OECD’s Innovation Strategy: Key Findings and Policy Messages

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Overview

• Why an “Innovation Strategy”?

• What is OECD’s Innovation Strategy?

• What are some of the implications for Europe?
Why an Innovation Strategy?
A Pre-crisis drop in productivity...

Labour productivity growth in the OECD area, 1981-2007

Annual growth rate, percentage

- Labour productivity
- Value added
...combined with huge global challenges...

...and the lasting effects of the crisis.
What is OECD’s Innovation Strategy?
A “horizontal” approach
Cutting across policy areas

Exploring innovation from a wide range of policy perspectives
A series of products

• A short **Ministerial paper** setting out the challenges and priorities for action on innovation, combined with a set of policy principles

• **An analytical report**, providing evidence on the main innovation drivers and processes and policy recommendations

• A **compendium of policy-relevant indicators** that will enable countries to benchmark themselves on a range of policies and measurements

• In-depth **thematic reports** on key issues

• The beginnings of a **policy handbook**, that will enable countries to examine their own performance and system, and provide **tools and examples** to take action.
What are some of the implications for Europe?
1. Innovation today involves the interaction of a system:

*R&D is only one element*
R&D is critical to innovation...

Gross domestic expenditure on R&D, 1994-2008
As a percentage of GDP

Source: OECD (2009), Main Science and Technology Indicators 2009/2, December.
...and is the main focus of public support.

Direct and indirect government funding of business R&D and tax incentives for R&D, 2007 or latest available year
As percentage of GDP

But innovation is more than R&D.

“New to market” product innovators with and without R&D, 2004-06 (or latest)

As a percentage of innovators

- Innovation (no R&D)
- In-house R&D

Firms collaborate with each other.

Companies collaborating on innovation, as a percentage of all firms, 2004-2006

Innovation is multidisciplinary.

Scientific publications cited by “green” patents

Legend:

- **Scientific Papers**
- **Patents**
- Patent-science link via citations (100% = all citations)

And the Internet has been a catalyst.

Over 140,000 people have participated in Innovation Jam activities – with a record 4.2 million page views of Jam related materials. A record 37,000 ideas – from more than 75 countries and 67 companies – were posted during the first phase of the Jam.
Policy Message 1: Policies need to be upgraded to reflect that innovation is a system.

Strong innovation performance relies on a well-functioning system.

- involving both “push” (supply R&D and HRST) and “pull” (demand) factors (markets, consumers; standards; public procurement).

- Linking the elements of the system (labour mobility; University / Industry; diffusion; MNE & SME)
Policy Message 1 bis: Governments should foster platforms and markets that strengthen the system

- **ICT as a platform** that lowers the barriers to innovation, network formation and collaboration (Broadband);

- **Provide access to public data** (e.g. Maps, weather, publicly funded research data)

- **Develop markets and networks for knowledge** that can service many actors (e.g. market for patent licenses)
Finding 2: The mix of actors is changing.

- **Need to broaden our perspective from:**
  - Multinational Enterprises
  - Public research organisations & universities
  - the G7.
New firms are very important to innovation...

Patenting activity of young (<5 years) firms, 2005-07
PCT patent filings by young firms as a percentage of filings by firms in each country


Note: Data refers to patent applications filed under the Patent Co-operation Treaty (PCT) with a priority in 2005-07. Patent counts are based on the country of residence of the applicants. The share of young firms is derived from the set of patent applicants successfully matched with business register data.
...and job creation.

Contribution of business start-ups to overall employment and the net employment growth (US, 1992-2005)

Source: “Who Creates Jobs? Small vs. Large vs. Young” (Haltiwanger, Jarmin and Miranda, February 2010)
And new players are emerging, spreading innovative capabilities...

Scientific collaboration with BRIC countries, 1998 and 2008
As a percentage of total international co-authored articles

...but innovation is not “flat.”

Patents per million inhabitants, Europe, average 2005-07

Policy Message 2: Develop a *Strategy* for Innovation

- **A “horizontal” approach:**
  - Leadership & long-term vision;
  - Co-ordination via the budget;
  - Seek coherence: young ≠ small;
  - Division of labour with regions: build on indigenous strengths; seek a critical mass.

- **Evaluate & monitor** through improved measures (measurement agenda);

- **Strengthen** multilateral co-operation of STI.
Finding 3. Innovation is already a fundamental economic investment...

Investment in fixed and intangible assets as a share of GDP, 2006

Source: Data on intangible investment are based on COINVEST [www.coinvest.org.uk] and research papers, 2009.
...and a driver of growth.

Innovation accounts for a large share of Labour Productivity growth
Percentage contributions, 1995-2006, in %

Contribution from Intangible Capital
Contribution from Tangible Capital
Labour Productivity growth
21st Century Innovation: the iPod

**The Apple iPod = 299$ of Chinese exports to US**

**Distribution of the value added**

- 299 US$
  - 75$ **profit** to US (Apple)
  - 73$ **whls/retail** US (Apple)
  - 75$ to Japan (Toshiba)
  - 60$ 400 parts from Asia
  - 15$ 16 parts from the US
  - 2$ assembly by China

- **iTunes Music Store (2003)**
  - 70% digital market share
  - Big 5 recording companies

http://blogs.computerworld.com/node/5724
Policy Message 3:
Innovation: “now more than ever”

• **“Stay the course”:** continue to support long-term investments in innovation (basic R&D);
  – Not an “on / off” incremental investment, but accumulative
  – Cutting spending could limit growth and the ability to address global challenges

• **Not all policies require large public investment**
  – *Reform and streamline* existing policies; *remove* barriers;
  – use demand-side measures (procurement, standards);
  – Inject innovation into the public sector (e-Gov).

• **Better understand the broader role of innovation and its impact on economic growth**
Conclusion or “What are some of the take-aways?”

- **Innovation** – now, more than ever.

- **Innovation is broader than R&D** – it is a system. Policies for innovation, not a narrow set of innovation policies;

- **Innovation policy** is **more than budget allocations**;

- **Better measures** to reflect the central role of Innovation to the economy.
  - new data that confirm some of our intuition (collaboration), and
  - challenge some priors (small vs. young; drivers of growth)
  - sets out an important measurement agenda.