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ULKOASIAINMINISTERIÖ
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HOW TO BUILD AN INNOVATION ECOSYSTEM?

SOME LESSONS FROM FINLAND

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World Bank Seminar on 'Drivers of Private Sector Innovation'

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DIRECTIONS IN DEVELOPMENT
Science, Technology, and Innovation

Finland as a Knowledge Economy 2.0

Lessons on Policies and Governance

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THE KE REPORT IN BRIEF

Finland is a country that successfully transformed itself **from a resource-based economy into one based on innovation and knowledge** in a relatively short time.

"Finland as a Knowledge Economy 2.0 – Lessons on Policies and Governance" –report is not written as a blueprint for replication but rather as a "cookbook" for innovation practitioners describing **how policies such as education and innovation are designed, implemented, and evaluated** to support the development of Knowledge Economy in one country.

The report highlights the **importance of policy governance** when responding to challenges of globalization and points to **benefits of investing in education** at all levels, adopting an **innovation systems approach**, creating a **shared national vision** as well as **coordination and management** mechanisms to achieve it.

1. INDUSTRIAL TRANSFORMATION

TRANSFORMATION OF FINLAND

- **Finland in the 1960s**
- among middle-income countries
- competitive factors raw materials and cheap labor force
- low value-added of industrial production
- low productivity
- high dependece in exports on pulp and paper industry
- small share of academically educated of the population
- low R&D intensity

”Finland lagging behind”

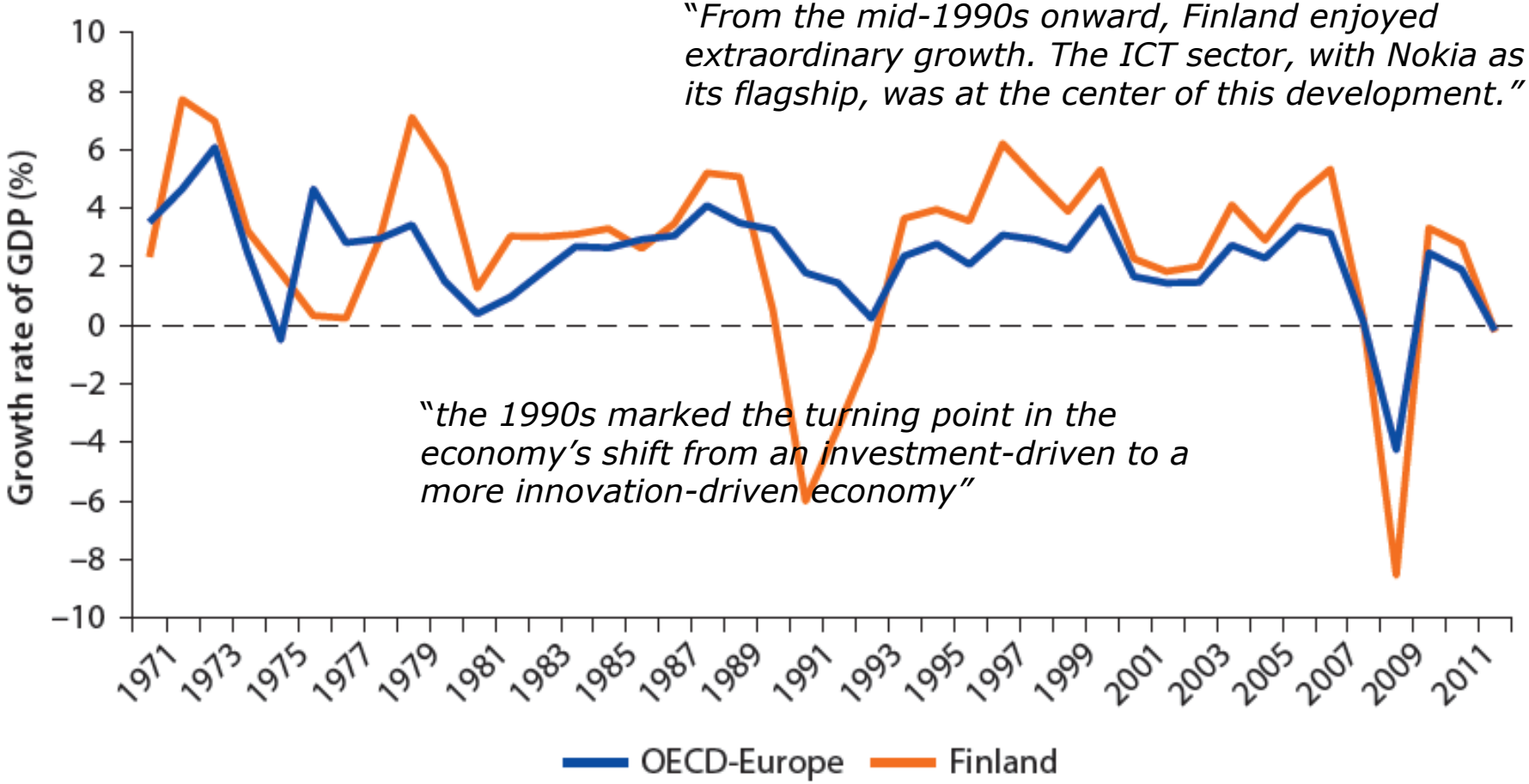
- **Finland 40 years later**
- among high-income countries
- competitive factors knowledge and innovation
- high value-added of industrial production
- high productivity
- diversified industrial base (incl. services)
- high share of academically educated of the population
- high R&D intensity

”Finland among forerunners”

EXTRAORDINARY GROWTH – AND DEEP RECESSIONS

Figure O.3 GDP Growth (Expenditure Approach) in Finland and OECD Europe, 1971–2011

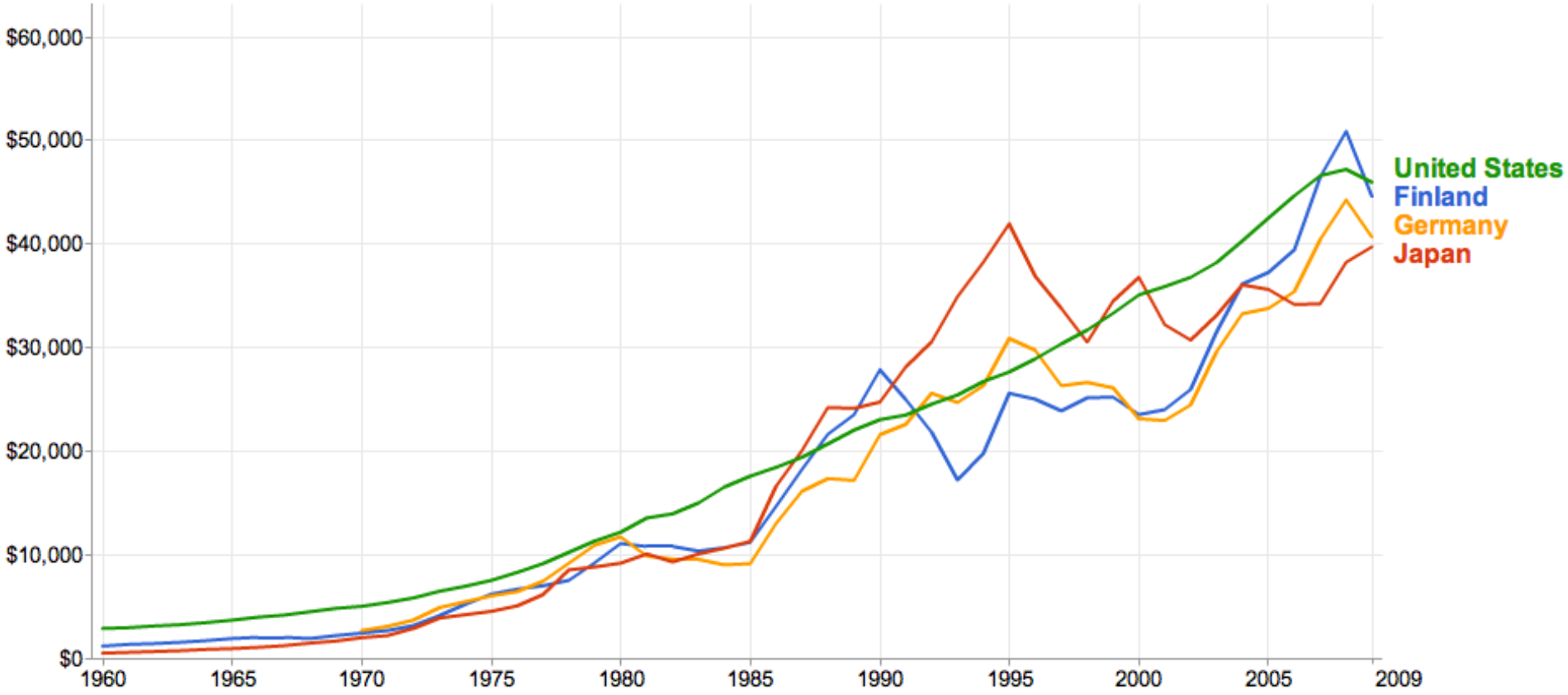
"From the mid-1990s onward, Finland enjoyed extraordinary growth. The ICT sector, with Nokia as its flagship, was at the center of this development."



"the 1990s marked the turning point in the economy's shift from an investment-driven to a more innovation-driven economy"

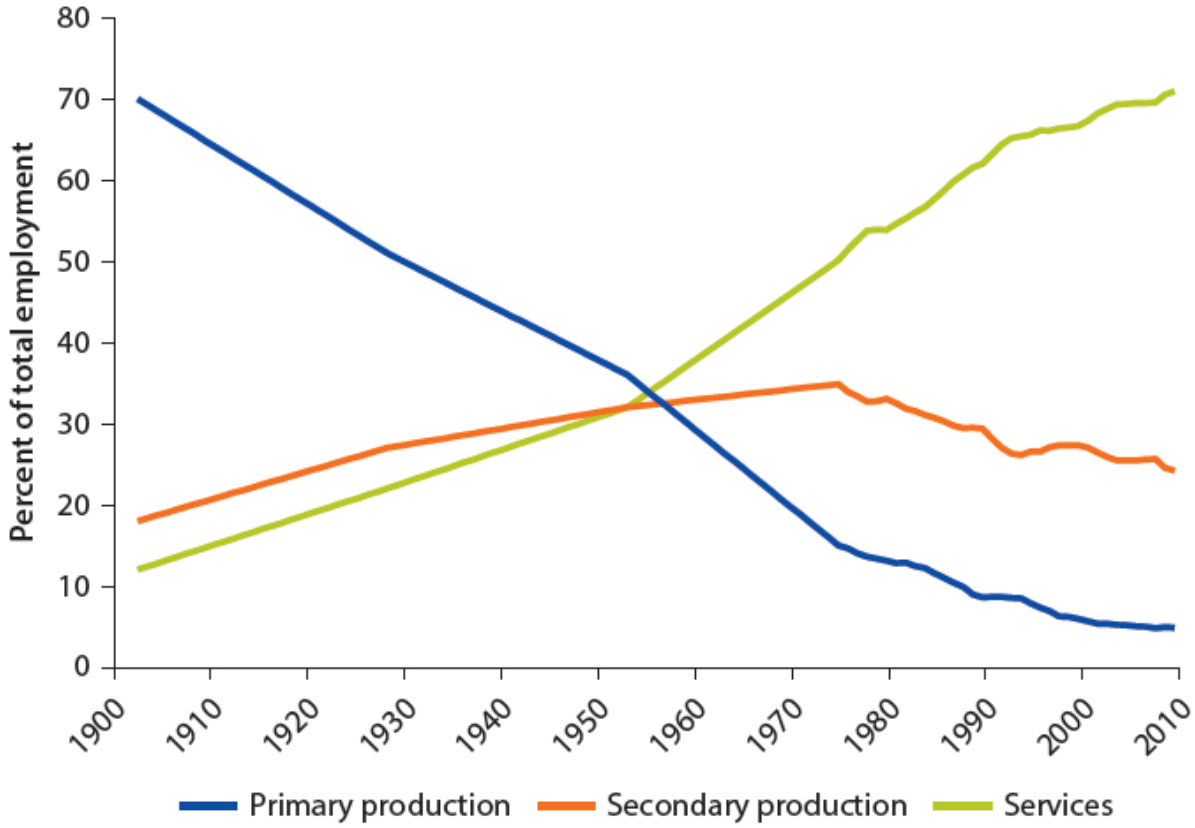
Source: OECD data (stats.oecd.org).

GDP PER CAPITA AT CURRENT PRICES



70% OF WORKFORCE IN SERVICES

Figure O.4 Employment in Primary and Secondary Production and Services as a Percentage of Total Employment in Finland, 1900–2010

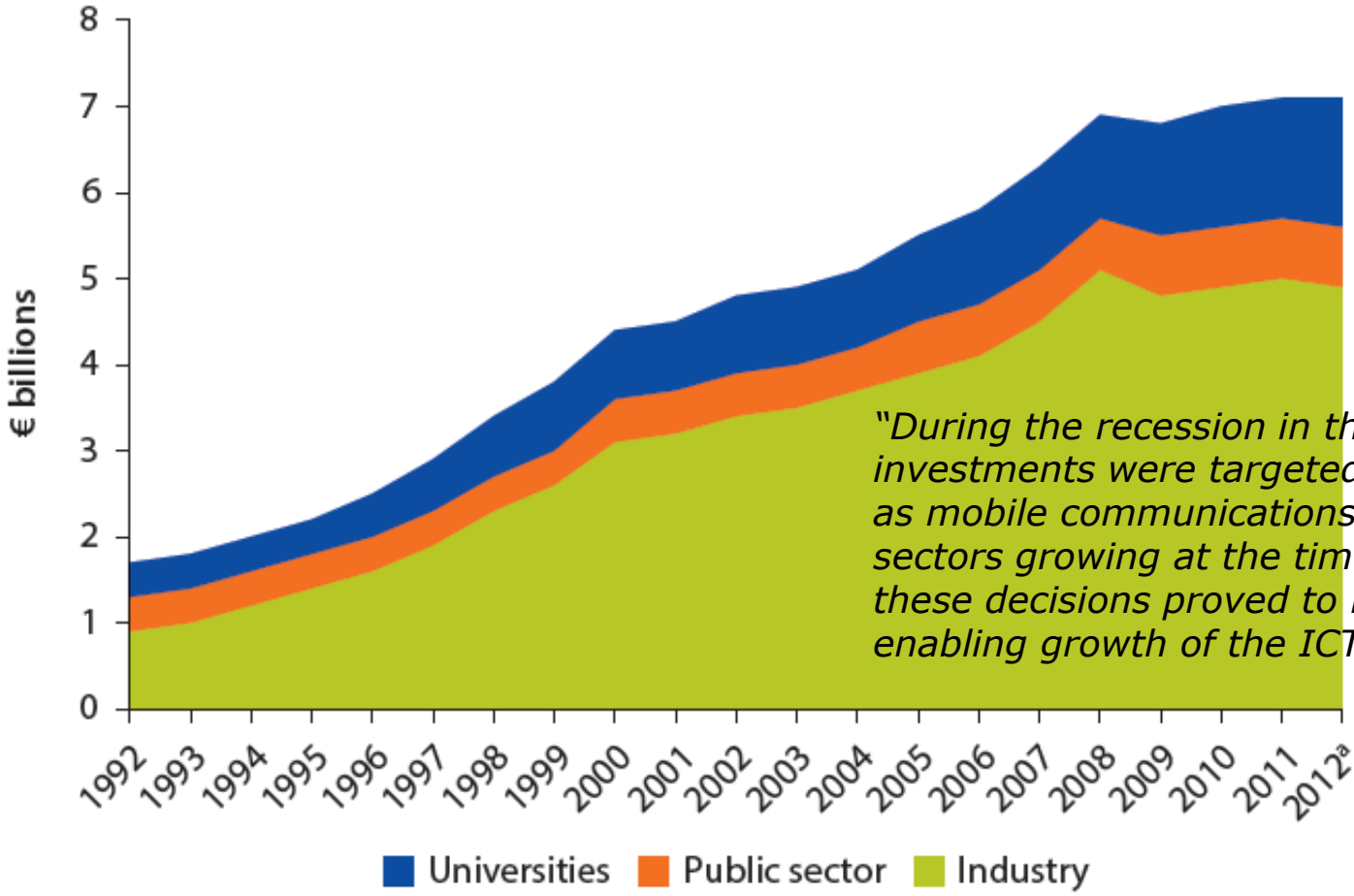


Source: Pajarinen, Rouvinen, and Ylä-Anttila 2012.

"During the last few years, the Finnish ICT sector has transformed from manufacturing products to producing services and software. The traditional manufacturing industries, especially machinery and equipment, have undergone a similar transformation, and many leading enterprises focus on both services and tangible products."

SIGNIFICANT ROLE OF R&D INVESTMENTS

Figure O.2 R&D Expenditure in Finland 1992–2012



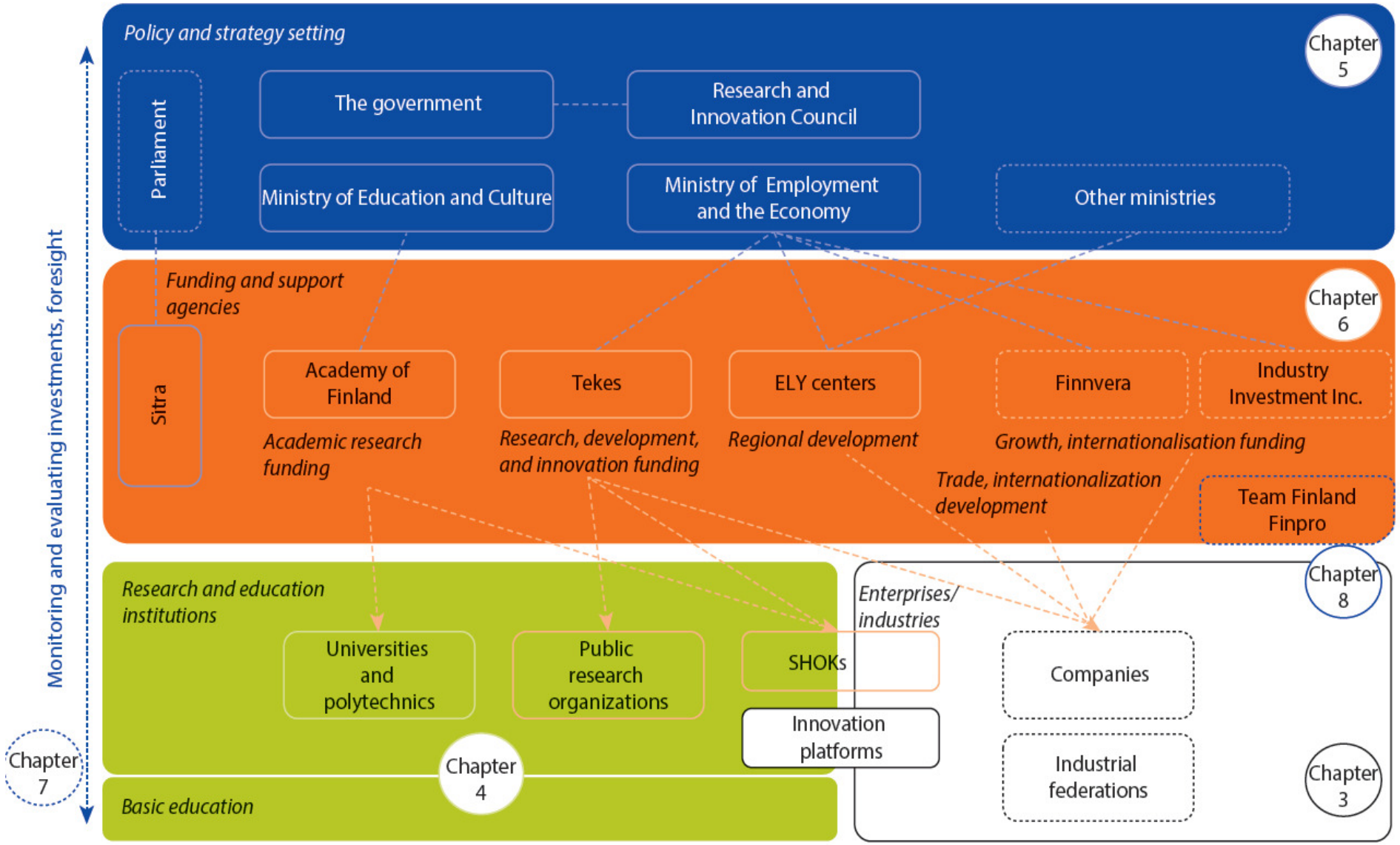
"During the recession in the 1990s, public investments were targeted to the ICT sector, as mobile communications were among the few sectors growing at the time. […] Later on, these decisions proved to be instrumental in enabling growth of the ICT sector."

Source: Statistics Finland data (https://www.tilastokeskus.fi/).
a. Estimated.

PHASES OF DEVELOPMENT

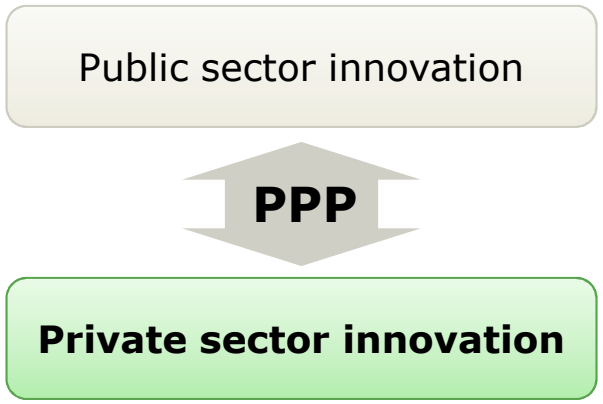
	Reform of basic structures (1960-)	Technology push (1980-)	Out of recession (1990's)	Knowledge economy in a globalizing world (2000-)
Foundations for policy operations	Liberalization of international trade	"Microelectronic revolution"	Recovery from recession	Globalization
Main objectives	Creation of a new policy sector	Utilization of new technological opportunities	Intensification of knowledge-based growth	Creation of growth companies
Focus of policies	Education, science	Technology	National Innovation System	Innovation, innovation ecosystems
Key actors	Ministry of Education, Academy of Finland	Tekes	Science and Technology Policy Council	Several actors
Expected outcomes	National competitiveness	Growth in high-tech products	Growth in employment	New innovative growth companies
Level of intervention	National	National, regional	Regional, transnational (EU)	National, local
Representative instrument	Project financing	National technology programs	EU sources of R&D financing	Strategic Centers for STI (SHOKs)

FINNISH KNOWLEDGE ECONOMY SYSTEM



2. POLICY LESSONS

PUBLIC SECTOR AS A CATALYST TO INNOVATION?



Public sector's role in:

A) Culture & attitude to innovation

B) Framework conditions

C) Specific policies & measures

PUBLIC SECTOR'S ROLE – FINNISH LESSONS

A) Culture and attitude to innovation

- *Education, knowledge and innovation high on values & political agenda?*
- *Are these considered important objectives to pursue regardless of political coalition?*
- *Joint vision, engagement and political leadership?*
- *Recognition of private sector's importance & role? Encouragement of entrepreneurship?*
- *Trust across public & private sectors – mutual commitment?*
- *Tradition to hear and listen? Ability to reach a consensus?*
- *Ability to work together (co-development, PPP in practice)?*
- *Ability to deliver the promise?*

PUBLIC SECTOR'S ROLE – FINNISH LESSONS

B) Framework conditions

- *Education structures and the volume, quality and focus of education?*
- *Level, quality and relevance of public research institutions?*
- *Advanced IT infrastructures & services?*
- *Availability of public funding for collaborative RDI?*
- *Well-functioning financial market (debt funding + equity)?*
- *Predictable and fair tax system. Incentives for innovation, investment and recruitment of skilled labour?*
- *Up-to-date IPR laws and their enforcement. Strong rule-of-law?*
- *Fair competition laws & government regulation?*
- *Little interference by state owned enterprises?*
- *Open (non-protective) standardisation?*

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PUBLIC SECTOR'S ROLE – FINNISH LESSONS

C) Specific policies & measures

- *Cross-minsterial RDI policy planning and monitoring (RIC) – with industry!*
- *Innovation within the innovation system (Sitra)*
- *Joint strategy-setting (Tekes + Industry)*
- *Advanced & elaborated innovation support measures (Tekes, Academy, Sitra)*
- *Combination of strategic instruments (SHOKS, programmes) and open, bottom-up instruments*
- *Focus on competitive, collaborative RDI funding -> relevance & quality!*
- *Significant structural revisions in innovation system (universties, public research, etc) -> adapting to economic changes*
- *Active and comprehensive monitoring and impact assessment of all RDI measures and policies -> value for money!*

CONCLUSIONS

- Finland has invested substantial time and funds in building its education system, which is the base of its knowledge economy.
- The Finnish approach to governing the knowledge economy emphasizes the importance of having a shared vision of the future and a collaborative policy-planning process, as well as stakeholder engagement in all parts of the process.
- Looking ahead (forward planning, impact assessment) and adjusting policies, governance, and instruments accordingly—even if sometimes during a crisis— is integral to societal evolution and economic growth.
- The scarcity of available resources further highlights the importance governance models that enable cross-fertilization, horizontal collaboration and policy coordination.
- The transitions in the Finnish system have been led largely by private sector needs, in close collaboration and partnership with the government.
- The government has played an active role as a coordinator and facilitator while giving significant independence to the implementing agencies and regional or provincial organizations to deliver the strategies.

THANK YOU

further information

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