

Growth, Inequality and the
Knowledge Economy
2007 Futures Conference, South
Africa, 7.11. 2007

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The Knowledge Economy-creating Growth and Equality?

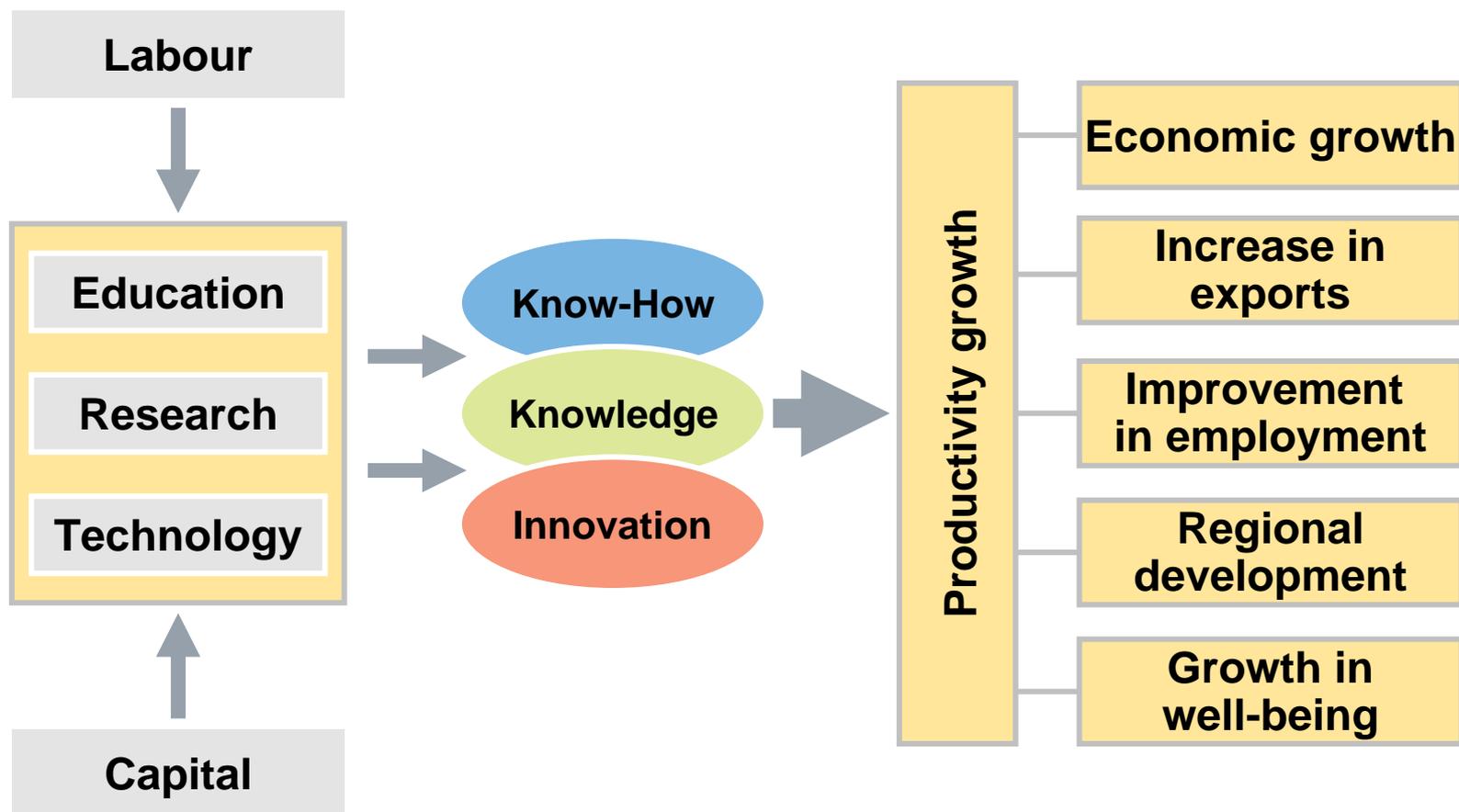
1. Knowledge Economy – Case Finland
2. (Natural) Resources-Based Economy
3. Lessons and Challenges

Knowledge-Based Economy

Building Knowledge Economy means:

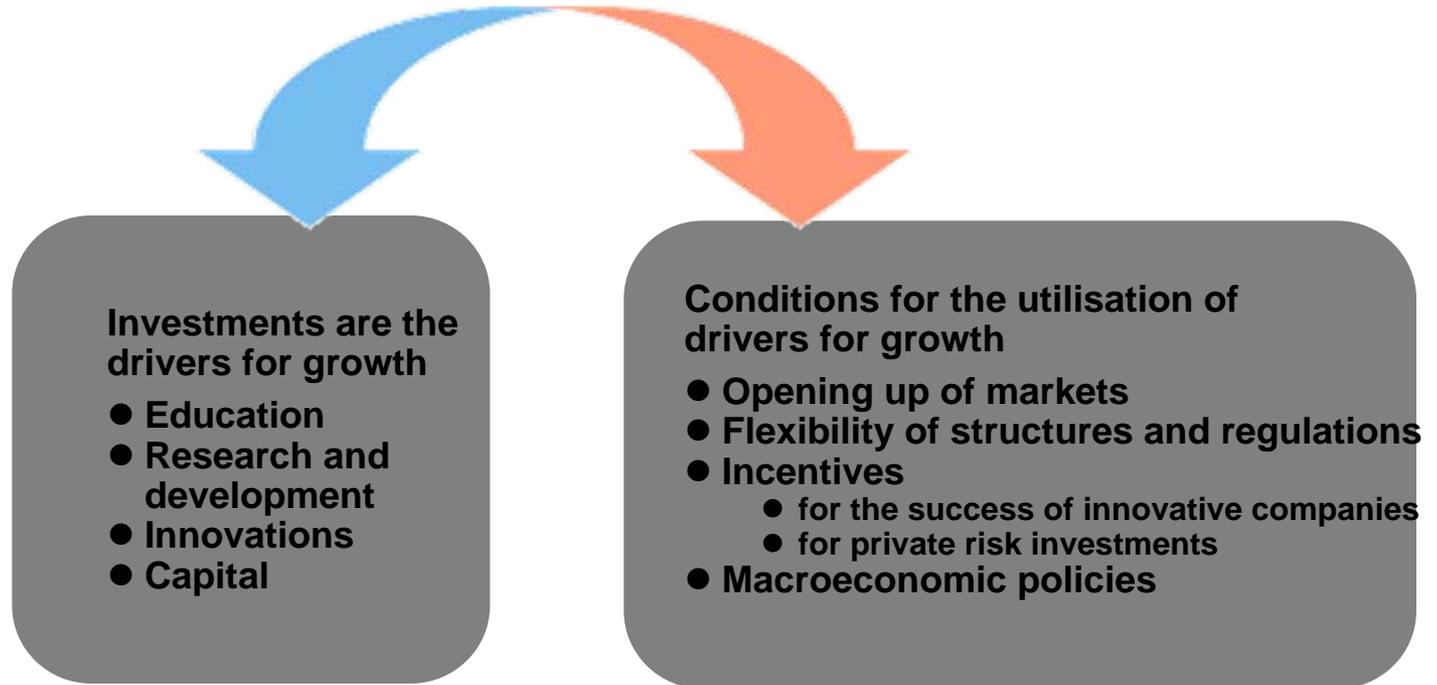
1. capacity building at the national level and provincial level: strengthening innovation systems (public and private sector collaboration) and education
2. building science and technology capacity: research and development in strategic high technology areas like ICT, biotechnology etc.
3. through strategic interventions to support enterprises and employment creation (skills development)
4. enhancing economic growth and competitiveness of enterprises
5. Creating wealth for the whole society

Economic growth model – sources of economic growth



According to the new growth model, economic growth is rooted in education, research and technology.

Drivers for growth and conditions for their utilisation



The impact of drivers for growth remain minor without continual structural reform.

Finland



Population 5.2 Million

Area 131.000 sq.miles, of which
10% is water

Forests cover 68% of the country

Economy: GDP 164 BillionEuro (2006)

Knowledge Economy-Case Finland

- Small country with limited natural resources (forest)
- High level of literacy
- Change from industrial to knowledge society in relatively short time (in 20 years)
- long-term investment in education
- National strategy to build information society and globally competitive high tech (ICT) industry

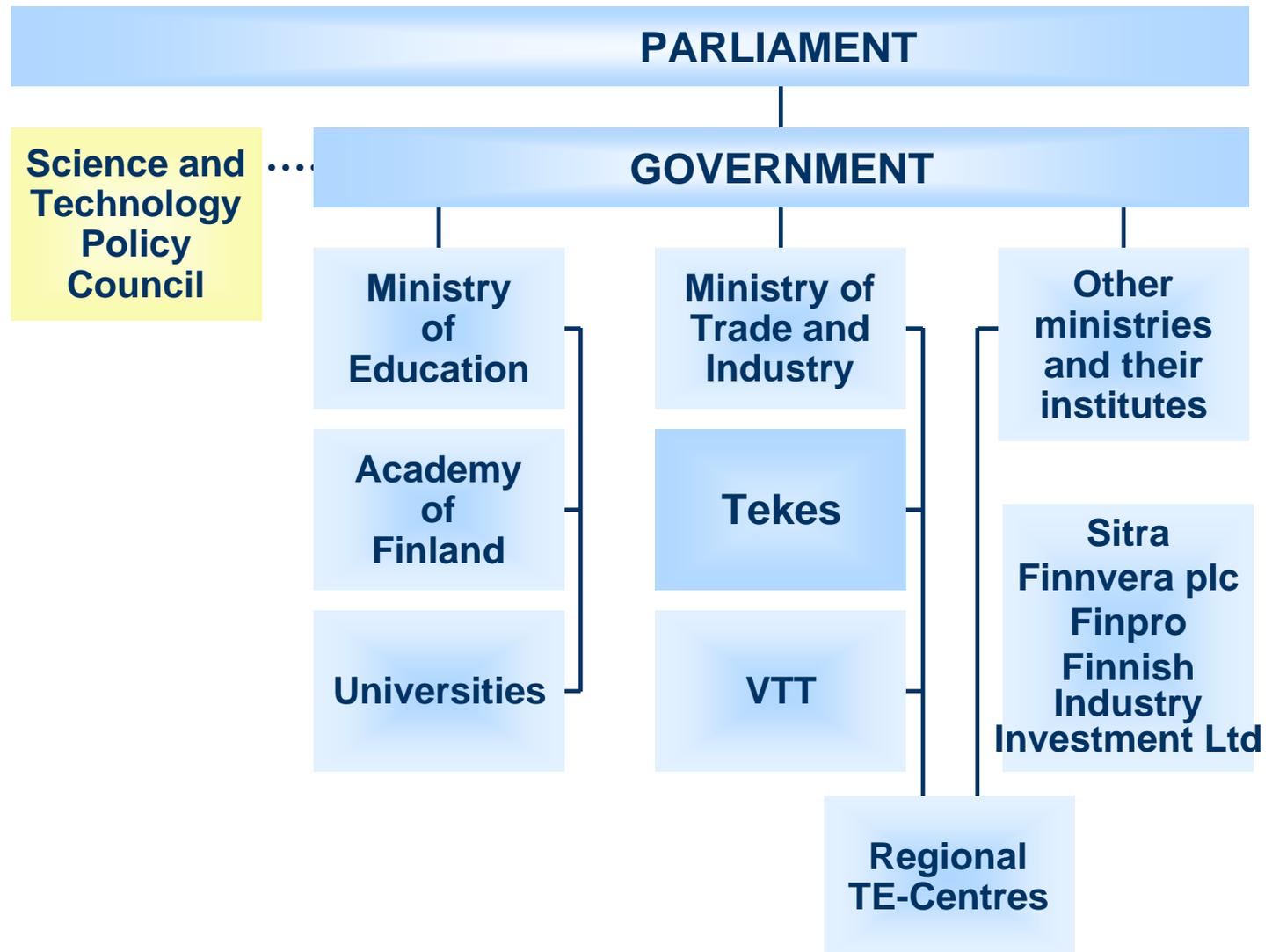
Knowledge Economy-Case Finland

- National science and technology policy, strong investments in R & D and building National Innovation System
- Building social capital in the country: collaboration and networking
- Competitiveness-wealth-wellbeing of citizens

Characteristics of the Finnish Innovation System

- Collaboration between stakeholders
- understanding the importance of knowledge-base for future development: investment in R & D and education
- national vision for innovation system in the global environment

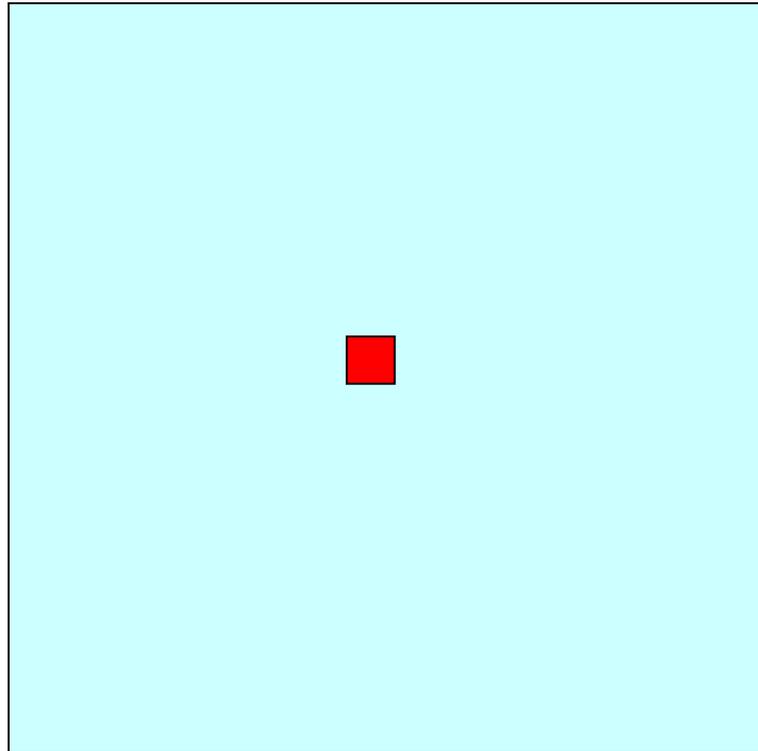
Public sector activities of R&D in Finland



Key actors of the Finnish innovation system



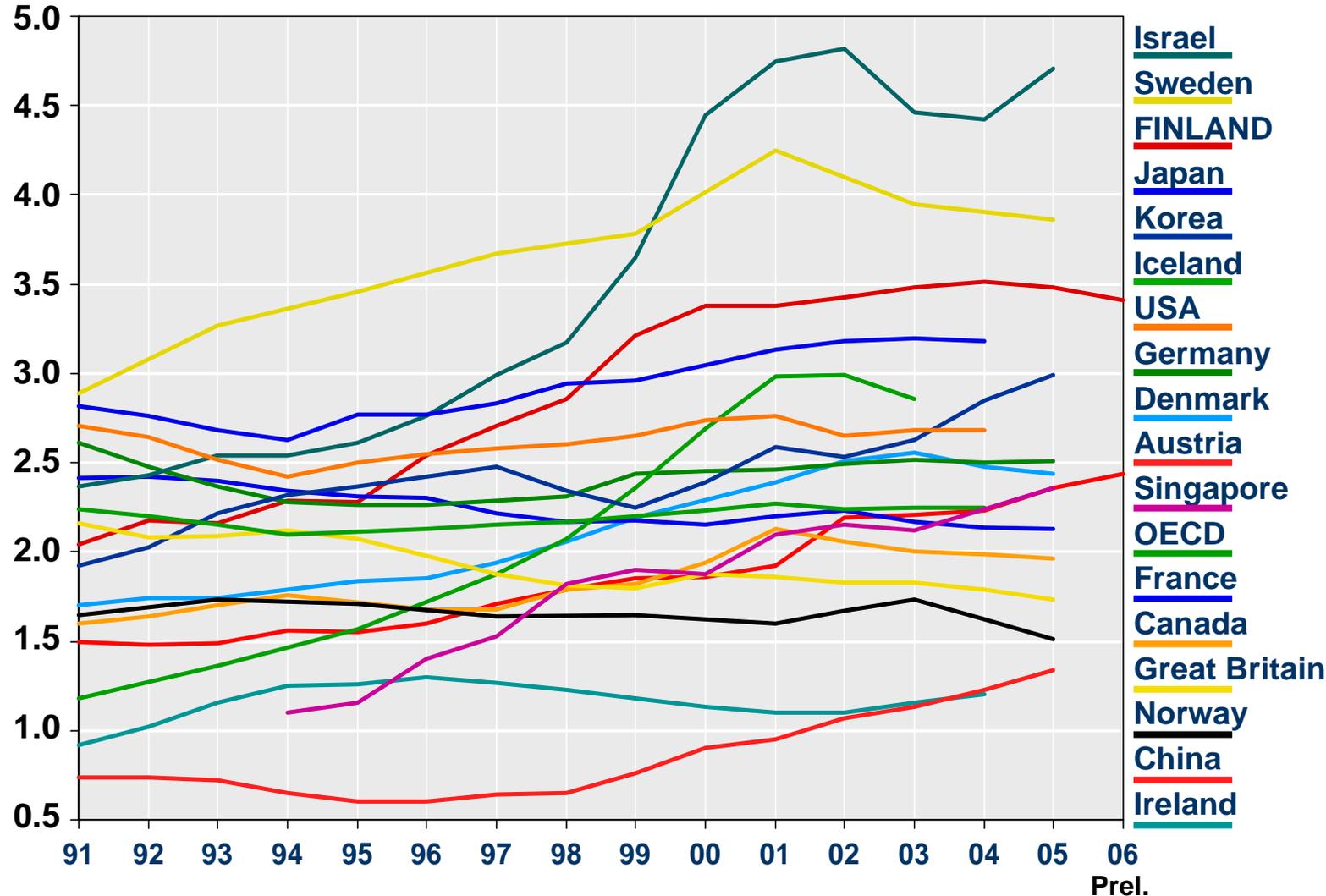
Finland in Global R&D



--> there is an apparent need for a specific small country strategy...

R&D investments in some countries

Percentage of GDP

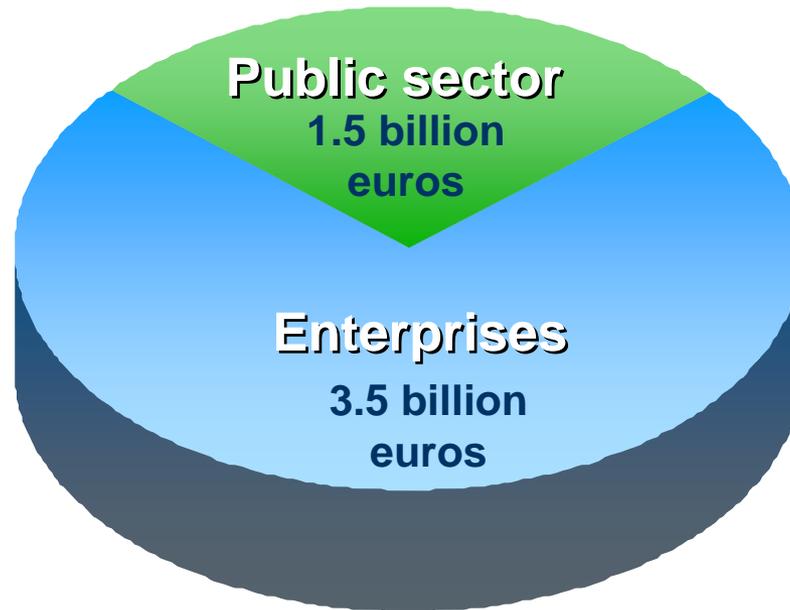


Sources: OECD, Main Science and Technology Indicators, Finland 2005 and 2006, Statistics Finland

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R&D INPUT IN FINLAND

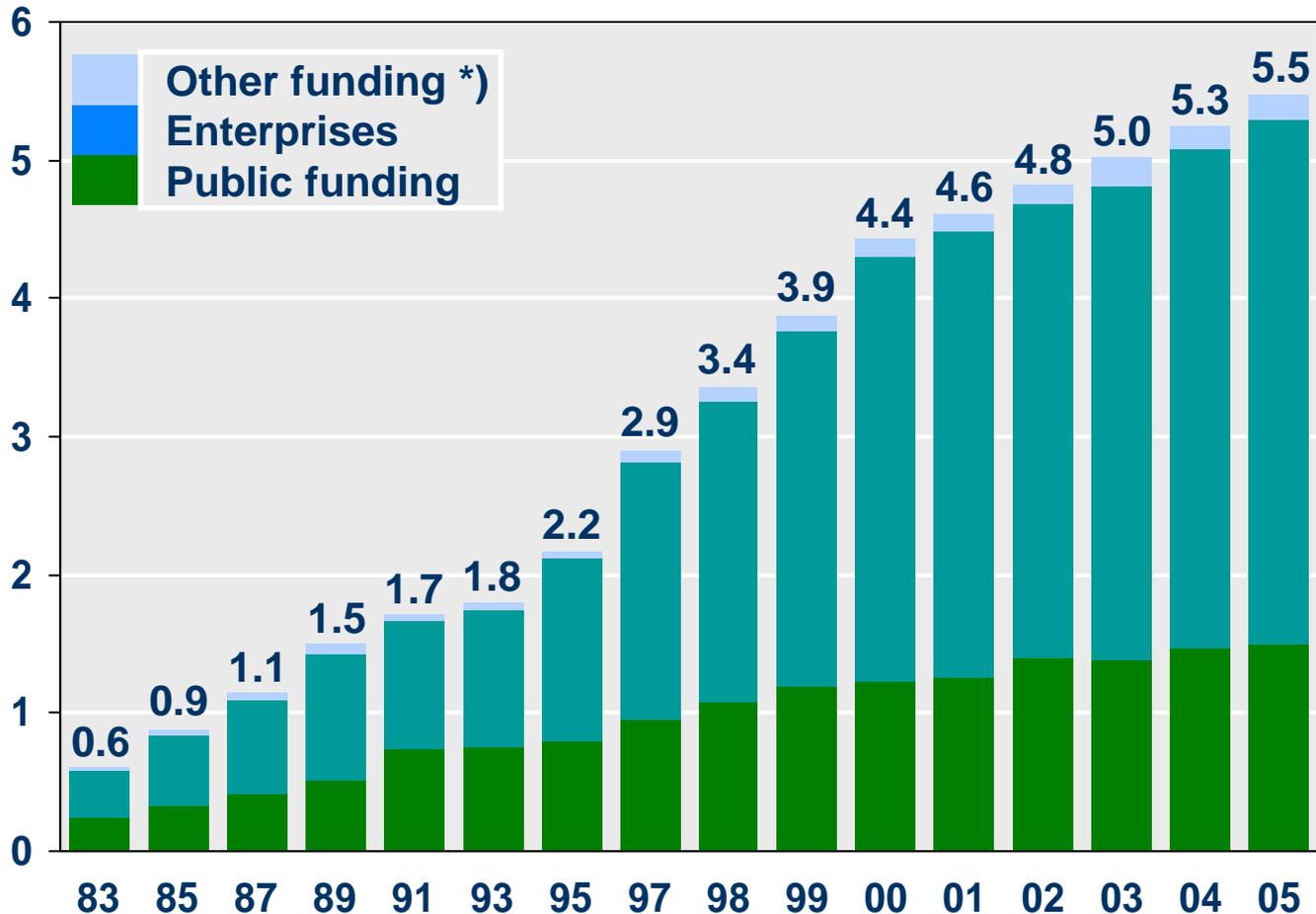
**Total 5 000 million euros, 3.5 percent of
the Gross Domestic Product (GDP) of Finland**



In 2007 Tekes allocates about 500 million euros for R&D projects

Funding of R&D expenditure

Billion euros

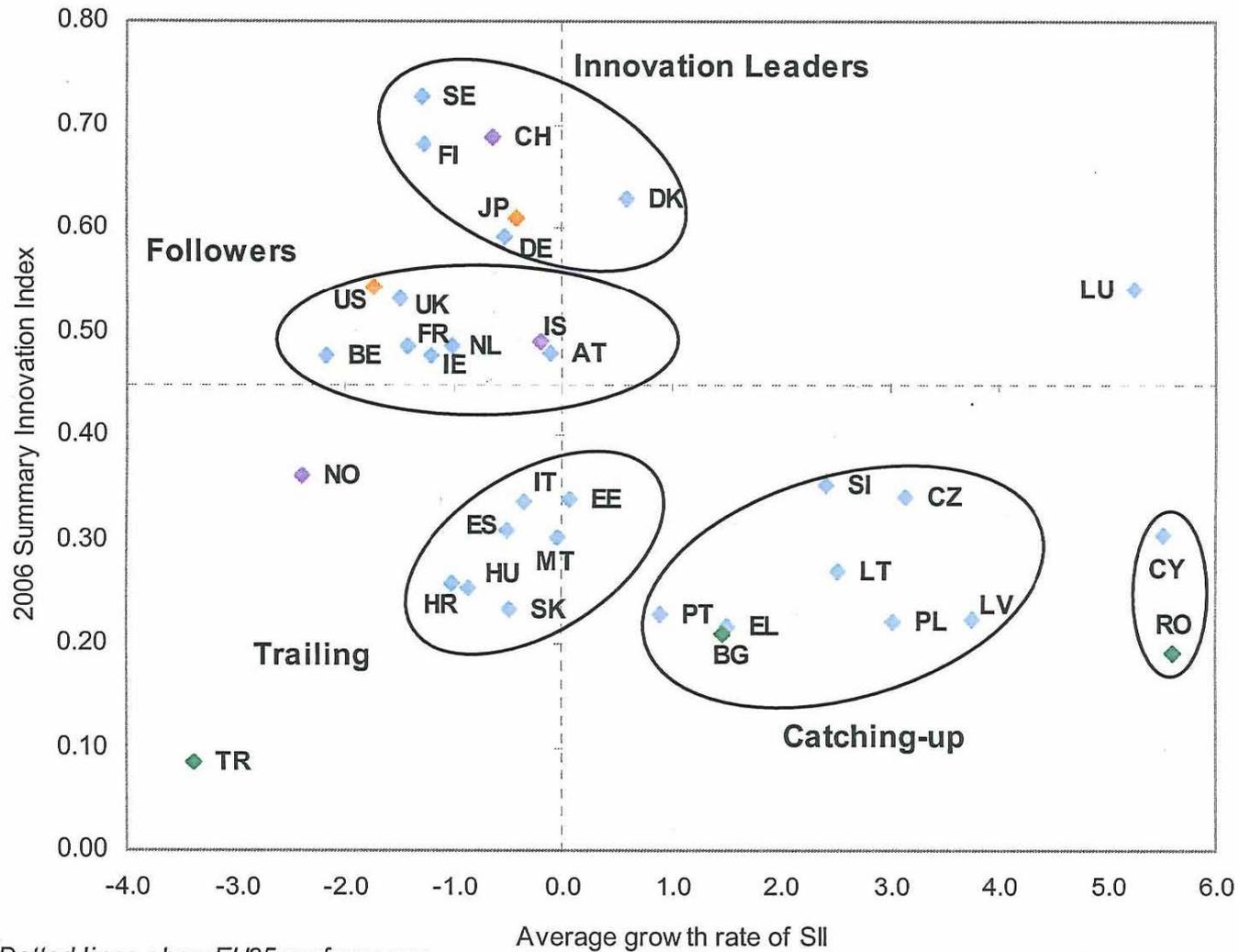


*) Funding from abroad, foundations, other sources

BREAKDOWN OF INVESTMENT IN R&D IN 2005 BY SECTOR OF PERFORMANCE (% of GDP)

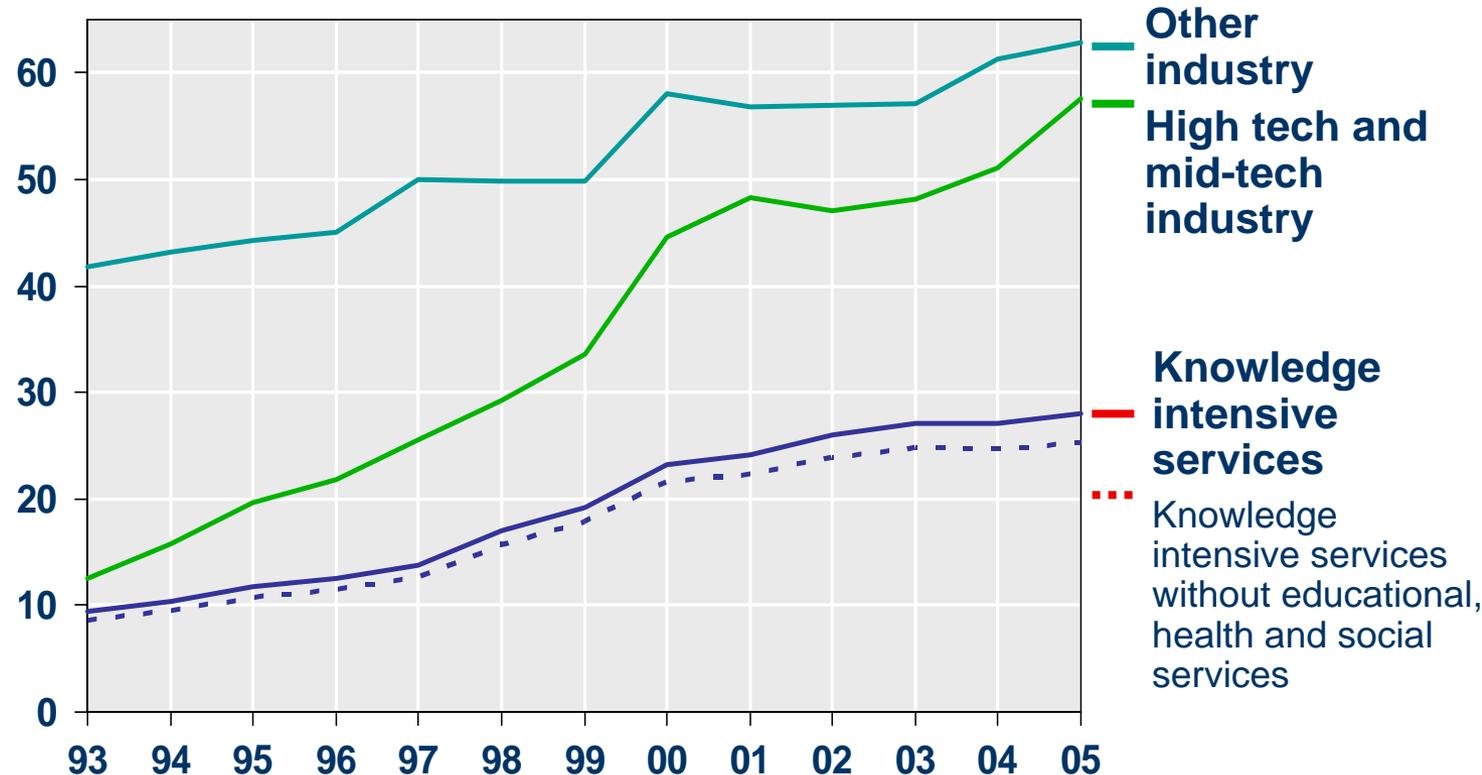
	Enterprises	Universities	Public Sector	Total
OECD	1.55	0.40	0.30	2.25
U.S.A.	1.80	0.35	0.45	2.60
EU-27	1.10	0.40	0.25	1.75
Japan	2.55	0.45	0.35	3.35
Finland	2.45	0.65	0.35	3.45

European Innovation Scoreboard 2006



Turnover in industry and knowledge intensive services

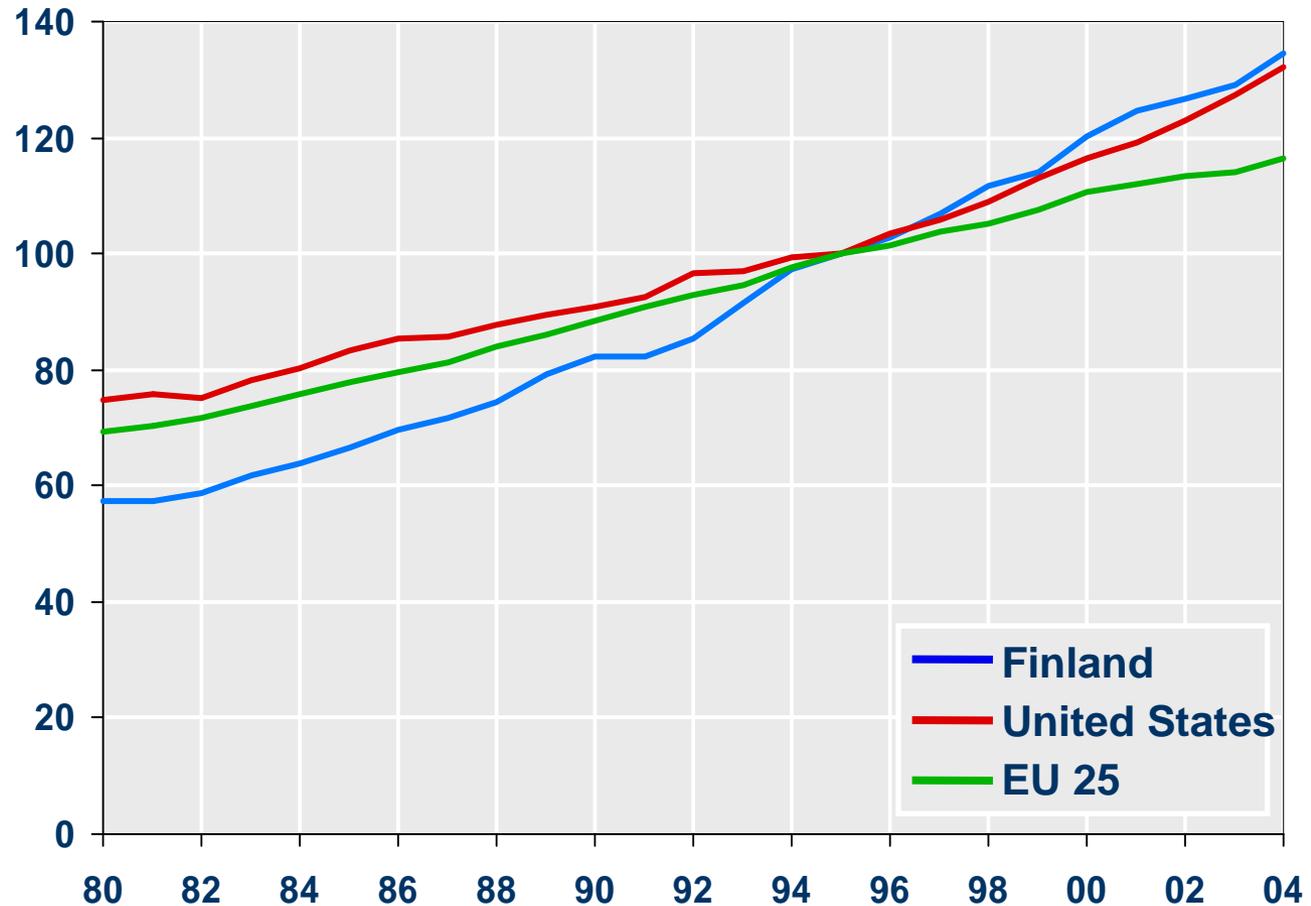
Turnover, billion euros



R&D investments in the high tech and mid-technology sectors are at least 2 per cent, in other industries less than 2 per cent of turnover. Knowledge intensive services include banking and insurance services, postal services and telecommunications, leasing of equipment, R&D, information technology and other business services and education, health and social services.

Labour Productivity in Industry and Services

Real value added per hour worked 1980-2004
1995=100



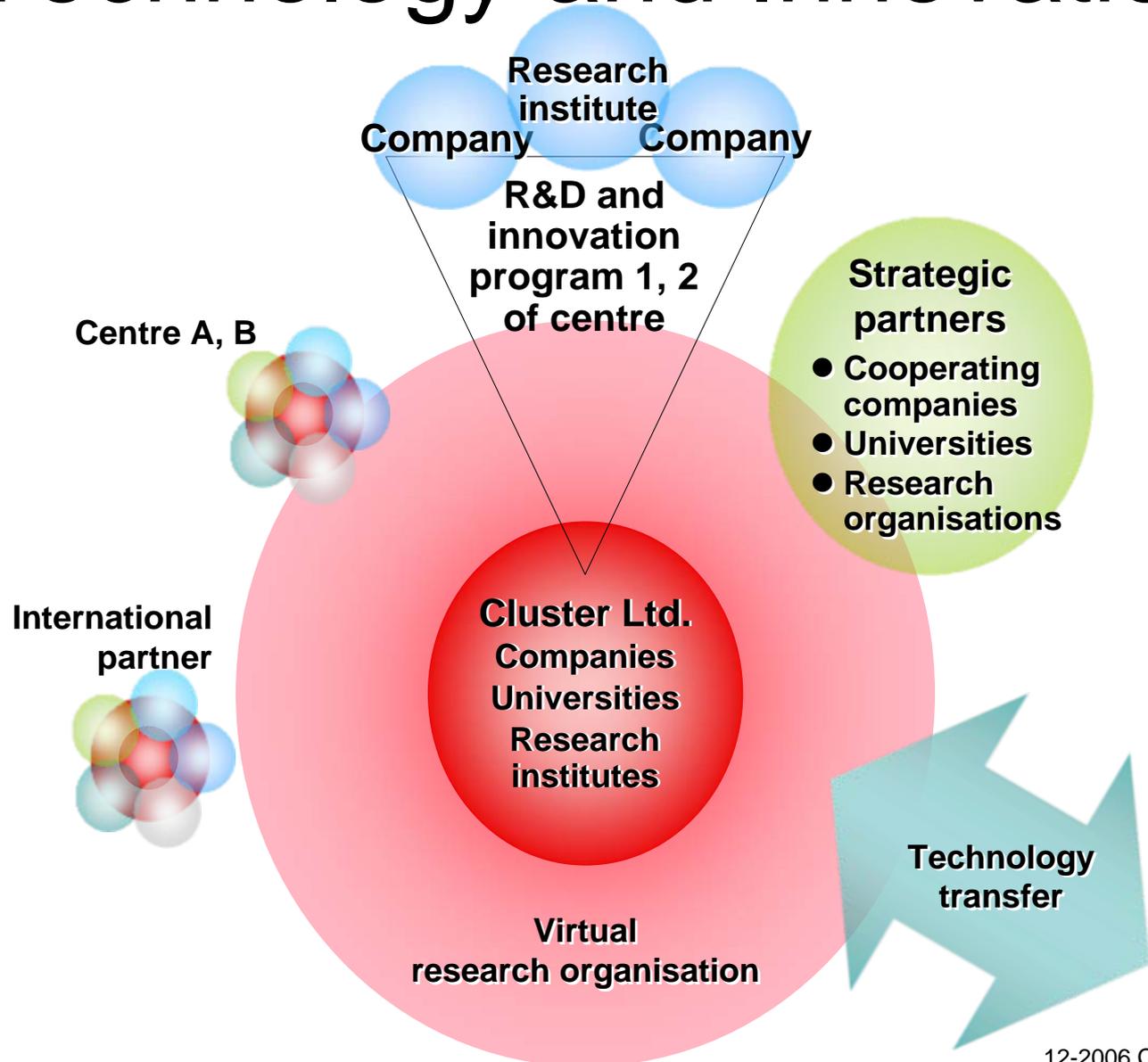
RESPONSIVENESS TO CHANGE

- National STI policy based on NIS since 1990
- Complemented by cluster elements and the concept 'innovation environment', public-private partnerships, networking, and horizontal innovation policy
- Earlier 'Division of labour + Isolation' => 'Competition + Co-operation'
- Coherent, long-term development line in STPC triennial policy documents
- Systematic evaluation of both quality, relevance and structures of the public HE and S&T system since early 1990s
- (Late but) rapid internationalisation due to EU RTD Framework Programmes

NEW GOVERNMENT PROGRAMME - SCIENCE POLICY

- BASIC FUNDING OF UNIVERSITIES
- STRUCTURAL REFORM OF UNIVERSITY INSTITUTION
- STRATEGIC CENTRES OF EXCELLENCE IN STI
- TARGET: R&D FUNDING TO 4 % OF GDP BY 2011
- TAX TREATMENT OF DONATIONS TO R&D
- INTERNATIONALISATION STRATEGY FOR UNIVERSITY EDUCATION
- DEVELOPMENT OF RESEARCH CAREERS
- SOCIAL SECURITY OF THOSE LIVING ON SCHOLARSHIPS

Strategic Centres for Science, Technology and Innovation



Five centres in the first phase

In the first phase, the following centres will be established:

- Energy and environment
- Metal products and mechanical engineering
- Forest cluster
- Health and well-being
- Information and communication industry and services

NEW GOVERNMENT PROGRAMME - INDUSTRIAL POLICY

- **EMPHASIS ON EDUCATION, RESEARCH AND TECHNOLOGY POLICY**
- **A NATIONAL INNOVATION STRATEGY WILL BE PREPARED**
- **INNOVATION SYSTEM WILL BE RENEWED AND ITS RESOURCES SIGNIFICANTLY INCREASED**
- **INCREASES OF SERVICE SECTOR R&D IN FOCUS**
- **INCREASES IN R&D FUNDING IN VARIOUS REGIONS \Leftrightarrow A BALANCED REGIONAL DEVELOPMENT**

CRUCIAL AREAS OF DEVELOPMENT

- **STRUCTURAL AND FUNCTIONAL REFORM OF UNIVERSITIES**
- **CREATION OF A 4-TIER RESEARCH CAREER SYSTEM**
- **FORMULATION OF POLICY AND FUNDING OF NATIONAL RESEARCH INFRASTRUCTURES (PARTICIPATION IN EU-LEVEL INFRASTRUCTURES INCLUDED)**
- **REFORM OF SECTORAL RESEARCH**
- **FUNDING ISSUES: UNIVERSITIES, SECTORAL RESEARCH, 4 % TARGET BY 2011**
- **NATIONAL INNOVATION STRATEGY**

Natural Resources-Based Economy

- Do natural resources generate growth and how is that distributed?
- If not, why: many countries are dependent on export of natural resources
- Resource-rich countries are often rich with poor people-the wealth generated by natural resources is unevenly distributed
- Should countries sell their government owned natural assets to the private sector?

Challenges

- Spending money well and at the right time is a challenge by any government
- Many countries don't have inbuilt structures in their economy to stabilize economic fluctuations (welfare programs, tax incentives, unemployment funds)
- The loss in the natural resources exports can slow down the rest of the economy

Challenges

- How to invest the export income to generate wealth equally?
- Government decision: time and share of investment
- Fight against corruption and towards transparency
- Certification of natural resources
- Setting international norms for trade

Challenges

- Limit environmental damages
- Build social capital in countries

Lessons

- Investment in knowledge is a long-term investment by any society
- National shared vision for future is necessary
- Wealth can be generated by any society: it is a matter of political decision-making, *HOW* to distribute wealth and *HOW* to use resources to build wealth

Lessons

- Public and private sector need to collaborate in building knowledge base of society
- Countries need to set priorities for their future development in terms of human and natural resources
- The legal and regulatory environment will become increasingly important to generate stable environment for growth and development

Lessons

- Dual development is still challenge for many countries: a small part of economy and society is linked to global economy and local economy is constantly challenged by global economy (Bauman)
- Is there a social contract in society between government/the state and citizens?

Thank you!

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