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**OECD Development Centre** 

Symposium on Technology Innovation and Inclusive Grow

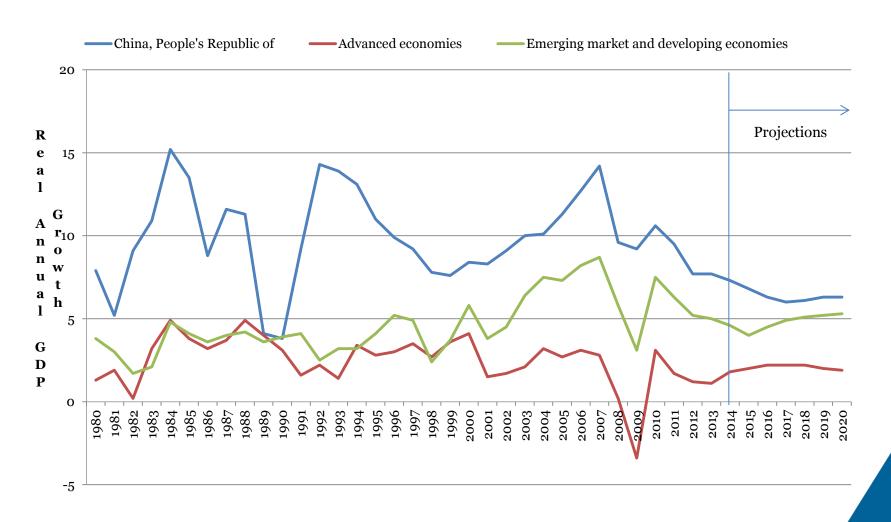
Paris, April 28-29 2016



- 1. My comments are from the perspective of developing countries
- 2. Will go beyond competitiveness in the internet economy
- 3. Will focus on four key enablers of the internet economy
- 4. Will go beyond taking advantage of the internet economy to making innovation work for developing countries



#### Growth slowdown: Actual and Projected: China vs Advanced and Emerging Market & Developing Economies



Source: IMF Datamapper accessed 28/10/2015



#### The Internet Economy and Developing Countries

- The internet can affect developing countries in many ways
  - Can enable leap frogging
  - Can greatly reduce transactions costs and improve efficiency of use of capital
  - But can also be disruptive to existing activities
  - And failing to take advantage of it can lead to losing competitiveness relative to other countries that do
- Key for a country is to develop strategies to take advantage of the positive impacts and reduce the negative. This includes role of government in
  - Stimulating the effective use
  - Addressing the disruptions and facilitating restructuring

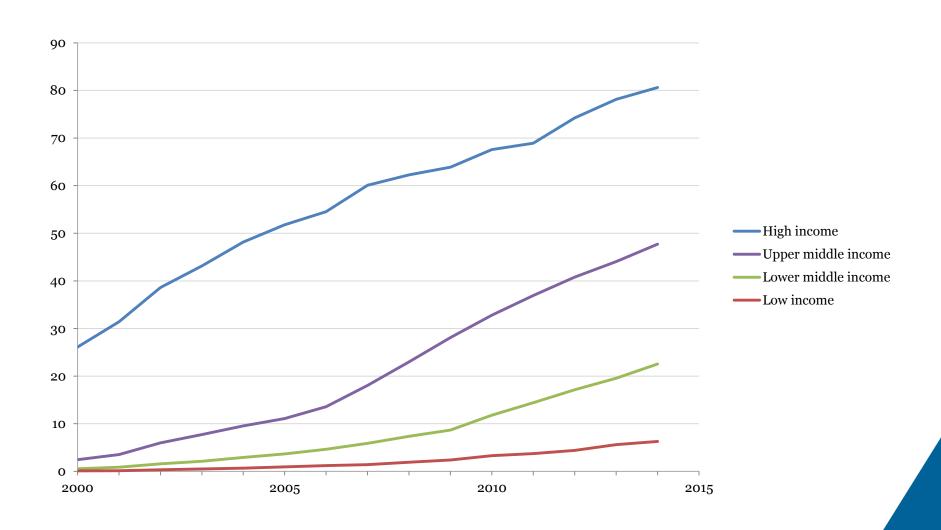


# Four Key Enablers of the Internet Economy in addition to Macro Stability and Favourable Business Environment

Infrastructure	Regulation
<ul> <li>Hardware</li> </ul>	Competition policy
• Data	• Privacy
	• Security
Skills	Finance
• ICT Researchers	Public grants
<ul> <li>ICT professionals</li> </ul>	Private lending
<ul> <li>ICT literacy in the</li> </ul>	Venture capital
population	Equity finance
population	Equity illiance



# Internet Users Per 100 people by Income Category of Country





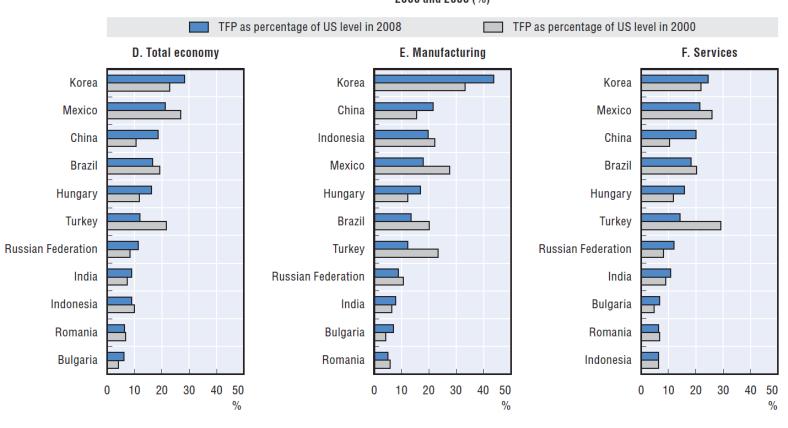
#### Making Innovation Work for Developing Countries

- Innovation is much more that R&D or productivity improvement and it is not necessary based on R&D (STI has done a lot of work on this)
- Productivity in developing countries is far below that in advanced countries so there is a tremendous potential to tap existing global knowledge (PGD 2014)



### Total factor productivity gap with advanced countries is significant

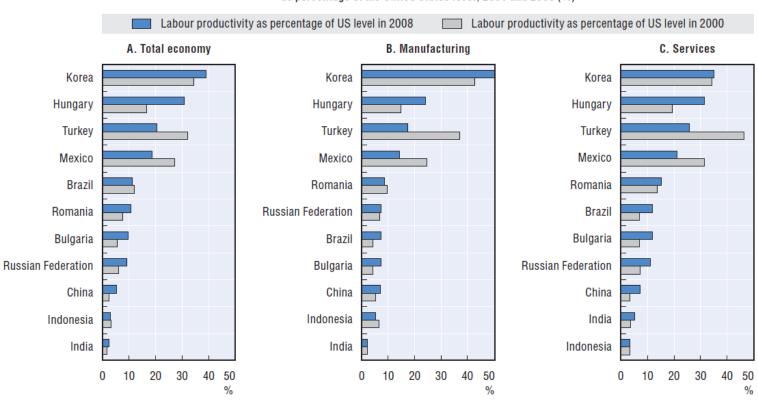
Total factor productivity as a percentage of the United States level, 2000 and 2008 (%)





#### ...so as the gap in labour productivity

Labour productivity (value added per employee in constant 2002 USD) as percentage of the United States level, 2000 and 2008 (%)





## Developing countries can Acquire Existing Knowledge through:

- Direct foreign investment
- Technology licensing
- Acquisition of technology embodied in capital goods, components and products
- Consulting and management services
- Technical assistance
- Foreign education and training
- Copying and reverse engineering
- Technical literature and databases



## But we are also in a Period of Rapid Technological change and Disruption

- Have been discussing the disruptive impact of the internet economy
- As Alistar has noted (NPR), there are also game changing technological development in other areas including biotechnology and nanotechnology
- Developing countries need to develop the capability to take advantage of the potential of those technologies and to address the challenges



#### Developing Countries Need to:

- Be aware of these trends and the potential as well as the risks they may pose for their countries
- What are some of the key elements they need to take advantages and reduce the risks
  - Infrastructures: ICT, data, networks
  - Capabilities: R&D, education, skill upgrading, entrepreneurship
  - Institutions: Universities, R&D institutes, standards institutions; venture capital, legal system for technology issues
  - Policies: Competition and regulation policies, privacy, security, restructuring and social protection policies
  - Programs: special support programs for relevant areas, international agreements

# Moving Forward

#### Would be useful to have:

- Good case studies of how countries have acquired and made effective use (including dissemination) of existing global knowledge to improve their performance
- Trends, potential and risks of some of the new technologies
- Tool kits of policies and programs to take advantage of the potential and address the risks
- Greater global efforts to stimulate innovation that addresses global public goods



#### THANK YOU!

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