

# Intangible investments for new modes of innovation

RIETI / G-COE Hi-Stat Symposium  
The Role of Intangible Assets in the  
Improvement of Firm Performance

Oct. 2, 2009

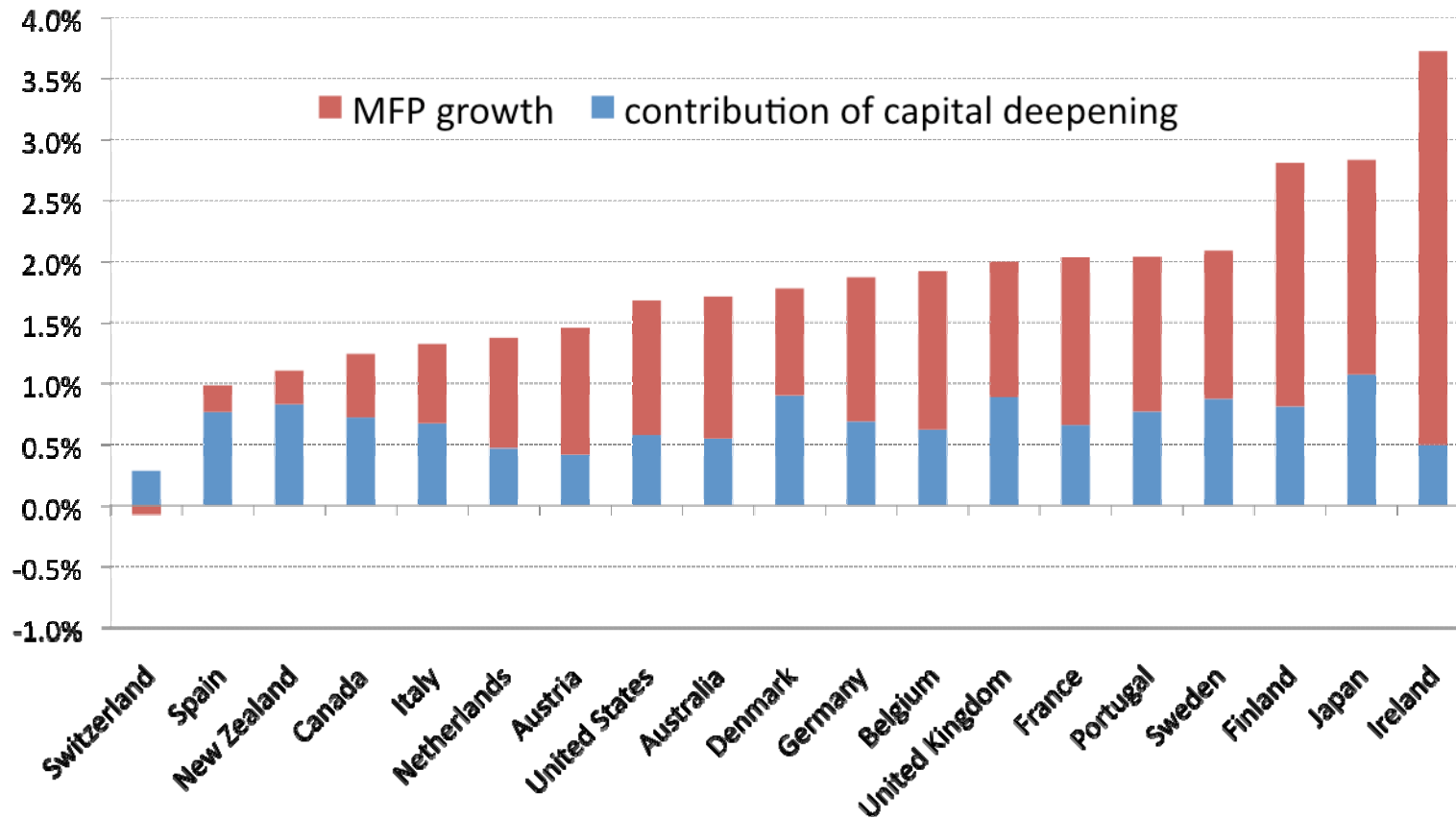
Yoshiaki TOJO  
METI

# Outline

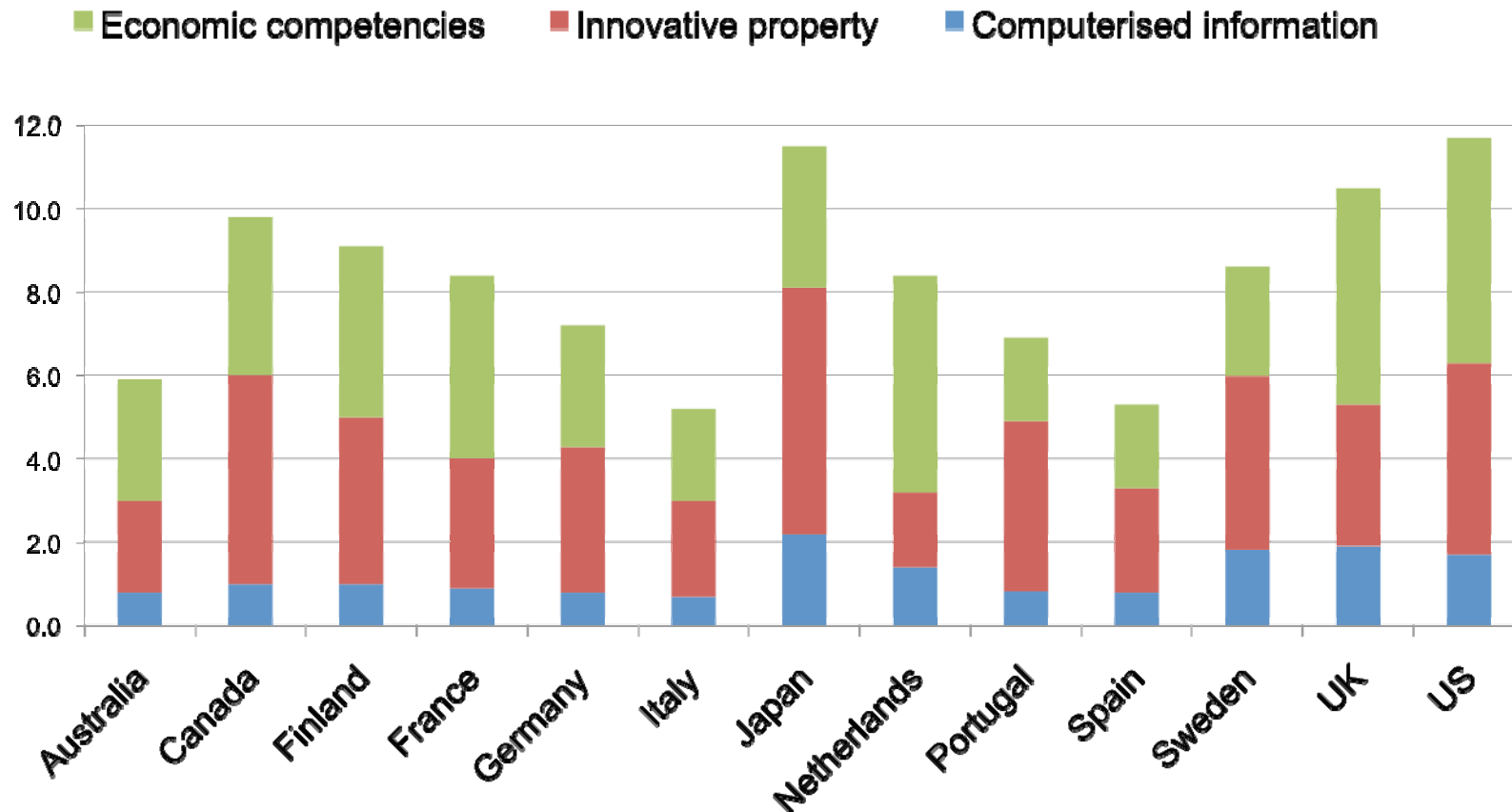
- What do we know about intangibles?
- Changing nature of innovation ...  
challenge for policy and measurement.
- *How might crisis affect on intangibles?*

*Economic growth is more than  
tangible capital deepening.  
Intangible investments matter.*

Labour productivity growth, 1985-2006



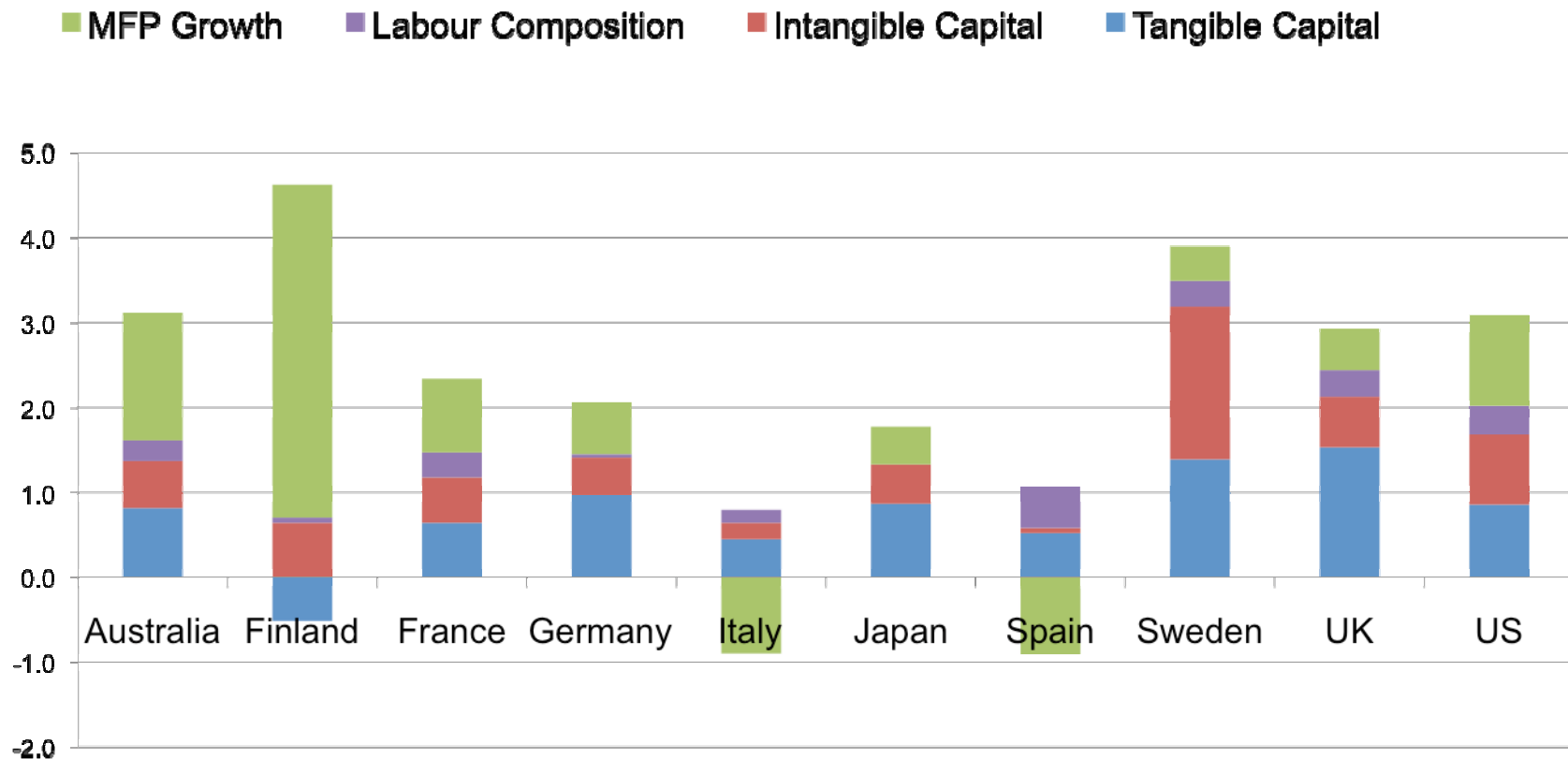
# *Business sector invests heavily on Intangibles...*



Sources: Table 6.1 of Barnes and McClure (2009), Edquist (2009a) for Sweden, and Lima et al (2009) for Portugal.

See also end-note.

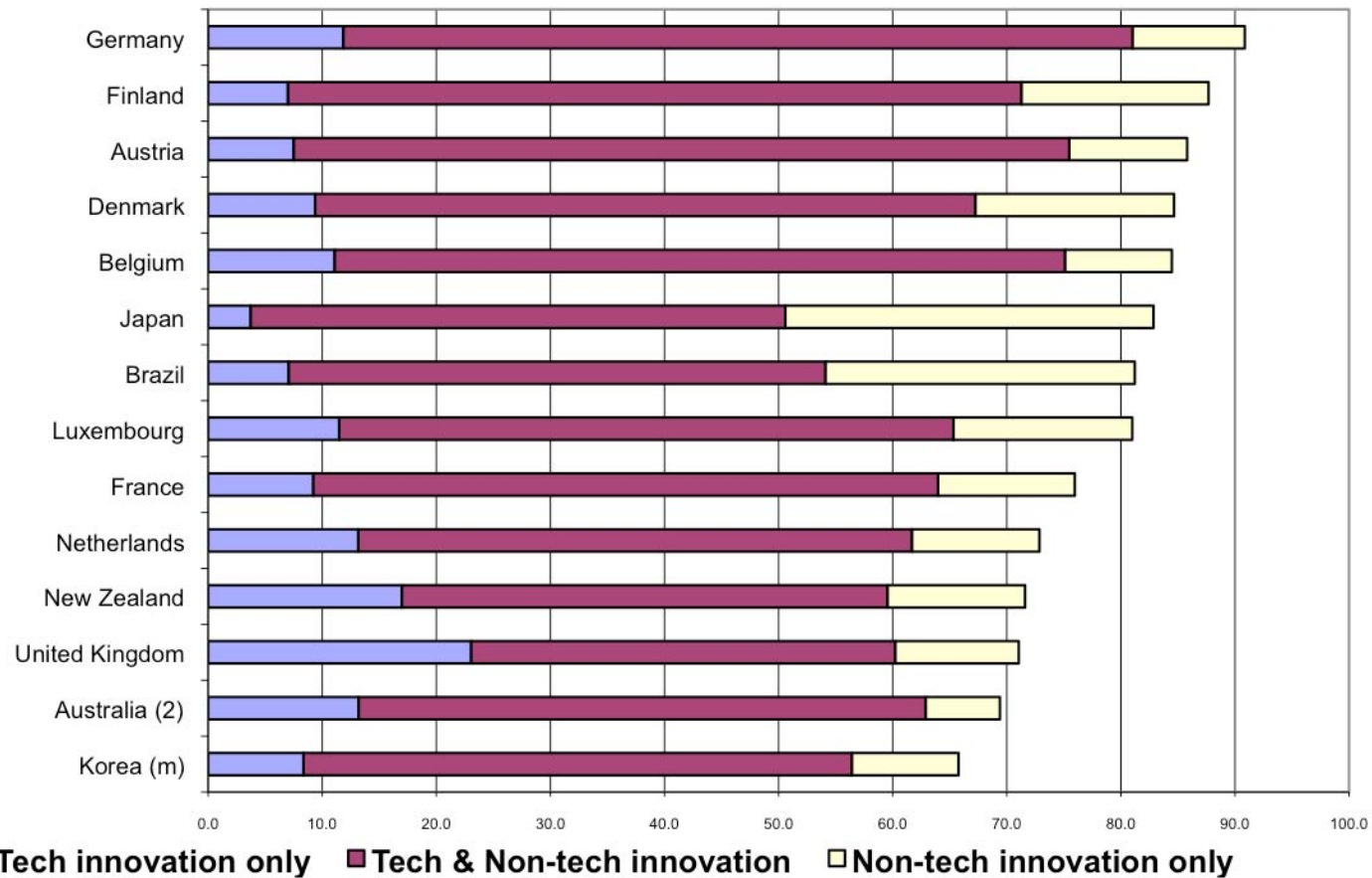
*... to the magnitude comparable to that on tangible capital,*



Sources: Table 6.3 of Barnes and McClure (2009) and Edquist (2009b) for Sweden. See also end-note.

*... and often worked in combination.*

**Technological (product/process) Innovation & Non-Technological (Marketing/Organizational) Innovation, Employee weight 2002-04**



Source: OECD Innovation Micro-data Project

## *Changing nature of innovation poses challenges on policy...*

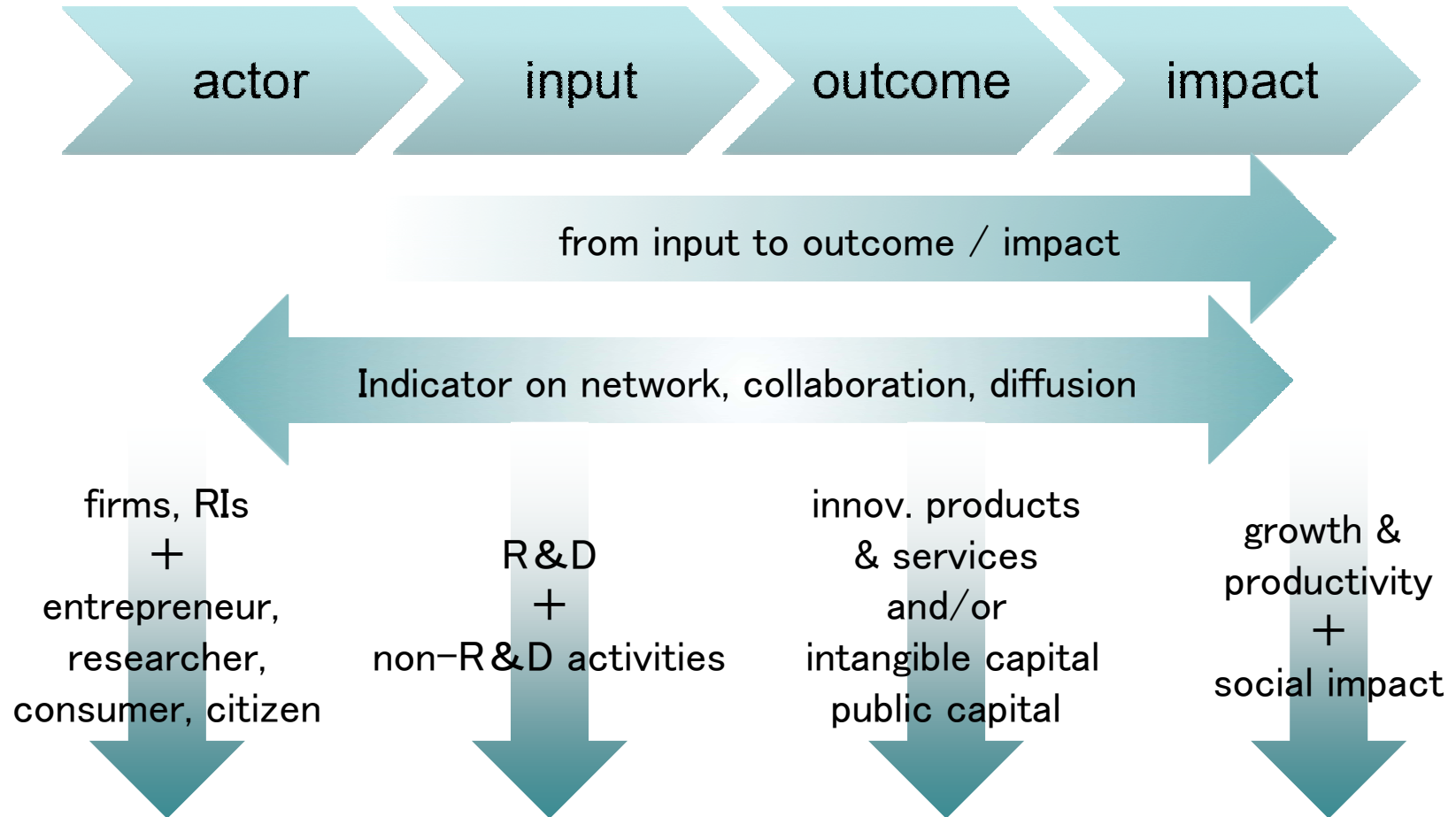
- Changing Nature of Innovation
  - **Opening** : networked, interdisciplinary, globalized
  - **Broadening** : non-technological, “democratized”
- New agenda for Innovation Policy
  - Fostering **Collaborative Knowledge Creation & Diffusion** (Knowledge Markets)
  - Supporting **Non-R&D** investments
  - Providing **Seed Knowledge & Platform**
  - Governing **Policy Coherence & International Cooperation**
- Challenge for Innovation Measurement
- Coordination and Evolutionary Development

## *... and measurement.*

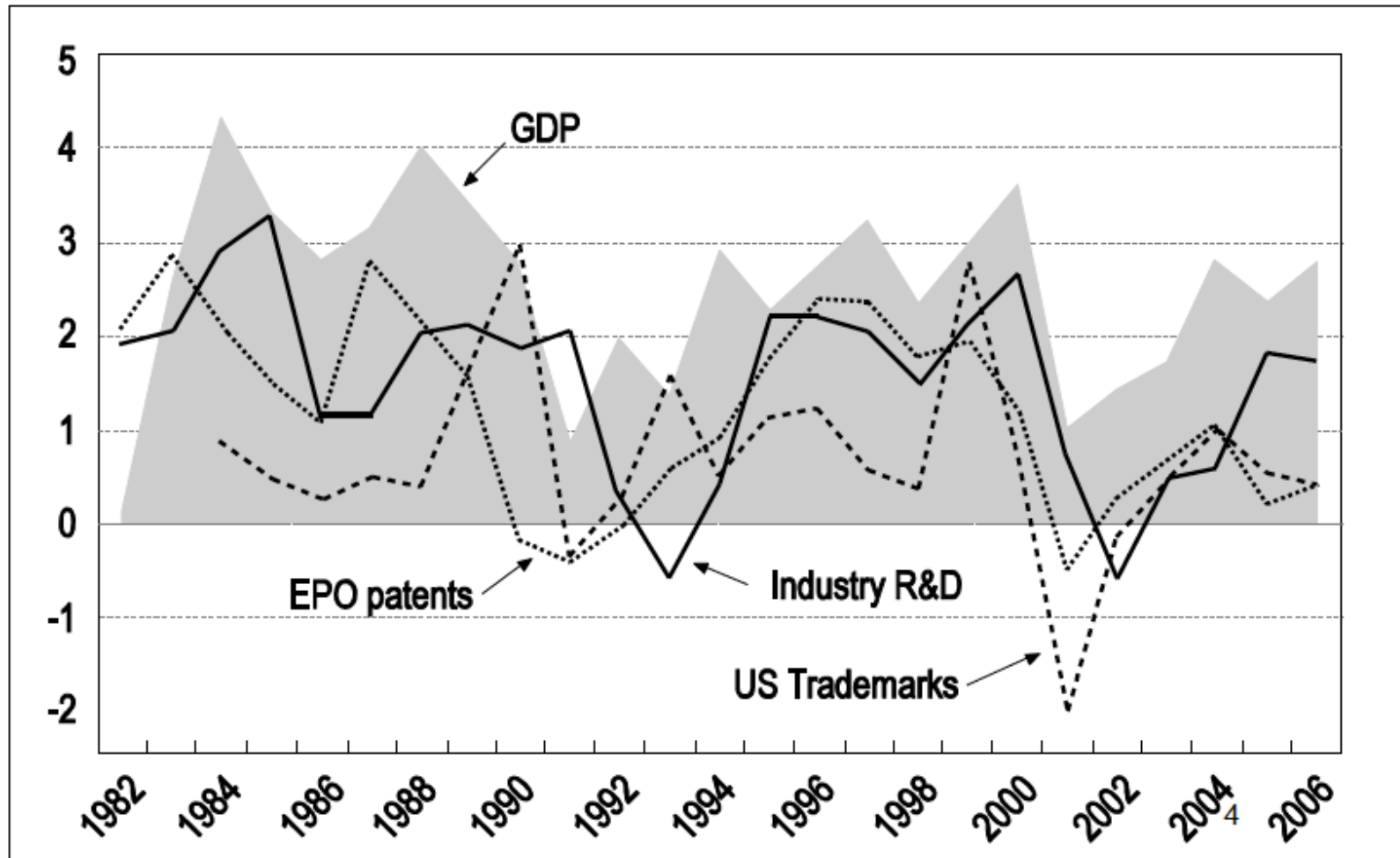
- Changing Nature of Innovation
- New agenda for Innovation Policy
- Challenge for Innovation Measurement
  - Shift from **Input to Outcome / Impact**
  - Capture **Knowledge Flow & Network**
  - Measure **Non-R&D** inputs/activities
  - Bridge **Micro to Macro**
- Coordination and Evolutionary Development
  - Cross-Agency **Micro-Data Consolidation**
  - **International Harmonization** of Questionnaire
  - New data dissemination (incl. **anonymisation, higher moment info**)
  - Non-official data sources (**internet** data flows, **XBRL**)
  - **Producer-User Dialogue** for Evolutionary Development



# Challenge for performance measurement



# *Intangibles in Crisis: procyclicality of Intangible investments*



## *Intangibles in crisis (2): threats*

- Credit crunch increases barriers to entry
- Collapse of venture capital investment in the US during Q4, dearth of IPOs
- Collapse in world trade, risks to global value chains – a source of knowledge exchange
- Sharp drop in R&D expenditure in major MNEs at Q4; further reductions announced in large companies for 2009.
- Possible erosion of human capital
- Government budgets under pressure; limited room for counter-cyclical public R&D

## *Intangibles in crisis (3): opportunities*

- Creative destruction: New business models and new technologies, often emerge in downturns
- Opportunity for firms to purchasing technology rather than making it – alternative exit for smaller firms
- For government, an opportunity to implement policy changes that can strengthen the contribution of intangibles to a sustainable recovery

*Governments are addressing long-term aspect (incl. intangibles) in their rescue packages...*

- Many stimulus packages contain measures designed to bolster intangible investments – R&D, incentives for green innovation, smart infrastructure, etc. (... also support established firms and industries).
- The crisis offers an opportunity to implement policy changes that can strengthen recovery and move to stronger, cleaner and fairer growth.

## End note for slide 4 & 5

Barnes, P. and McClure, A. (2009), *Investments in Intangible Assets and Australia's Productivity Growth*, Productivity Commission Staff Working Paper, Canberra, March.

Belhocine, N. 2008, *Treating Intangible Inputs as Investment Goods: The Impact on Canadian GDP*, Paper presented to the 2008 World Congress on National Accounts and Economic Performance Measures of nations, May 12-17, Arlington, Virginia, <http://www.indexmeasures.com/dc2008/papers/Nazim%30Belhocine%20-%20Intangible%20Exp%20Approach.pdf> (accessed 1 May 2009).

Corrado, C., Hulten, C. and Sichel, D. (2005), 'Measuring capital and technology: An expanded framework', in Corrado, C., Haltiwanger, J. and Sichel, D. (eds), *Measuring Capital in the New Economy*, Studies in Income and Wealth, vol. 65, The University of Chicago Press, Chicago, pp. 11–41.

—, — and — (2006), *Intangible Capital and Economic Growth*, NBER Working Paper No. 11948, National Bureau of Economic Research, Cambridge, Massachusetts.

Edquist, H. (2009a), *How Much does Sweden Invest in Intangible Assets?*, IFN Working Paper No. 785, Research Institute of Industrial Economics, Stockholm.

— (2009b), presentation at the COINVEST-OECD joint conference on "Measuring Investment in Intangible," June 2, 2009

Fukao, K., Miyagawa, T., Mukai, K., Shinoda, Y. and Tonogi, K. (2008), *Intangible Investment in Japan: New Estimates and Contribution to Economic Growth*, Global COE Hi-Stat Discussion Paper Series 015, Institute of Economic Research, Hitotsubashi University, Tokyo.

Giorgio Marrano, M. and Haskel, J. (2006), *How Much does the UK Invest in Intangible Assets?*, Department of Economics Working Paper No. 578, Queen Mary, University of London, London.

—, — and Wallis, G. (2007), *What Happened to the Knowledge Economy? ICT, Intangible Investment and Britain's Productivity Record Revisited*, Department of Economics Working Paper No. 603, Queen Mary, University of London, London.

Hao, J., Manole, V. and van Ark, B (2008), *Intangible Capital and Growth — An International Comparison*, Economics Program Working Paper Series, EPWP #08 - 14, The Conference Board, New York.

Jalava, J., Aulin-Ahmavaara, P. and Alanen, A. (2007), *Intangible Capital in the Finnish Business Sector, 1975-2005*, ETLA Discussion paper No. 1103, The Research Institute of the Finnish Economy, Helsinki.

Lima, F., Faria, P. and Martins, P. (2009), presentation at the COINVEST-OECD joint conference on "Measuring Investment in Intangible," June 2, 2009

van Rooijen-Horsten, M., van den Bergen, D. and Tanriseven, M. (2008), *Intangible Capital in the Netherlands: A Benchmark*, Discussion Paper No. 08001, Statistics Netherlands, Voorburg.