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Panel „The Lisbon agenda, the economics of innovation,
and patents on knowledge-related processes“

Patents in Europe and the European Patent System

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To be discussed

- The scale of the patent system
- Intellectual property as an incentive for innovation
- Global and European trends in intellectual property
- Software and business method patents
- Conclusions

The scale of the patent system

- 2001: \$645 billion for R&D in OECD countries (2.3% of GDP).
- Estimate of the value of patent rights: the value of patents generated in one year corresponds to 15 to 25% of annual R&D expenditures
- Per year, patent offices grant rights roughly valued at \$97 to \$150 billion.
- The value of the existing patent is about \$1.0 to \$1.5 trillion.

Intellectual property as an incentive for innovation

- possible functions of property
 - minimizing conflicts (physical and legal)
 - delineation of decision-making rights
 - incentive function
 - diffusion of information

- information and inventions are (partially) public goods
- economic interpretation: balance of static and dynamic efficiency

Intellectual property as an incentive for innovation

Effects of patents on innovation competition

welfare losses	patent thickets, “mine fields”, hold-up problems	market power (exclusion of others)
welfare gains	innovation incentives diffusion of information	market entry under patent protection

Global and European trends in intellectual property

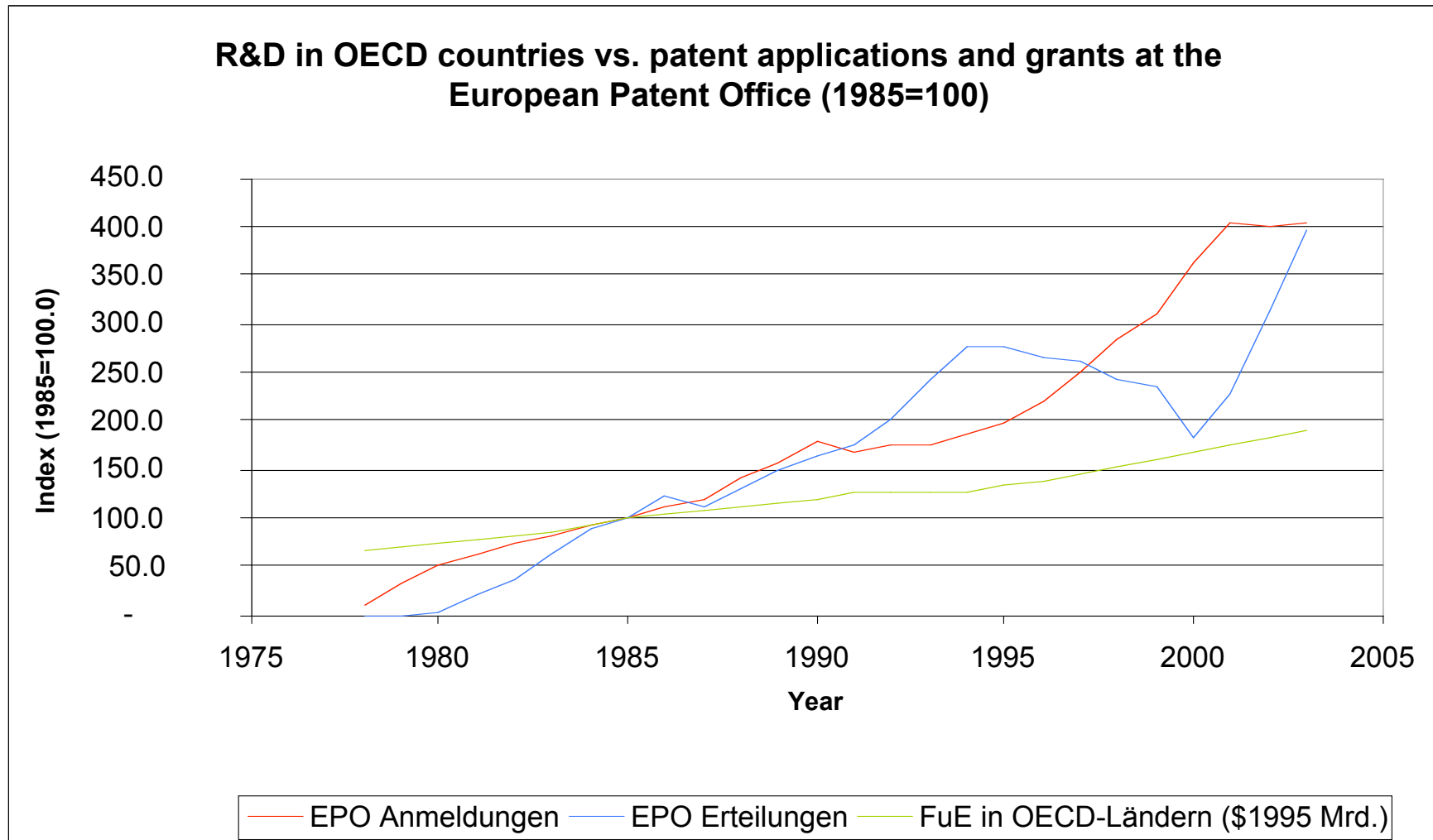
- increasing importance of intangibles (market to book ratios)
- increase in real R&D expenditures in OECD countries
- even faster increase in patent applications
- roughly constant grant rates
- increase in the absolute and relative number of litigation cases in the U.S.
- legal uncertainty and exploitation patterns in the U.S.
- new subject matters (software, business methods, gene patents, ...)
- increasing importance of IP in cooperative standardization processes

Global and European trends in intellectual property

- general statement: European institutions have fared much better than their U.S. counterparts in these changes ...
 - high quality orientation in patent offices
 - search for prior art more focused and intensive
 - more thorough examination with higher standards (but longer pendencies)
 - opposition system (under consideration in the U.S. – HR 5299, introduced Oct. 8 2004)
 - faster and less costly court proceedings (but: fragmented system that urgently needs harmonization)

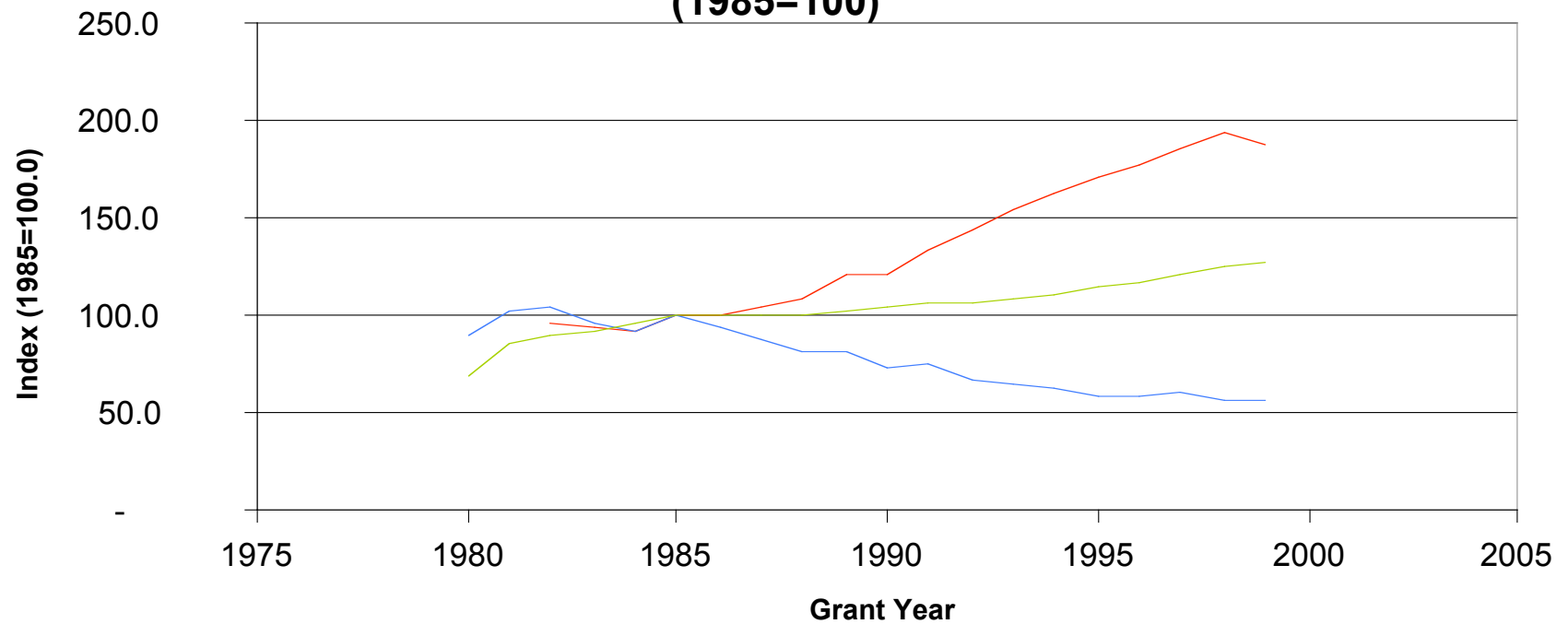
- ... but Europe has not escaped the global trends

Global and European trends in intellectual property



Global and European trends in intellectual property

**Composition of references, opposition and claims of applications leading to grants at the European Patent Office
(1985=100)**



— Anteil von X-Referenzen — Einspruchshäufigkeit — Ansprüche

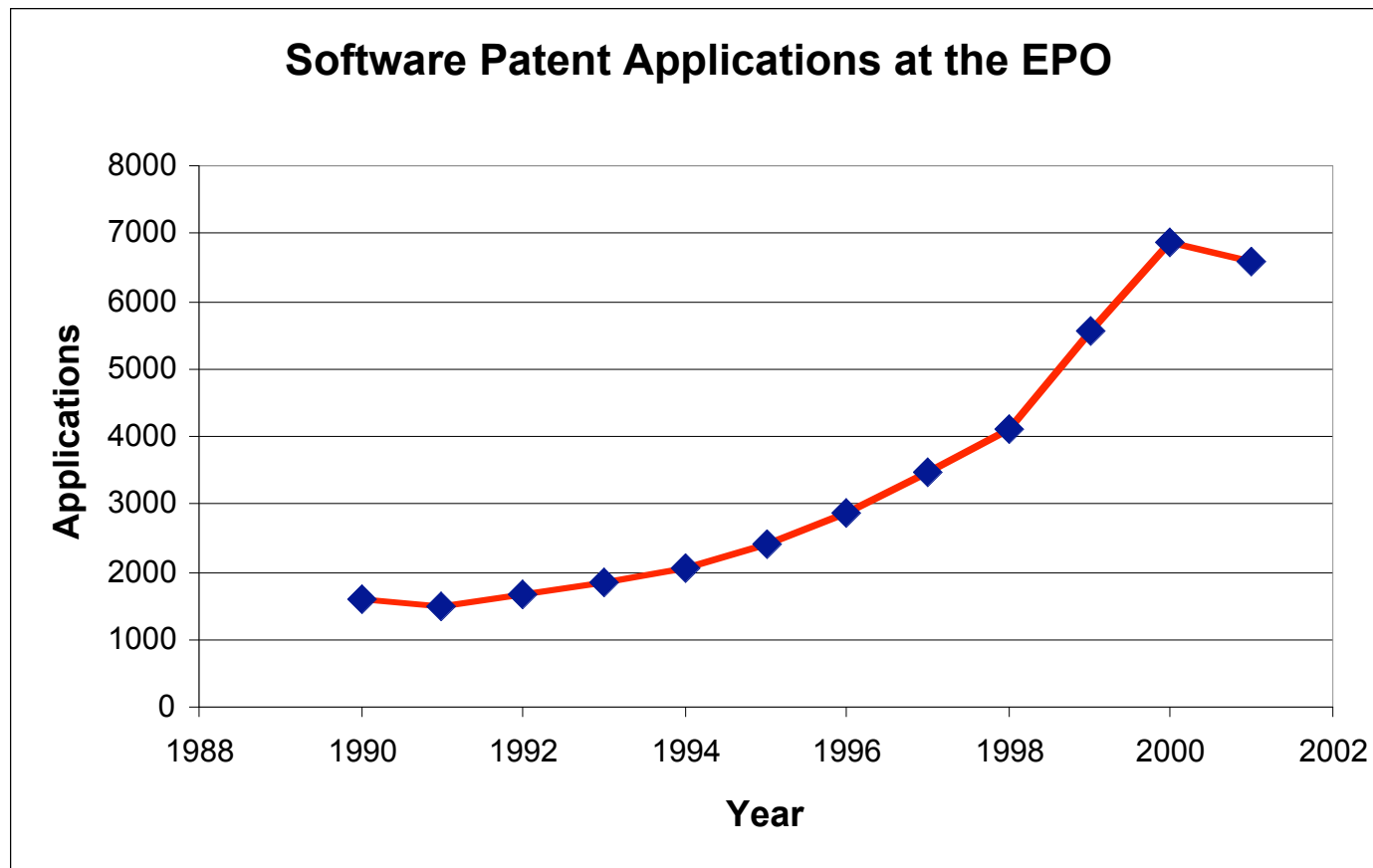
Global and European trends in intellectual property

What does it mean?

- increasing demand for patent rights – firms are building strategic patent portfolios in a kind of arms' race
- patent office overload, corporate patent department overload
- increasing complexity of applications – more claims – navigation in the patent thicket
- decreasing quality of applications
 - low inventive step
 - low novelty
- decreasing likelihood of opposition – two possible explanations
 - lower value of granted patents
 - broader patents, possibly with low inventive step

Software- and business method patents

Estimates of filings



Source: Schmoch (2004)

Software- and business method patents

Abstract of EP1997306722

An automatic auction method which makes it unnecessary for bidders to stay before auction terminals (12) at the time of auction and which makes possible auction transactions on an open network (14) on which it is difficult to assure the on-line and real time properties. A plurality of auction ordering information pieces each containing a desired price, number of purchase, and a highest possible price in competition for the desired price and received from bidder terminals (12) via on-line circuits are collected. Until an auction issue appears, the price is lowered. If there is at least one auction issue and a desired quantity which is the sum total of the numbers of purchase of the auction issues is not satisfied, then it is determined whether there is an auction issue coinciding in price by comparing the set price with (the desired price + the highest possible price in competition). Until the desired quantity is satisfied, the price is raised.

Software- and business method patents

- EP1997306722 – Decision of the EPO Technical Board of Appeals T258/03 (Hitachi) of April 21st, 2004
- Question: should state of the art be considered or should the application be rejected under EPC Art. 52(2)?
- Earlier decisions T931/95 and T1173/97: reject as non-technical, excluded from patentability
- this decision: in principle allowed, but does not pass the inventive step hurdle
- effect: first hurdle lowered (*subject matter allowed*), but substantial sharpening of *inventive step* hurdle

Impact difficult to predict. But a sustained increase in the inventive step hurdle is likely to reduce software and business method patenting considerably. Impact on resources difficult to predict.

Conclusions

- systematic problems in the patent system, driven by increasing demand for IP and changes in applicant behavior
- more patents is clearly not more innovation
- Europe is not faring as badly as the US, but is not exempted from the trends in application quality and demand
- the case of software – broad patents for “inventions” with low inventive step will harm, not help Europe
- two options
 - exclude particular subject matter completely – likely to come with welfare costs as well, not a solution to the overall problem
 - raise inventive step and novelty hurdle substantially – addresses the overall problem, but may cost more resources



Thank you!

BACKUPS

- do not copy or distribute

The value distribution of patents

(based on data from the PatVal survey Germany)

Patent value (N = 1.983)

