OECD Reviews of Innovation Policy

A key customizing tool for the OECD Innovation Strategy

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From common core principles to differentiated national policies that are internationally compatible

- Expanding knowledge and new business models
- Demand pull: The imperative of sustainability; new social needs
- Globalisation of innovation markets and inputs

Common trends & Core policy principles

- Policy goals & priorities
- Policy approaches & instruments

The respective roles and modes of operation and interaction of the main actors in innovation systems

One size does not fit all because of differences regarding:
- Size
- Level of development
- Economic structure
- Political tradition
- Institutional capabilities
- Culture, etc.

Country specific features & Policy priorities & context

Policy responses need to be effective in achieving national goals ...

... but also internationally compatible

- Mutual recognition of legitimate differences in policy approaches & instruments
- Joint investments in the provision of international public goods
- Prioritization in accordance to underlying comparative advantages

Positive Sum Game at the global level

Lead to changes in
Reviews of Innovation Policy: Objectives

- In 2005, the OECD/CSTP decided to “re”-launch a demand-driven programme of Country Reviews with three main objectives:
  - “Additional service”: help individual countries to derive more benefits from OECD work
  - “Learning tool”: deepen the understanding of priority issues in the area of science and innovation by analysing them in concrete national contexts
  - “Outreach tool”: facilitate the participation of selected non-member countries in mainstream OECD work and help diffuse OECD work

- The Reviews already undertaken provided key inputs to the work on the OECD Innovation Strategy

- The ongoing and upcoming Reviews will be now:
  - the key “customizing tool” in the follow-up work on the OECD Innovation Strategy, including the development of an OECD Innovation Policy Handbook
Reviews of Innovation Policies: Current status

• Completed and published:
  Luxembourg, Switzerland, New Zealand, South Africa, Chile, Norway, China, Hungary, Korea, Mexico

• Ongoing and under launch:
  Greece, Russia, Slovenia, Peru, Turkey

• Others requested or under discussion, including with Brazil, Vietnam

• Regional Reviews: South-East Asia (ongoing), Latin America (under launch), MENA (under discussion)

See: www.oecd.org/sti/innovation/reviews
Review of Innovation in South-East Asia

• This Review is the first OECD innovation mapping in a trans-national region. The project was welcomed by the ASEAN Committee of Science and Technology (COST)

• In line with the decision by the OECD Ministerial Council Meeting 2007 to give high priority to outreach work with the SEA region

• Objectives:
  ✓ Short term: 1) to uncover intra-regional and extra-regional S&T and innovation dynamics; 2) to provide country-specific information on the state and evolution of national innovation systems, including public policies, with a focus on Indonesia, Malaysia, Thailand, Singapore and Vietnam
  ✓ Longer term: Establish a permanent platform for future OECD / ASEAN co-operation on Science, Technology and Innovation issues
Some emerging lessons

• Firmer international consensus on the need for government to support innovation:
  • Not only by securing conducive framework conditions ...
  • But also through active policies based on a broader rationale than the traditional market failure argument

• The adoption of a broader rationale (“cope with systemic failures”) creates new challenges in terms of policy coherence, and capability to manage a more complex set of instruments. The possibility of government failure increases with the scope of policy intervention

• International learning of good practices becomes therefore both more necessary and more difficult, given the variety of ongoing experiments in very diverse national contexts

• To facilitate such international learning the OECD ambitions to codify the knowledge gained through country reviews, notably in the framework of the planned Innovation Policy Handbook
The innovation agenda of highly developed and emerging countries is converging

- A growing number of highly developed countries adopt more articulated and ambitious innovation strategies

- Economic development policy in countries as diverse as China, Chile, Korea, Mexico, South Africa or Vietnam reflects a change in the understanding of the role of and interplay between the creation and diffusion of technology

- The idea that countries need to “exhaust” their potential for catching up before entering “own” innovation and R&D activities is unhelpful

- This creates frictions of convergence: around IPRs, competition for talents, “forced technology transfer”, standards, etc.

The geographical scope and direction (South-South and no more only North-South) for international learning of best policy practices increases, as does the need for enhanced international co-operation in dealing with frictions and in producing the international public goods that are necessary to respond to global challenges
But marginalization of low-income countries and low-skills in high-income countries is a risk

- Increasing returns on investment in knowledge may lead to geographical concentration of innovative activities

- Youngest populations are often located in areas with lower education and training capacities. Demand for low skills falls while global supply increases

- Growth strategy of rich countries / individuals contrasts with survival strategy of poor countries / individuals

- This creates conflicts of divergence within and among countries: immigration pressures, social unrest, insecurity, environmental damages (e.g. deforestation), counterfeiting and piracy, etc.

In addressing the risk of an « innovation divide » issues such as « innovation and development », « social impacts of innovation », or « socially inclusive innovation policy » should receive more attention
Variety of countries already reviewed (1)

Level and pace of economic development
Initial conditions and medium-term dynamics in GDP per capita

![Graph showing the relationship between annual average growth rate and GDP per capita for various countries.](attachment:image.png)
Size, growth and intensity of R&D expenditures

Variety of countries already reviewed (2)
Variety of countries already reviewed (3)

Types of innovation system
The high speed and depth of change in emerging economies may challenge international benchmarking: the example of China
Variety of countries already reviewed (5)

Institutional building, reforms and learning are key dimensions to take into account: the example of China
Four levels of evaluation

Framework conditions for innovation

STI Policy Mix

Demand-side measures
- e.g. Procurement policies

STI programmes and measures
- e.g. Promotion of innovation in SMEs
- e.g. R&D tax incentives
- Grants

Supply-side measures

Governance
- e.g. Public-private partnerships

1. Demand-side measures
2. Framework conditions for innovation
3. STI Policy Mix
4. Supply-side measures
Framework conditions (1): Educational achievements

Percentage of population aged 25-34 and 45-54 with higher education, 2006

Average of PISA scores in reading, mathematics and science
Framework conditions (2): Efficiency of markets
Framework conditions (3): Barriers to entrepreneurship
Governance (1): Reconciling very diverse and, at time, conflicting expectations regarding benefits from innovation.

- **Engineers and scientists**
  - Freedom and means to investigate interesting problems and experiment with exciting tools.
  - Maintain and build professional reputation vis-à-vis peers.

- **Public research organisations**
  - Sustainable missions.
  - New sources of financing.

- **Firms**
  - Survival.
  - Competitiveness and new markets.
  - Higher profits.

- **Public Treasurer**
  - Efficient use of taxpayer money.
  - Contribution of innovation-fuelled growth to fiscal sustainability.

- **Workers**
  - Job security.
  - More interesting, better paid jobs.
  - Improved working conditions.

- **Citizens**
  - Better quality of life, healthcare, security.
  - Easier and cheaper communication and mobility.
  - Cleaner economy (better environment, lower corruption).

- **Consumers**
  - Expanding choice of products and services with better price-quality ratio.
  - Product safety and traceability.

- **Local governments**
  - Greater national recognition of regional growth engines.
  - Job-creating and wealth-enhancing new investments in territorial development.

- **Teachers**
  - Greater recognition of their social role.
  - Pecuniary and other rewards.
  - Opportunity to experiment new teaching approaches.

- **Financiers**
  - Good loan opportunities.
  - Investment opportunities in projects with attractive risk-reward ratios.

A prosperous and harmonious society.
Governance (2): Defining overriding objectives
The example of Korea: Accelerating eight transitions to foster green growth

- Application-oriented research
- High specialisation
- Weakly-linked NIS
- Fragmented innovation policy
- Skills for catching-up
- Concentration in Seoul
- Large manufacturing firms focus
- Outward internationalisation

More fundamental research
Diversification
Wired-up NIS
Well coordinated innovation policy
Skills for creativity & leadership
Stronger RIS
Greater focus on SMEs & services
Balanced internationalisation
Governance (3): Golden rules of success but country-specific institutional arrangements

• Vision, leadership, coordination and commitment
  • Develop a mobilizing vision through a participatory process engaging all main public and private decision makers
  • Coordinate relevant policies among different levels of government, including the international level
  • Secure budgetary resources to implement relevant public policies with a medium and long term perspective

• Legitimacy, efficiency and adaptability
  • Ensure the participation of all stakeholders in policy design
  • Develop and mobilise strategic intelligence in support of policy making

• Provide an efficient and stable platform anchored at the highest level of government, for coordinating actions
  • An Innovation Council (following the Finnish good practice) is a popular but not always effective solution; other arrangements can work (e.g. trust-based networks such as in Norway)
Policy mix (1): Strategic tasks of innovation policy

Framework conditions for innovation
(Functioning of markets, corporate governance, IPRs, education, infrastructures, etc.)

S&T and innovation policy

- Policies to support investment in science & R&D
- Policies to enhance innovation competencies of firms
- Policies to strengthen linkages within innovation systems

Engage appropriately educated & trained people, as workers, citizens, consumers & entrepreneurs

Ensure a proper valuation of knowledge and its circulation through networks and markets

Provide supportive communication and other infrastructures

Enhance the contribution of public research

Secure the appropriate levels of complementary public and private investments

Promote innovation in government, including as lead user
Policy mix (2): Clarifying the role of public research
Policy mix (3): Enhancing the contribution of public research to innovation

- • Large-scale programmes in priority areas (top down)
- • Public-private partnerships (bottom-up)
- • Better recognition of user-driven research in evaluation
- • Improve HRST mobility

- • Design and management capabilities in the public sector
- • Firms’ capabilities and motivations
- • Sophistication of intermediaries

Use-inspired

- PASTEUR
- EDISON

Curiosity-driven

- BOHR

Fundamental

Technical achievement

Country specificities

Universities

Public Research Institutes
Policy mix (4): Promoting business R&D and innovation

Rebalancing the main strategic objectives and demand-side versus supply-side measures

Demand-side measures

- Policies to support investment in S&T & innovation
- Policies to enhance innovation competencies of firms
- Policies to strengthen linkages within innovation systems

Supply-side measures

Demand-side measures

- Policies to support investment in science & R&D
- Policies to enhance innovation competencies of firms
- Policies to strengthen linkages within innovation systems

Supply-side measures

Country specificities

- Incentives for science-industry relationships
- Foster demand for HRST in the business sector
- Foster innovation capacity building in SMEs
- Innovation-friendly procurement policy
- Conducive regulations and standards

- Firms’ size distribution & demography
- Role of foreign enterprises
- Sophistication of innovation infrastructures
- Business culture, etc.
Thank you for your attention

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www.oecd.org/sti/innovation/reviews