

Philosophy of the Information Society

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Information Society: An other Great Transformation?

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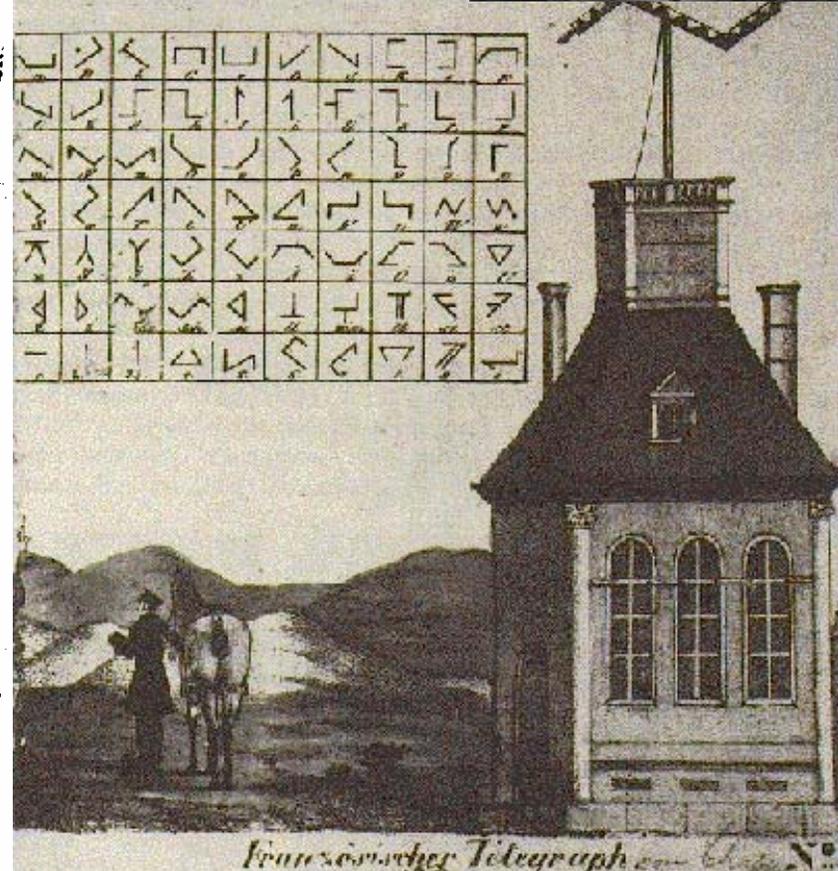
Introduction

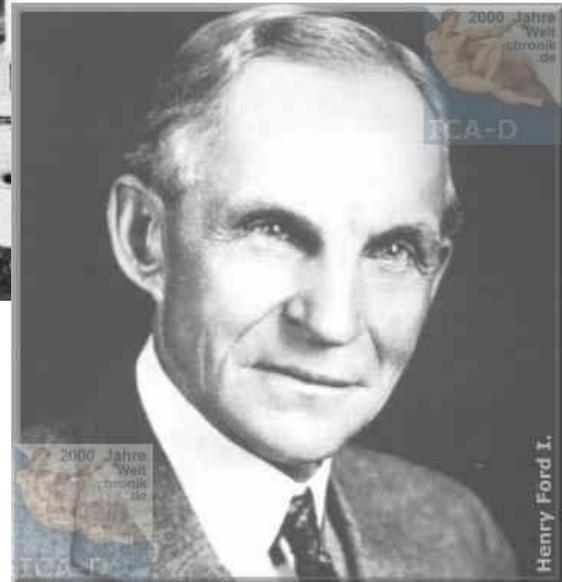
The emerging information society, supported by the US, the European Union and many other countries, is charged with high expectations.

This optimism is a phenomenon far from being new in history. We can observe similar hopes in the then new technologies of the past:

- The French Revolution believed Chappe's optical telegraph will allow conquering Europe by easily commanding and controlling the armed forces in the Revolutionary wars.
- At the beginning of the 20th century Henry Ford initiated an economic upswing by mass production of cars and an improved system of remuneration of workers,
- in 1920 Lenin expected building a new society on the postulate: „Communism - that is Soviet power and electrification of the whole country.“

Chappe's optical telegraph: Napoleon's secret weapon





Assembly Line 1913

Henry Ford



<http://www.cabinetmagazine.org/issues/21/schivelbusch.php>

W.I.Lenin 1920

*Communism,
this is Soviet power
and electrification of
all the whole country*

<http://www.russianartandbooks.com/cgi-bin/russianart/01264R.html>



Techno-economic tendencies of information society

- A. Information Processing Machinery
- B. Automatisatisation: falling production costs
- C. Reduced transaction costs
- D. Commercialisation and commodification
- E. Social context
- F. Effects of commercialisation and commodification

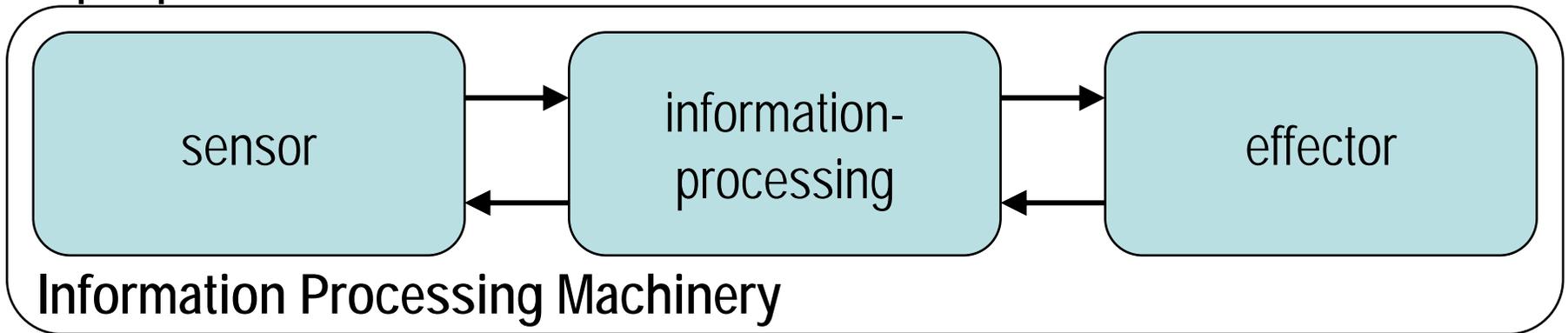
- G. What to do?

A. Information Processing Machinery

Around the middle of the 20th century a new generic type of machinery emerges. It takes over the following human work activities and allows for innovations

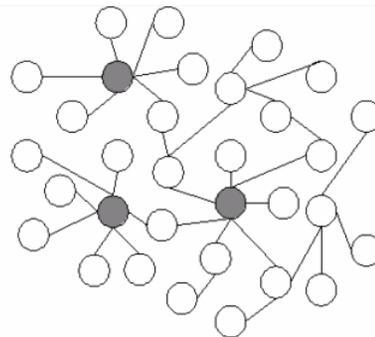
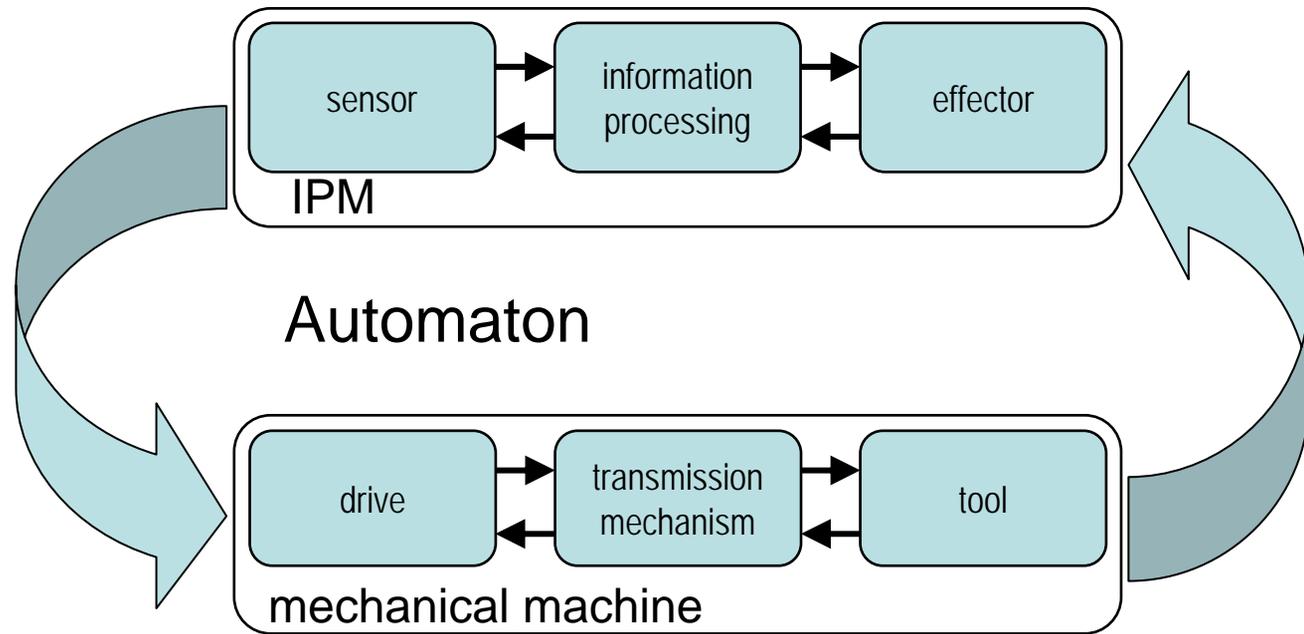
- o perception (sensor; mike, keyboard)
- o decision making (IPM in a more narrow meaning; program, CPU, bus, memory; realized by relays, valves, transistors, ICs, mP)
- o reifying decisions (effector; screen, switch, indicator...)

and changes traditional work towards planning and preparation activities



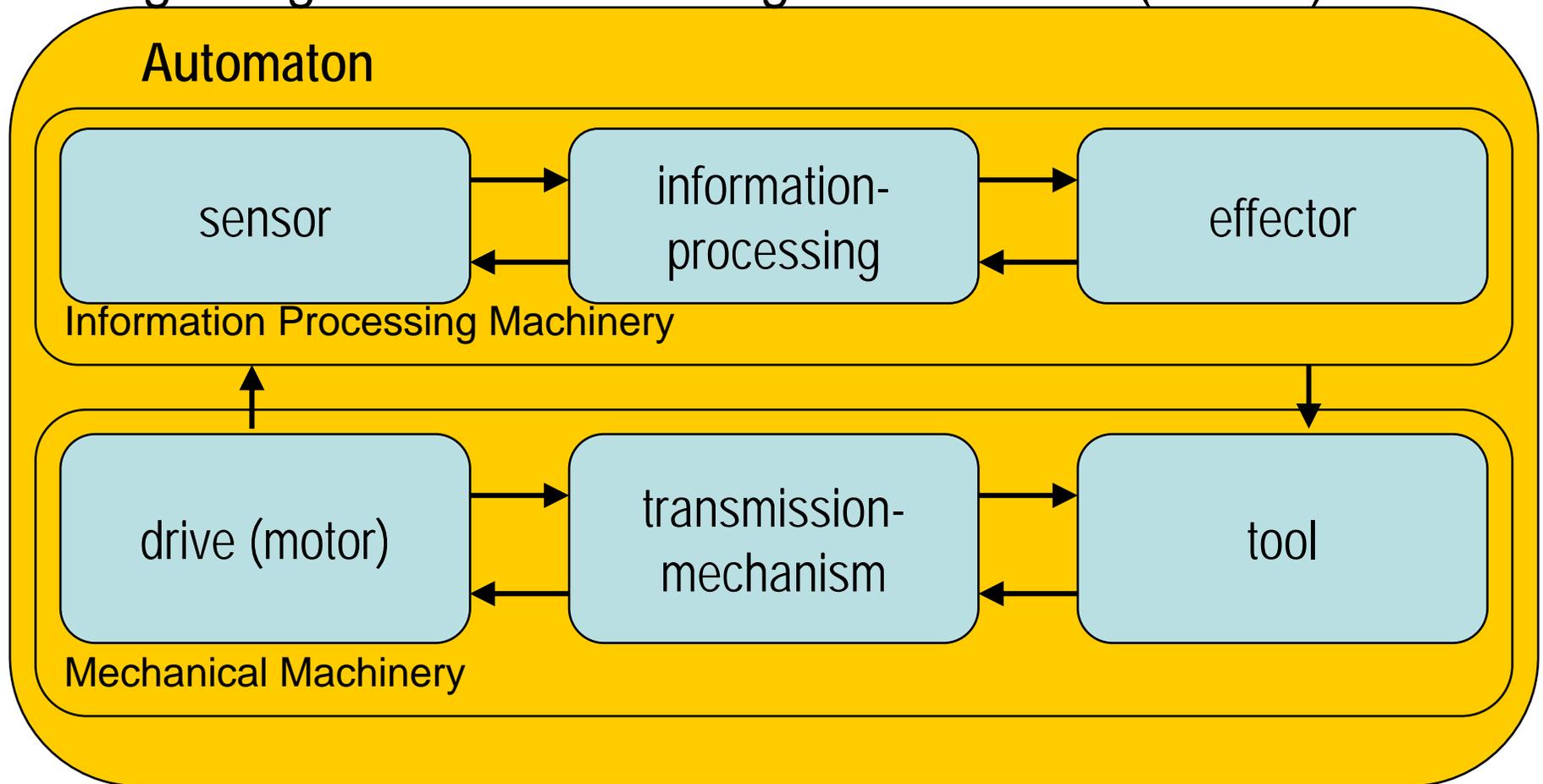
Three types of applications of the Information Processing Machine

- as stand-alone device
- as automaton (in combination with mechanical machine)
- within wired and/or wireless networks (Internet and mobile communication)

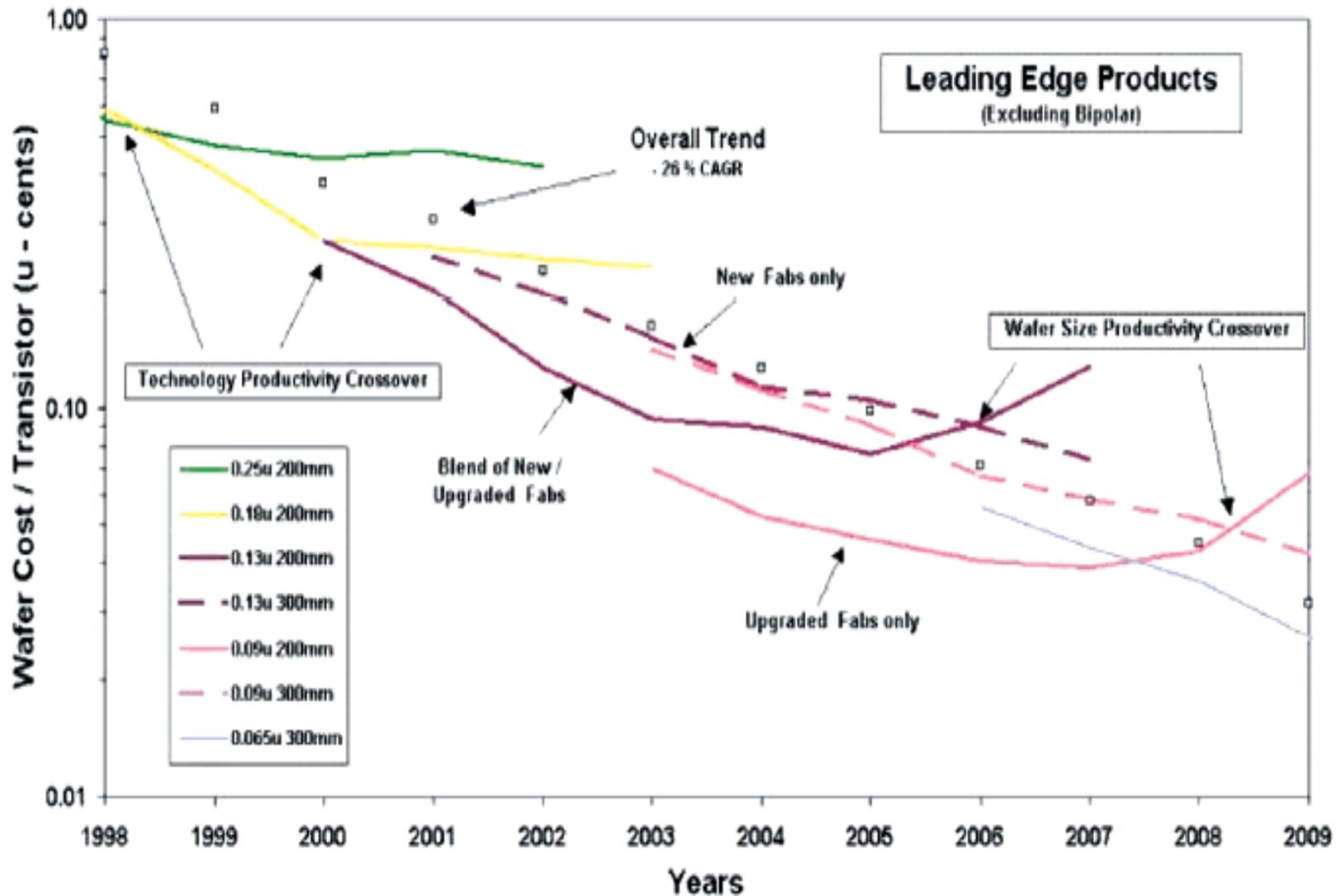


B. Global diffusion of automatisaton

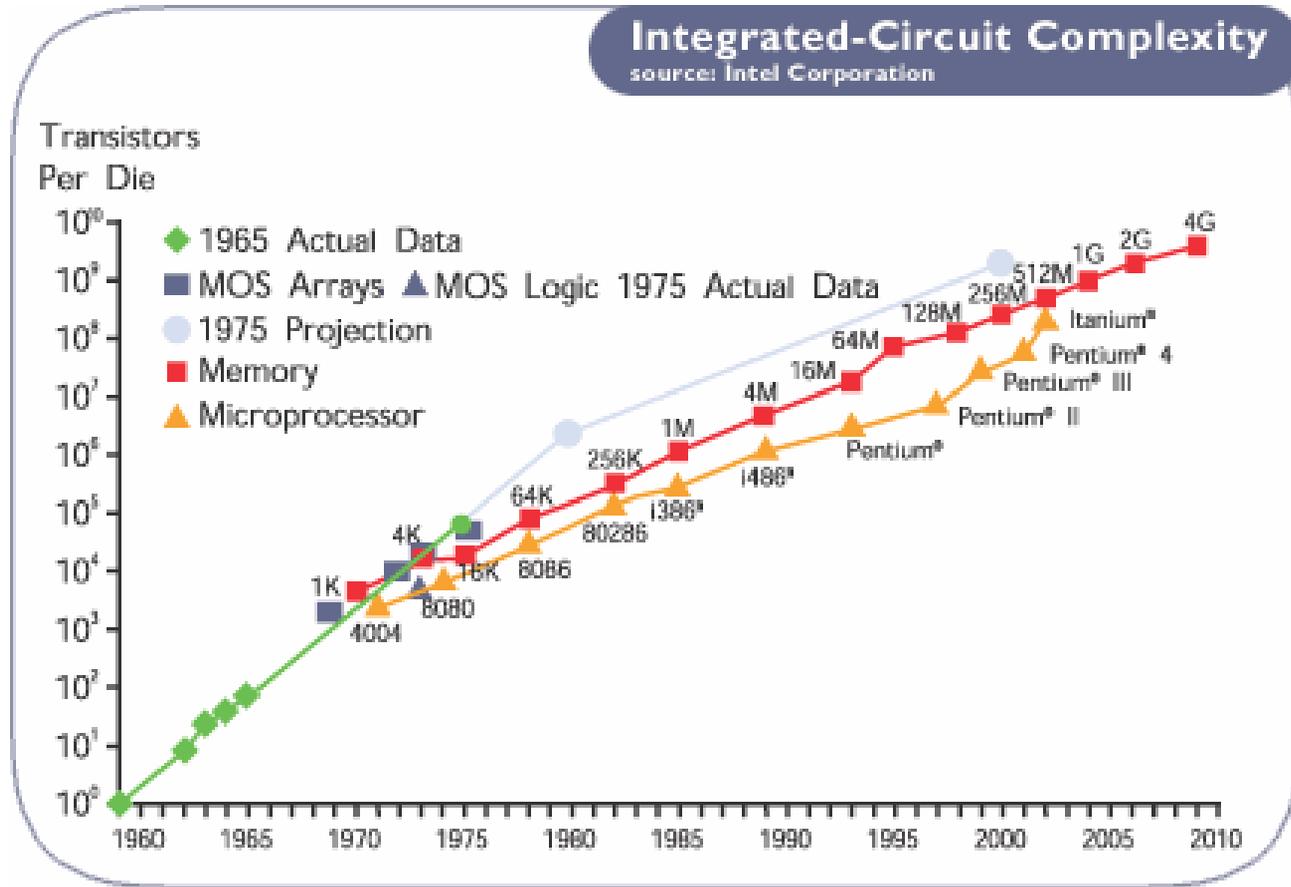
- Automaton = mechanical tool making machinery + Information Processing Machinery
- Increased productivity of labour
- Beginning scientific-technological revolution (Bernal)



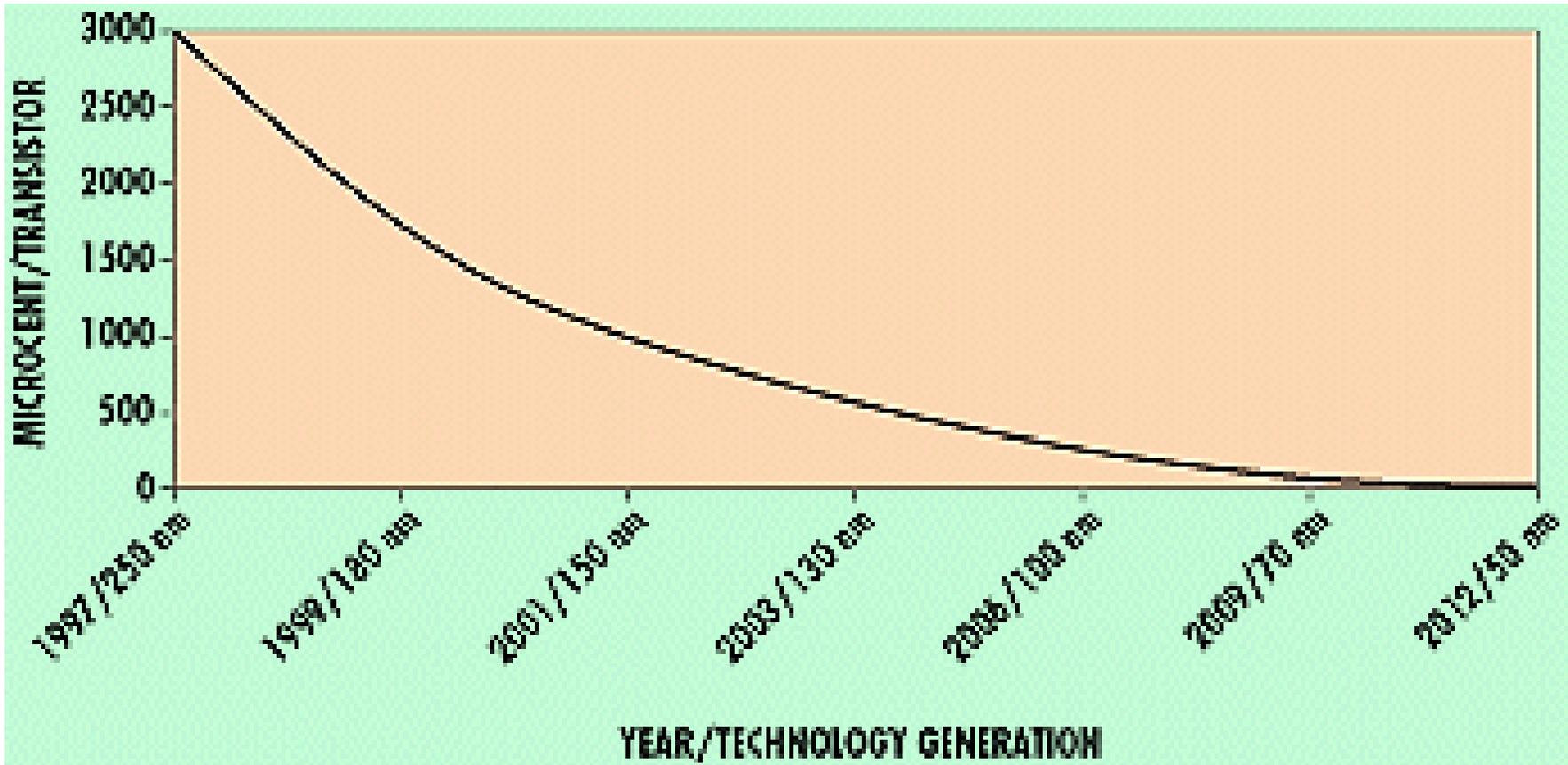
B. Falling production costs



Costs go down: Moore's Law and ...



Costs go down: ... falling costs per transistor



C. Falling transaction costs

Because of cheap availability of IPMs (either as stand alone machinery or within a network) all transaction costs go down

- The following activities are subject to this trend
 - communication (e.g.: preparation, transfer, receipt, assessment of messages between two or more parties) ,
 - coordination, organisation (e.g.: related to contracts, planning and decision making)
 - information retrieval (e.g.: computing, surfing, searching, modifying, assessing, verifying)
- All these activities can be done faster, easier, and with higher quality

Ambivalent effects of falling transaction costs

(a) cheaper services,

and, maybe more interesting

(b) emerging new actors and organisations, while others may disappear

-> Technology can empower new individuals, groups and organisations to perform new activities,

-> but can also bring traditional players under pressure

see e.g. Williamson, O. E., *The Economic Institutions of Capitalism*, The Free Press, New York 1987, paperback edition, for a classical example: the end of the „putting-out-Systems“ and the birth of the „factory-Systems“ in Great Britain in early capitalism).

D. Commercialisation and Commodification of Information Goods

Commercialisation

The market expands to new fields of human activities (information, communication, knowledge, and many other cultural acts) and transforms them into services

Commodification

Technology and Law transform information goods into commodities and allow to sell them via the market

What is a commodity?

A little excursion into the basics of political economics is needed

- **A commodity is a product of human labour**
Since Aristotle we know that it has two essential properties (also Adam Smith and Karl Marx)
- **It has value in use**
Things or activities/services are useful for somebody for some reason
- **and value in exchange**
Things or activities have a value for others. They pay for it in the market.

Two aspects of a commodity

Aristotle (“De Rep.” I. i. c. 9, ~ 350 BC):

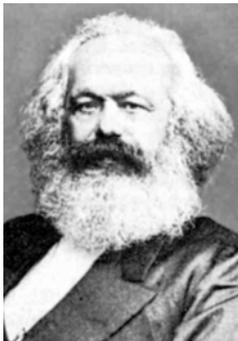
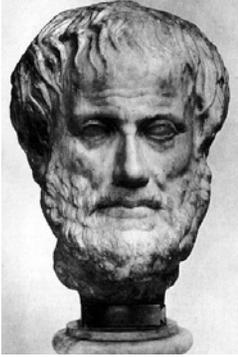
“The one is peculiar to the object as such, the other is not, as a sandal which may be worn, and is also exchangeable. Both are uses of the sandal, for even he who exchanges the sandal for the money or food he is in want of, makes use of the sandal as a sandal. But not in its natural way. For it has not been made for the sake of being exchanged”

Adam Smith (The Wealth of Nations, 1776):

“The word value, it is to be observed, has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that object conveys. The one may be called ‘value in use’; the other, ‘value in exchange.’”

Karl Marx (Das Kapital, Volume One, 1867)

The wealth of those societies in which the capitalist mode of production prevails, presents itself as ‘an immense accumulation of commodities,’ its unit being a single commodity. Our investigation must therefore begin with the analysis of a commodity.”



What about services?

There are two kinds of use values:

- **Material products**

they exist even after the production is over

- **Services/human activities**

they disappear after production, as they are consumed

But there is a problem with live human activities They can be sold only once, they are volatile and can neither be stored nor accumulated.

A large part of human activities consists in live acts (speaking, singing, dancing, writing, creating poetry, researching, programming etc).

They represent pure use values (in economic language they are services). Many acts of human culture are of this type.

Three concepts of productivity of labour

- Productivity(1): any society
 - *use value per working hour*
- Productivity(2): market economies
 - *surplus product per working hour*
- Productivity(3): capitalist economies
 - *profits per working hour*

The role of digital media in the information society

Like by a time machine digital media allow to *freeze* live cultural activities on a large scale and to *reify* them in a physical object (data carrier). By that they *transform use values* from a volatile form *into a stable material* one (e.g. DVD, CD-ROM, HardDisk, Memory chip, USB-Stick etc.)

But digital technology allows also to *produce copies* of the frozen activities *very cheaply* and to *distribute them world wide* via the Internet.

On this basis no market can be established. It is not possible to make profits. To allow this, another innovation is needed ->

The role of Law in the information society

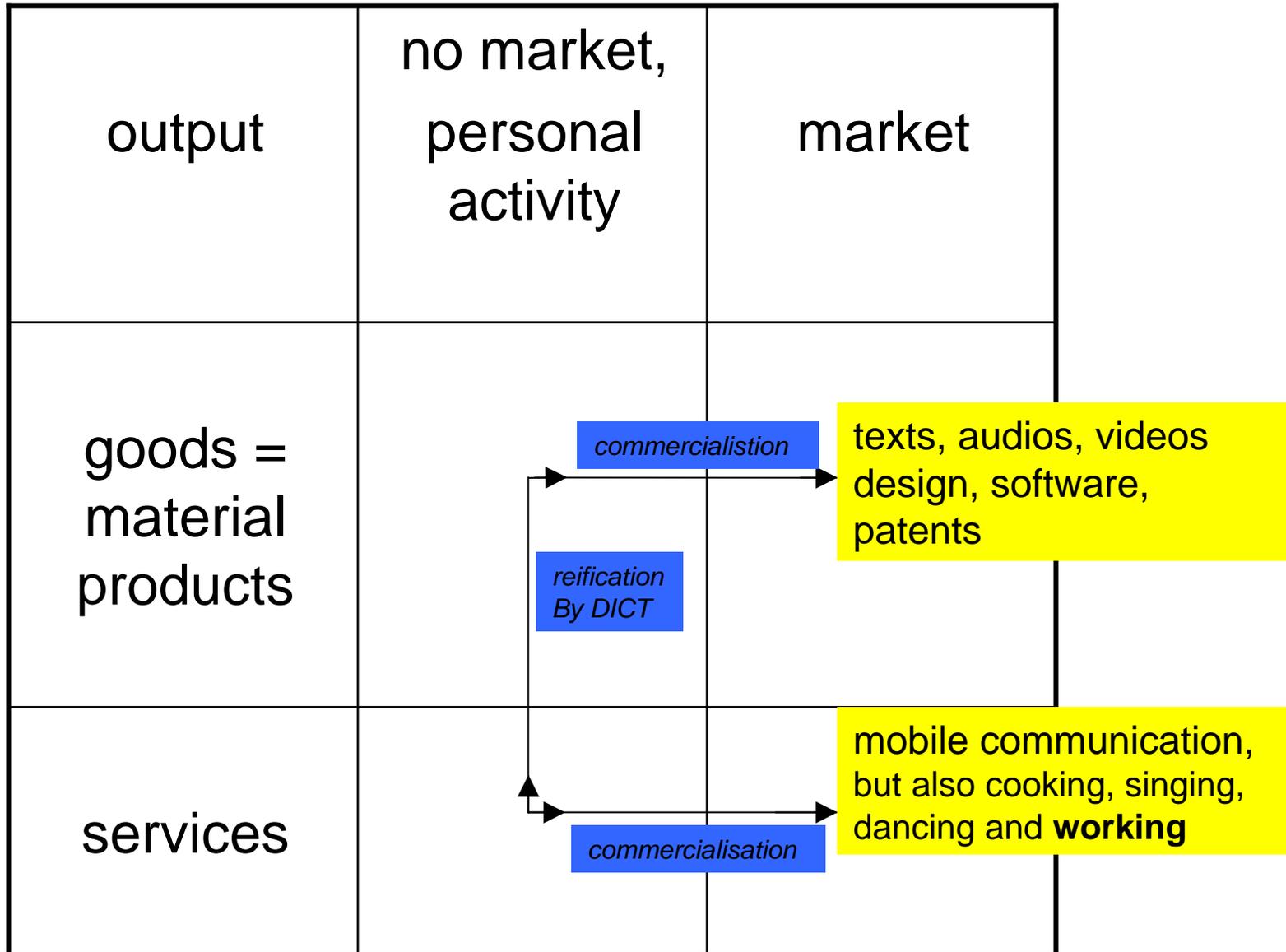
To enable the establishment of a market and to create full fledged commodities out of volatile services, capitalist countries developed the instrument of the Law and appropriate technologies to restrict the possibility of copying. The EU and the US established legal instruments against breaking copy-protection mechanisms.

By this interaction of technology and laws use values are first reified in digital carriers, second by copy-protection they are transformed into commodities which have also exchange value.

By ID Codes, licences, keys etc. each copy is individualized and can be distributed like traditional commodities, as if they were material products.

A large scale global market for digital carriers is enabled, and also a secondary market for freezing and unfreezing technologies (like DVD players, iPod etc).

Commercialisation and commodification in the information society



E. Social context:

From tribal communities towards a global society?

- Ideal types: „**community**“ und „**society**“
 - (Ferdinand Tönnies, 1855 - 1936, Max Weber, 1864 - 1920)
- „**communities**“: if social relations are based on emotions or traditions
 - **direct communication between human beings**
- „**society**“: if based on „rationally motivated compromises“ of human interests
 - **indirect communication between human beings**
- Examples
 - **community**: „family“ or a military unit based on comradry
 - **society** : market or an association with a special goal

From tribal communities toward global society?

- Anarchic and traditional structures of human life were mainly based on direct communication and therefore on **communities**.
- The establishment of markets (anonymous interaction) and of the nation state (impersonal law) in Europe allowed the development of **societies**.
- Digital Information and Communication Technologies allow selective communication on a global scale and partly also cooperation -> **new forms of communities** emerge based on shared or mutually related interests.
- Computer networks can offer **new intersubjective spaces** and **artefacts**. Each member of the community can refer to them.
- From a technological point of view the new spaces are essentially related to patterns and distribution of **energy**. Very often physical spaces are imitated.
- But also they create a **new topology** between people.
- By cooperation in shared environments personal relations are possible: **cooperation at work, joint development of arts, learning or leisure activities** become possible in a **virtual space**.

F. Effects of commercialisation and commodification in the information society

- In the information society by commodification many areas of human activities, culture, knowledge, arts, research, entertainment are conquered by the market. They have a price which excludes people without or with limited financial means from using them.
- Commodification creates **artificial shortage**.
- Usually it is advantageous to large scale and global enterprises.
- In some cases it can also result in a **better quality** of products.

- This development can be compared by extension and importance with the *commodification of work* during the first half of the 19th century in England which was described by Karl Polanyi in his well known book „The Great Transformation“ (1944). There he located the transformation of a capitalistic *economy* into a capitalistic *society*.

Growing Resistance

- While traditional class struggles were related to the fight between capitalists and the working class, the contemporary struggles focus on the cultural heritage in a very broad meaning of the term. It is the question of availability and universal access to cultural products which is not only related to manual workers, but to middle classes, intellectuals, artists and to parts of the capitalist class itself.
- Accordingly one can see growing resistance in many areas at the same time. Even the European Parliament was reluctant to subscribe a directive of patents on software or on the human genome.
- New intellectual property rights (Free/libre software, open source, creative commons, GNU Licences) have become new battlefields for the appropriation of their own culture by the people.

G. Ethical Issues: What to do?

Three Proposals:

- A legal framework for the cyberspace
- Introduction of a Basic Income
- Targeted Intelligence Networks

Additional and better ones are warmly welcomed!!

„Charta Virtualis“

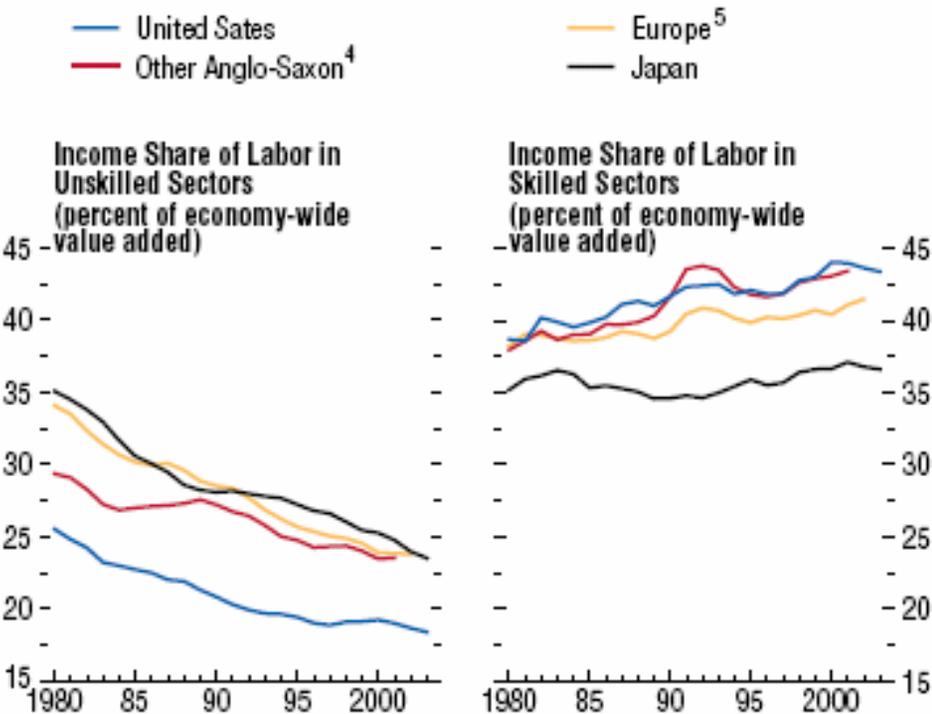
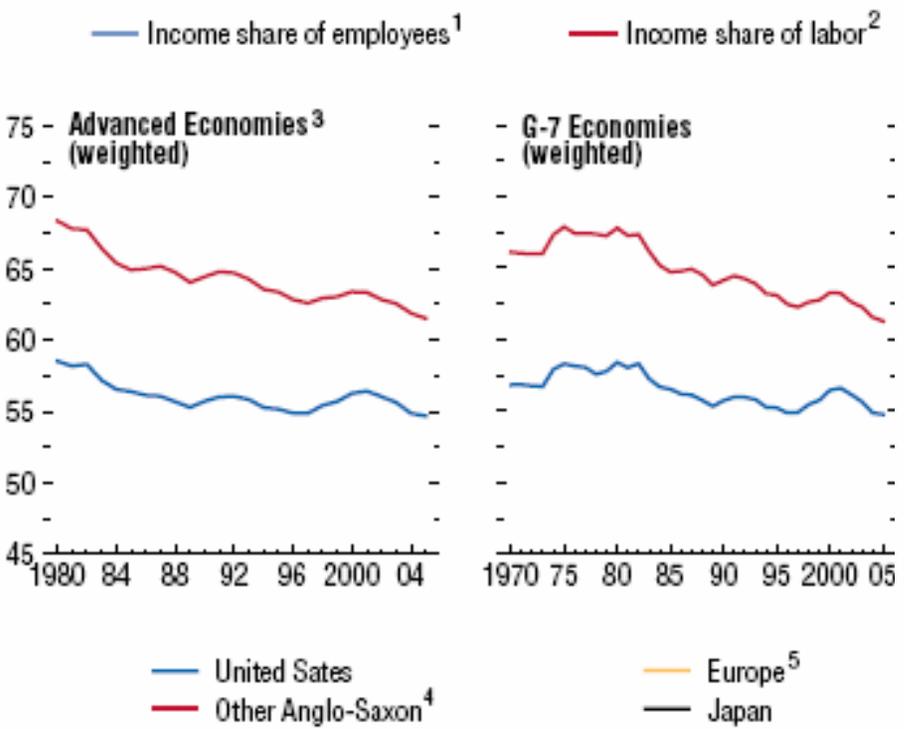
- should function as a collection of fundamental rights for the cyberspace
- by regulating the behavior of users towards more reliability, safety and security

Proposed contents:

- right to control all information related to oneself (**Informationelle Selbstbestimmung**)
- Right to encrypt (unbreakably)
- Right to anonymity/pseudonymity of personal and private communication
- universal access to information (e.g. Open Source, free/libre software, GNU, no patents on software)
- Limitation of the terms of Intellectual Property Rights
- Right to participate in the shaping of the cyberspace

Figure 5.7. Advanced Economies: Labor Income Shares
(Percent of GDP unless otherwise noted)

Over the past two decades, there has been a continued decline in the share of income that accrues to labor, especially in Europe and Japan. The income share of workers in unskilled sectors has dropped strongly while that of workers in skilled sectors has generally made small gains.



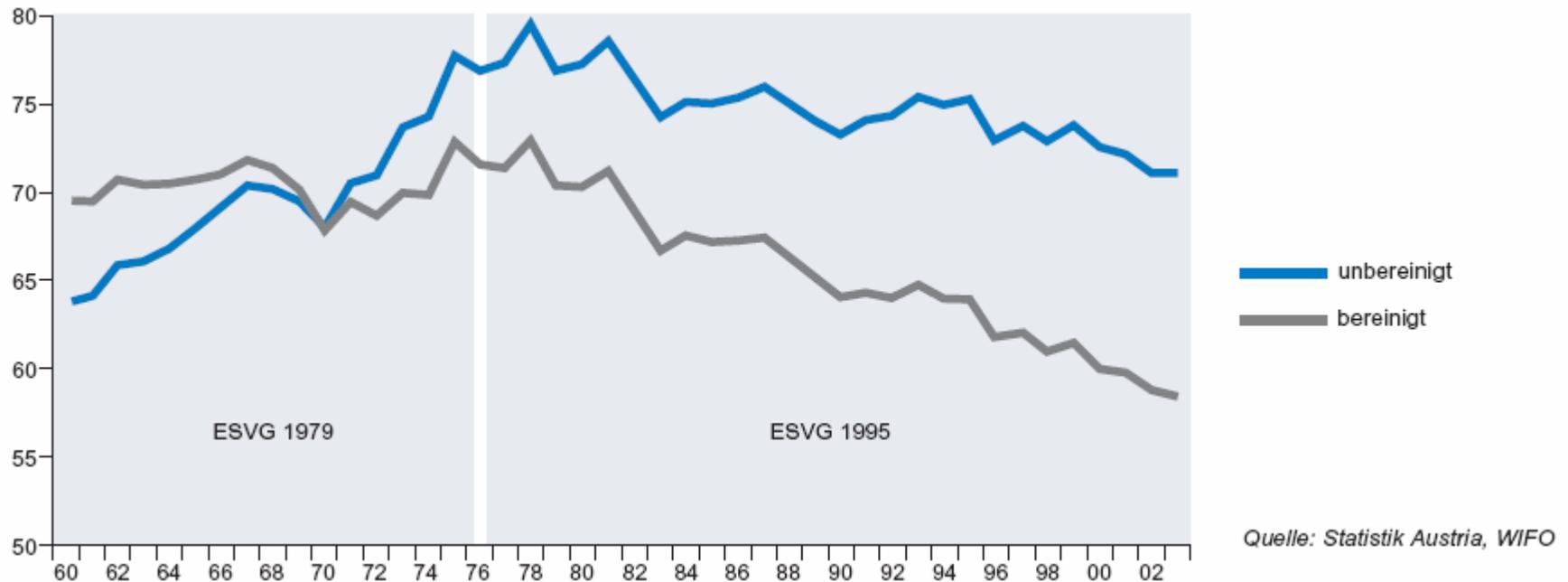
Sources: Haver Analytics; International Labor Organization, Labor Statistics Database; OECD, Employment and Labor Market Statistics, National Accounts Statistics, and STAN Industrial Database; United Nations, National Accounts Statistics (2004); and IMF staff calculations.

¹ Income share of employees is the ratio of employees' labor compensation to value added.
² The income share of labor estimates the share of labor compensation of employees and "nonemployee" workers in value added.

⁴ Anglo-Saxon economies include Australia, Canada, and the United Kingdom. Australia is excluded from the analysis by skill level due to lack of data.

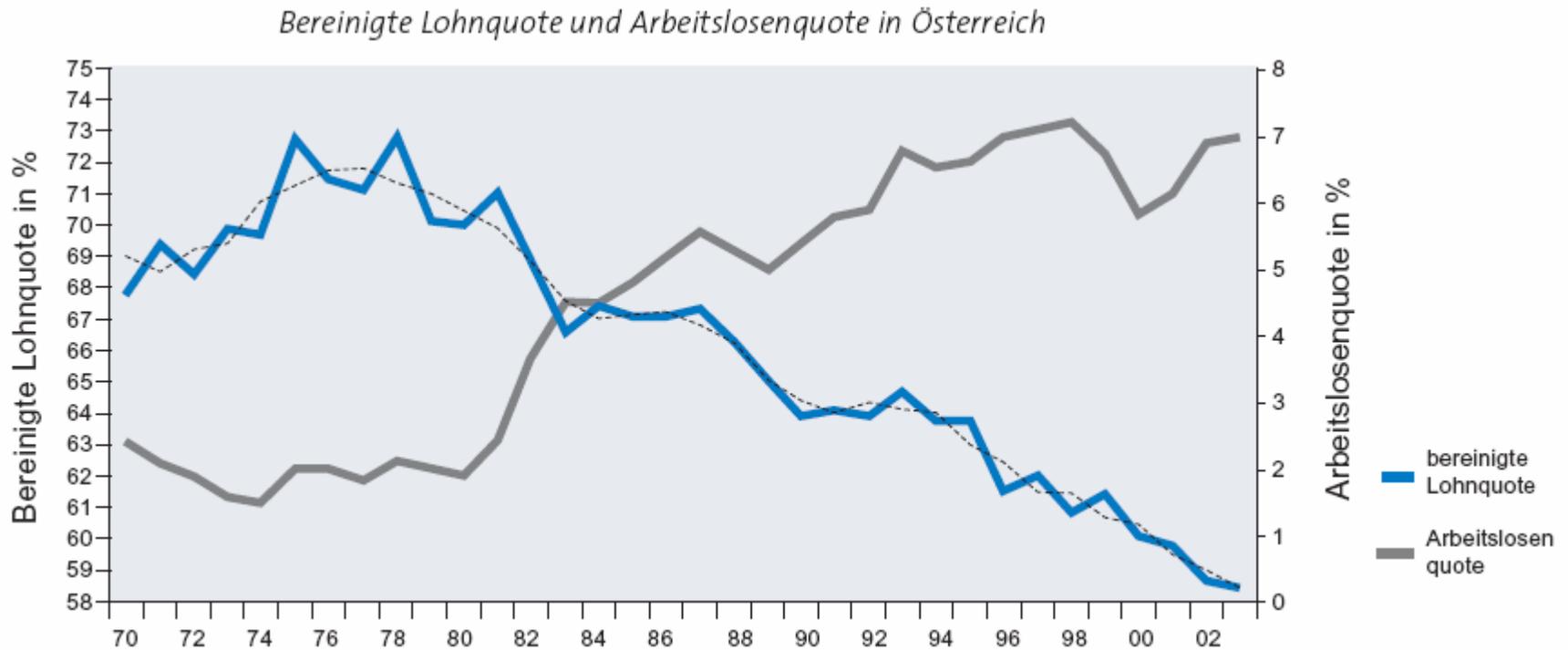
⁵ Europe includes Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, and Sweden. Ireland, the Netherlands, and Spain are excluded from the analysis by skill level due to lack of data.

Wage Rate in Austria, in % of National Income



- Source: Bericht über die soziale Lage 2003 – 2004, Bundesministerium für soziale Sicherheit, Generationen und Konsumentenschutz, Wien 2004, S. 258

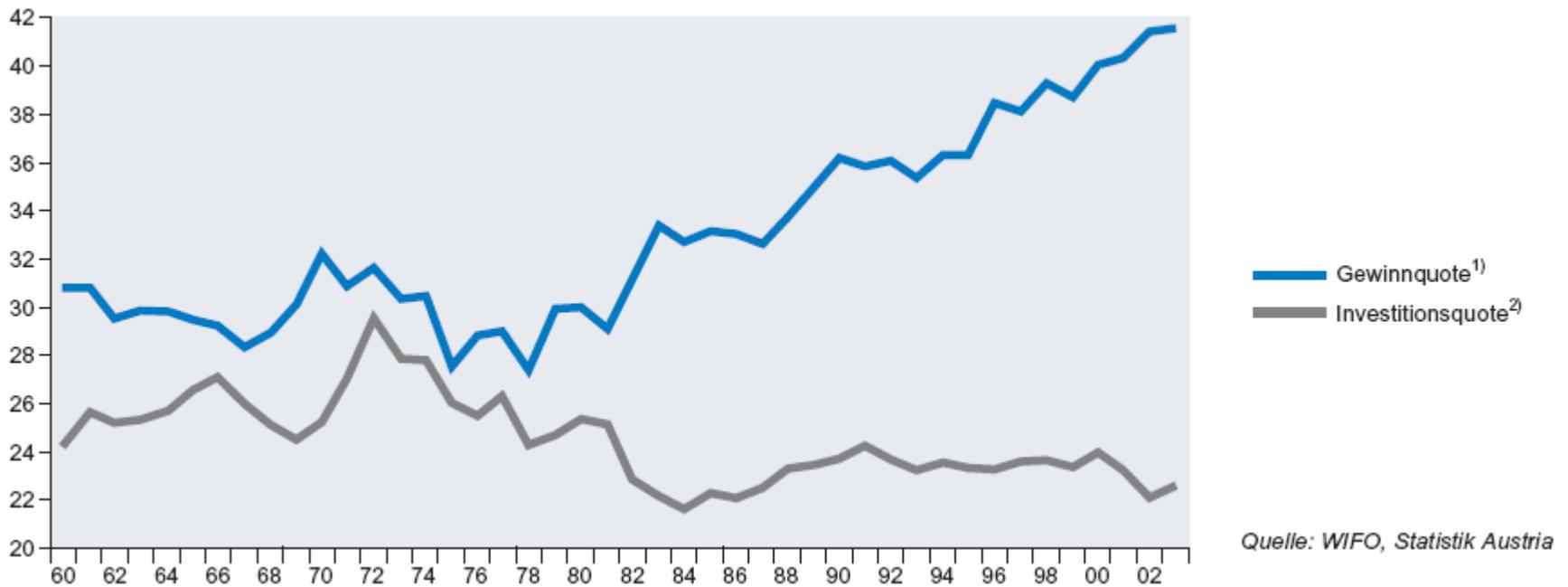
Wage Rate and Unemployment Rate in Austria, in % of National Income



Quelle: WIFO, Statistik Austria

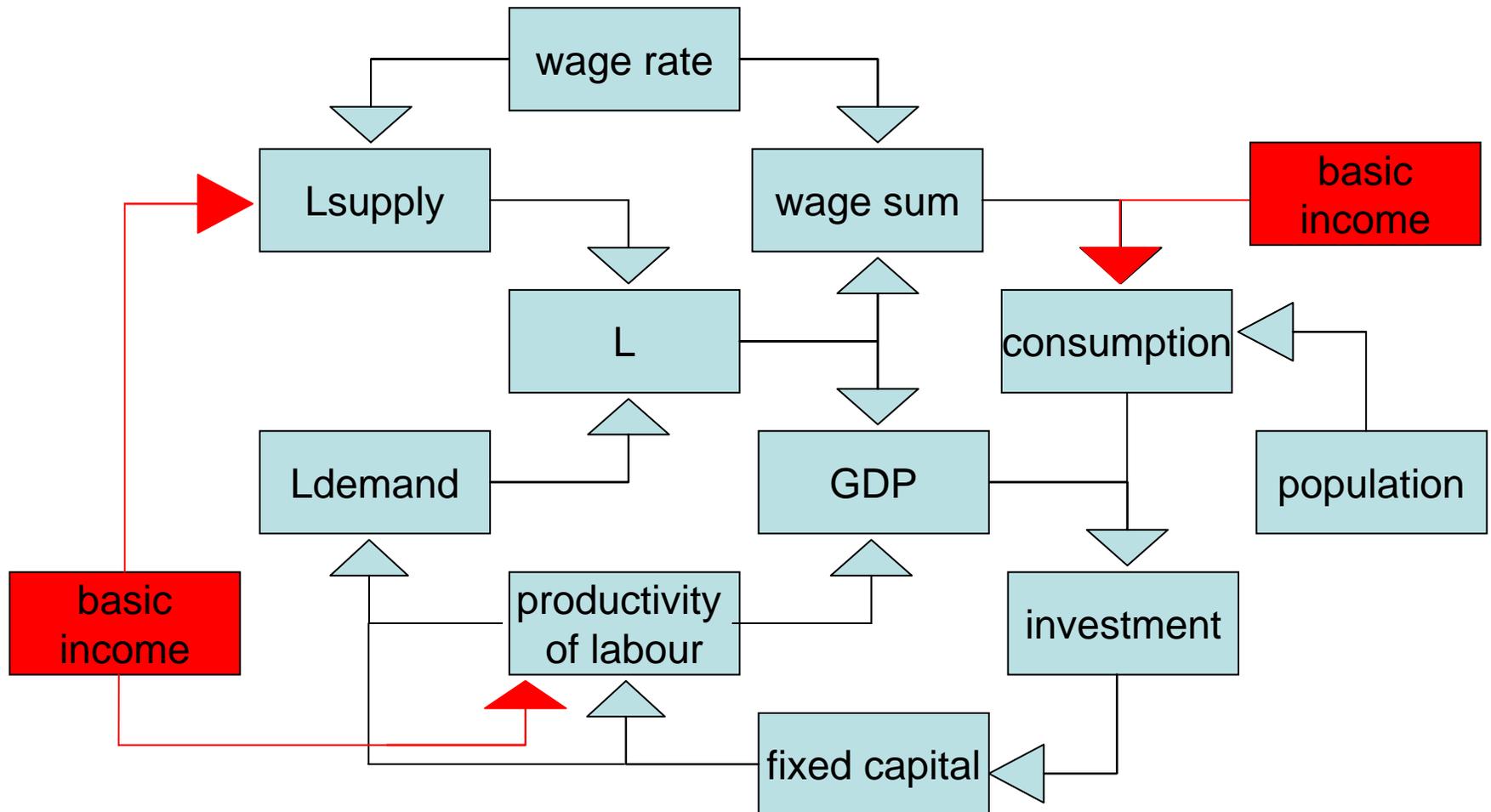
- Source: Bericht über die soziale Lage 2003 – 2004, Bundesministerium für soziale Sicherheit, Generationen und Konsumentenschutz, Wien 2004, S. 260

Profits and Capital Investment in Austria *as a Fraction of GDP*



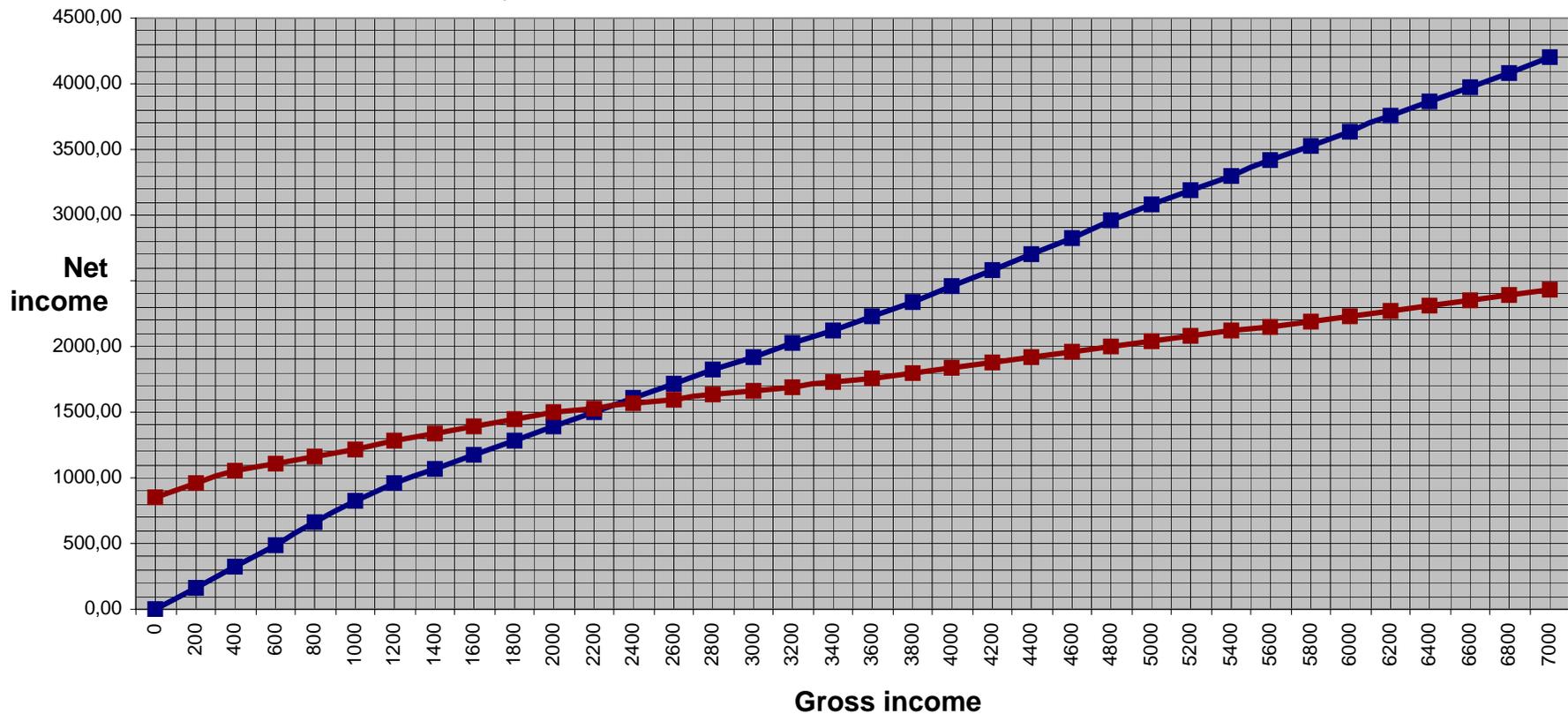
- Source: Bericht über die soziale Lage 2003 – 2004, Bundesministerium für soziale Sicherheit, Generationen und Konsumentenschutz, Wien 2004, S. 263

Simplified model of a national economy and the effects of a basic income



Direct effects of basic income in Austria (negative income tax)

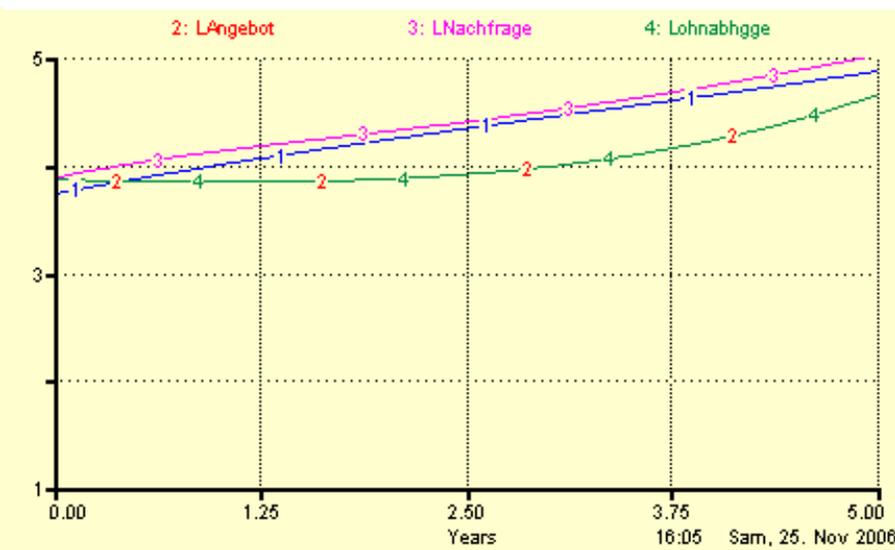
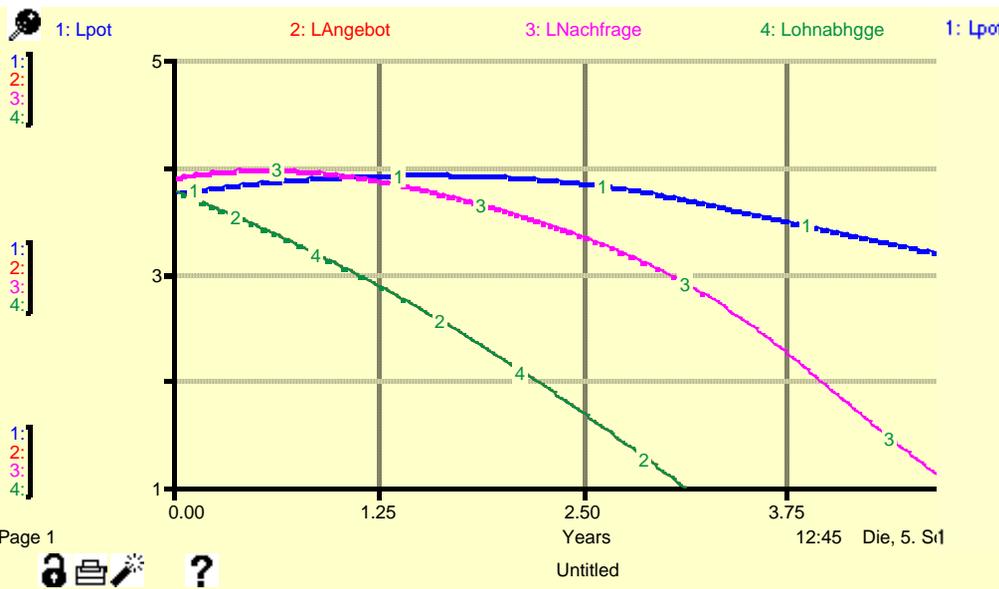
Monthly income in EUR **with** and **without** basic income



First simulation results: labor potential, labor supply, labor demand, actual labor

Scenario 1:
Basic Income financed out of profits
EUR 3000 per year

Scenario 2:
Basic Income financed by
Negative Income Tax
EUR 12000 per year



Targeted Intelligence Networks

Empirical examples (“Keimformen”)

- *"Peer Group Care"*
 - complementary structure for the elderly, poor, disabled and other outsiders;
- *"Study Circles" **
 - to complement traditional schools;
- *"Workers' Health Assurance Groups"*
 - to improve the occupational ill-health status, and
- *"Intrapreneurial Groups"*
 - against alienation on the workplace

as examples to illustrate how self-empowerment and auto-determination can be trained

* See paper by L. Karlsson & P. Fleissner (ed.) [Study Circles in Targeted Intelligence Networks](http://www.jrc.es/home/pages/detail.cfm?prs=329), Institute for Prospective Technological Studies of the European Commission, Seville, Spain 2000.
<http://www.jrc.es/home/pages/detail.cfm?prs=329>

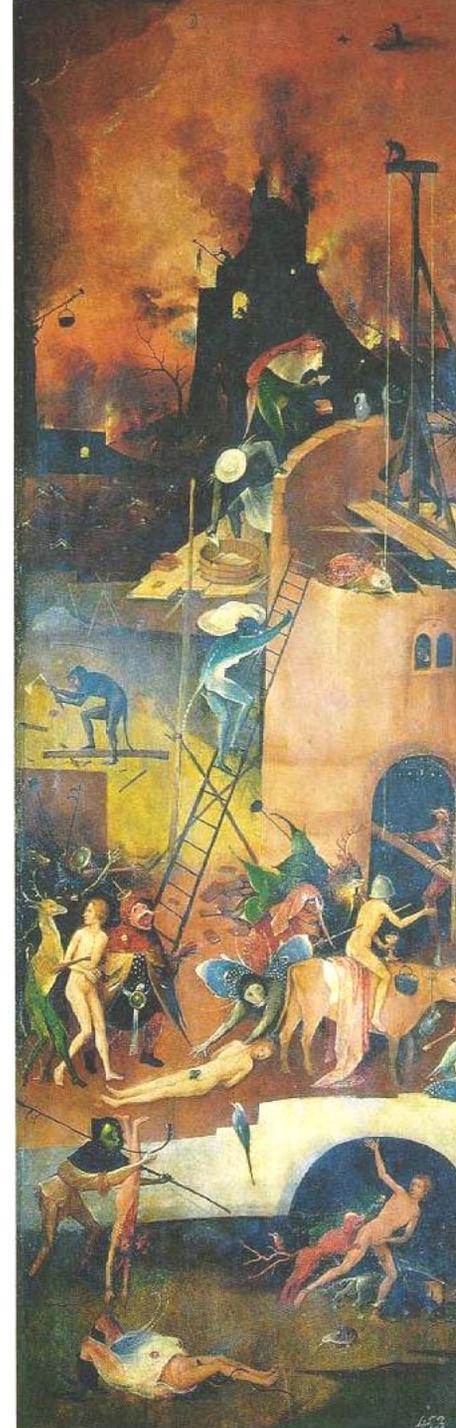
Targeted Intelligence Networks

Common features

- Integrated effort to combine grass root movements, technical infrastructure, and financial and legal support by the state to create a better quality of life, in particular for the more vulnerable groups of society
- Voluntary cooperation in small groups towards a shared goal
- Supported by ICT
- Institutional framework has to be created within that these new forms can emerge Needed are financial, infrastructural, material and educational resources to empower people to take over their new tasks voluntarily.
- This implies also certain ways of compensation and remuneration for their efforts and their contribution to society.



It's up to us
to find the
appropriate
way!



Thanks for your attention!

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