

Governor
Erkki Liikanen



EUROJÄRJESTELMÄ
EUROSYSTEMET

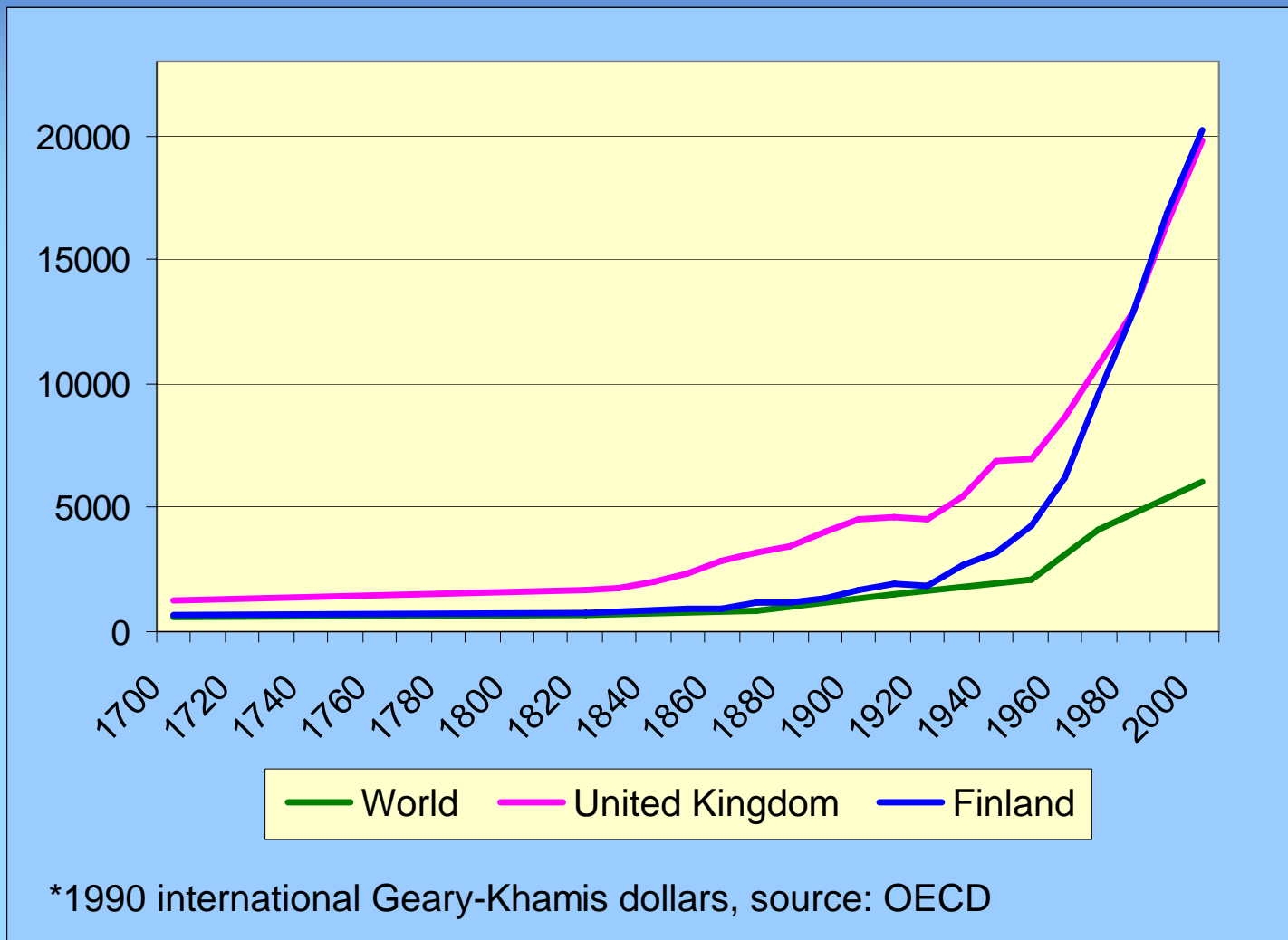
ICT and productivity, challenges and opportunities

Tampere, 30 November 2006

Productivity growth and ICT

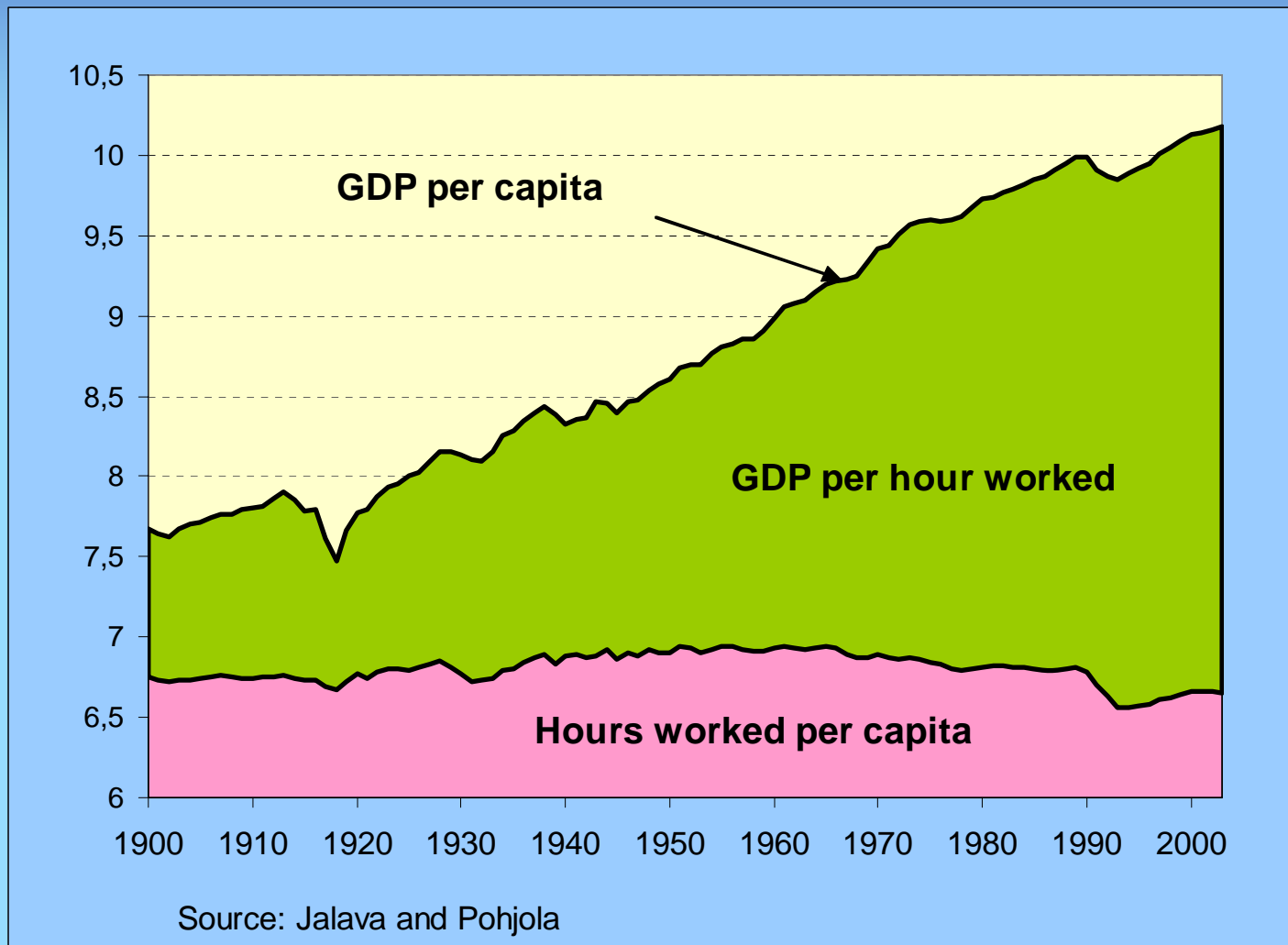
- Economic growth is a new phenomenon
- Key to faster productivity growth first in electricity, now in ICT and its use
- ICT – from investment to utilisation
- Continued growth in productivity a challenge for leadership
- ICT-driven restructuring of working methods in the Bank of Finland and the Eurosystem

GDP per capita in world economy, United Kingdom and Finland, 1700–2000*



GDP per capita and its components, Finland 1900–2004

(logarithmic scale, GDP at year 2000 prices)



What are the factors behind growth?



- Investment
- Greater labour input
- Labour productivity growth
(growth in output created per person)

What are the components of labour productivity?

- **Growth in capital intensity**
(eg. investment in machinery and equipment per employee)
- **Growth in human capital (education)**
- **Total factor productivity**
 - technological advancement
 - organisational changes
 - better 'recipes'

Sources of productivity growth in Finland

- Finland quickly learned to utilise electricity
- Electricity used to process forests and ore
- Electricity's possibility to stimulate productivity extensively exploited by the 1970s
- ICT became increasingly important from the 1980s, although its impact on productivity was slow at first
- Robert Solow 1987: '*You can see the computer age everywhere but in the productivity statistics*'

How does growth contribution of ICT work?

■ ICT investment

- Capacity increased, lower prices
- Common-use technology, similar to electricity

■ Restructuring of working methods

- Enabled big changes in work processes and organisations
- Enabled flattening of hierarchy and efficient group work

■ Education and training

- Focus of work, education and training shifted from mechanical tasks to problem-solving and communication skills

■ Problem of time lags



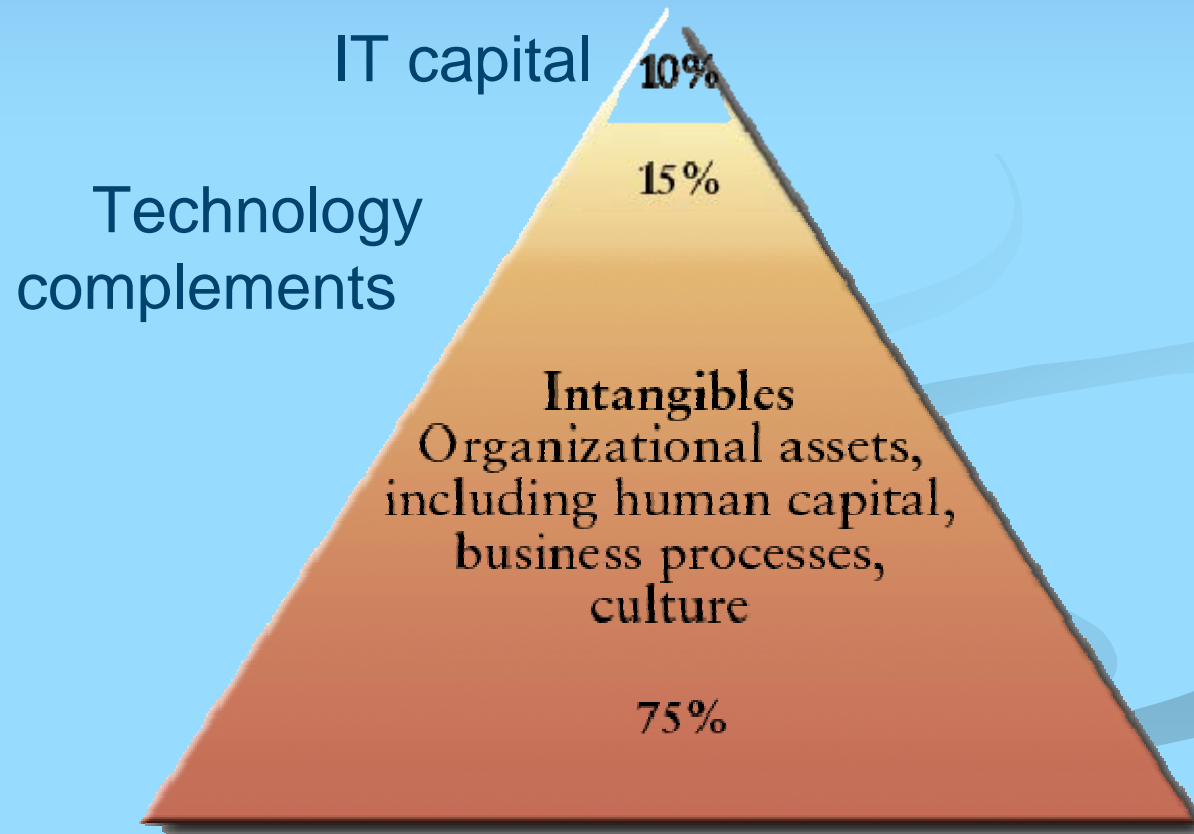
Requirements for a successful IT project

- Focus on activity, not on technology
- Clear objective (key processes)
- Strong support from top management
- Usability of the tool
- Good and broad project group from the start
- Constant user participation
- Choose a project where you have immediate deliverables; better processes and cost savings

Investment in organisation and education greater than ICT investment

Intangible Assets

Enterprises spend far more on intangibles than on IT and technology complements



Productivity growth in EU and USA

Labour productivity growth in the private sector, 1987-2003

	1987-1995	1995-2000	2000-2003
European Union (EU15)			
Labour productivity growth	2.7	2.2	1.1
of which			
IT production*	0.5	0.8	0.5
Other industrial production**	1.3	0.8	0.6
Services**	0.8	0.6	0.1
Others	0.2	0.0	-0.1
USA			
Labour productivity growth	1.4	3.4	3.6
of which			
IT production*	0.8	1.2	1.1
Other industrial production**	0.3	0.5	0.9
Services**	0.5	1.8	2.0
Others	-0.2	-0.1	-0.3

* Includes IT production, telecommunications and software production

** Excludes IT production

Source: Van Ark and Inklaar (2005)

How can we speed up productivity growth in companies ?

- Competition forces companies to invest in ICT and adapt to new working methods
- Successful implementation of changes requires
 - innovative leaders
 - staff well disposed towards change

Labour productivity growth in public sector



- Problem: not always competition
- Measurement of results difficult (but essential!)
- Strong leadership in key role
- Rise in public sector productivity growth essential when adapting to increasing expenditure pressures arising from population ageing

Main tasks of the Bank of Finland



- **Monetary policy:**
 - Governor is member of the ECB Governing Council
- **Financial markets:**
 - Promotion of the stability and efficiency of payment and financial systems
- **Banking operations**
 - Implementation of ECB's monetary policy in Finland
 - Ensure liquidity in the banking system
 - Transfer of large-value interbank payments
 - Investment of reserve assets
- **Maintenance of currency supply**

Bank of Finland shared desktop

in the preparation of the
ECB Governing Council
meetings



- Shared desktop on the Intranet containing, for example
 - documents
 - division of duties and timetable
 - Bank of Finland's policy approach

available to persons involved in the preparation of meetings for editing and commenting

- Speeds up information flow
- Improves process transparency
- Cuts down overlapping work stages
- Supports change in work methods
- Reduces need for support functions and costs

Workspace for ECB Governing Council meeting preparation



EKP:n neuvoston 197. kokous 5.10.2006

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EKP:n neuvoston kokousvalmistelun työtila

Neuvoston kommentit

Type	Name	Agendan kohta	Modified	Modified By	Tila	Checked Out To
	GovC03JH	3	3.10.2006 10:34	Peisa, Paavo	Linjaukseen	
	GovC03RH	03	28.9.2006 16:16	Peisa, Paavo	Linjaukseen	
	GovC03TK	3	28.9.2006 16:15	Peisa, Paavo	Linjaukseen	
	GovC04aKT	4a	29.9.2006 10:51	Harismaa, Camilla	Linjaukseen	
	GovC04bEB	04b	27.9.2006 14:10	Harismaa, Camilla	Linjaukseen	
	GovC04bJT	04b	29.9.2006 11:41	Harismaa, Camilla	Linjaukseen	
	GovC04cHJ NEW	4c	3.10.2006 11:35	Peisa, Paavo	Linjaukseen	
	GovC04cMM_VMM	4c	3.10.2006 9:59	Peisa, Paavo	Linjaukseen	

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Linjausehdotus

Type	Name	Modified	Modified By	Tila	Checked Out To
	061005 EKP 197 LinjausDRAFT	4.10.2006 10:02	Kyllönen, Inka	Luonnos	Kyllönen, Inka

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Aikataulu

- 4.10.2006 9:00 Johtokunnan kokous
- 5.10.2006 9:00 EKP:n neuvoston kokous Pariisissa
- 9.10.2006 10:30 Debriefing-kokous (R16 Auditorio)

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Tehtäväjako

Agendan kohta	Osasto	Kommentoija
GovC 3	RPSE	Korhonen, Herrala, Hukkinen
GovC 4. a)	MV	Kari Takala
GovC 4. b)	PT, JOLA	Jari Toivonen ja Anna-Maija Tikkanen, Eija Brusila
GovC 4. c)	RP, RMTI	Mattila, Melolinna, H.Jokinen

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Agendan kohdat (Documentum)

Neuvoston 197. kokous 5.10.2006

[Tyyppi](#) [Nimi](#)

- 1. Adoption of the agenda
- 2. Approval of the draft minutes of the Governing Council meeting of 14 September 2006
- 3. Economic, monetary and financial situation and monetary policy decisions
- 4. a) Other matters: Monthly schedule for delivery of euro banknotes in 2007
- 4. b) Assessment of the claims relating to the TARGET malfunctioning
- 4. c) Publication of harmonised competitiveness indicators for euro area countries
- Table documents
- Outcome of the 197th meeting of the Governing Council

Conclusion

- Declining labour force and ageing population
- Rise in productivity a superior factor in economic growth
- ICT makes productivity growth possible but does not guarantee it
- In future, emphasis on working methods, organisational structures and leadership:

New phase in the utilisation of ICT