

Elements of the Great Transformation

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Beyond déjà vu

- For the last three decades we have been talking about international competitiveness, the growth and decline of jobs, the impact of ICTs, globalisation, lifelong learning and the Information Society.
- So, what's the news? Any new insights?



Progress in the Knowledge Society?

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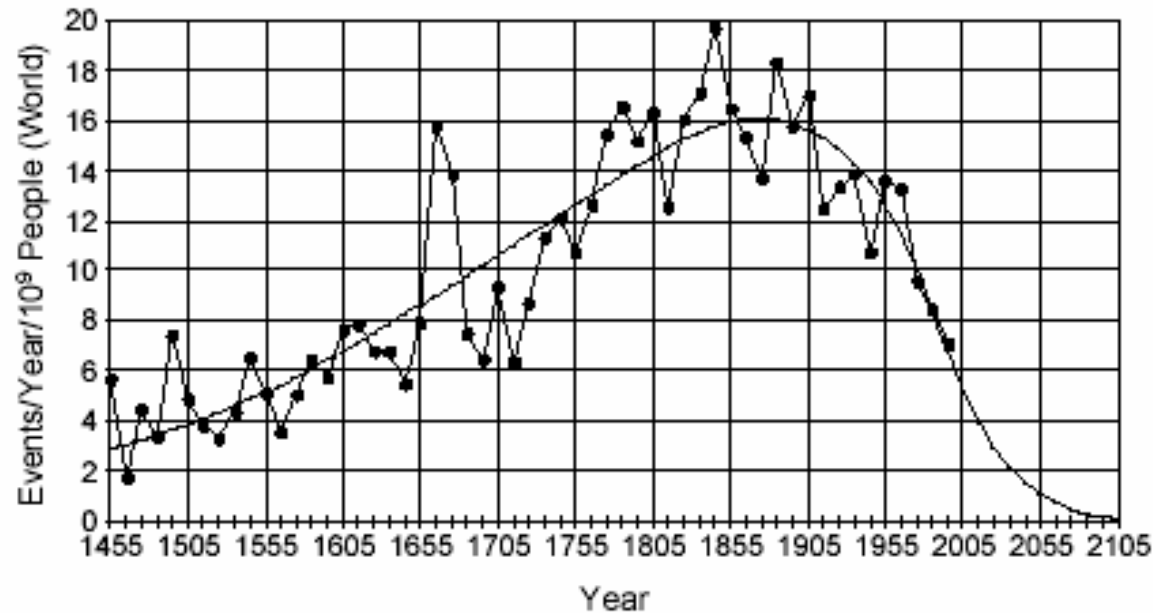


Fig. 1. Rate of innovation since the end of the Dark Ages. Points are an average over 10 years with the last point covering the period from 1990 to 1999. The smooth curve is a least squares fit of a modified Gaussian distribution to the data.



1848

- “Constant revolutionising of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones. All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify. All that is solid melts into air.

...the rapid improvement of all instruments of production, by the immensely facilitated means of communication, draws all nations, even the most barbarian, into civilization.”



1990

- “...modern social life consist in the fact that social practices are constantly examined and reformed in the light of incoming information about those very practices, thus constitutively altering their character.”



The Innovation Economy

- Profit opportunities are increasingly based on temporal advantage, created by innovation and novelty
- Innovations are increasingly ICT-facilitated recombinations of existing system elements and service capabilities
- Product-centric innovation is being replaced by user-centric innovation, where social communication is a key driver
- Monolithic corporations decompose into flexible networks that integrate production capabilities and knowledge
- National industries and firms are disappearing
- ICTs reorganize meaning-based economies and make micro-markets the engine of growth



The new concept of productivity

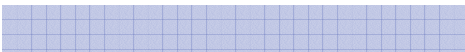
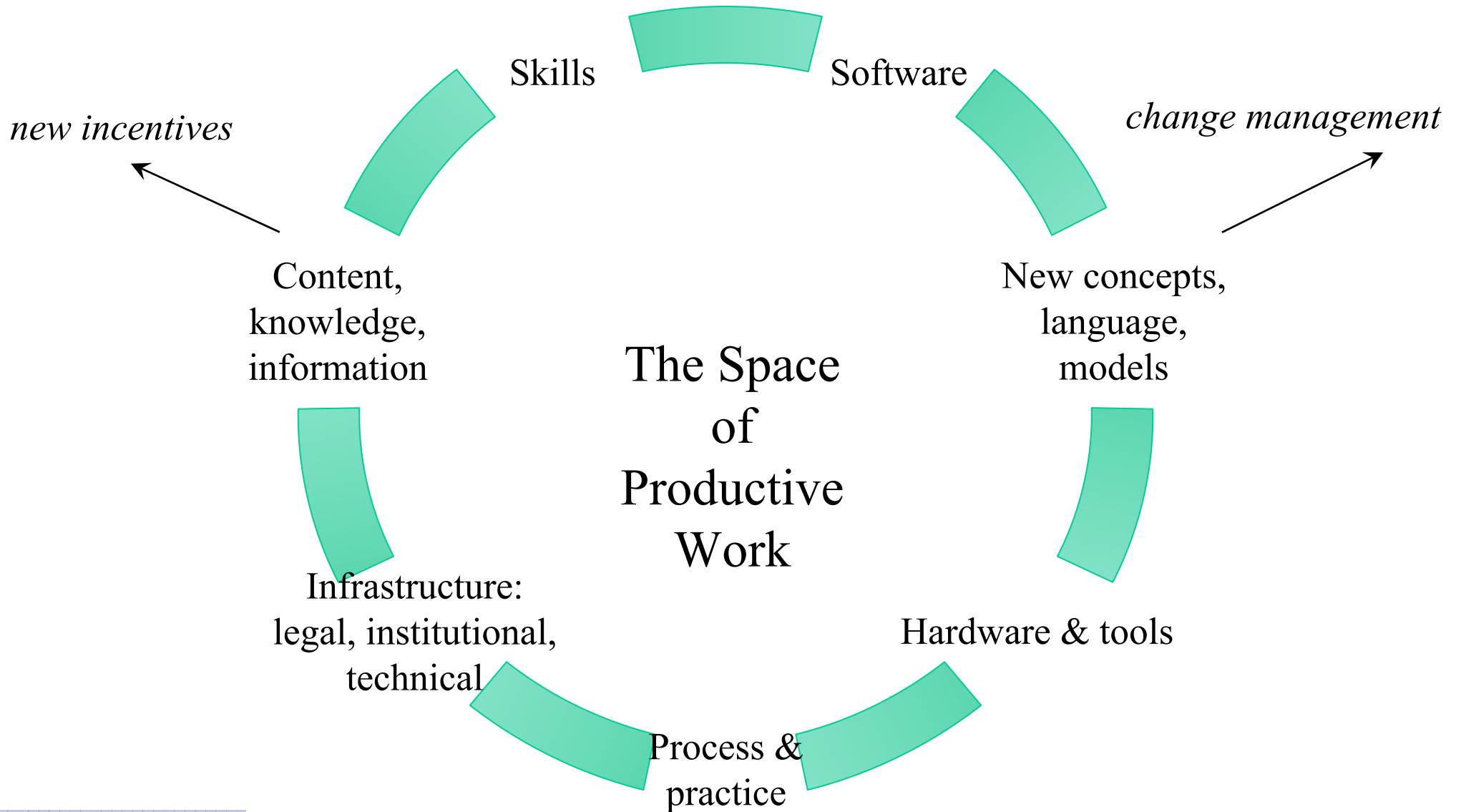
- Socio-economic progress centres on capabilities for meaningful and valuable use of goods and services
- Socio-economic development cannot be described simply as efficiency improvement (“traditional productivity”)
- ICTs have a fundamental role in **expanding** human capabilities

Efficiency
= traditional productivity



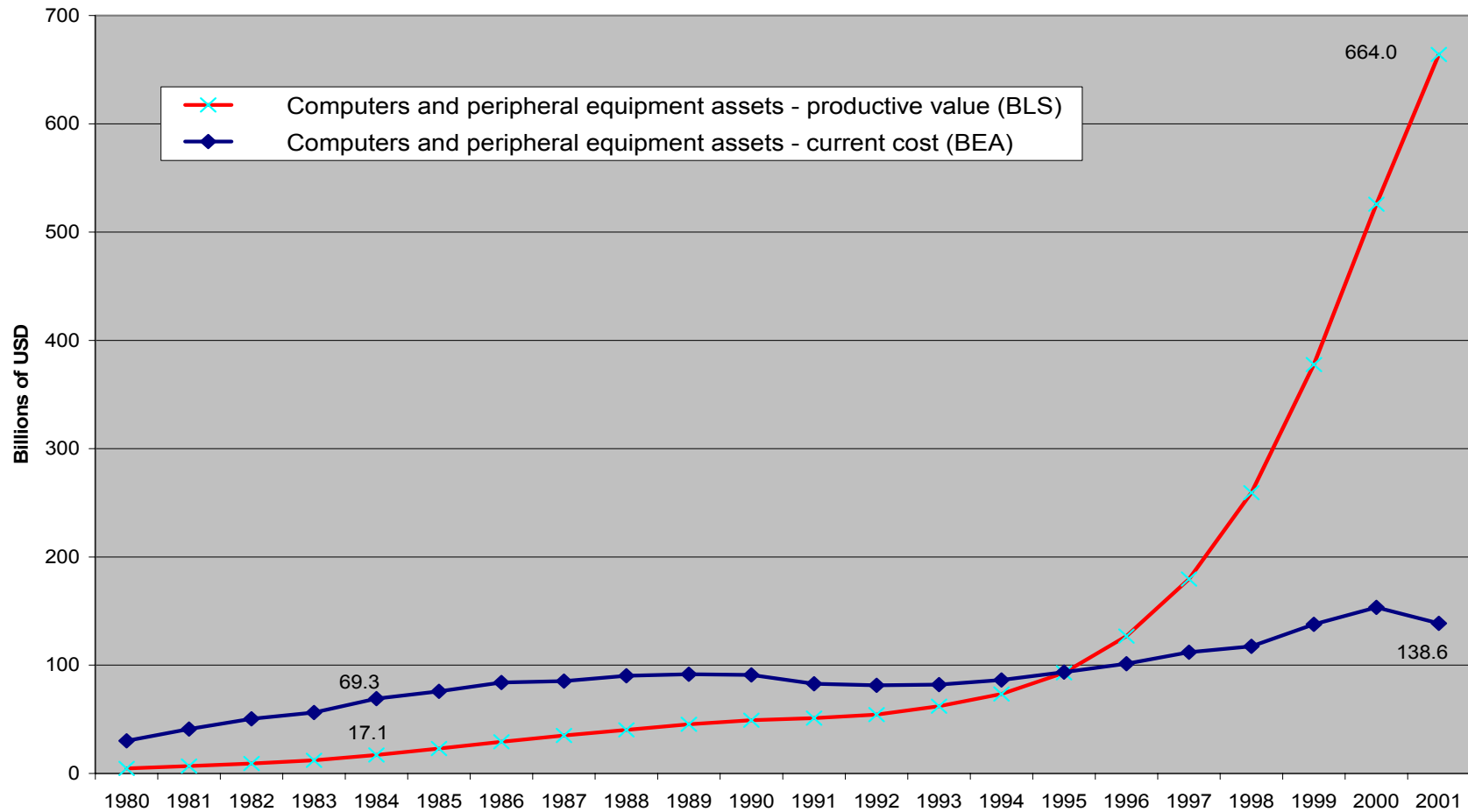
Expansion
= growth through value creation

Expanding the productivity space





This is why ICTs pop-up in productivity studies





A short critique on conventional growth accounting

- ICT productivity studies are often based on models that assume:
 - economic equilibrium (i.e., innovation is irrelevant for growth)
 - no-one is able to influence prices
 - all firms are equally efficient
 - users pay the productive value for Linux, Apache, Perl, HTML...
 - all ICT investments have the same productivity impact (spreadsheets, email, DVD drives, routers, hard disks, ...)
 - no defensive investments (firewalls, facilities access control, virus removal, video surveillance, competitive pressure...)
 - unmeasured intangible investments do not matter
 - no problems in software development, implementation, and maintenance (no 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



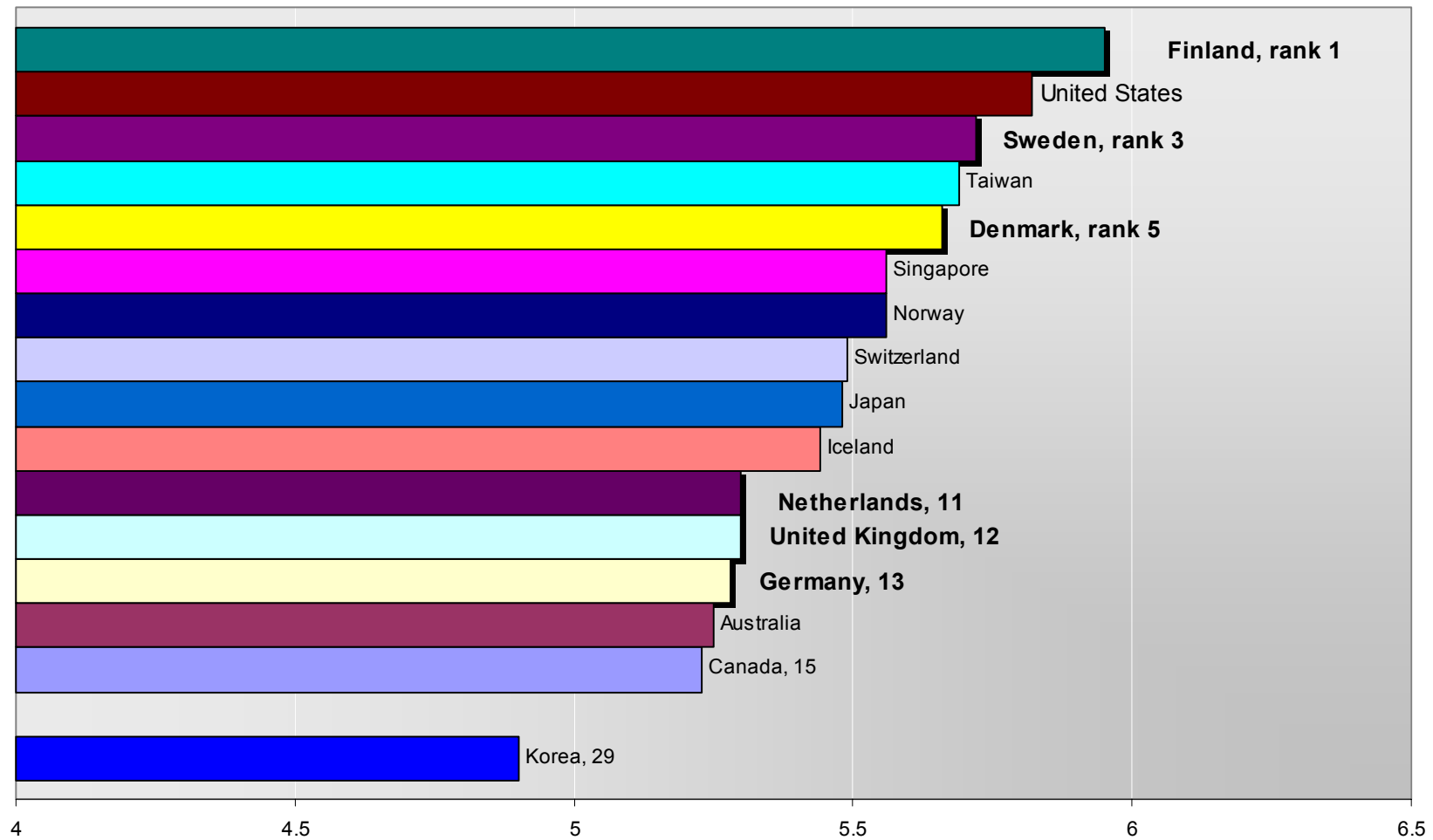
Transformation of work

- In the innovation economy, work has triple importance for individuals
 - Economically relevant capabilities are accumulated in work contexts (knowledge, access to resources)
 - Creative workers don't sell their labour; they sell their souls
 - The benefits of global competition flow to those who have income (instead of increasing salaries we get paid through lower prices)



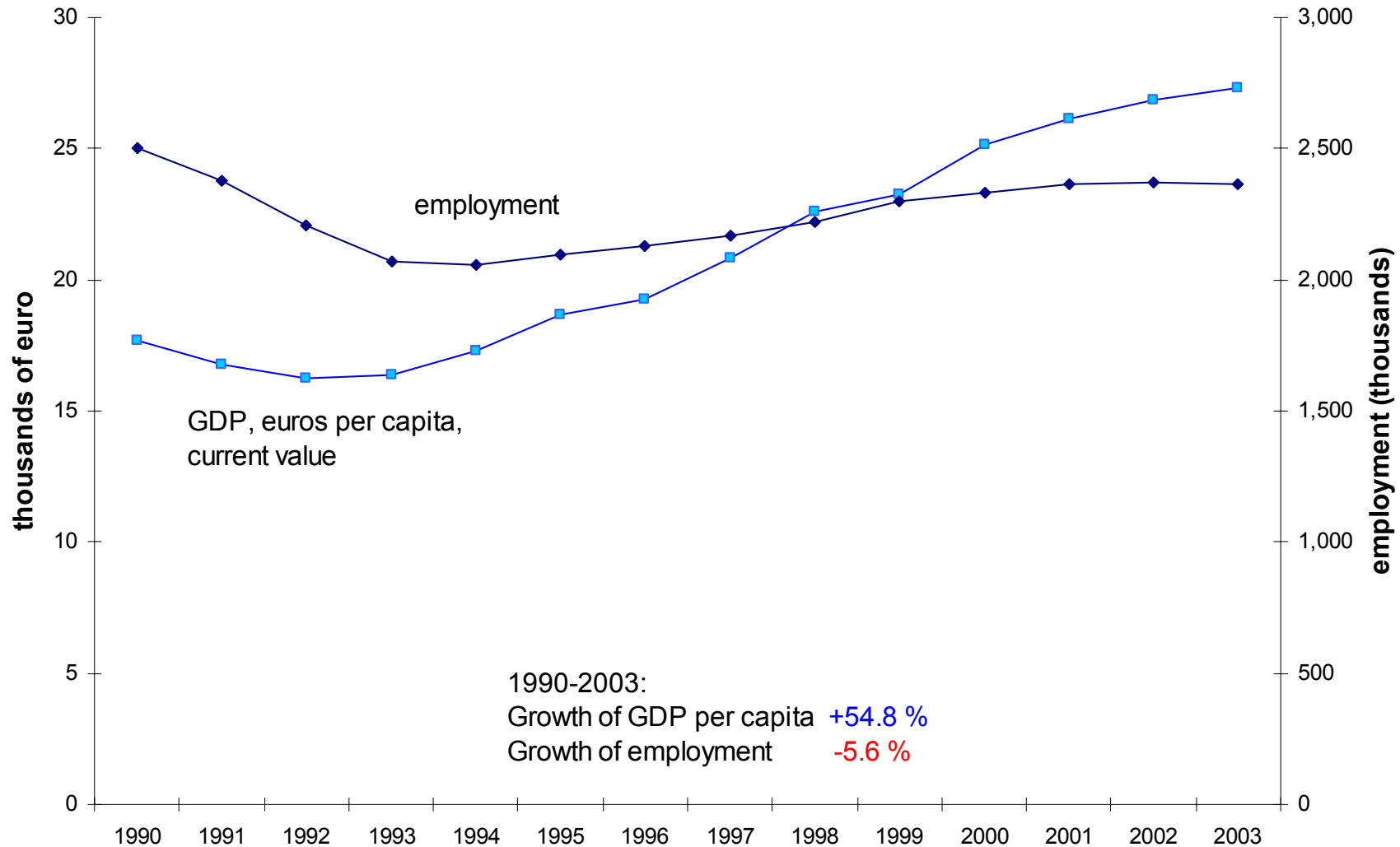
The Lisbon Land

2004 Growth Competitiveness rankings



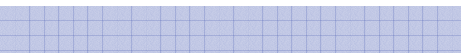
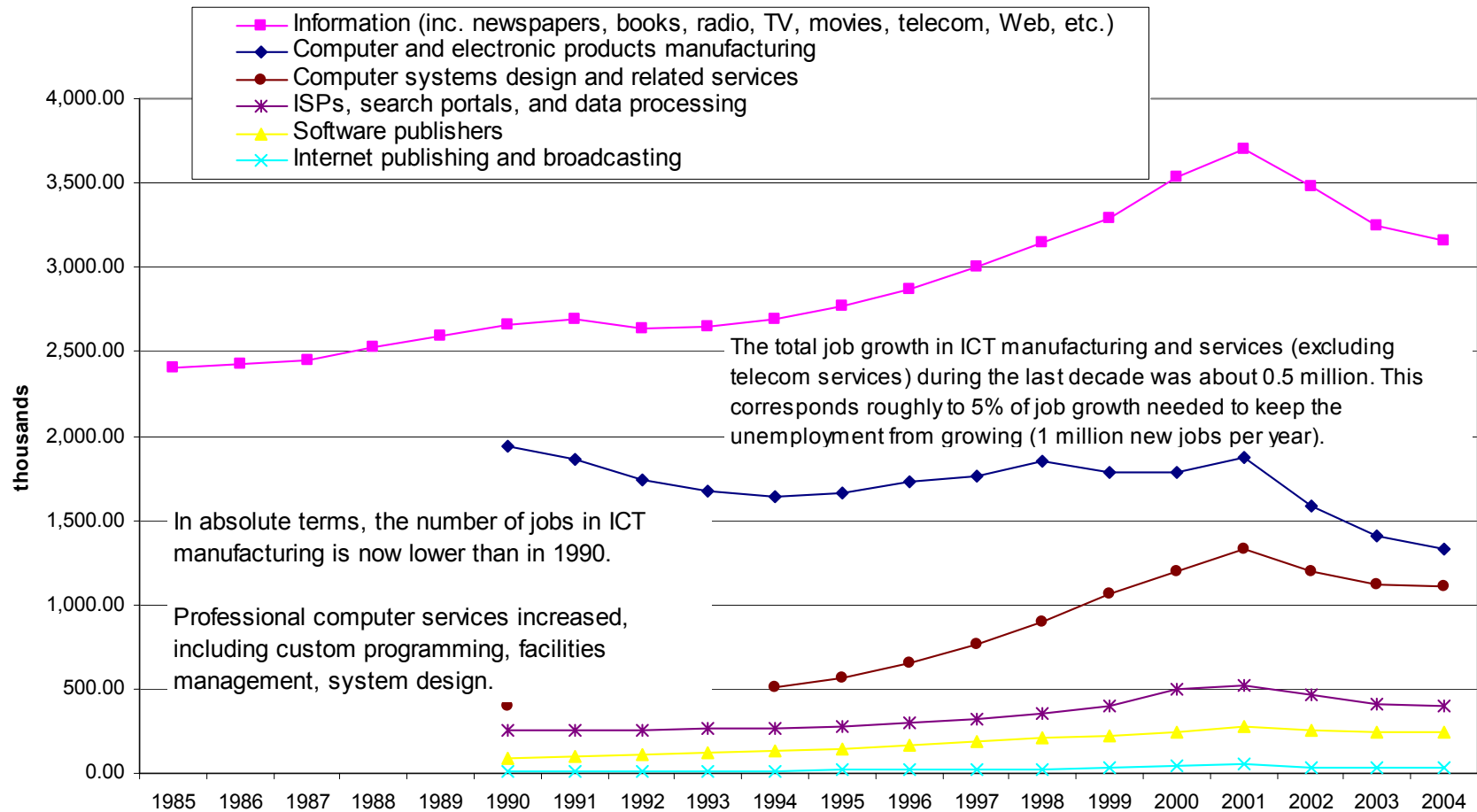


Growth of GDP and employment in Finland 1990-2003





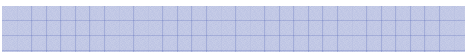
Total employment in ICT industries, USA 1985-04





The second globalization

- De-location, fragmentation and recombination of value chains using ICTs
 - First phase 1980-91
 - fax + international telephony
 - Second phase 1992-02
 - 8-bit email, intra-firm collaboration, Internet, ERP
 - Third phase 2003-
 - real-time fragmentation (call centres, eCommerce), knowledge-intensive collaboration & co-production
- Network economy & space of flows?





Transformation of learning

- Universities searching for a role
- Limited institutional support for lifelong learning
- Creative, emancipatory, revolutionary and out-of-control learning becoming important in the innovation economy
- Return to trivium?
 - grammar, rhetoric, logic
- ...and quadrivium?
 - arithmetic, geometry, music, astronomy
 - (“the basic skills required for serious study of philosophy and theology”)



The transformation of **Industrial Societies** into **Knowledge Societies** requires many elements in the alchemists' toolkit:

- Innovation economy
- The new productivity paradigm
- Transformation of work
- Globalization
- Transformation of learning
- Risk society
- The new civil society
- The new state
- A vision that organises action

“...the right to nonconformity . . . is the hallmark of a free society”

-Karl Polanyi, The Great Transformation



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