Role of Universities in Developing Countries

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Background of the presentation

- Participation in a multi country study on the role of universities in developing countries
- UniDev project: Lead by the University of Lund, Sweden
- Project commissioned by SIDA (Swedish development agency)
- Detailed documentation of activities on http://DevelopingUniversities.blogsome.com

Different types of developing countries

- Least developed countries
- Less developed countries
- Catch-up countries (Newly industrialised countries

- Countries with capitalist background
- Countries with communist/socialist background

=> Different strategies necessary

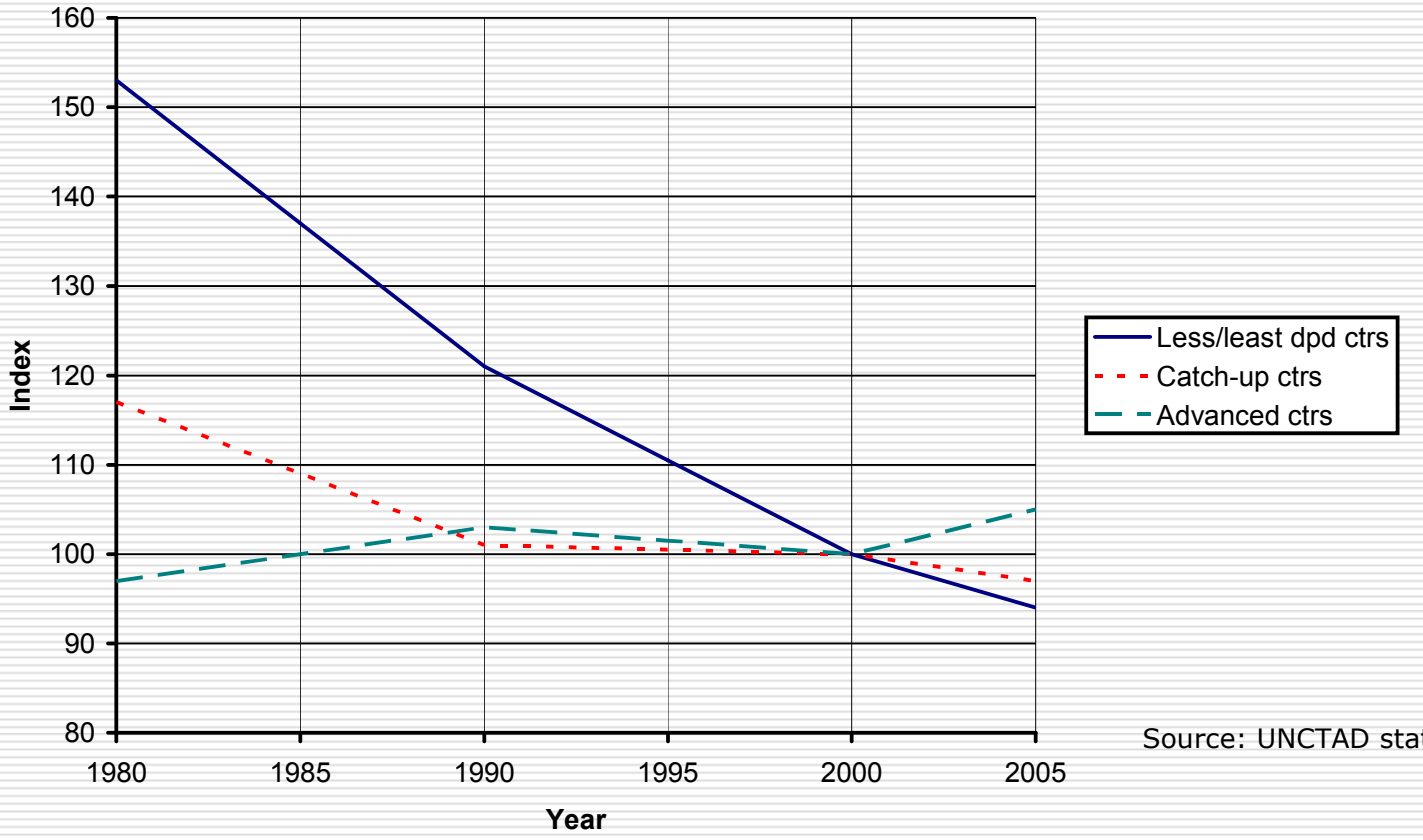
Traditional concepts of competitive advantage

- Advanced industrialised countries strong in capital and technology
- Strengths of developing countries: raw materials, cheap labour force

Traditional concepts of economic development of less advanced countries

- Improved production of agrarian goods
- Improved yield of raw material
- Substitution of import goods
- Diversification of export goods
- Export of cheap lowtech goods

Terms of trade



Source: UNCTAD statistics

Observation of the last decades

Growing number of catch-up countries:

Mexico, Brazil, Turkey, Egypt, South Africa, Taiwan, India, China, South Korea, Singapore, Poland, Romania etc.

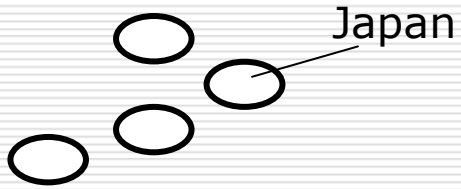
Pattern of industrialization, the German example in the 1900s century

- Acquisition of base funds through raw material export etc.
- Systematic imitation of advanced technology (in the UK) in small segments
- Entrance in world market with cheap technology-based products
- Reaching the technological break-even point
- Development of own new hightech products
- Enlargement of the technology segments

Similar strategies of other countries

- Japan
- South Korea
- Taiwan
- China etc.

- Literature on "Flying geese" phenomenon



The technology option

- Generating start income by agrarian goods, raw materials, and lowtech goods
- Long-term investment in knowledge
- Entrance in hightech fields

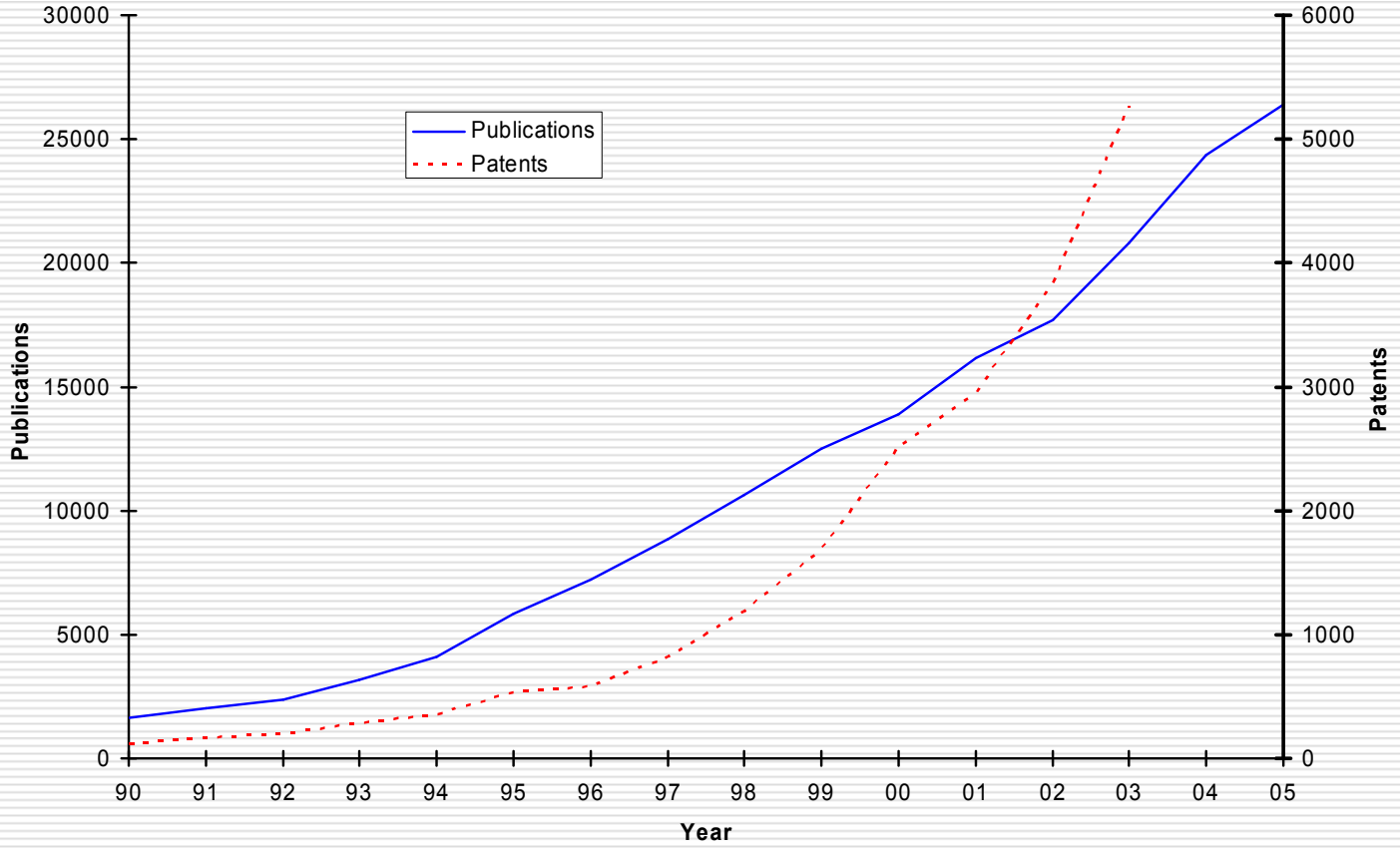
Typical development of standard indicators

- Growth of publications
- Growth of international patents with substantial delay

Different stages, different strategies

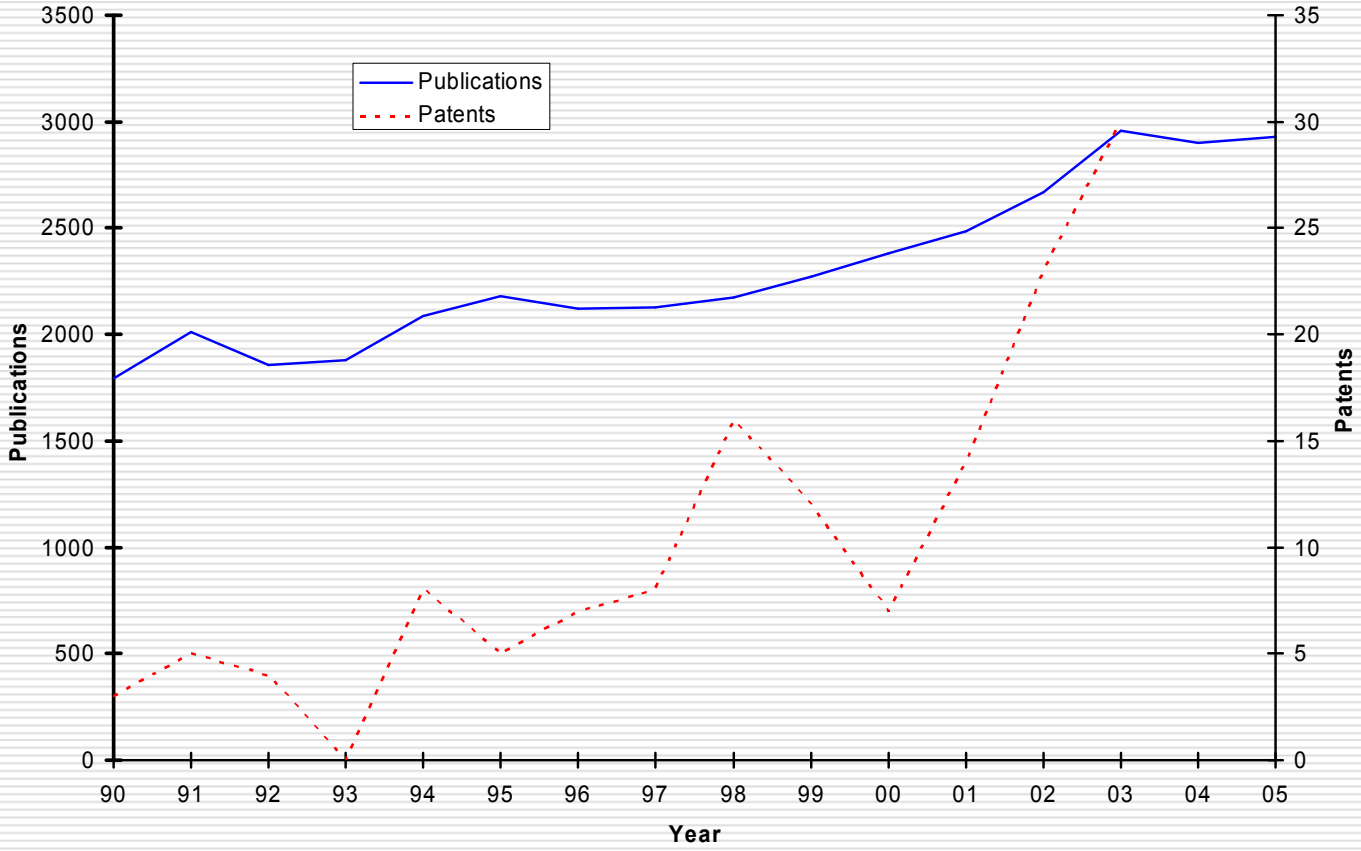
- Seven examples for illustrating different levels of development in terms of SCI publications and international patents (PCT)
- The examples show that the technology option is not appropriate for all countries

1st example: South Korea

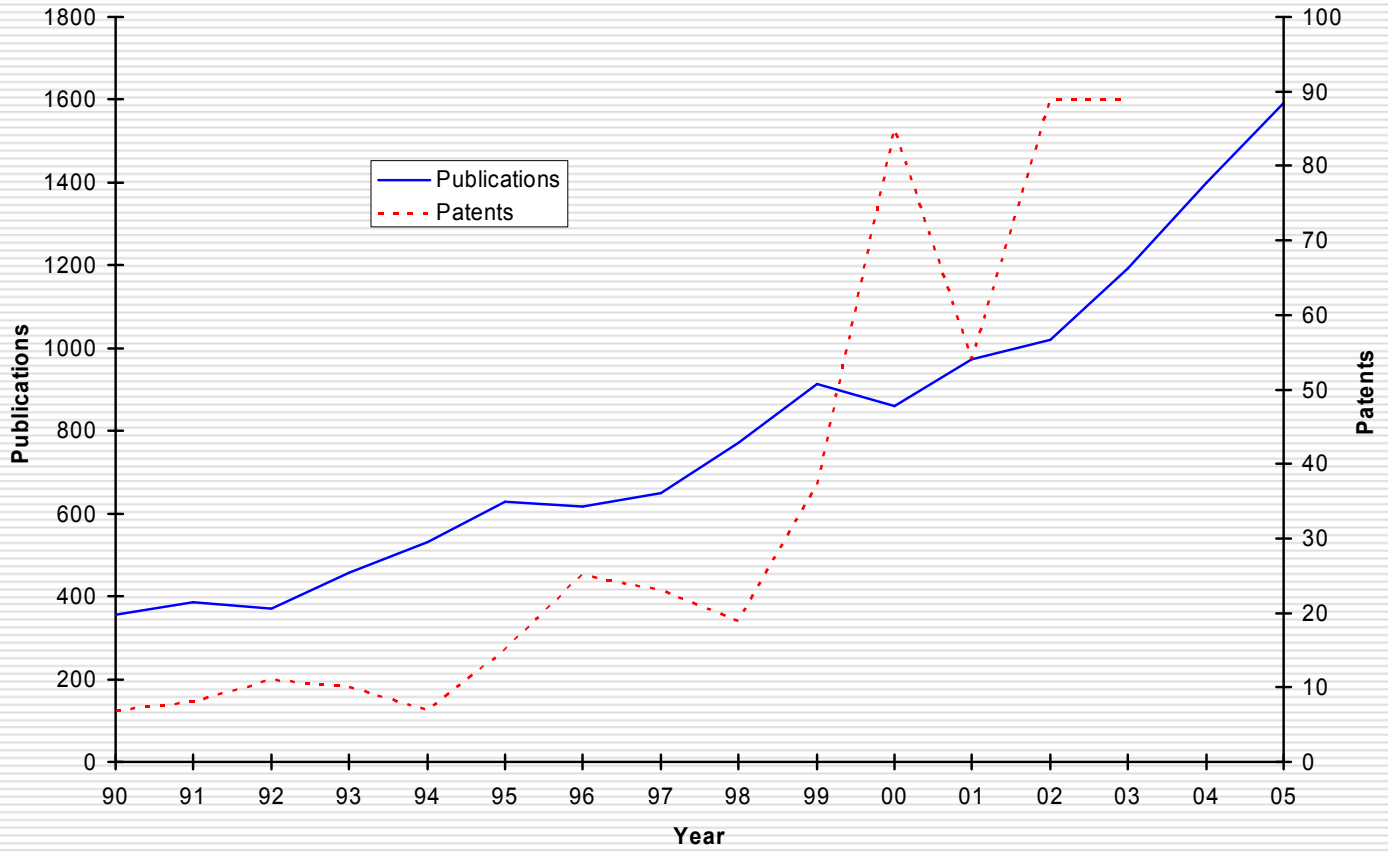


2nd example: Brazil

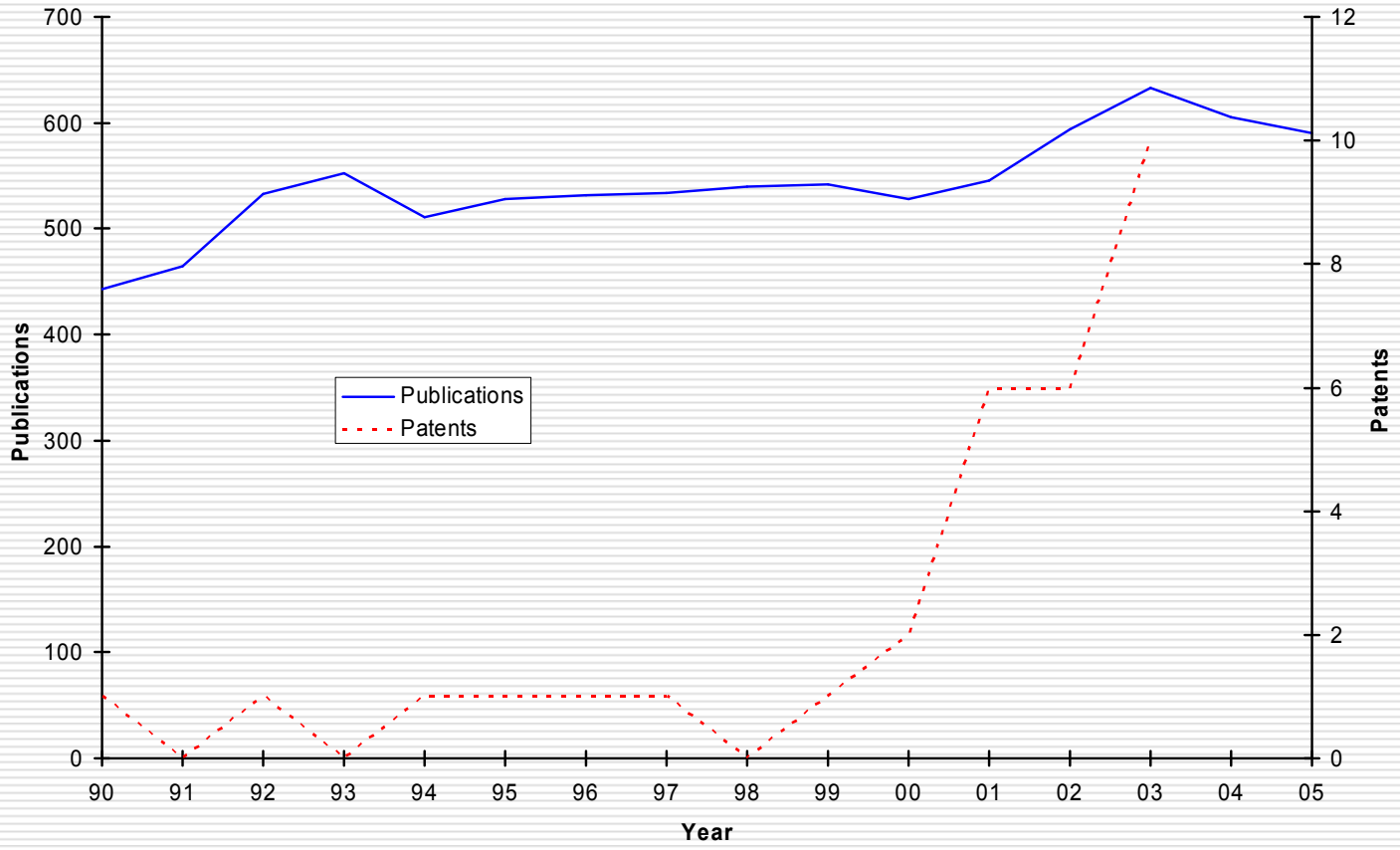
3rd example: Egypt



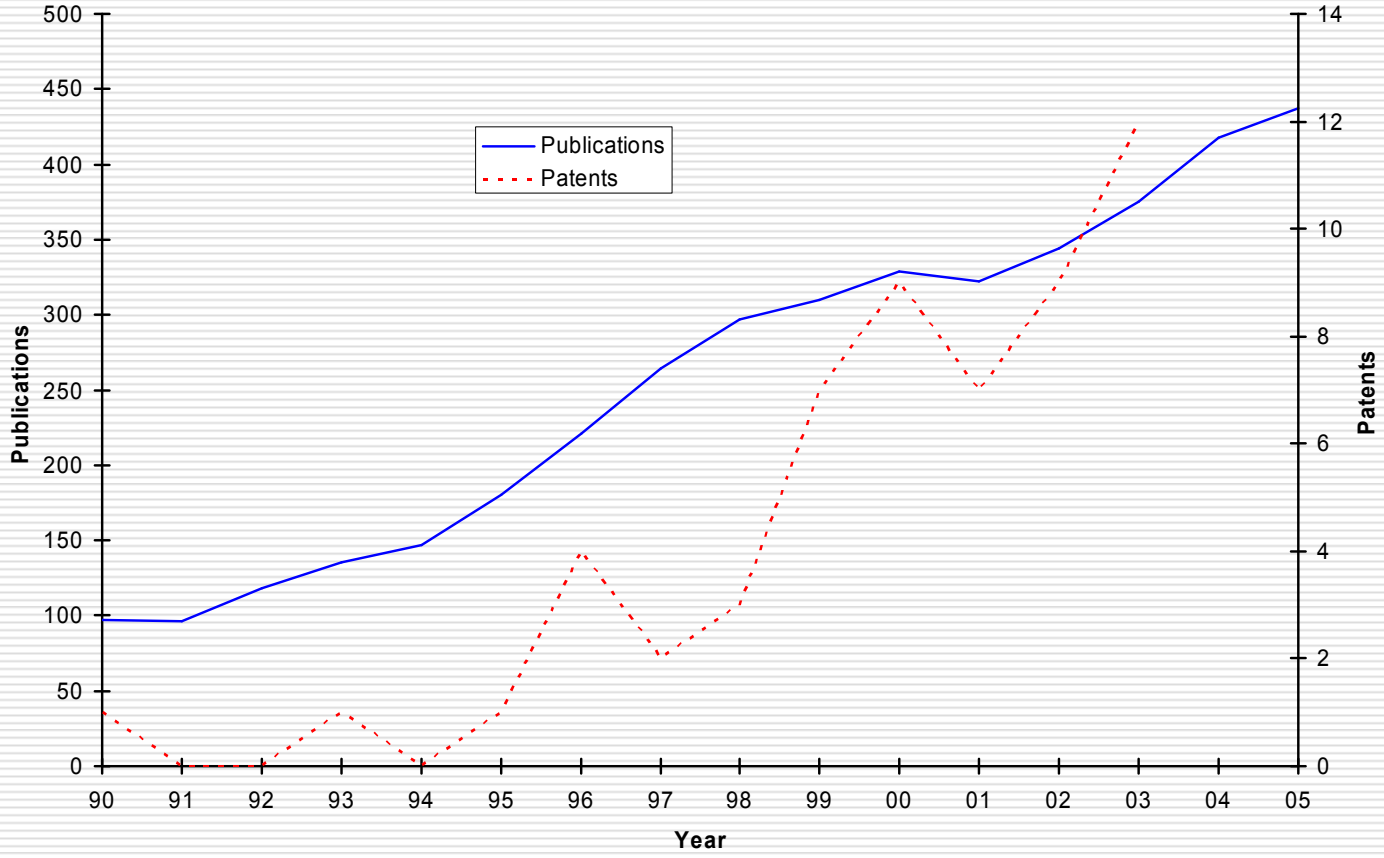
4th example: Malaysia



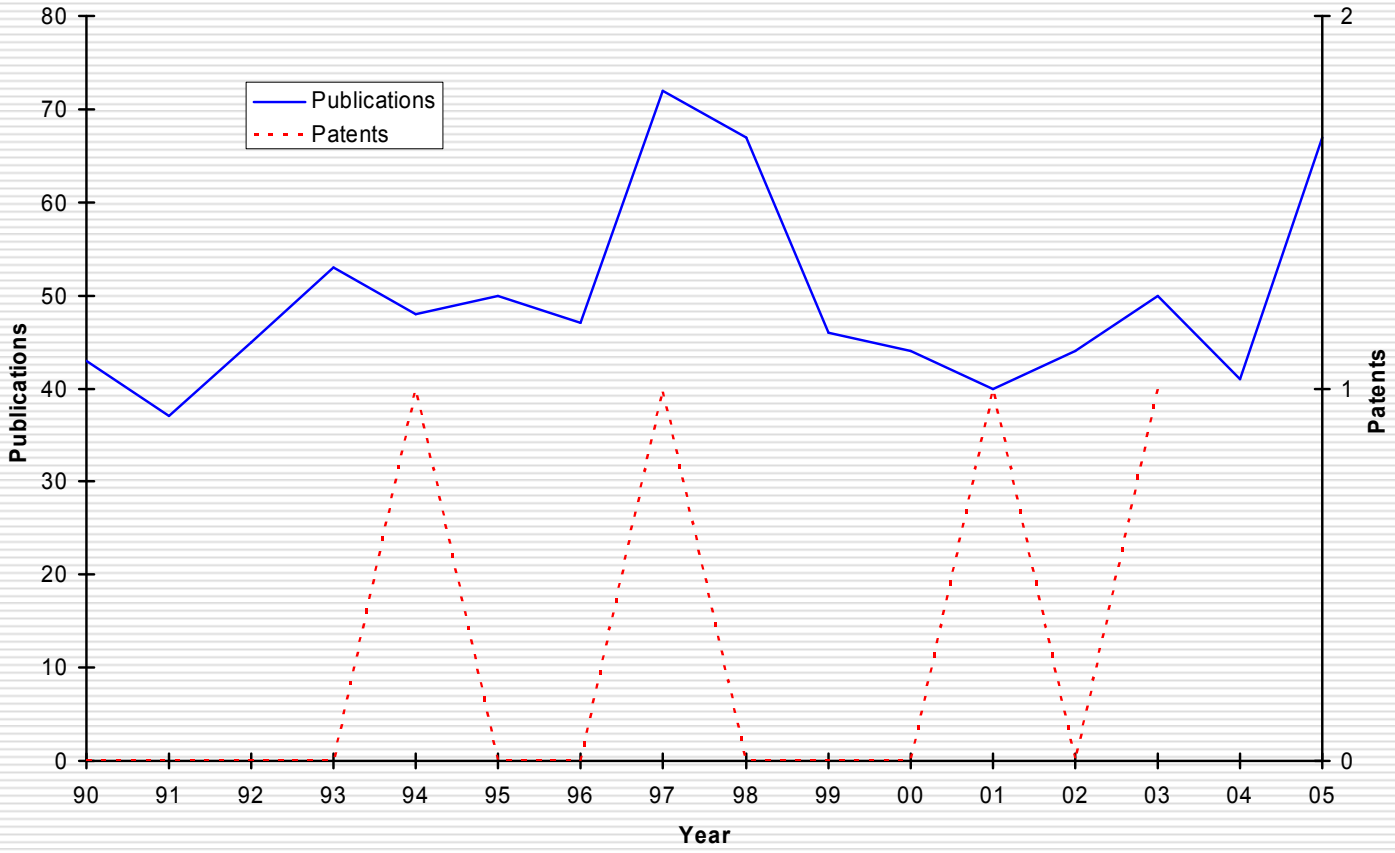
5th example: Kenya



6th example: Uruguay



7th example: Niger



The investment in knowledge

Shift of universities from

- pure basic fields and focus on social sciences and humanities to
- Applied fields in the natural sciences and engineering

- Problems of brain drain to advanced countries
- Problems of match between supply and demand for skilled labor force

Nevertheless, investment in higher education necessary pre-requisite for further development

The traditional basic needs option

- Basic needs option still favored by the development aid of advanced countries
- This option aims at
  - Medical care
  - Basic food supply
  - Water supply
  - Energy supply
- Advice by "experts" from advanced countries

The enhanced university option, 1st and 2nd mission

- Change of orientation of teaching (1st mission)
- Orientation of research on urgent domestic problems
  - Food, agriculture
  - Health
  - Energy
  - Water
  - etc.

The enhanced university option, 3rd mission

- University activities in
  - Legal advice
  - Medical care
  - Regional planning
  - Policy advice (in economics, nation building, e.g., integration of minorities etc.)
- Advice by domestic experts with knowledge of the specific features of their country and the possibility of long-term monitoring of the effects of specific measures

Problem of late catch-up countries

Competition with other catch-up countries, in particular China, in the low-wage sector

Example: South Africa in competition with China in textiles

Good source: Raphael Kaplinsky: Globalization, poverty and inequality, 2005.

Conclusions

- Universities have an important role for developing countries
- Universities should orient their 1st and 2nd mission activities on the needs of their country
- Even for less developed countries the research activities can be important
- For more advanced countries, the engagement in hightech is a realistic option
- A pre-requisite for the new university role is the dedicated support by the government