

Using Patent Indicators to Understand Innovation and Growth

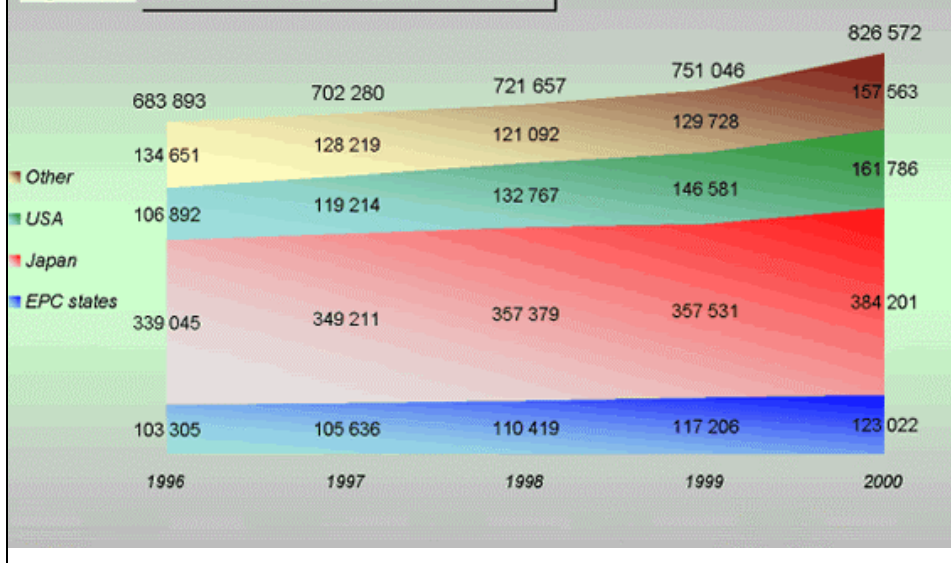
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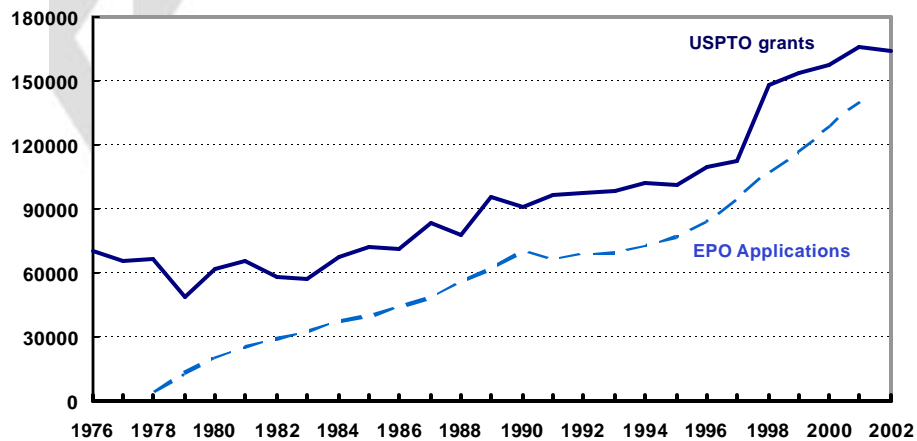
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The large numbers: patenting activity world-wide

Figure 3.3 FIRST FILINGS BY BLOC OF ORIGIN



Patent numbers: Grants by the USPTO and applications to the EPO



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Patents as indicators of technological change

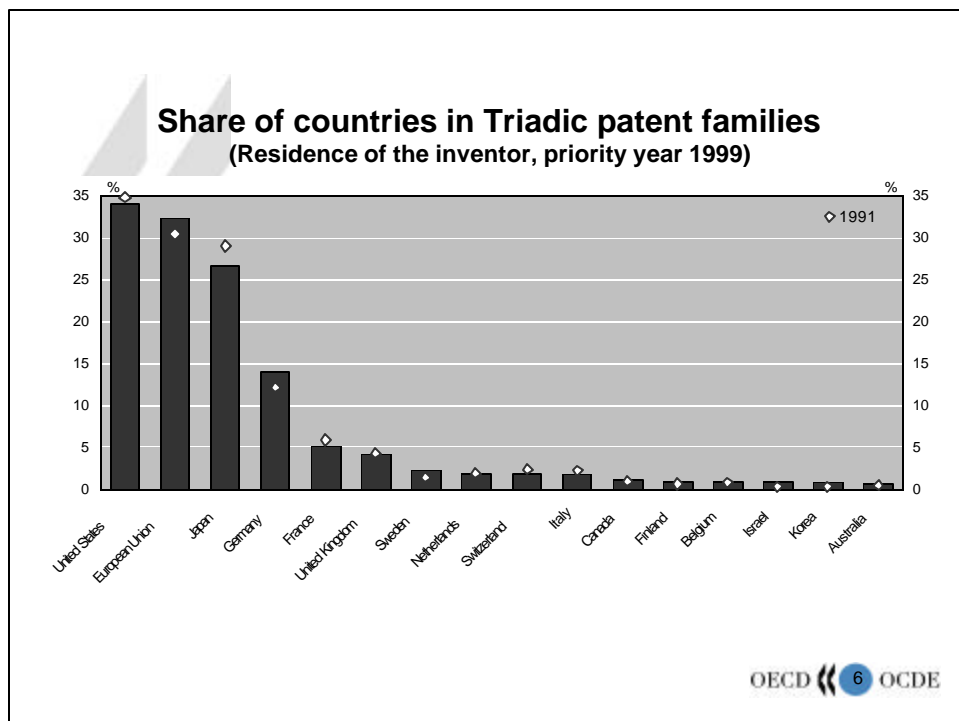
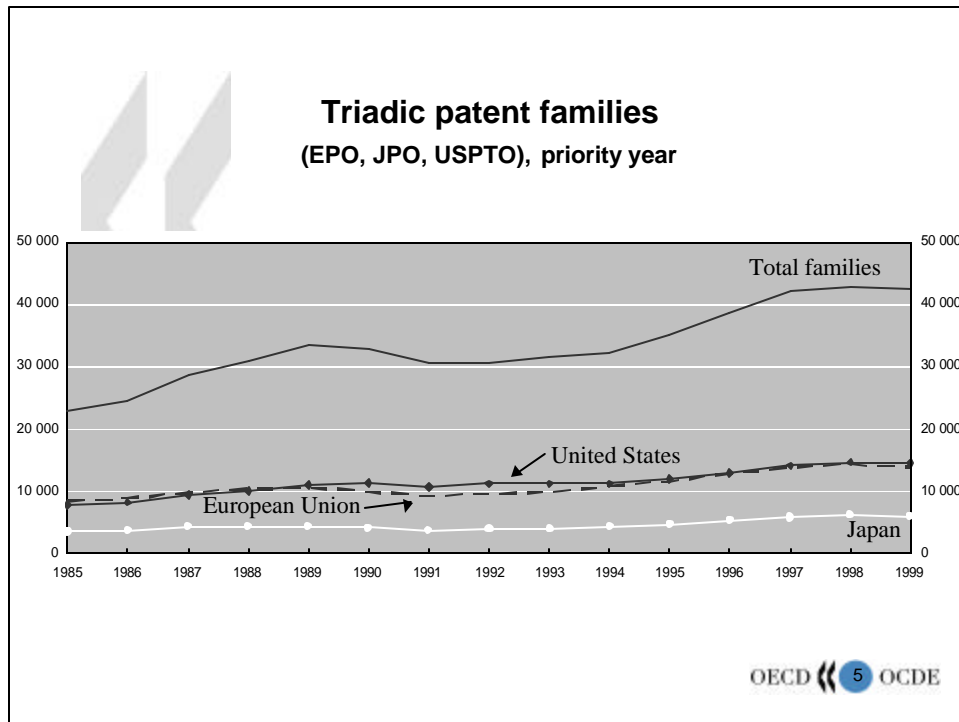
Technological innovation is major the driver of growth in the long run

Many innovations are patented...

Hence one would expect patent numbers to reflect to a certain extent the pace and orientation of technological change

And: patent data are available for all countries in the world; they are less costly than other data collected from surveys (e.g. R&D).

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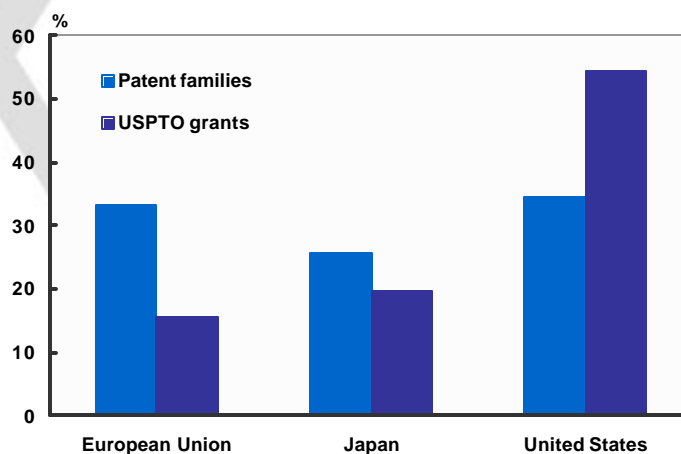
Methodological remarks

For using patent counts as indicators of inventive activity you need different methods as for using them as measures of the activity of patent offices.

- => - Priority year (no confusion in timing due to administrative delays)
- Families (no cross country biases)

Patent numbers do not reflect only the dynamics of technology. They are affected by changes in the patenting behaviour of firms, responding to changes in patent law, patent fees, in competition etc.

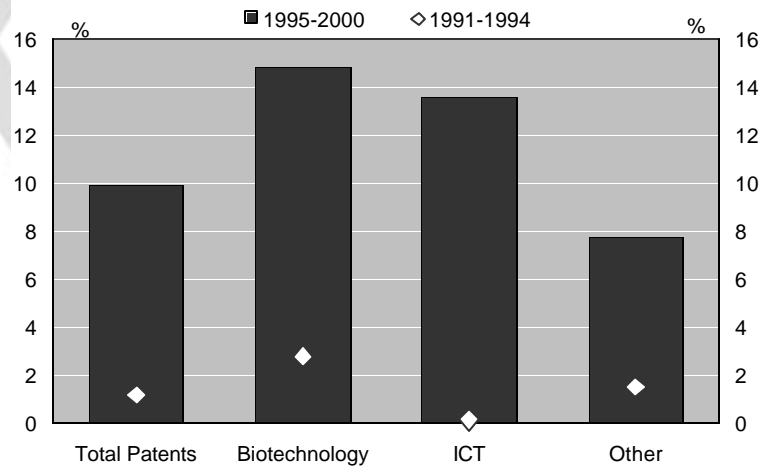
Country shares in patents (inventors): families vs. USPTO (1997 PY)



Source: OECD, 2003

Inventions in new technology areas

(EPO applications; average annual growth rate)



Inventions in new technological areas

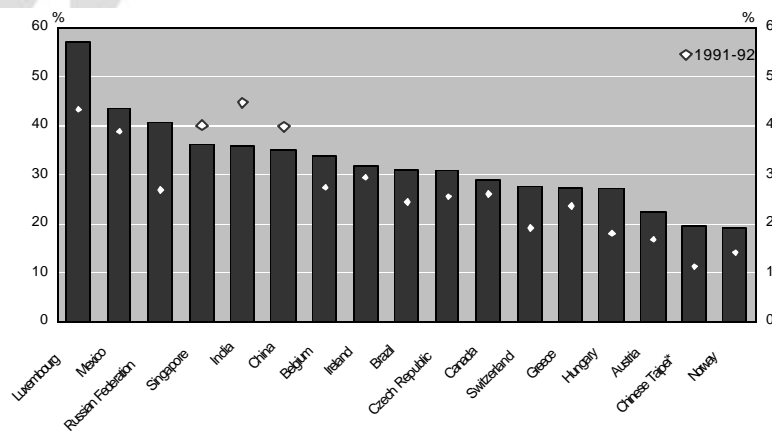
- The difficulty is to identify patents pertaining to these new areas
- => having good definitions of the areas
- => translating these definitions in a way that allows to identify the corresponding patents... keywords search, IPC classes etc.

Cross-country patterns of invention

- How is the inventive process organised internationally?
- What is the respective position of countries regarding various dimensions of internationalisation of technology?

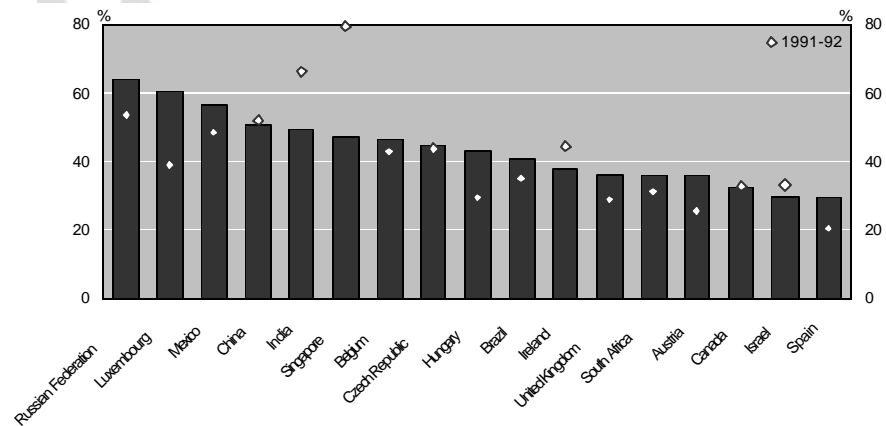
International co-operation in technology

% of patents with foreign co-inventors, EPO 1998-99



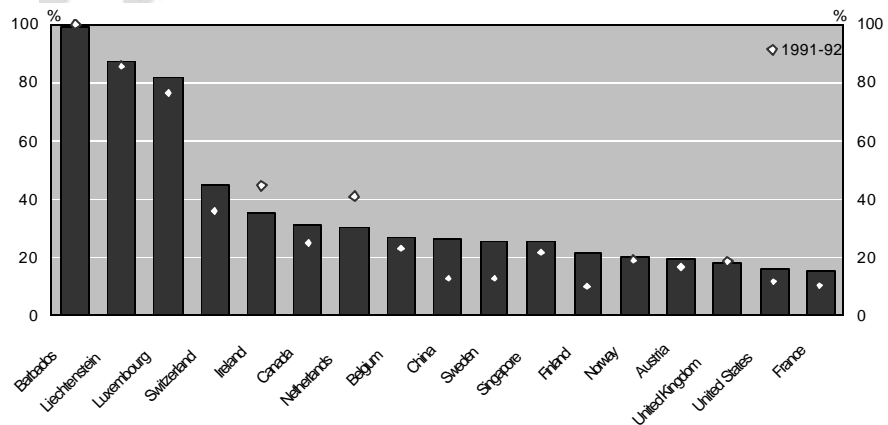
* OECD official denomination

Foreign ownership of domestic inventions EPO applications, 1998-99



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Domestic ownership of inventions made abroad EPO applications, 1998-99



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Short comments

- Internationalisation of inventive activities is on the rise.
- Smaller countries and less developed ones are more internationalised than larger and more developed ones (the inventive process relies more on international co-operations)
- Domestic inventions of developing countries are more often owned by foreign multinational companies, reflecting the importance of these firms (labs) for domestic innovation and development.
- Far Eastern countries (Korea, Japan) are less internationalised than others.



Conclusion

- Web link to OECD patent activities, including statistics:
www.oecd.org/sti/ipr