



OECD REVIEW OF INNOVATION POLICY: FINLAND

PRELIMINARY FINDINGS

INTRODUCTION: WHERE DOES FINLAND STAND  
AND WHAT ARE THE CHALLENGES FOR STI POLICY?

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# What are the OECD Reviews of Innovation Policy?

- Comprehensive analysis of the respective national innovation system - with a focus on the role of government policy
- Systemic perspective covering main innovation actors in business, higher education / public research, government and their interactions
- Informed by and contributing to thematic OECD work
- Standard process and methodology, but in continuous development and adaptations responding to specific needs



See: [www.oecd.org/sti/innovation/reviews](http://www.oecd.org/sti/innovation/reviews)



## What do the Reviews try to achieve?

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The Reviews are aimed to contribute to

- foster the contribution of innovation to achieve economic and broader societal objectives
- identify “binding constraints” for improving innovation performance
- improve institutional arrangements and governance mechanisms, including coordination
- improve the design and delivery of instruments and the innovation policy mix as a whole



## Factors of success of a Review

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The chances for success tend to increase if the Reviews :

- have a strong and determined counterpart in the country reviewed;
- receive broad support – across government and among stakeholders;
- are made part of relevant political processes (strategy development, implementation and assessment);
- entail a productive, multi-stage process of dialogue.



# OECD Innovation Policy Reviews in advanced European countries – a new generation since 2012



OECD Reviews of Innovation Policy  
**LUXEMBOURG 2016**



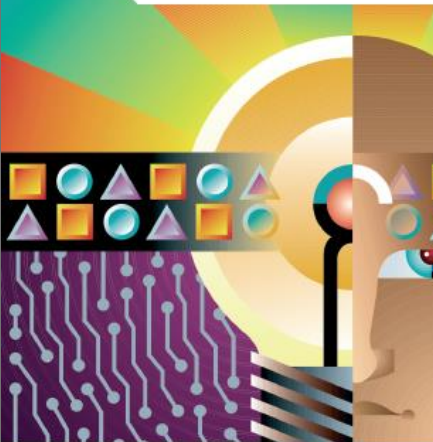
OECD Reviews of Innovation Policy  
**SWEDEN**



OECD Reviews of Innovation Policy  
**FRANCE**



OECD Reviews of Innovation Policy  
**NETHERLANDS**



OECD Reviews of Innovation Policy  
**SWEDEN 2016**

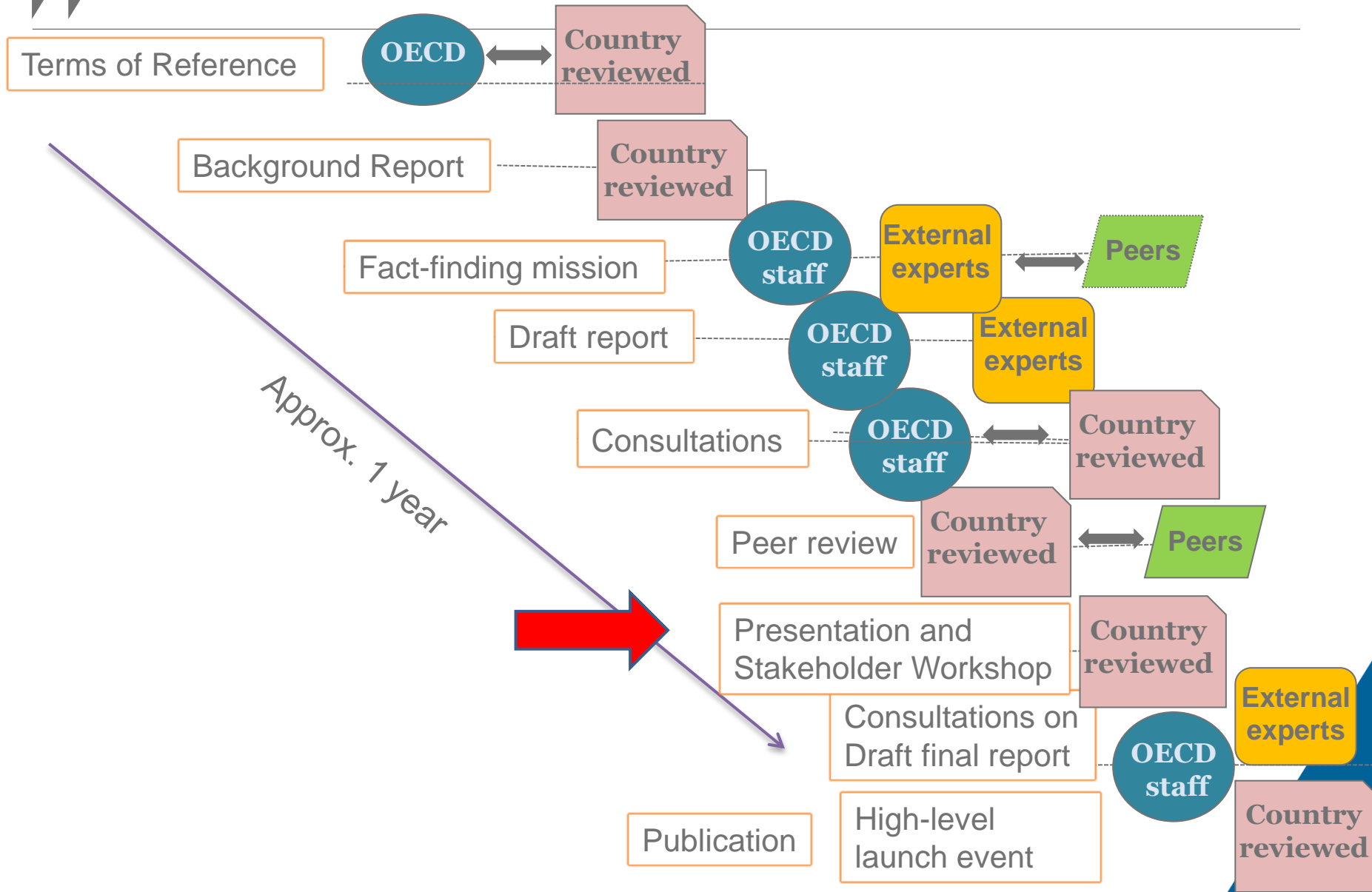


OECD Reviews of Innovation Policy  
**NORWAY**





# The process of the Review





# Background

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## A double-tip recession and shocks affecting the economy

- A weak economic environment in Europe in the aftermath of the 2008 global crisis and collapse of exports to Russia.
- External shocks – disruptive technological change triggering a fall of global demand for a number of Finnish products (ICT, paper and related products). Nokia crisis, but also downsizing in forestry/paper industries and metal-mechanics industries, etc.).
- Massive adjustments in manufacturing output and exports. Manufacturing shrank from 27% of domestic value added (2005 ) to 21% and exports plummeted (by 20% compared to the pre-crisis level). Drastic fall in business R&D, especially in ICT.

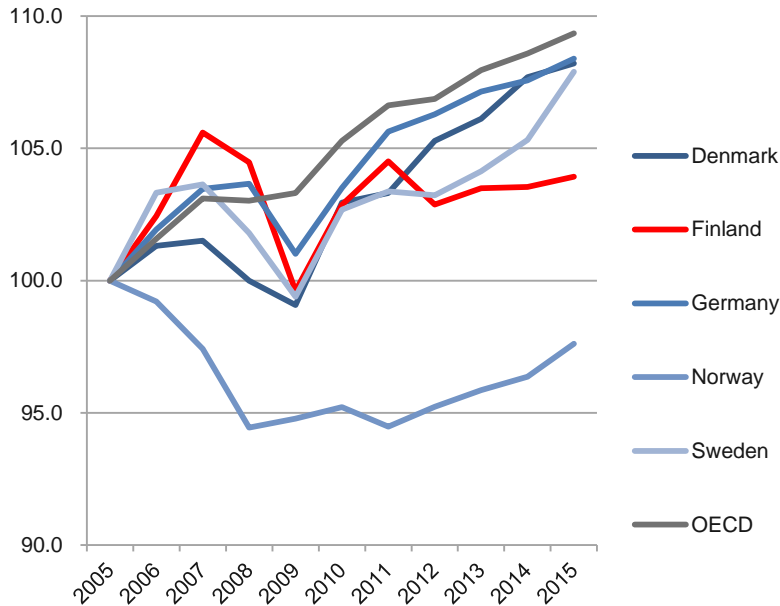
## The economy is pulling out of recession but growth prospects remain subdued

- In 2015, output was nearly 7% below its 2007 peak (OECD Economic Survey 2016). The economy has pulled out of recession recently but output growth remains weak. The unemployment rate has been rising since 2012 peaking at about 9.5%, and has started to decline only recently (to just below 9%).

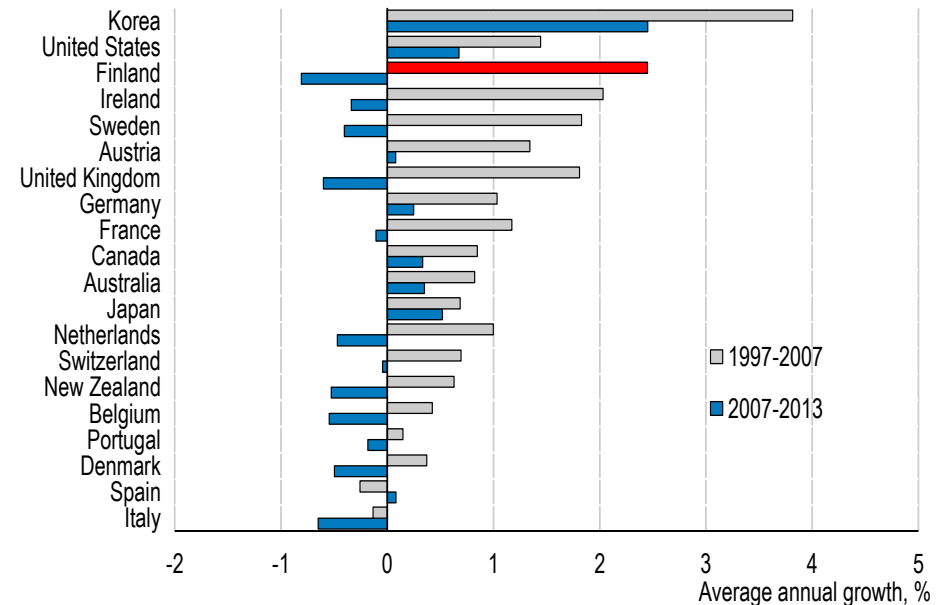


# A “lost decade”. Productivity has declined, the gap vis-à-vis OECD peer countries widened

Labour productivity, GDP per hour worked index 2005=100



Total Factor Productivity growth, average growth rate



- Labour productivity has stalled. The gap vis-à-vis Sweden, to some extent Denmark, and OECD has widened and is only slowly recovering.
- Important contraction of Total Factor Productivity (TFP) over the period 2007-13, as opposed to the rapid expansion in the previous decade.
- Productivity has fallen in manufacturing and hardly increased in business services.

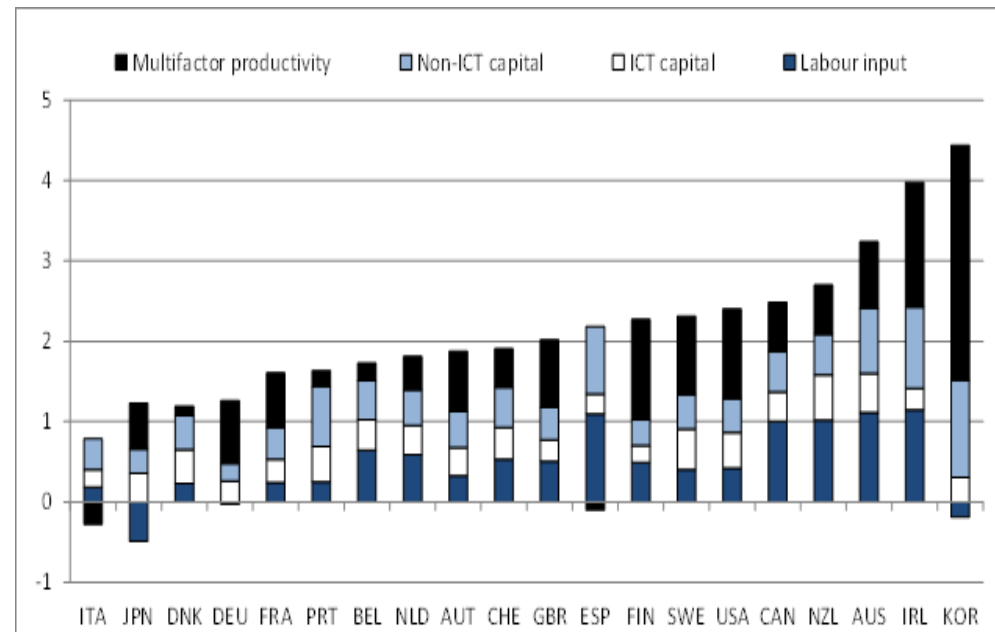




# Role of R&D and Innovation in Growth and Development (Mohnen, 2017) – Helsinki Workshop

- **Main source of growth via productivity (TFP):** Two-thirds of economic growth in Europe from 1995 to 2007 derive from investment in research and innovation (Bravo-Biosca *et al.*, 2013).
- **Social returns on investment in R&D are higher than the opportunity costs** (*returns on physical capital*) and are higher than private returns:
  - Two to three times bigger than private rates (Kao *et al.*, 1999); 40 % or more (Hall *et al.*, 2009).
- **Innovation and enabling STI policies contributions directly and indirectly to wellbeing** (e.g. health, education ...)

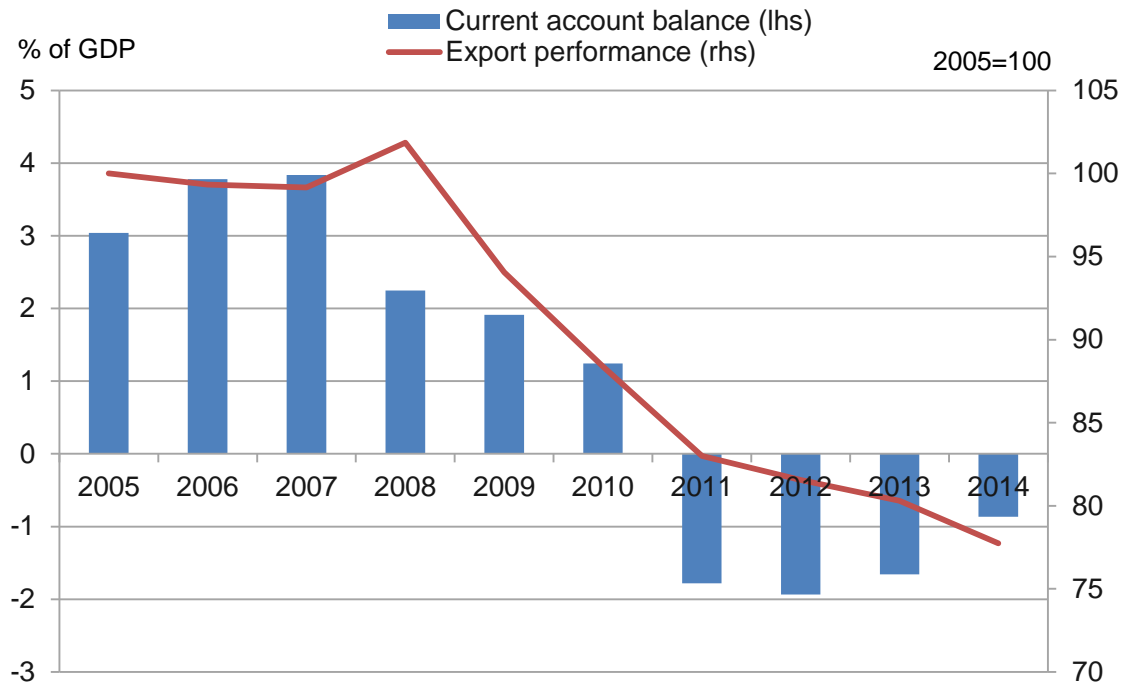
**Contributions to GDP growth**  
Total economy, annual percentage point contribution, 1995-2013



Source: OECD Productivity Database, January 2015, and OECD (2015), OECD Compendium of Productivity Indicators, 2015, .



# The crisis and industrial collapse has highlighted the lack of diversification in the export basket



- Since 2008, Finnish exports have declined by approximately one fifth, which is more than in any other advanced economy. The share of high-technology goods in exports dropped from 23% in 2005 to 6% in early 2016.
- The current account balance moved from a surplus of nearly 4% of GDP in 2007 to a deficit close to 2% in 2011. The deficit has been decreasing to 0.4% in 2015.
- Exports of services have remained more or less unchanged since 2008.



# Major challenges Finland faces today

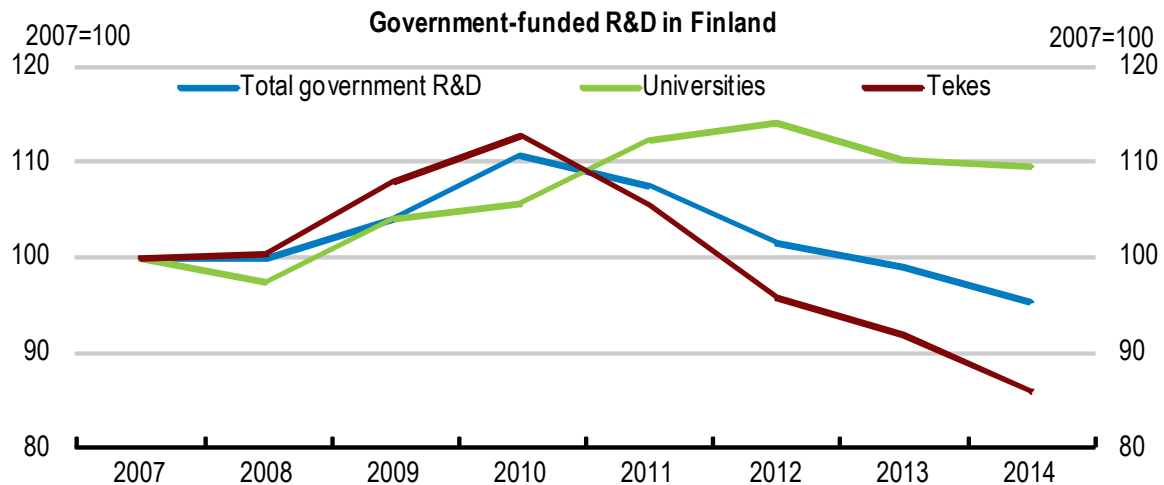
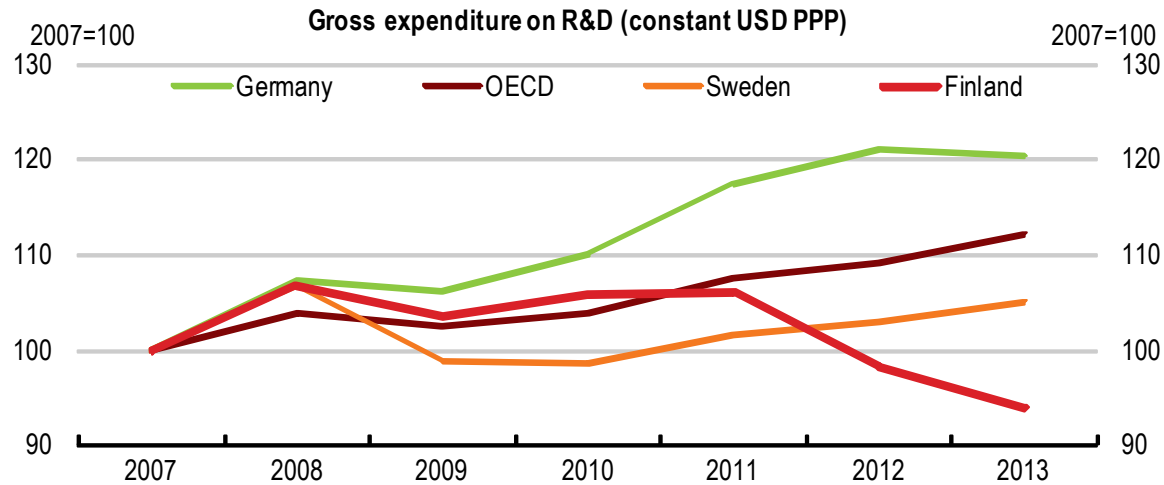
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To make the economy again more vigorous, competitive and resilient in order to safeguard living standards, future wellbeing and employment, Finland faces major challenges:

- Revive productivity growth and competitiveness through diversification and growth of innovative firms. This will entail:
  - Revitalising existing industries (strengths) through innovation and building new competitive advantages in such sectors.
  - Developing new export sectors through innovative entrepreneurship.
- Ensure future wellbeing by addressing societal challenges, in innovative ways, which will also leverage business opportunities (including in global markets).



# R&D investment downscaling while other peer countries scale up



Source: OECD, Main Science and Technology Indicators database and Statistics.



# Finland's STI policy responses

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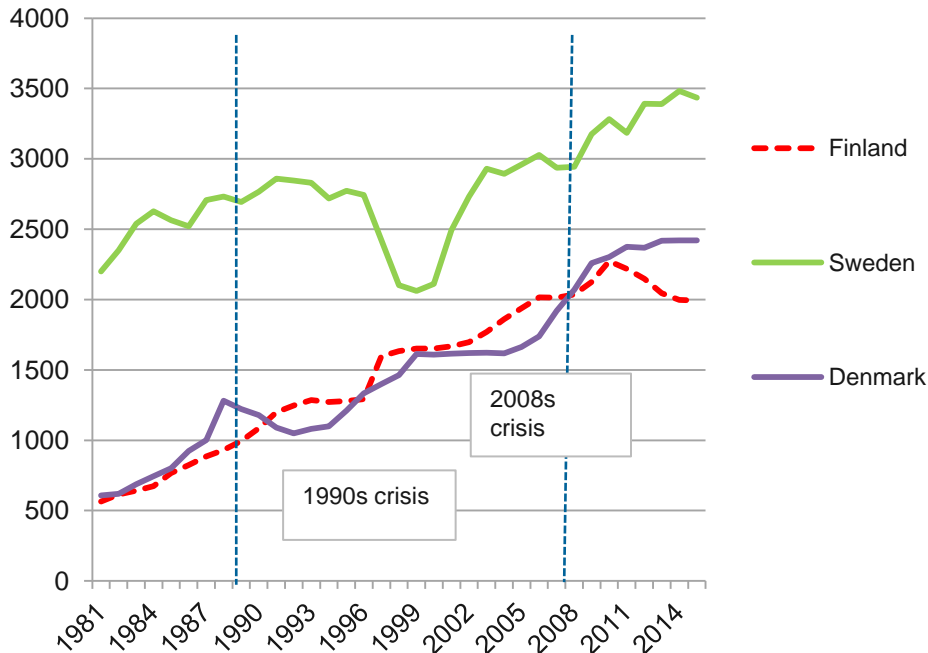
- Changing approach towards R&D in the wake of the crisis: switch from expansionary (“counter-cyclical”) to contractionary (“pro-cyclical”) after 2010
  - Decreasing public budgets for business innovation and applied research.
  - In contrast to other OECD economies which have responded by adopting counter-cyclical policies (Germany, Denmark); Norway and the Netherlands have moved from a contractionary to an expansionary R&D policy .
- Shifts in the allocation of R&D funding: less applied R&D and more focus on basic research; steep decline in Tekes budget; contrary to what might be needed to revive industry in the short run.
- Cuts at VTT, emergent “enabling technology gap”.
- A number of institutional reforms (since 2007); still in process of implementation. Re-shuffling of public research organisations and changing fortunes of regional innovation policies.
- Weakened STI governance.

*→ Have these responses been adequate overall?*

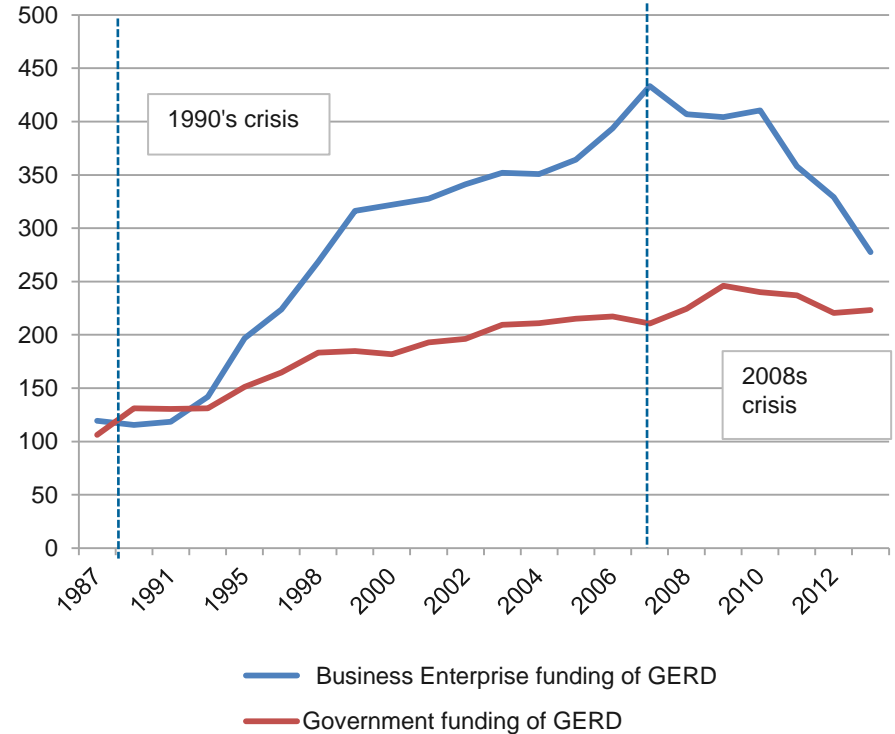


# A changing approach to using STI and related policies in efforts to revive the economy

### Government budget appropriations for R&D (2010 USD constant prices and PPPs)



### R&D funding by source (1987 index)

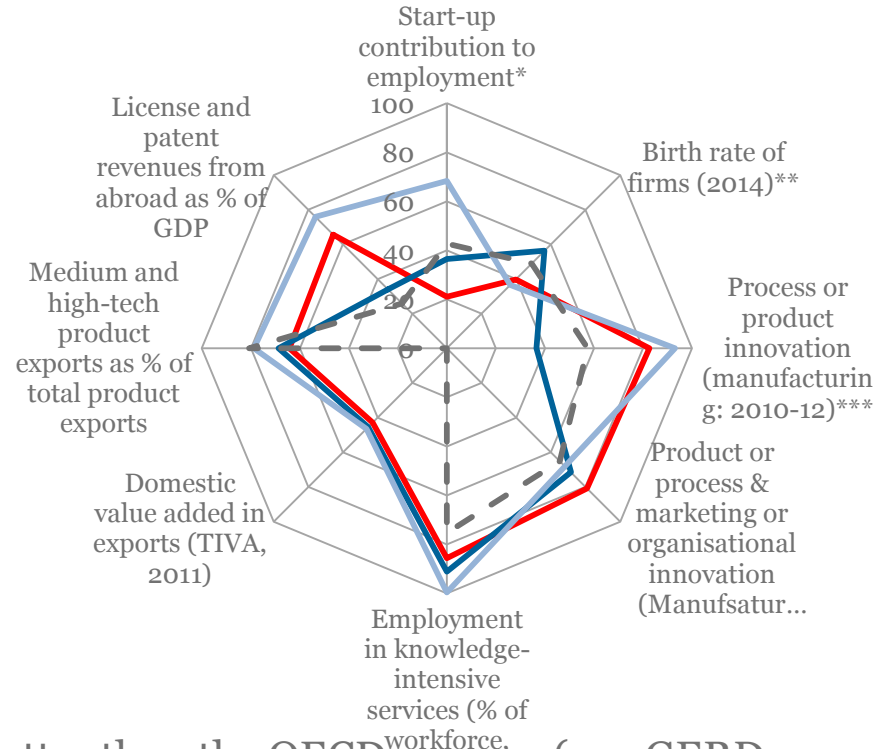
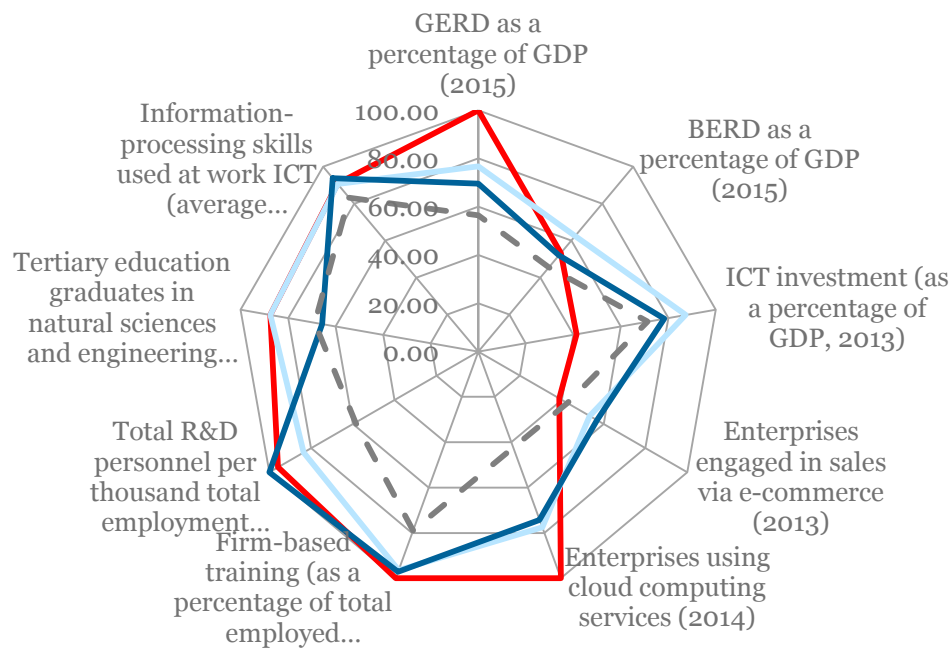




# A range of innovation capabilities but some difficulties in turning knowledge into economic activity

— Finland  
— Denmark  
— Sweden  
- - OECD average

— Finland  
— Sweden  
— Denmark  
- - OECD average



- In many areas, innovation capabilities are better than the OECD average (e.g. GERD intensity, firms using cloud services, R&D personnel, etc.), but lagging in others (e.g. ICT investment and firms using e-commerce).
- Weak output performance in revenues from technology (from abroad), start-up contribution to employment and birth rate of firms. Domestic value added in exports same as OECD average.

# What can be the contribution of STI policy to achieve Finland's objectives?

## Tackling Finland's economic challenges requires

Re-balancing R&D policy: Increase applied R&D and strengthen the support system

Boosting innovation in the business sector and extend innovation to SMEs

Enhancing the contribution of HEIs

Improving internationalisation

Relaunching governance and a new vision

- Strengthen applied R&D & key enabling technologies
- Stakeholder coordination

- Target radical innovation projects
- Enhance SME's participation
- Sector/industry innovation (PPPs)

- Complete reforms and foster specialisation and consolidation
- Revise institutional funding formula

- FDI and foreign R&D attraction
- Incentives packages
- Attract talent from abroad





Thank you for your attention  
If you need further information, please contact us

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Web resources

[www.oecd.org/sti/innovation/reviews](http://www.oecd.org/sti/innovation/reviews)