ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

Enhancing competitiveness through (sectoral) industrial policies

Chiara Criscuolo

OECD Directorate for Science Technology and Industry

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Raised interest in industrial policy…

- Broad range of (related) policy concerns:
  - Balancing economic growth – concerns about economic structure in several countries
  - Loss of manufacturing
  - Growing international competition
  - Search for new sources of growth
  - Transition to green growth
  - And large stimulus packages following the 2008 crisis.
- All contribute to interest in "industrial" policies

…but still a debated issue

- Use of industrial policies is not a first-best solution:
  - Particular concerns arise because of:
    - Tight budget constraints
    - lack of evidence of whether these policies work
    - Government failures and rent-seeking behaviour
- Lack of consensus and revived debate on (sectoral) industrial policies
  - See recent debate in Italy

Policy rationale (1)

- Possible rationales for "industrial" policy include:
  - Externalities – large gap between social and private returns (e.g. green growth)
  - Agglomeration effects
  - Coordination failures
  - Information asymmetries
  - Credit and equity market failures
  - Infant industry arguments, e.g. learning by doing
- All of these potential market failures may contribute to economic problems, including lack of reallocation, path dependency, and inertia.

Policy rationale (2)

- But also some important concerns about such policies:
  - Government failures, e.g. capture by vested interests.
  - Information failures and asymmetries: governments are ill-placed to make informed choices
  - Contribute to market distortions and can be used for protectionist purposes.
  - "Industrial" policy record is mixed (though there are different perspectives on this)

Policy practices

- A wide range of policy instruments and approaches, e.g.:
  - Horizontal vs targeted policies
  - Subsidies, grants, loans, guarantees, fiscal incentives e.g. for
    - Export / investment promotion
    - R&D / innovation
    - Declining industries/ regions
  - Public procurement/demand policies
  - Cluster policies
- An empirical finding: losers are more likely to receive government support (perhaps because they lobby harder) than winners.

Raised interest in industrial policy in practice …

A number of OECD countries have launched industrial policy initiatives in recent years, some in direct response to the economic and financial crisis and some with a longer-term focus:

- **France**: Grand Loan, to support forward-looking strategic investments and help position France strongly after the recession, The focus was on commercial spin-offs from universities and research institutes and support for priority sectors including: digital economy, nano- and bio-technology, renewable energy, low carbon vehicles and innovative SMEs.
- **Japan**: new industrial policy plan: deliberate move to a structure based on five strategic areas: infrastructure-related and infrastructure system exports; environmental/energy problem-solving industries (including green vehicles); culture (fashion, food & tourism); medical and healthcare; and advanced areas traditional to Japan (robotics, space, aerospace).

Raised interest in industrial policy in practice …

- **Korea:** sector-specific strategies for "flagship" industries: automobiles, shipbuilding, semiconductors, steel, general machines, textiles and parts and materials. Priority growth engines for the future :17 sectors under three headings: green tech, high-tech convergence technology and value-added services

- **The Netherlands:** Top Sectors initiative : new enterprise and innovation policy, which introduced a sector approach with a cohesive policy agenda across government policy for nine 'top sectors': water, food, horticulture, high tech, life sciences, chemicals, energy, logistics and creative industries. These were identified as sectors in which the Netherland excels and which the Government has set as a priority. Another area of f ocus is head offices and associated services.

Raised interest in (sectoral) policy in practice …

- **Turkey** adopted its Industrial Strategy for 2011-14, aimed at boosting the competitiveness and efficiency of Turkish industry, increasing export market share, and focusing more on high-tech products and high value-added production. The strategy is accompanied by sectoral strategies for specific industries, including chemicals; ceramics; iron, steel and non ferrous metals; electrical and electronics; textiles, garments and leather; pharmaceuticals; and recycling.

- The **United States** no formal industrial policy but innovation strategy (National Economic Council et al, 2011) with horizontal measures (e.g. improving ICT infrastructure, education, and public services) and vertical priorities: clean energy technologies, biotechnology, nanotechnology, space and advanced manufacturing. The American Recovery and Reinvestment Act of 2009 included support for energy technologies, housing and other sectoral measures in addition to horizontal and demand stimulus measures.

Raised interest in industrial policy in practice …

- **Brazil**: to increase productivity and counter recent decline in the industrial sector's contribution to the economy. innovation at the centre of industrial policy and made BNDES responsible for financing innovation and investment + tax breaks for four labour-intensive industries – clothing, footwear, furniture and software – funded partly through taxes on general business turnover.
- **China**: targeted 11 essential sectors including ICT equipment, energy technology, genetically modified foods, pollution technology, pharmaceuticals and civilian aerospace and seven strategic emerging industries and 20 key projects, together with policy measures to facilitate the development of the relevant industries.
- **India**: to increase the share of manufacturing value added in GDP also via the planned creation of national investment and manufacturing zones (NIMZs), with planning exemptions and fiscal incentives to affect location choice for foreign direct investment and to increase India's share of global inward FDI from 1.3 per cent in 2007 to 5 per cent in 10 years time.

Do true horizontal interventions really exist?

- Most interventions, even those meant to be horizontal, favour some activities over others.
- Policy makers cannot neglect the asymmetric effects of their "horizontal" interventions.
- Need to ensure that the activities being favored are those that disproportionately suffer from market imperfections.

The role of Employment Protection Legislation

- Tighter labour market legislation is likely to affect firms' willingness to take risks and experiment when growth opportunities are uncertain
- but might insure employers about retaining their investment in the workforce
  - Reduce productivity growth in more innovative sectors and employment growth of firms, especially at the top of the growth distribution
  - “Conservative” growth strategies when labour costs are high and retaining workforce important: slower expansion and contraction ceteris paribus.

The role of R&D fiscal incentives

- R&D fiscal incentives might also play a role in explaining employment growth dynamics especially in R&D intensive sectors (most of R&D costs are wages).
- Some firms might benefit from the policy more than others (e.g., incumbents vs entrants).
  - R&D fiscal incentives favour the growth of incumbent businesses relative to entrants
  - are associated with employment growth of firms in the bottom half of the distribution relatively more than high growth firms that are negatively affected by the policy.

New thinking about industrial policy: Role and Design

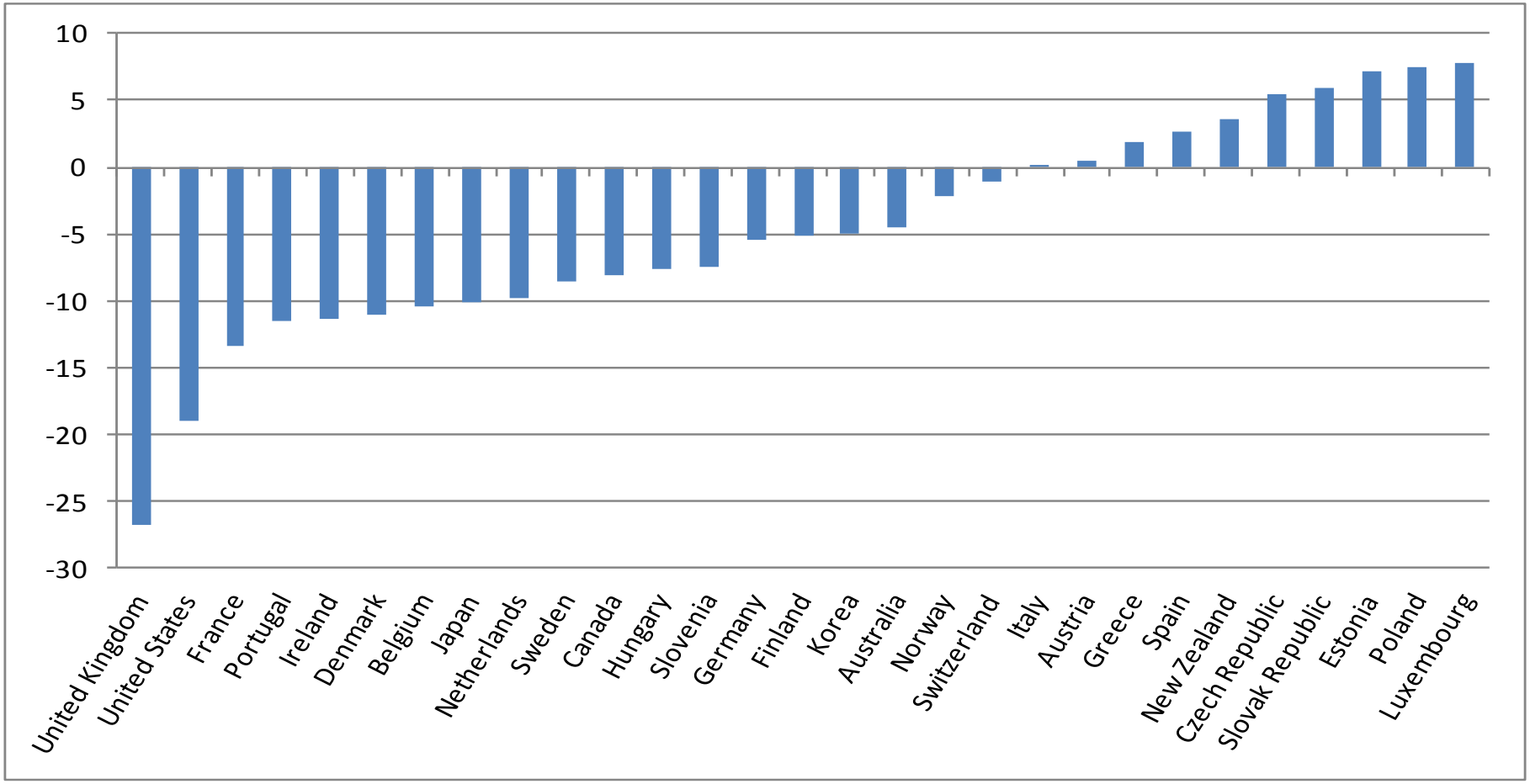
- **Normalizing industrial policy** (e.g. Rodrik) :
  - Embeddedness – government needs to address information asymmetry – need for cooperation with business
  - Carrots and sticks – support needs to be temporary and should be eroded by competition. "The appropriate question therefore is not whether a government can always pick winners but whether it has the capacity to let the losers go."
  - Accountability and transparency: need for evaluation

- **Rethinking industrial policy** (Aghion, et al.):
  - Proper targeting, e.g. directed technical change
  - Proper governance: less centralised and less concentrated
  - Complementarities between industrial and competition policies

  Illustration of some of the issues: the future of manufacturing in OECD countries.

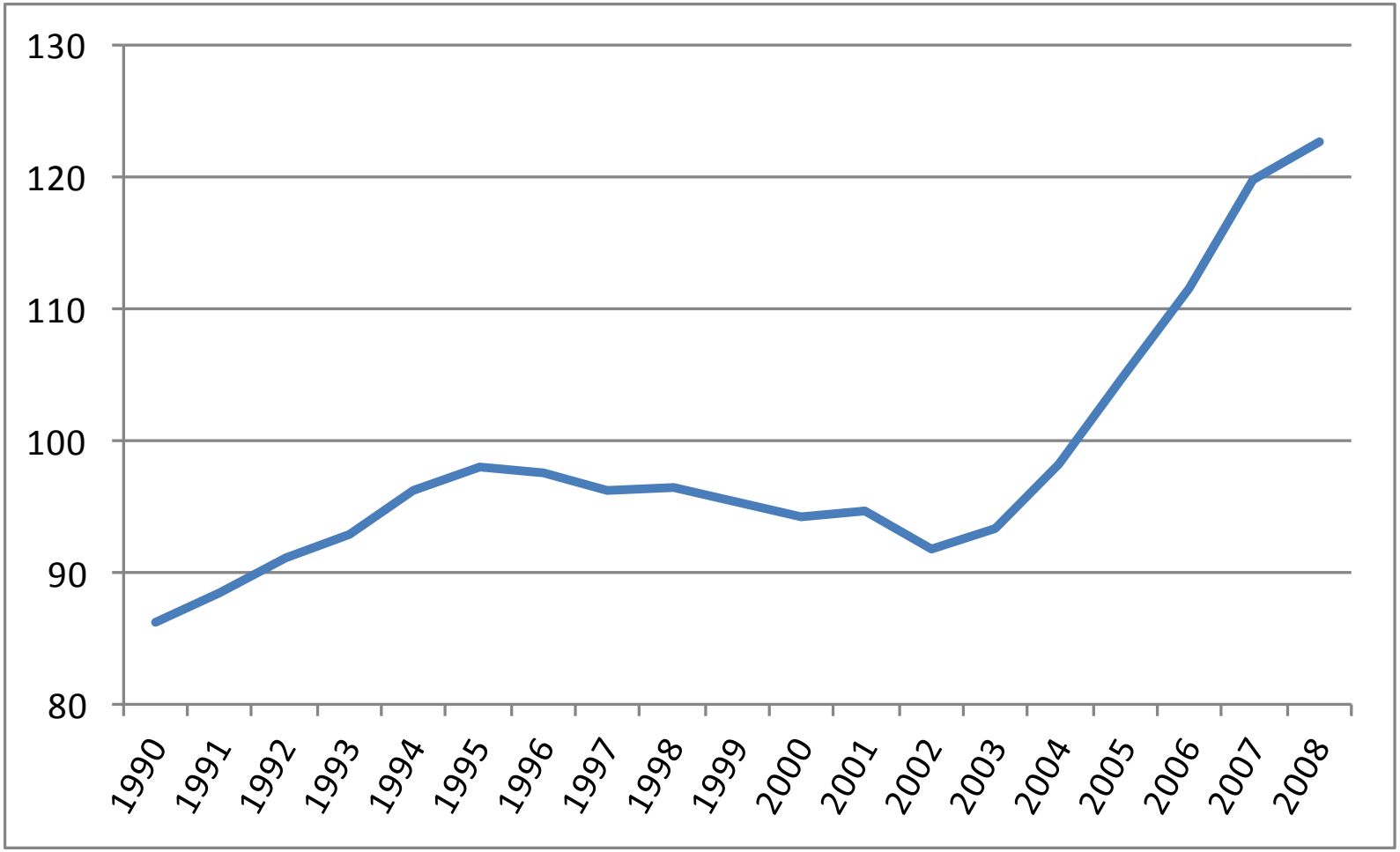
Manufacturing employment in the OECD countries continues to fall …

Percentage change in manufacturing employment, 2000-2008



Source: OECD, Structural Analysis Database

… while manufacturing employment in China has grown (employment in millions)

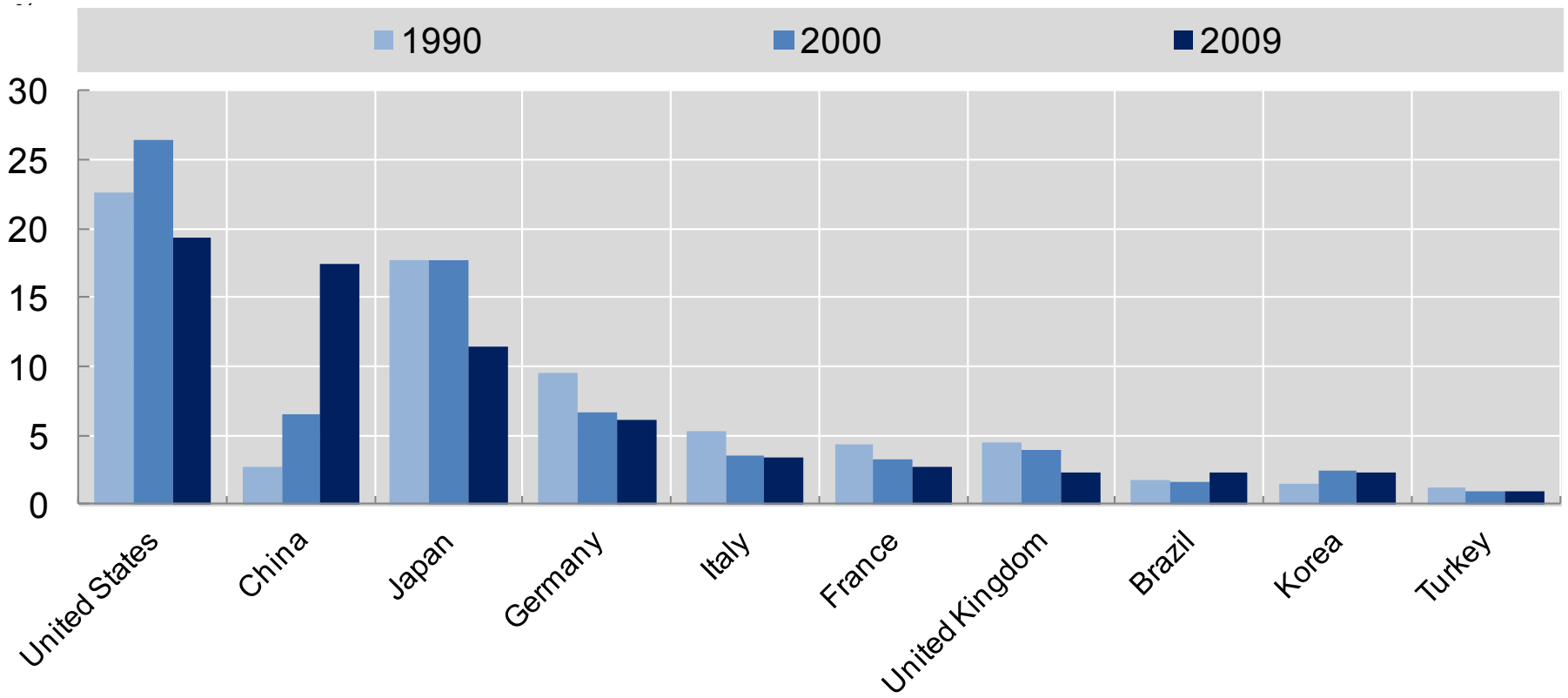


Source: OECD estimates, based on National Bureau of Statistics.

The weight of the BRICS is growing …

Top manufacturers in the last 20 years, 1990, 2000 and 2009

Percentage share of total world manufacturing value added



Source: OECD STI Scoreboard 2011 based on United Nations Statistical Division, National Accounts Main Aggregates Database, May 2011.

…although they do not always capture much of the value

Share of export value that is made in China

	1997	2006
Total exports	47.6	49.4
Non-processing exports	94.3	88.3
Processing exports	17.7	17.7

Source: Koopman et al. (2008).

Factors driving manufacturing's role in the economy

- Demand growth – slower than in services.
- Productivity growth – more rapid than in services.
- Growing internationalisation and fragmentation of the value chain.
- At the same time, manufacturing remains central:
  - Key to technological change
  - Still accounts for the bulk of international trade
  - Important linkages to other parts of the economy – manufacturing still accounts for a large share of total demand
  - Increasing blurring of services versus manufacturing – much of the growth of services depends on manufacturing

Where will the new growth come from – and what role for manufacturing?

- Firms in OECD countries increasingly compete on knowledge.
- New versus existing firms – US evidence suggests most new jobs are created by new (young) firms, but this not as clearly the case in the EU.
- New demands – e.g. green growth – and new forms of manufacturing – e.g. manufacturing on demand.
- Services – increasingly complementary to manufacturing
- But in the end, very hard to predict, although foresight/scenario studies can help.

Policy considerations

- Manufacturing remains key to countries' performance and continues to drive much of productivity growth and technological change
- But demand in Europe is growing slowly and demand growth will mostly occur in emerging economies
- Some options to foster new growth include:
  - Attracting inward FDI
  - Strengthening local capabilities (e.g. clusters)
  - Fostering entrepreneurship and new firms
  - New demands and new forms of manufacturing
- Some of these area may lead to "industrial" policy action.

Fostering Trade and FDI

- The largest opportunities for growth will involve international trade and FDI, in particular with emerging economies
- Opening new markets for international trade is therefore of great interest
- As are efforts to strengthen trade performance, e.g. trade facilitation.

- But it's not just about exports:
  - Imports are crucial to benefit from comparative advantages – and with the growing interdependence of exports and imports, barriers to imports tend to hurt exports
  - Outward FDI is crucial to grow and benefit from emerging markets

Attracting inward FDI

- Economic fundamentals are key:
  - A credible policy to attract FDI must reflect strong fundamentals, e.g. skills, research, integrated market, infrastructure, finance, etc.
  - Investors look for a stable regulatory and policy framework

- Inward investment promotion:
  - Targeting of investors, increasingly along functional lines
  - Need for business/investment intelligence

- Targeted incentives for FDI (e.g. subsidies, fiscal incentives):
  - Do not compensate for poor economic fundamentals
  - Their impact is mainly at the margin (market size and growth and other economic fundamentals are key)
  - Risk of a race to the bottom

Developing local strengths

- Develop a joint vision and strategy for long-term investment:
  - Set priorities to create excellence and critical mass
  - Involve stakeholders in developing policies
- Strengthen and capitalise on local strengths and capabilities: firms, knowledge institutions, people, services, social factors, culture, natural resources, etc.
- But in an open environment; ideas can come from anywhere and competition is key

Fostering entrepreneurship and new firms

- Encouraging entrepreneurship – in new and existing firms:
  - Removing barriers to firm start-up and firm failure
  - Removing barriers to firm growth
- Education and culture: fostering aspirations
- Facilitating experimentation:
  - Stable frameworks that reduce uncertainty and provide incentives for new entrants – in particular important for the green sector
  - Well-designed government policies to address financing gaps, e.g. through co-funding schemes – but avoid picking winners and direct government funding of high-risk firms.

New areas of manufacturing?

- Greening business - not clear what the net effect will be:
  - Gains as well as losses – some industries will struggle, although manufacturing will also underpin new green technologies
  - Production may be highly concentrated (e.g. equipment)
  - Most growth in value and jobs may be in services and in upstream and downstream parts of the value chain.

- Manufacturing on demand:
  - Technology is enabling more customised and just-in-time production, which could enable manufacturing firms to capture more value
  - This could also favour local strengths

More broadly, where governments need to make investment choices, they should focus on the public benefit, …

- Government goal of achieving high levels of income and welfare does imply a need for high value-added activities
- Given this goal, any government is likely to have preferences (e.g. across technologies and sectors) – and will need to make choices and set priorities for its (supporting) public investments
- This challenge is not very different from a private investment problem, but governments should also focus on the expected public benefits, and account for, e.g.:
  - Supply chain effects
  - Skills
  - Research spillovers
  - Environmental externalities
  - Etc.

… ensure good review and governance …

- Due diligence
- Limit downside risk to public purse, recover funds, co-funding
- Investment choices made by professionals, independent from political processes
- Accountability by responsible minister
- Public access to process

… and understand what can be achieved

- Industrial policies often have unrealistic goals:
  - Reproducing Silicon Valley – top-down cluster policies simply do not work
  - Creating a new biotechnology cluster – all but 1 US state (and almost all European countries) are seeking to achieve biotechnology strengths, but scale is often too small
  - Expecting that policies to bring back manufacturing will create many new jobs

- In most cases, government should focus on structural reforms to remove barriers and support capabilities, e.g.:
  - Removing regulatory barriers
  - Improving labour, product and financial markets
  - Skills, infrastructure, research
  - Institutions

Do industrial policies work?

- Relatively little proper evaluation.
- Rodrik (2007): The pessimistic view of industrial subsidies does not have a firm empirical basis (China, Taiwan, Korea, etc.)
  - Since governments typically targets "losers" naive empirical techniques may underestimate any true positive effects
- Econometric evaluations of causal impact of industrial policies rare
  - Difficulty in accessing administrative panel data
  - Identification

The importance of evaluation…

- Lack of rigorous and systematic evaluation of industrial policy initiatives
- Polarisation of views in industrial policy debate
- Good impact evaluation improves policy design and saves money
- Process evaluation can promote better policy implementation
- Building the evidence base – instrumental vs conceptual use of evaluation evidence

…and the challenges

- Lack of data or limited access to data
  - Need to design policy evaluation ex-ante rather than ex-post
  - Improve collection and access to data

- Methodological limitations
  - Assumptions needed are sometimes too strong
    - E.g. SUTVA

- Caveat: trade-off between external validity and internal validity of evaluations

Conclusions

- There are risks to "industrial" policy:
  - Capture by vested interests
  - Risk of failure
  - Market distortions, protectionism
- But there may also be reasons to have such policies:
  - The economy may be locked into a low-growth trajectory
  - It may be faced with inertia, e.g. in moving towards green growth
- Policy disciplines and design may help reduce risks, e.g.:
  - Policies should be temporary (as problems to be addressed are often transitional)
  - Evaluation is critical – policies should be abandoned if not effective
  - They should be as (technology/sector) neutral as possible, letting markets make the ultimate choice
  - Design is key, e.g. in allowing for competition and in separating investment choices from the political process

Thank you!

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The causal effects of an industrial policy

Chiara Criscuolo (OECD),
Ralf Martin (Imperial),
Henry Overman (LSE)
and John Van Reenen (LSE)

What does the study do?

- Estimate causal effects of major business support program in UK Regional Selective Assistance (RSA) on jobs, investment; productivity, entry/exit & unemployment
  - Selected firms are given investment subsidies in disadvantaged geographical areas (mainly manufacturing)
  - Main UK firm subsidy scheme:
- Rich panel data for non-treated and treated plants & firms
  - administrative data on population of all RSA recipients matched to population of plants (2.2m observations over 350k plants)
- Quasi-experiment: EU-wide definition of a "disadvantaged area" determined by EU State Aid rules & revised every 6-9 years.
  - In sample period 1986-2004 there were two changes in eligibility and maximum subsidy in 1993 & 2000 (also changes in 1984 and 2006 outside sample period)

What are the findings?

- **Overall program effects (ATT):**
  - Increases investment & employment on intensive and extensive (i.e. more net entry of plants) margins.
  - A 10 percentage point investment subsidy in area generates ~6.6% higher employment
  - Reduces unemployment, little displacement from other areas
  - OLS has large downward bias
- Zero effect for large firms – suggestive of "gaming"
- No effect on Total Factor Productivity & recipients mainly low productivity
  - **Cost per job around $6,500, so relatively cheap**
- Doesn't mean industrial policy good, but a necessary condition