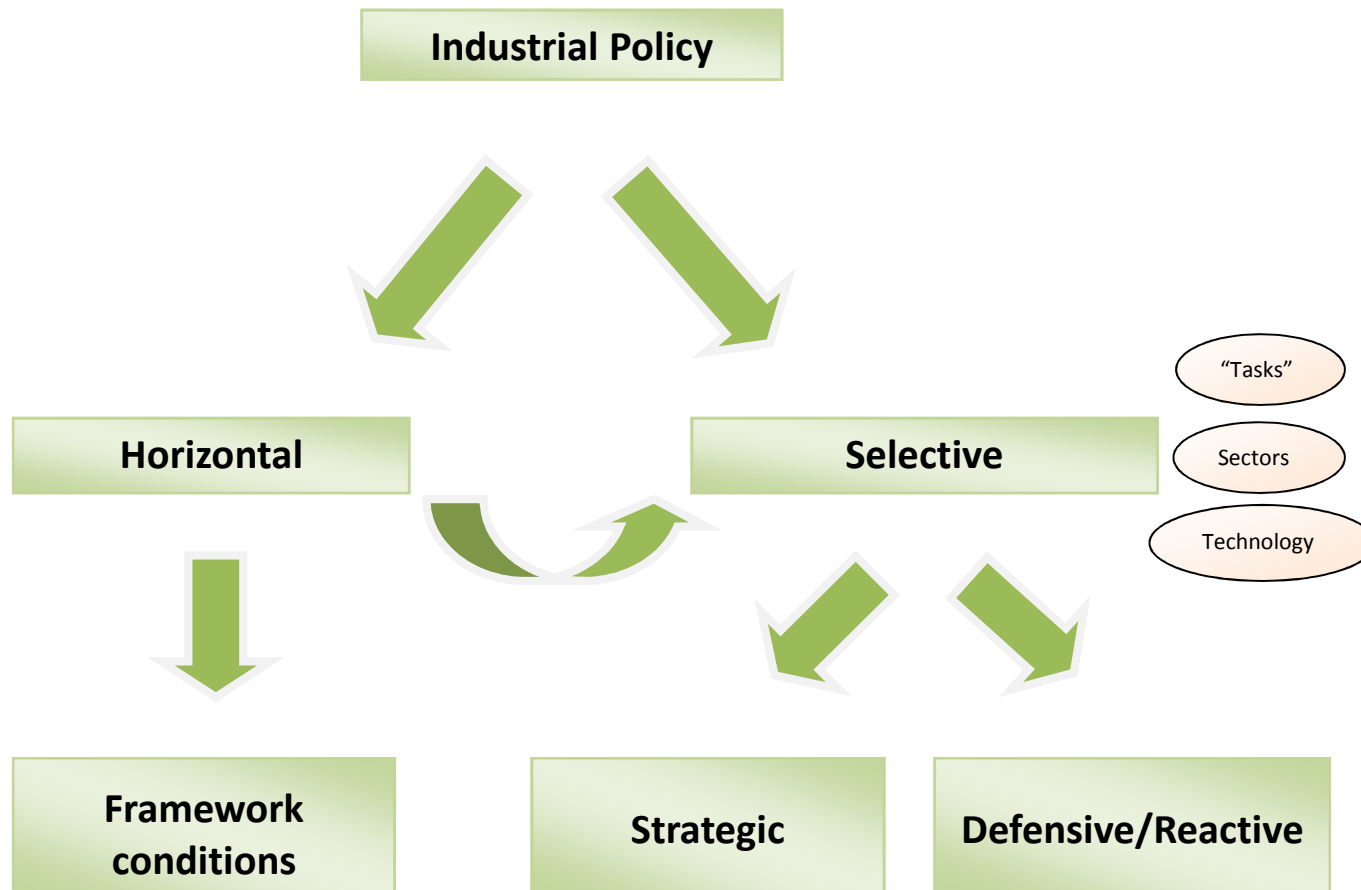
Domain	Horizontal Policies	Selective Policies
<b>Product markets</b>	<ul style="list-style-type: none"> <li>Competition and anti-trust</li> <li>Indirect tax</li> <li>Product market regulation</li> <li>Exchange rate policy</li> </ul>	<ul style="list-style-type: none"> <li>National Champions</li> <li>Nationalisation/privatisation</li> <li>Output subsidies/state aids</li> <li>Export promotion</li> <li>Price regulation (e.g. pharma)</li> <li>Public procurement</li> <li>Trade policy</li> <li>Car scrappage</li> </ul>
<b>Labour and skills</b>	<ul style="list-style-type: none"> <li>Skills and education policies</li> <li>Training subsidies</li> <li>Wage subsidies</li> <li>Income and employment tax</li> <li>Management advisory services</li> <li>Labour market regulation</li> </ul>	<ul style="list-style-type: none"> <li>Targeted skills policies</li> <li>Apprenticeship policies</li> <li>Sector-specific advisory services</li> </ul>
<b>Capital markets</b>	<ul style="list-style-type: none"> <li>Loan guarantees</li> <li>Corporate tax/capital allowances</li> <li>Macro/financial stability</li> <li>Financial market regulation</li> </ul>	<ul style="list-style-type: none"> <li>Strategic Investment Fund</li> <li>Emergency Loans</li> <li>State Investment Bank</li> <li>Inward investment promotion</li> </ul>
<b>Land</b>	<ul style="list-style-type: none"> <li>Planning regulation</li> <li>Land use planning</li> </ul>	<ul style="list-style-type: none"> <li>Enterprise zones</li> <li>Place-based clusters policy</li> <li>Infrastructure</li> </ul>
<b>Technology</b>	<ul style="list-style-type: none"> <li>R&amp;D tax credit</li> <li>Science Budget</li> <li>IPR regime</li> </ul>	<ul style="list-style-type: none"> <li>Green technology</li> <li>Lead Markets</li> <li>Public procurement for innovation</li> <li>Patent Box</li> <li>Selective technology funding</li> <li>Centres of expertise</li> </ul>
<b>Systems/Institutions</b>	<ul style="list-style-type: none"> <li>Entrepreneurship policy</li> <li>Scenario planning</li> <li>Distribution of information</li> <li>Overall competitiveness strategy</li> </ul>	<ul style="list-style-type: none"> <li>Indicative planning</li> <li>Foresight initiatives</li> <li>Identifying strategic sectors</li> <li>Sectoral competitiveness strategy</li> <li>Clusters policy</li> </ul>

# Typology by policy orientation

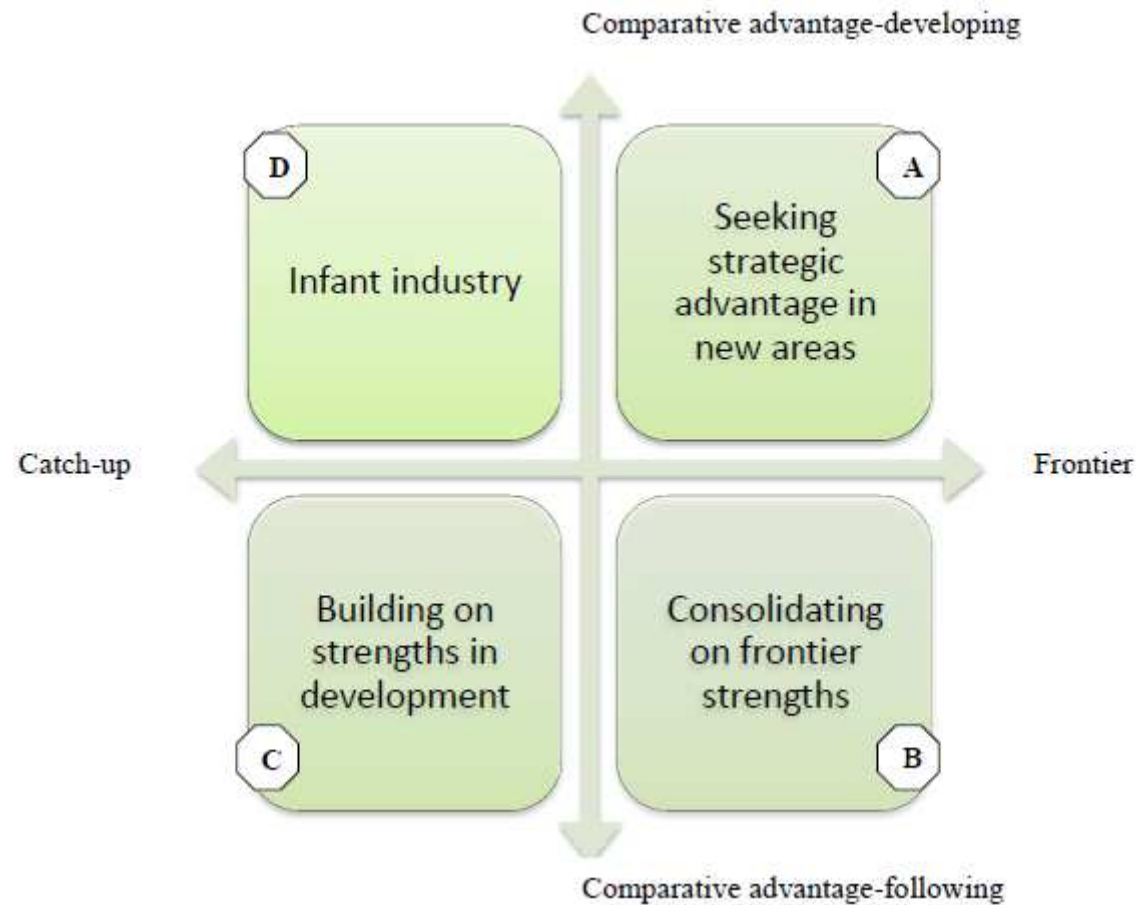
**Orientation:** Is policy horizontal/functional or vertical/selective? Is targeting strategic or in response to market pressures? Is intervention time-limited or longer-term? Conditional or unconditional? Does policy work with existing comparative advantage or explore new areas?



# Typology by policy orientation



# Two-way classification of strategic industrial policy



# Stages of industry lifecycle

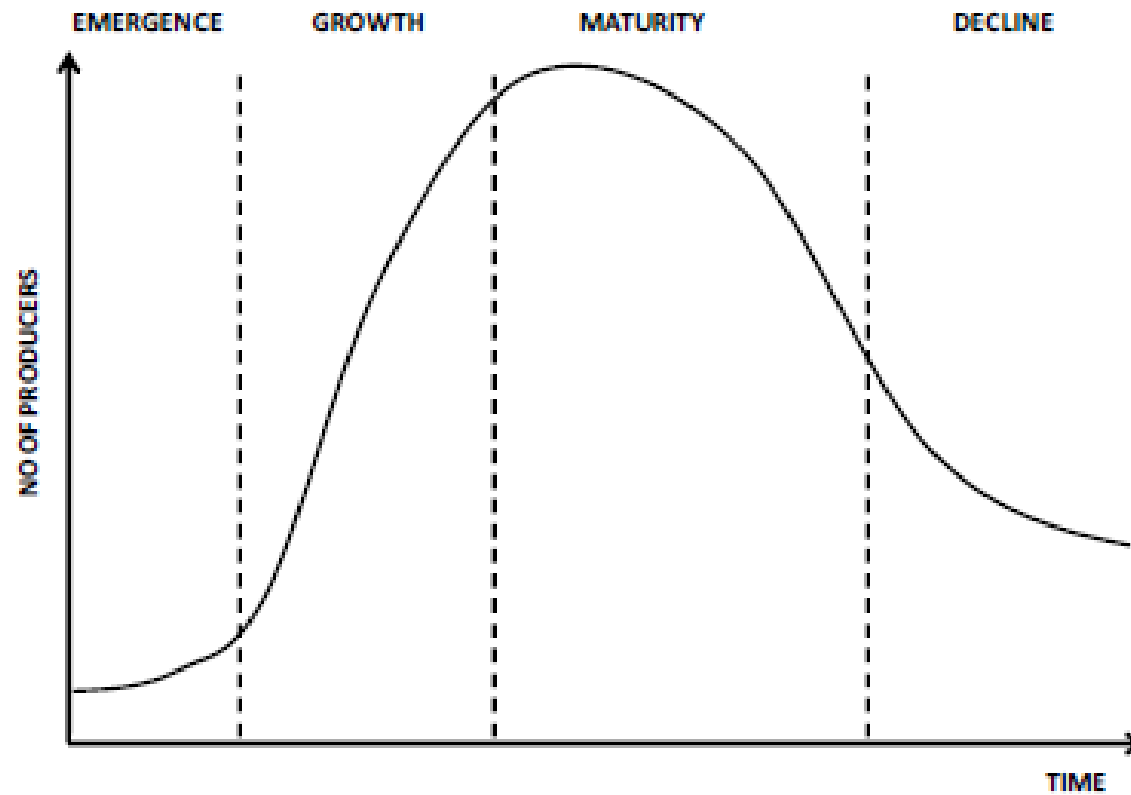
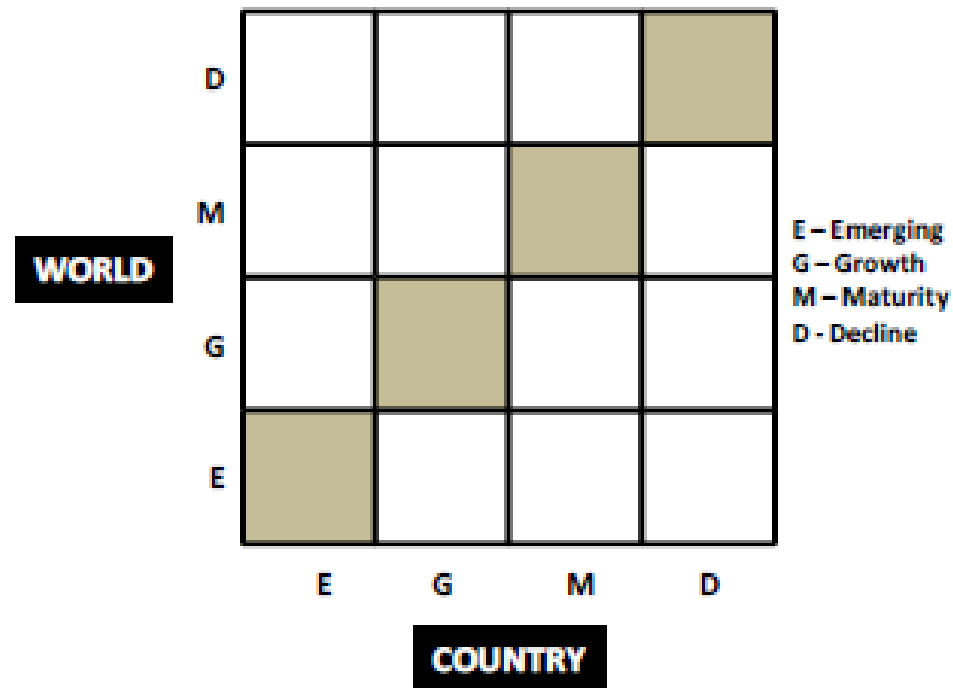


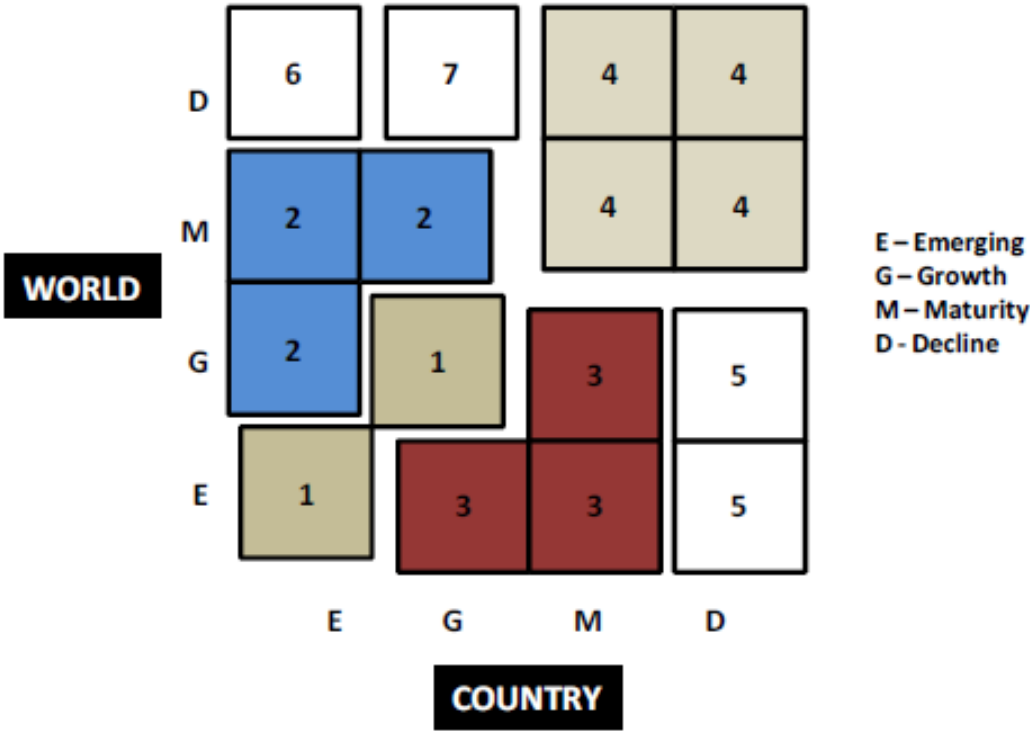
Figure 2 - stages of industry lifecycle



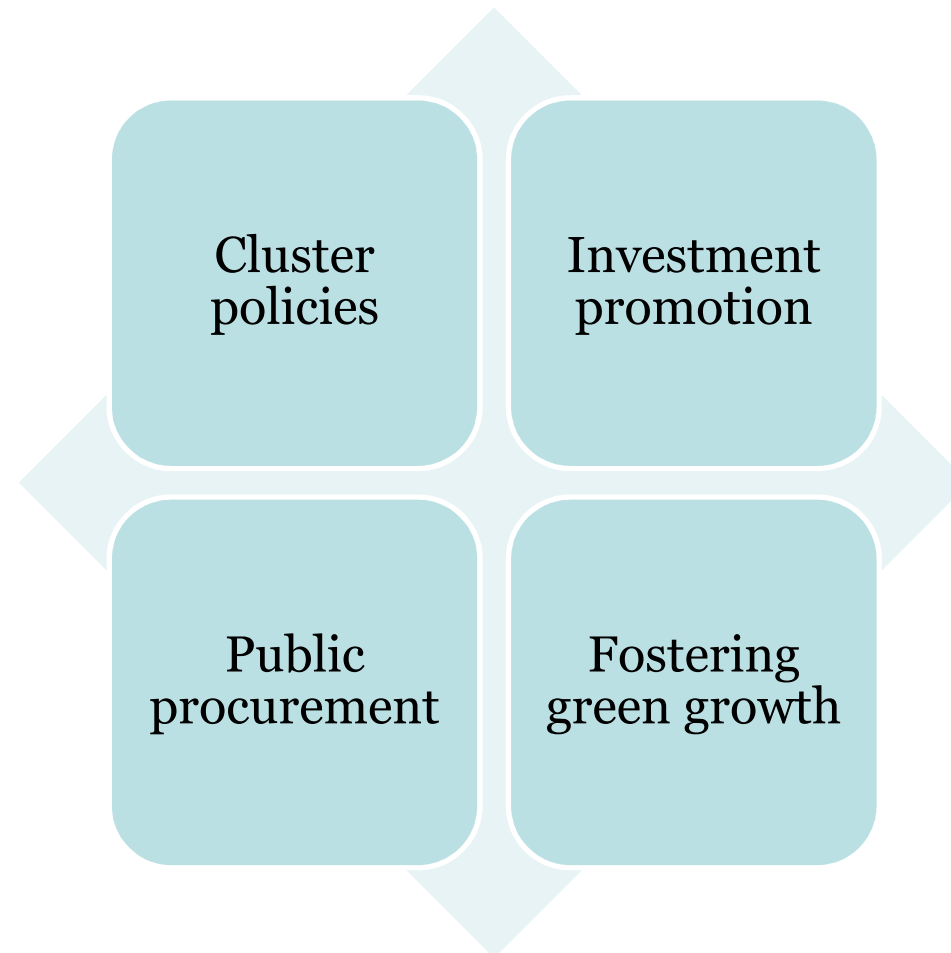
# Comparative industry maturity grid



# Industrial policy orientation based on comparative maturity



# New industrial policy in practice



# Evaluation case studies\*

- National experience in specific policy areas
  - R&D support policies
  - Innovative public procurement
  - Capital market interventions – support for risk capital
- National experience with policy packages
  - Cluster and regional policies
  - Sectoral approaches and Public Private Partnerships
  - National industrial strategy

\*Source: OECD (2014), “Evaluation of Industrial Policy: Methodological Issues and Policy Lessons”, DSTI/IND(2014)3/Rev1

# Policies to support business R&D

- Mix of incremental tax credits and direct support best....
- ....but costly to administer
- New OECD analysis on R&D tax credits:
  - Incremental better than volume based and credits should be payable for young firms
  - Dangers of incumbent bias, policy instability, tax planning by MNEs
- Focus direct support on market failure, pre-competitive ventures and research partnerships
- Use matched grants to identify best projects



# Innovation-oriented public procurement

- Need for additional evidence on impact
- Avoid the risk of capture and anti-competitive effects
- Build expertise in the public sector and remove regulatory barriers
- Avoid fragmentation in procurement and build links to innovation agencies
- Manage the risks – technological, uptake and market risks



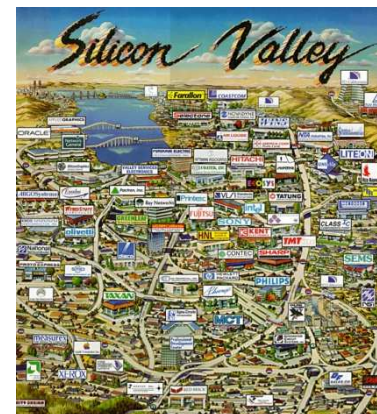
# Capital market interventions (risk capital)

- Increased role for Government VC since crisis
- Some positive evidence but evidence of impact not yet conclusive.
- Policy most effective where other private funding leveraged – hybrid models
- Mix of demand and supply side policies required
- Policy most successful when there is scope for experimentation and learning



# Cluster policies and business networks

- Target market failure and work with existing/emerging clusters
- Framework for dialogue/cooperation between firms, public sector, NGOs
- Mechanisms for interaction of local firms with research/training bodies
- Direct subsidies only modest effect on location
- Wider determinants of success rarely evaluated
- Role for Government in brokering business networking and creating informed demand, perhaps with a degree of financial support.





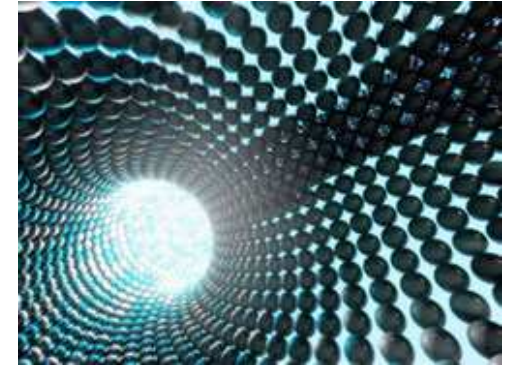
# Sectoral approaches and PPPs

- Some examples of sector success
- Little systematic evidence that sector performance related to degree of support or that sector focus necessary
- But sector strategies and PPPs offer natural conduit for new forms of industrial policy
- Soft, facilitative intervention, hard to evaluate
- Some work under way in TIP
- Netherlands plans to evaluate Top Consortia for Knowledge and Innovation



# National industrial strategy

- Examples of success in industrial strategy programmes (Rodrik, 2004; Bianchi and Labory, 2011; O’Sullivan et al, 2013; Stiglitz and Lin, 2013)
- Dearth of rigorous evaluation
- Less emphasis on product market support measures and more emphasis on support for technology and skills, PPPs, facilitation and coordination - newer and harder to evaluate.
- Successful implementation requires well designed plans for regular monitoring and evaluation



# Why industrial policy evaluation is difficult

- Identification of controls and counterfactuals
- Data challenges and unit of analysis
- Interdependence between outcomes
- Multiple influences on economic outcomes
- Multiple objectives/instruments are common
- Time lags and long-run impact
- Context dependence – translating what works
  
- *Global vs national welfare*
- *Social and distributional impacts*

# What have we learned?



(Rodrik, 2008)

“The emerging consensus is that the risks associated with selective-strategic industrial policy can be minimised through a ‘soft’ form of industrial policy, based on a more facilitative, coordinating role for government, consistent with the systems approach.....

“The goal of ‘soft’ industrial policy is to develop ways for government and industry to work together to set strategic priorities, deal with coordination problems, allow for experimentation, avoid capture by vested interests and improve productivity.”

# Industrial strategy in the UK



*Vince Cable 7 March 2013*

“...my chief political project last year was to establish a firm case for an industrial strategy – words previously banished from Whitehall. That case has been won – and I think is now broadly accepted on Right and Left. Work is now well underway with industry to develop long-range strategies for.... important sectors.”

# UK industrial strategy explained



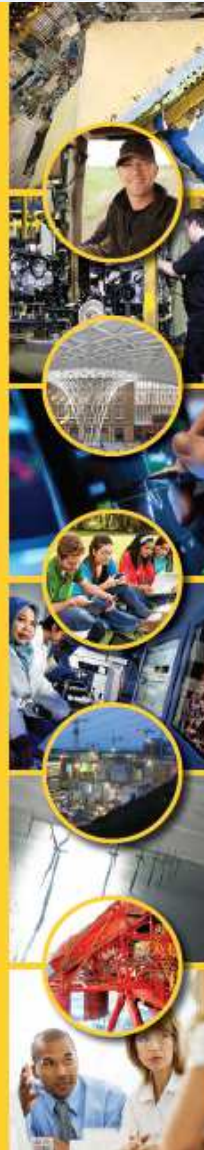
## Industrial Strategy

### Government and industry working together in partnership

Britain is already a great place to do business, with world-leading capabilities in engineering, manufacturing, and science and technology. But the world is changing and global competition is increasing.

Government is working in partnership with business to create **more opportunities**, deliver **more jobs** and make the UK **more competitive** so that British businesses can thrive and compete with rising economies.

This new long-term approach will lead to improved opportunities, better jobs, growth and economic prosperity.



**Industrial Strategy** is a long-term, whole-of-government approach to support economic growth

This new partnership between business and all parts of government has identified a range of opportunities to help create growth for the future, from developing new skills and securing critical investment to commercialising our scientific research and inventions.

**Industrial Strategy** has five main strands:

#### Skills

Working in partnership with business to **deliver the skills that employers need** through more direct control of how government funding on skills is spent.



#### Technologies

Investing in **eight great technologies** where the UK has the research expertise and business capability to become a world leader in big data, space, robotics and autonomous systems, synthetic biology, regenerative medicine, agri-science, advanced materials and energy



#### Access to finance

Creating the **British Business Bank**, to help remove barriers to the supply of business finance, helping smaller businesses grow by investing in people and equipment.



#### Government procurement

Letting businesses know in advance **what Government is planning to buy** so that they can invest in the right skills and equipment to make the most of these opportunities.



#### Sector partnerships

Providing support for all sectors of the economy to help increase global competitiveness, support innovation and maximise export potential. Strategic partnerships have been developed in **eleven sectors** where government and business, working together, believe they can **make the most difference**.



# Developing strategic partnerships with industry

The government is developing long-term strategic partnerships with industry sectors where we can have the most impact on growth



## Advanced manufacturing

- Aerospace
- Automotive
- Life sciences
- Agri-tech

## Knowledge services

- Education
- Information economy
- Professional business services

## Enabling sectors

- Energy: nuclear
- Energy: oil and gas
- Energy: offshore wind
- Construction

## Partnership strategies will:

- be long term
- be created with industry, committing business and government to specific actions
- involve the whole of government
- identify actions to benefit all businesses

# 'Eight great technologies'

- **Big data:** transforming scientific enquiry and many industries - the opportunity to lead in this and in the energy-efficient computing revolution.
- **Satellites:** building satellites and analysing and using the data from satellites.
- **Robots and other autonomous systems:** applications ranging from assisted living for disabled people to nuclear decommissioning.
- **Synthetic biology:** engineering genes to help heal, feed and fuel the nation.
- **Regenerative medicine:** new medical techniques for repairing and replacing damaged human tissue.
- **Agricultural technologies:** the opportunity to be at the forefront of the next green revolution.
- **Advanced materials:** with targeted properties enabling technological advances in sectors like aerospace and construction.
- **Energy storage:** technologies for storing energy when it is produced so that it can be used when it is needed.



# Closing reflections on industrial policy

- No “one size fits all”. Approach varies with stage of development of country and/or ‘sector’.
- Some moving to more horizontal policy; while others moving to more selective.
- “Choosing races and placing bets”. Both flexibility and tenacity needed.
- Convergence in thinking on “fourth generation” industrial policy with emphasis on systems, networks, institutions and capabilities.
- Risks of “government failure”, capture, protectionism.
- Challenges for evaluation, especially of strategy and policy programmes.

## Some emerging lessons

- **Remove barriers** before providing support - i.e. “don’t push on a string”
- **Clarity in objective(s)** – such that success and failure can be assessed in a non-discretionary manner
- Keep the **outsiders and the unborn** in mind – resist political economy pressures from insiders and incumbents
- **Evaluate** (preferably ex ante and ex post) – and incorporate evaluation in policy cycle
- Ensure **public bears risk which is “proportionate”** (enough to matter, not too much to lead to moral hazard)
- **Plan for exit** – and make plan known
- **Incentives/subsidies:** Only for “new” activities

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