



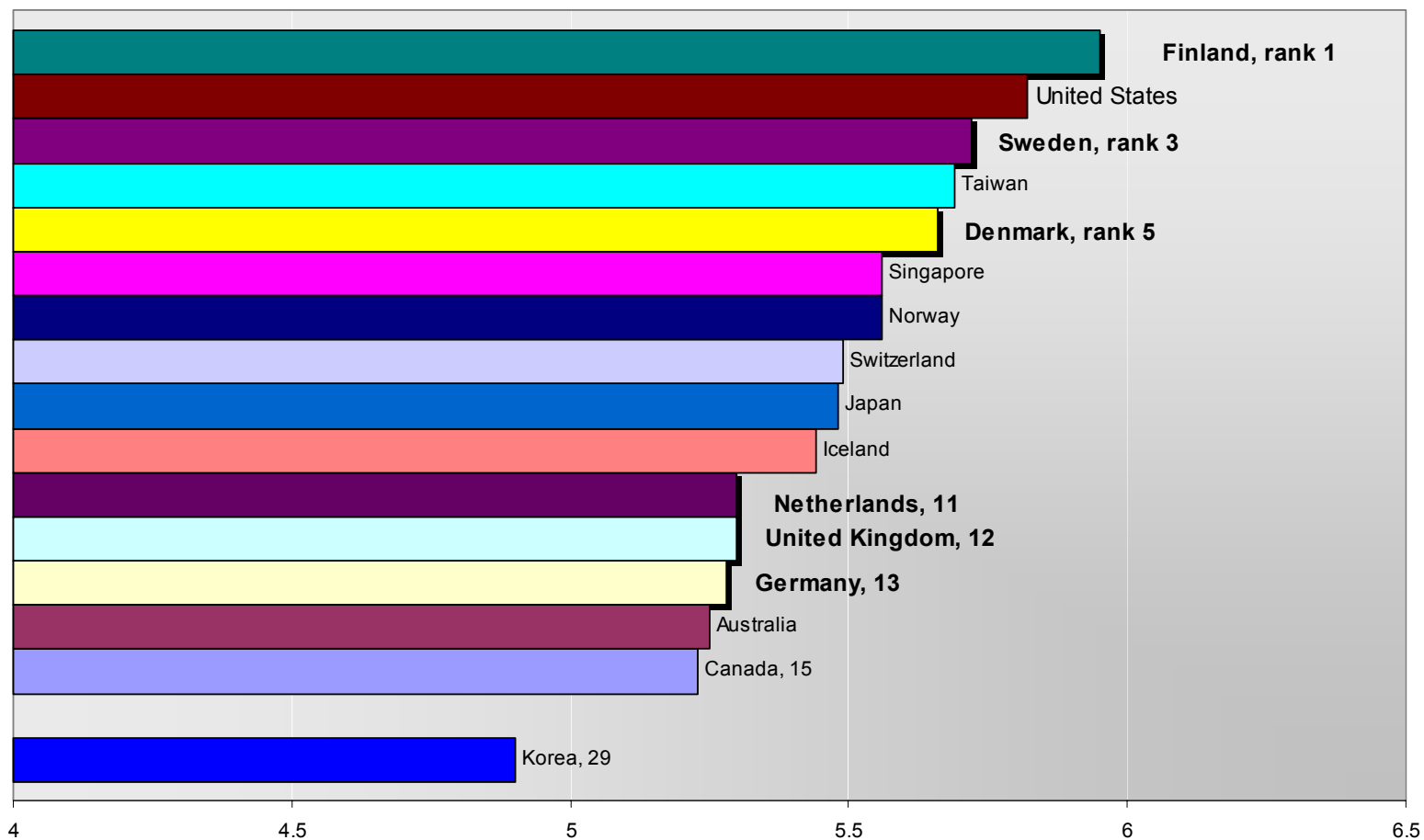
Productivity, Globalisation, and Sustainable Growth

Ilkka Tuomi
IPTS



The Lisbon Land

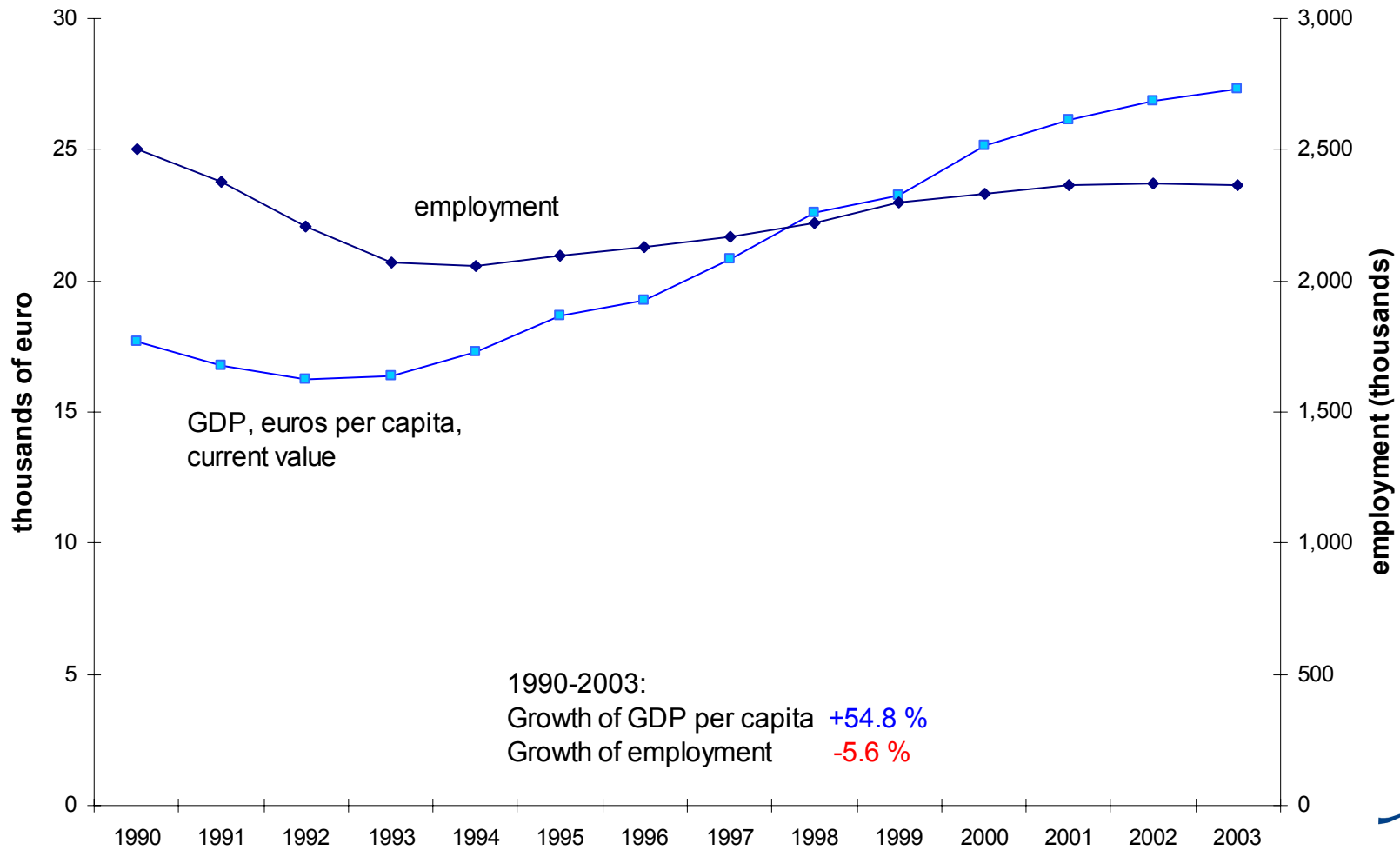
2004 Growth Competitiveness rankings





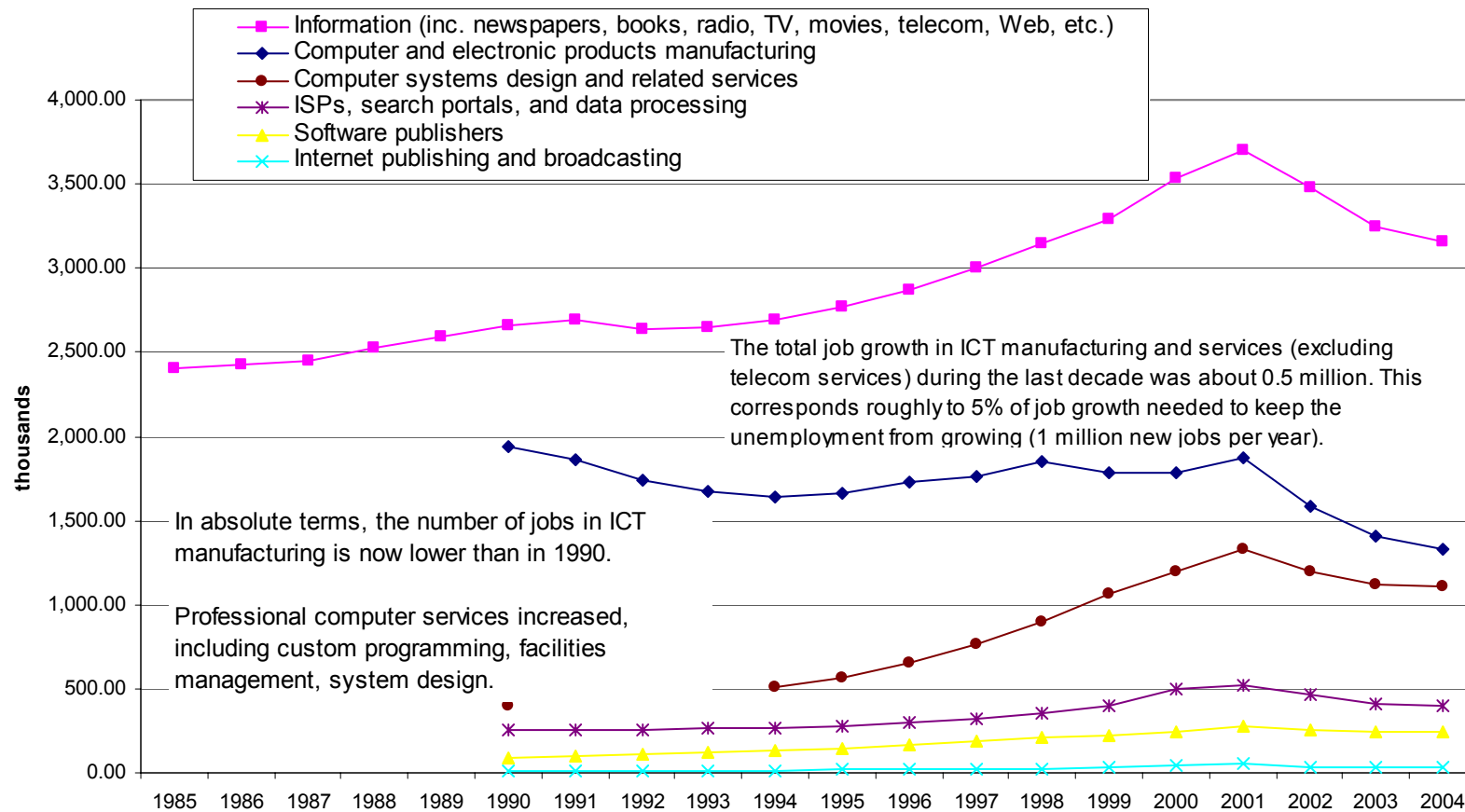
The two factors of labour productivity

Growth of GDP and employment in Finland, 1990-2003



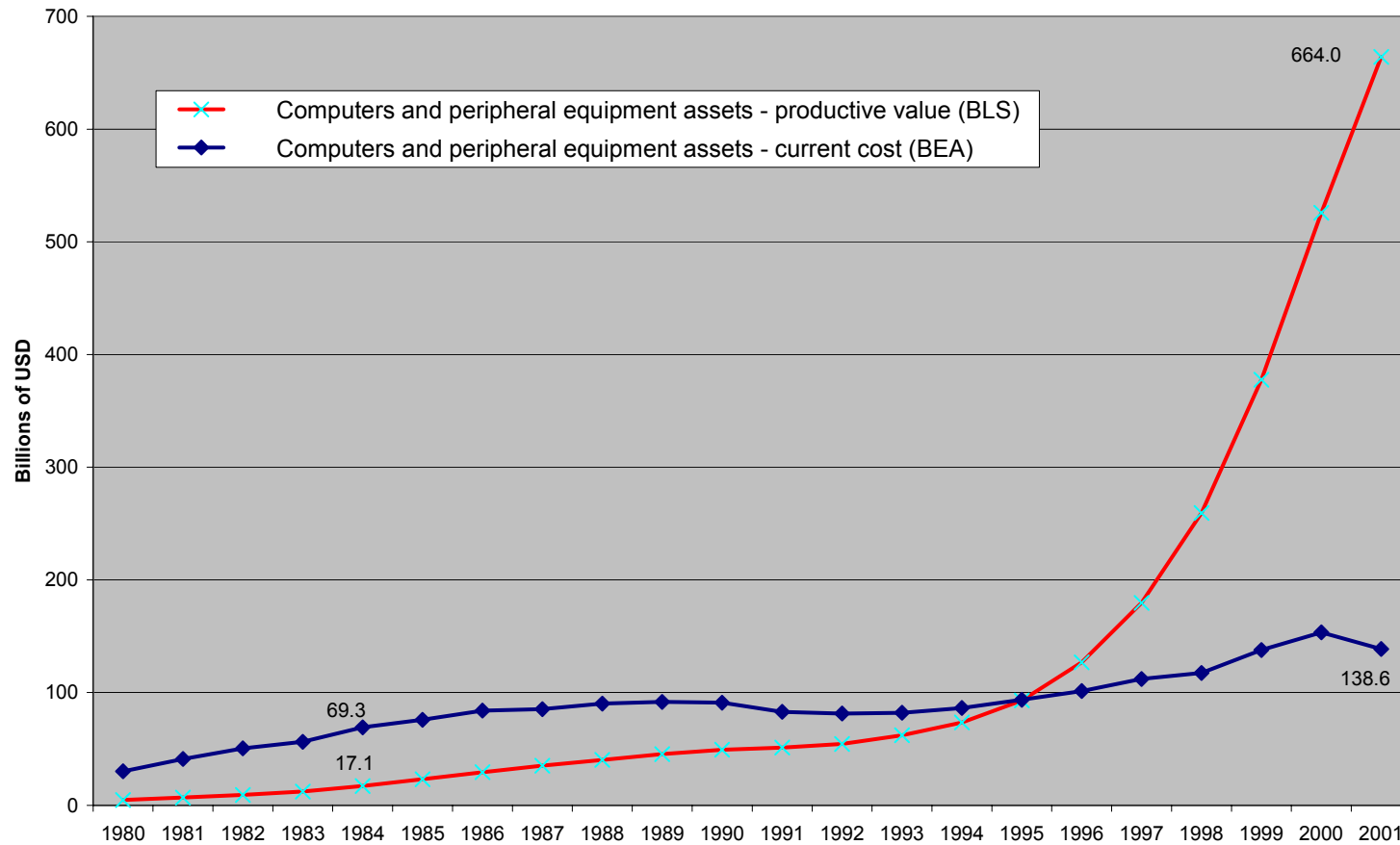


Total employment in ICT industries, USA 1985-04





This is why ICTs pop-up in productivity studies





A broader concept of ICT productivity?

- Productivity studies are often based on neoclassical growth models that assume:
 - economic equilibrium (i.e., innovation is irrelevant for growth)
 - all firms are equally efficient
 - no-one is able to influence prices
 - users pay the productive value for Linux, Apache, Perl, HTML...
 - all ICT investments have the same productivity impact
 - no defensive investments (firewalls, facilities access control, virus removal, video surveillance, competitive pressure...)
 - no problems in software development, implementation, and maintenance (no total, substantial or partial abandonment or runaway projects)
 - no delays between investment and productivity impact
 - quality-adjusted prices perfectly reflect productivity growth in the IT manufacturing industry (no “stinking fish problem”)
 - “technical progress” does not cost anything





The new concept of productivity

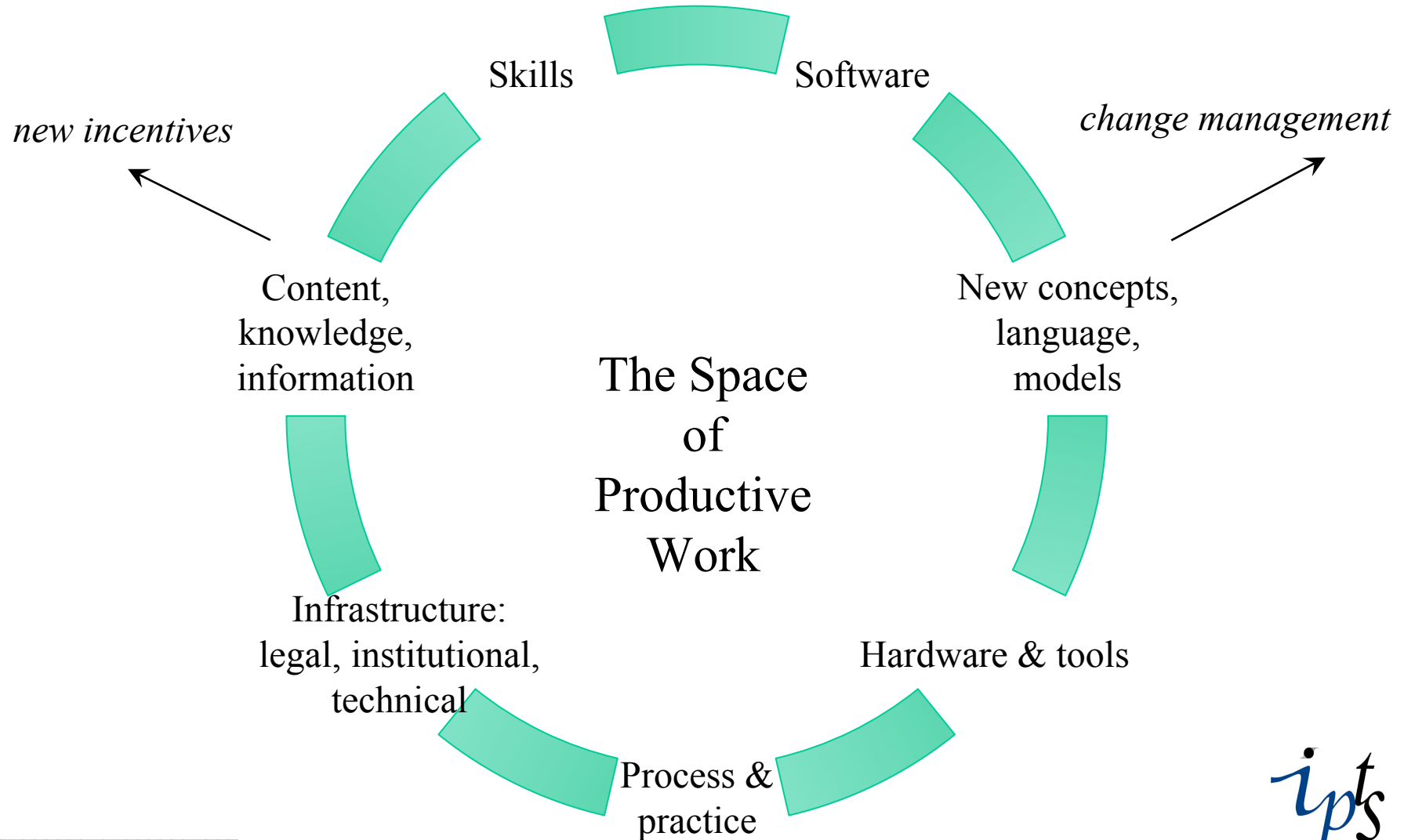
- Traditional concepts of productivity do not capture ICT related impacts; we have to focus on **socio-economic development**
- ICTs are “composite and dynamic goods” that need multiple ingredients to create growth
 - Software and information content
 - Hardware
 - Skills
 - Infrastructure (legal, technical, institutional)
 - Organisational changes (new roles, responsibilities, and incentive structures)
 - New management approaches and business models
- Socio-economic development centres on capabilities for social interaction and meaningful use; ICTs have a fundamental role in **expanding** such capabilities





Expanding the productivity space

Joint Research Centre





So, in the global context:

1. The hotspots of economic activity move (China, India, Brazil, Korea...)
 - This is the **traditional pattern of globalisation**
 - the Industrial Economy needs only telex and jet flights
 - the key driver of value added is demographics
2. Globalisation of value chains
 - Value chains become globally distributed networks; knowledge and work-in-process moves in addition to finished components and sub-systems; telex becomes inadequate
 - This is **the new globalisation**, which depends on the modern ICTs
 - It makes economic activity simultaneously location-independent, and strongly dependent on local capabilities; **any place** can become a node in the global production networks (“disappearance of the distance”); only **the most competitive places** will (“centres of innovation”)



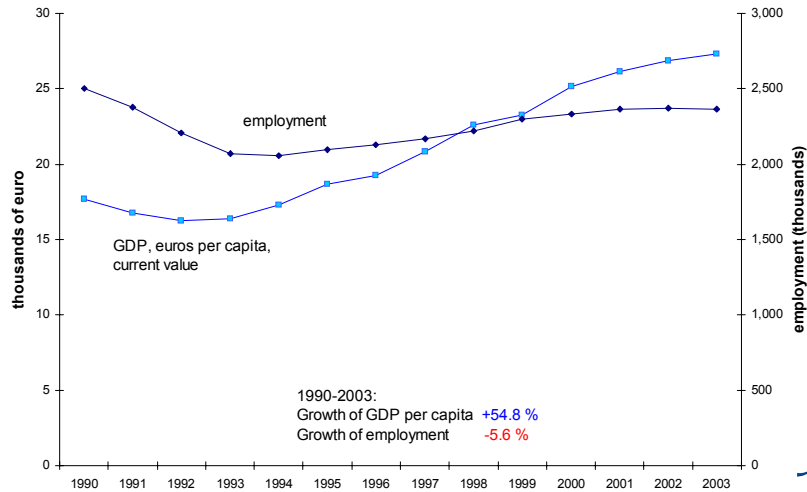


The key factor for sustainable productivity growth:

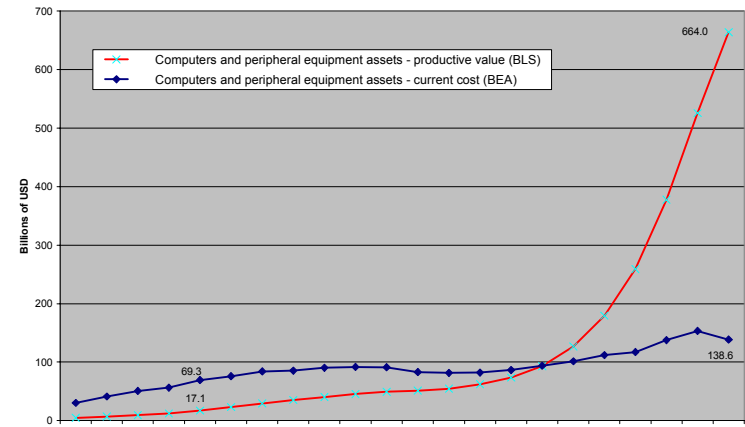
- Expand the value-added within EU
 - This cannot be done by simply buying ICT
 - Most of the value is added to Asian and US national economies
 - Avoid shrinking the space for productive work
 - Fear is the most unproductive investment in the knowledge society; it destroys innovation and explodes the costs of change
 - Position EU locations in the core nodes of global production and knowledge networks using advanced ICTs



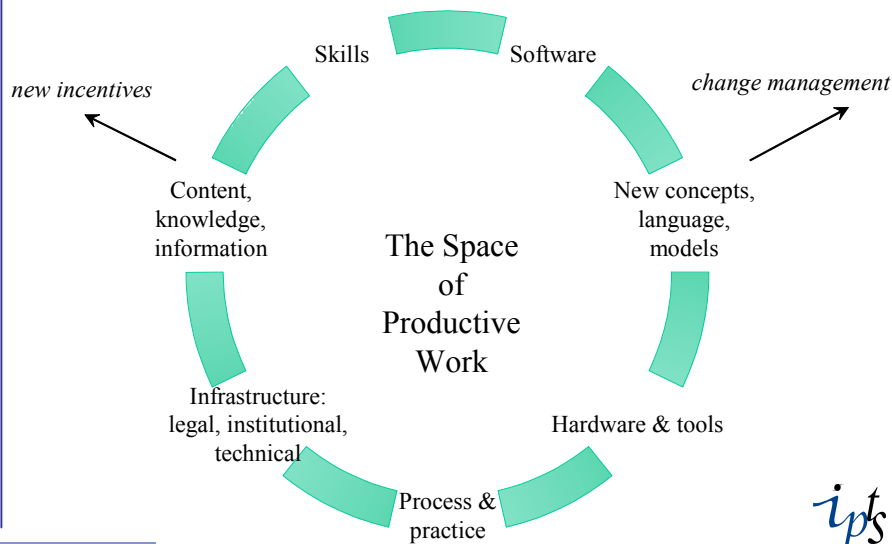
What if we reach the Lisbon target? Growth of GDP and employment in Finland, 1990-2003



This is why ICTs pop-up in productivity studies



Expanding the productivity space



Thank You!

