Flexibilities in the Patent System

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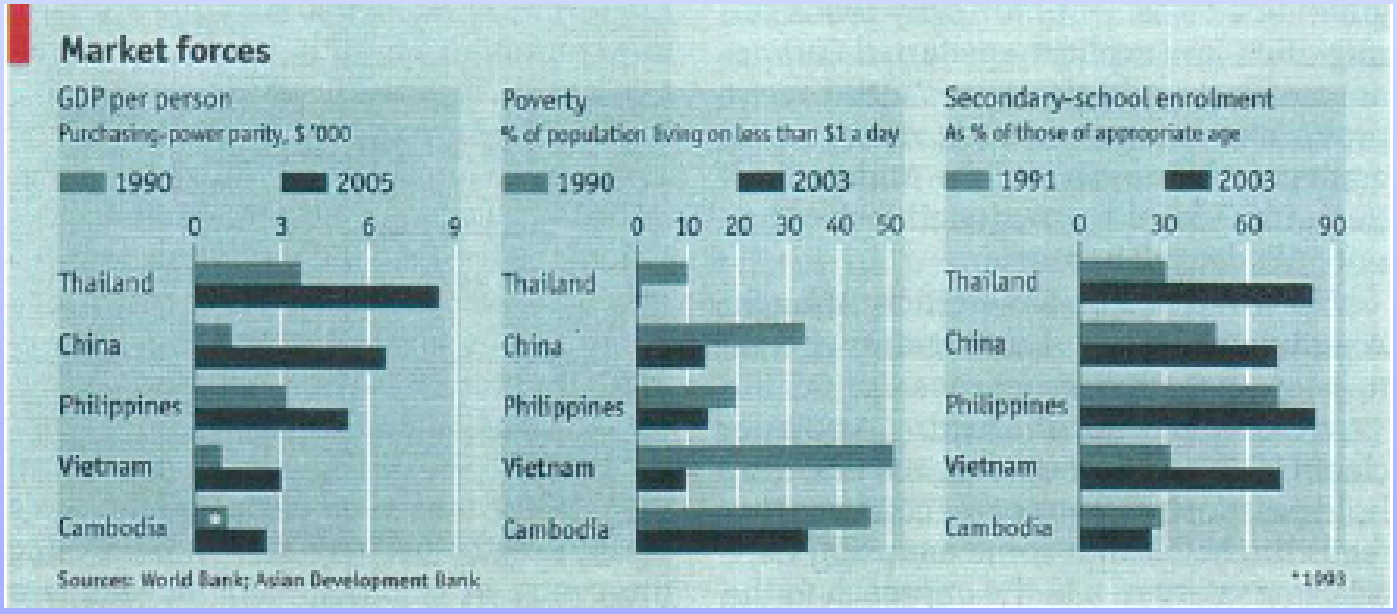
WIPO Colloquium on Selected Patents Issues

Geneva, February 16, 2007

Topics to Consider

- Facts First
- Pre-TRIPS-Regime
- TRIPS & Mandatory Standards
- Room to manoeuvre under TRIPS
- How much flexibility optimal?
- Facts not ideology should control



Source:
The Economist August 5th 2006, S. 46

Examples for Positive Development in Selected (Developing and Newly Industrialized Countries (after TRIPS)

	Growth of National Economies
China	9 %
India	7 %
Developing Countries total	5,9 %
Latin American and Caribbean Countries	4,5 %
Industrialized Countries	2,5 %

Foreign Trade Balance

- **Brazil:**

  Trade Surplus 2005: 14,2 Billions USD

- **Argentina:**

  Trade Surplus 2005: 11,3 Billions USD

- **China**

  Trade Surplus 2006: 133,6 Billions USD

  (10 months)

Brazil & R. Korea Compared

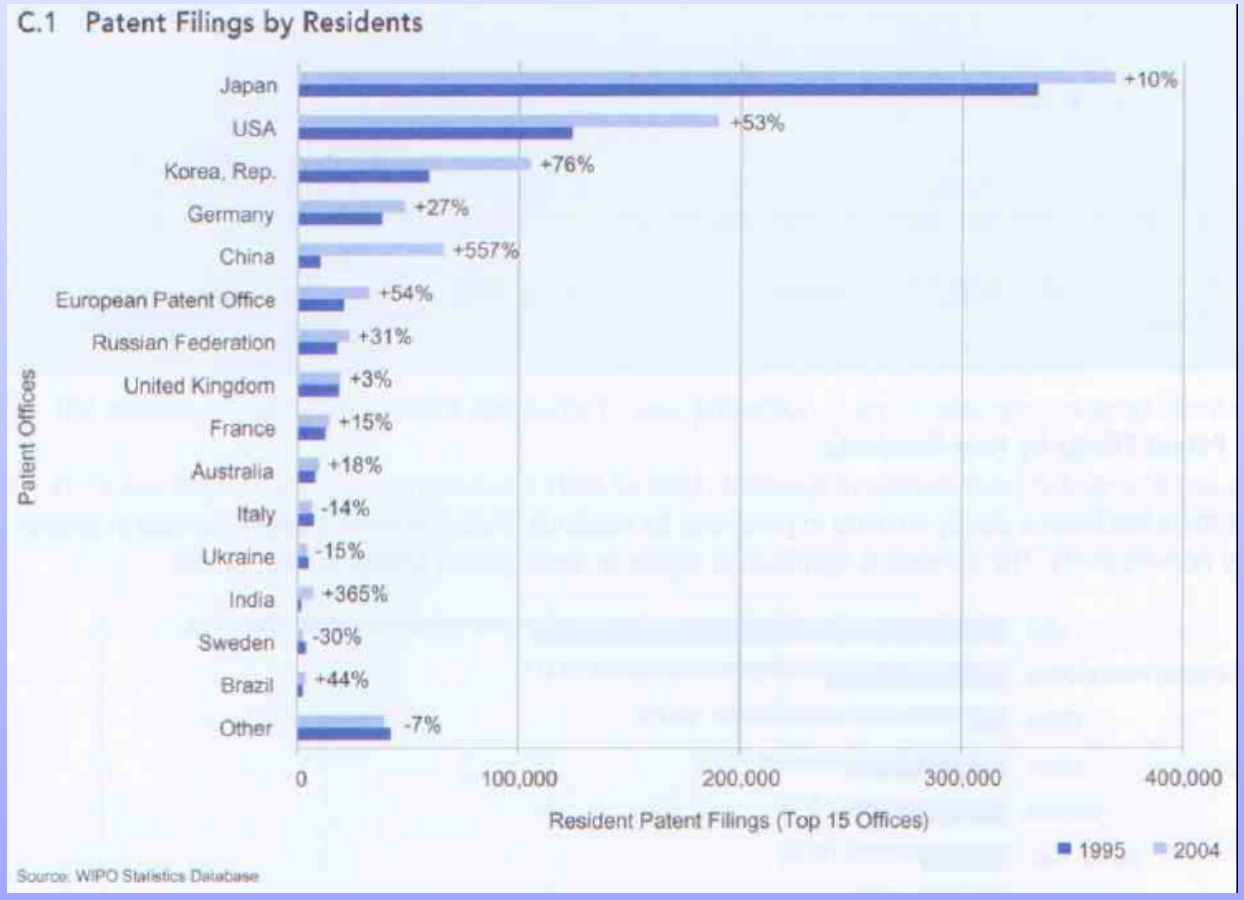
BRAZIL 1987

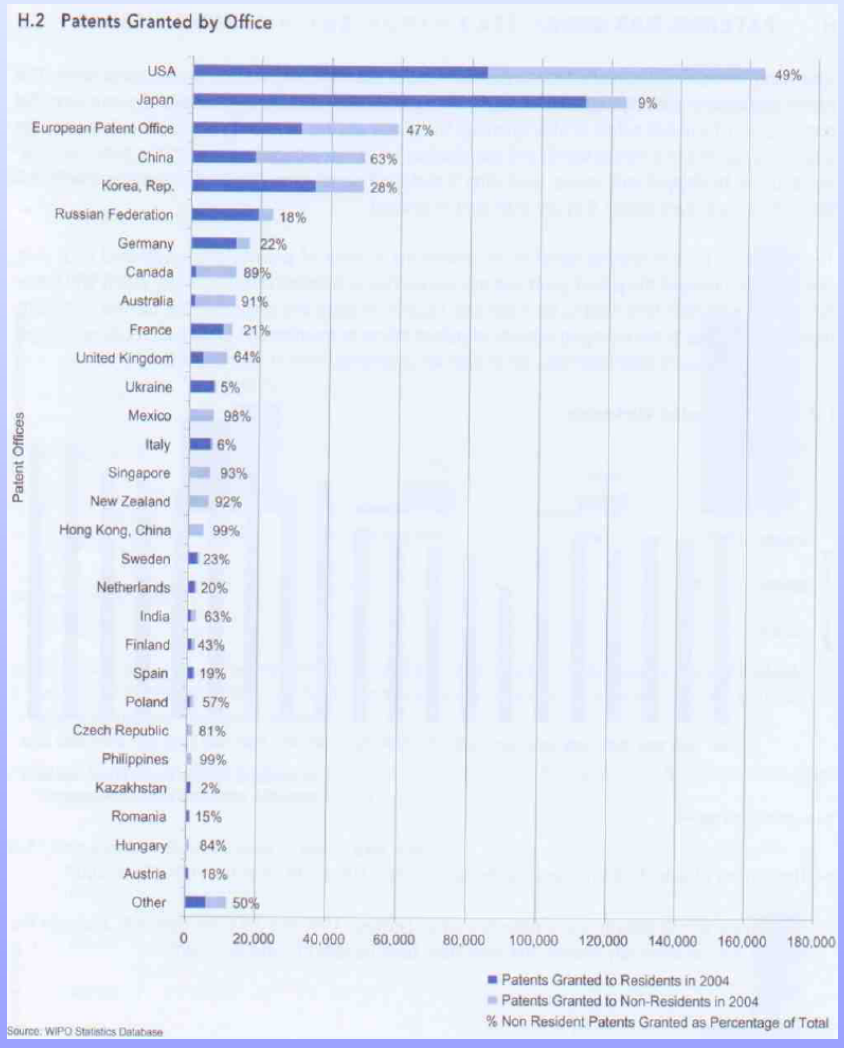
- **No. 17 Export nation – ahead of AUS, AT, BE, SP**
- **3 billion USD ? R & D Investment**
- **3 million USD ? Licensing contracts for tech. imports**
- **106 million USD ? importing specialized tech. services**
- **26 million USD ? purchase of ind. Technologies**

R. KOREA 1986 – 1987

- **No. 9 Export nation**
- **920 million USD ? technology imports**

  [1962 – 87 – 2.3 billion USD]





US Patents Granted to Certain Developing Countries (1985 – 2000)

	1983	1990	1995	2000
Taiwan	199	861	2087	5806
Rep. of Korea	50	290	1240	3472
Hongkong	66	151	248	548
Singapore	10	16	61	242
India	11	23	38	131
South Africa	97	122	127	125
Brasil	30	45	70	113
China	1	48	63	163
Mexico	35	34	45	100
Argentina	12	19	32	63
Malaysia	3	6	8	47
I. Total of above	514	1615	4019	10810
II. Total World	77273	99219	113955	176087
III. Share of Total (I) in World Total (II)	0.67	1.63	3.53	6.14

Source:
Intellectual Property and Competitive Strategies in the 21st Century, Shahid Alikhan and Raghunath Mashelkar

China as Test Case for GATT/TRIPS
Scientific and R&D Personnel

- **Scientific and technological personnel**

  1950 – 50.000
  1978 – 1,37 Mio.
  2002 – 2,17 Mio.

- **R & D personnel**

  1986 – 781.000
  2002 – 1.035.000

Gao & Tisdell [2004]

China as Test Case for GATT/TRIPS
Investment in Research

By value	By percentage of GDP
1985 – 48.1 (yuan 100 Mio.)	0,58 %
1995 – 348.7 (yuan 100 Mio.)	0,60 %
2002 – 1,287.6 (yuan 100 Mio.)	1,23 %
2003 ~ 69 Billions $	

Gao & Tisdell [2004]
Fischer & von Zedtwitz [2004]

Global Ranking in R&D Investment

- **USA – 282 Billions US $**
- **Japan – 104 Billions US $**
- **China – 60 Billions US $ [0,6 % of GDP 1996 – 1,3 % 2002]**
- **Germany – 54 Billions US $**

China as Test Case for GATT/TRIPS

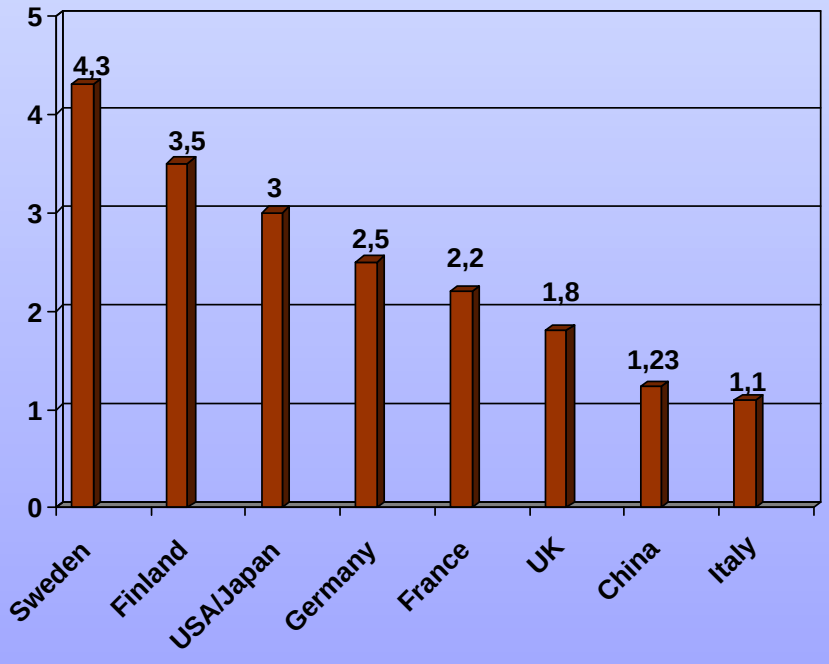
By 2003

More than 200 R & D laboratories established by foreign firms in the computer and telecommunications sector alone

Walsh [2003]

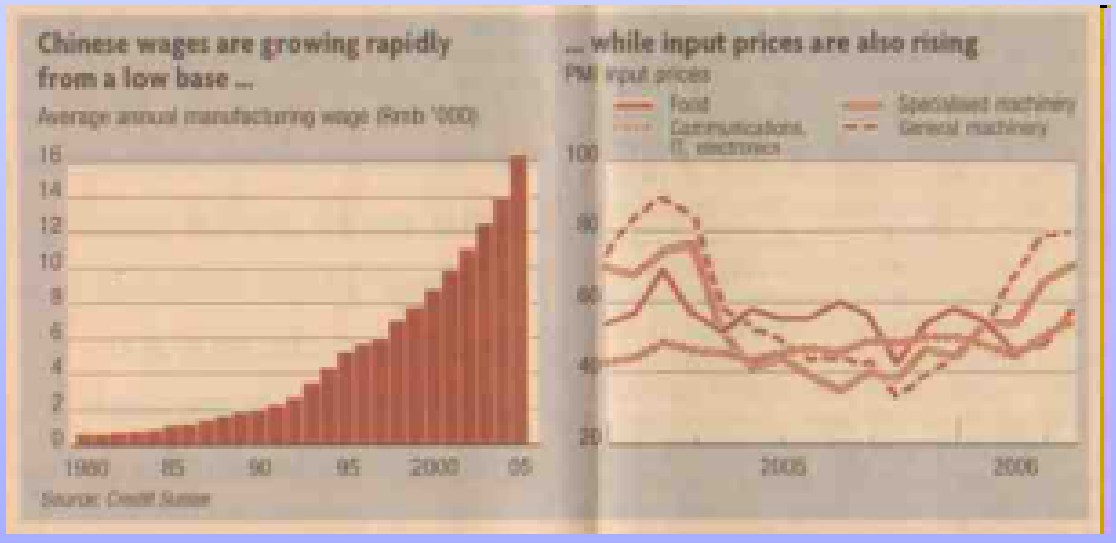
National Investment in Research

[in percentage of GNP]



Source: Eurostat

China: Development of Wages & Prices



Financial Times July 12, 2006

India as Test for GATT/TRIPS

- **FDI:**

  2001-2002 +65 % [3.91 Billions US $ - World Rank °7]

- **Textile Exports:**

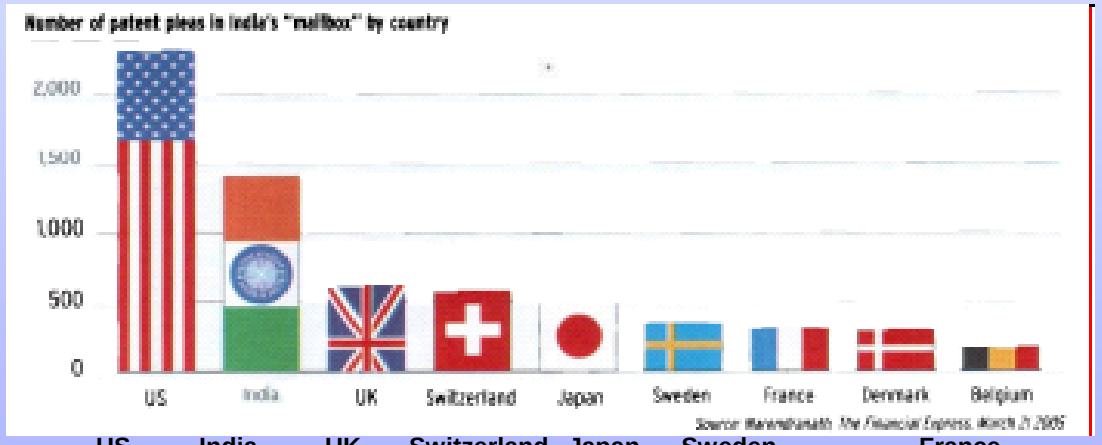
  2003 - 1 Billions US $? 50 Billions US $ 2010 [predicted]

- **Turnover in IT Technologies:**

  2003 - 16 Billions US $ [75 % Exports]

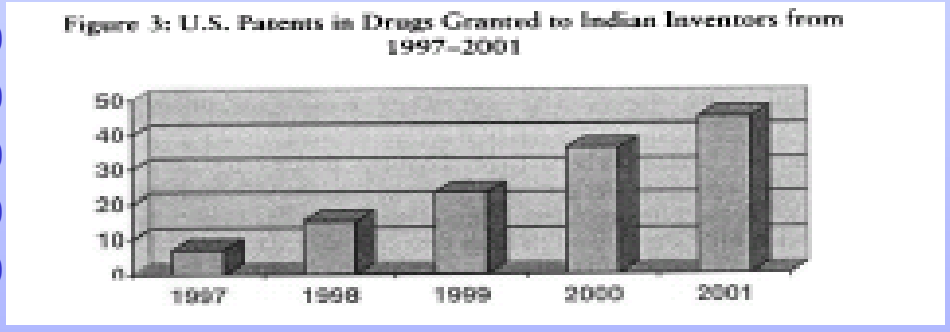
  ? 50 Billions US $ 2008 [predicted]

Number of patent pleas in India's "mailbox" by country



Source: Narendranath, The Financial Express, March 21, 2005

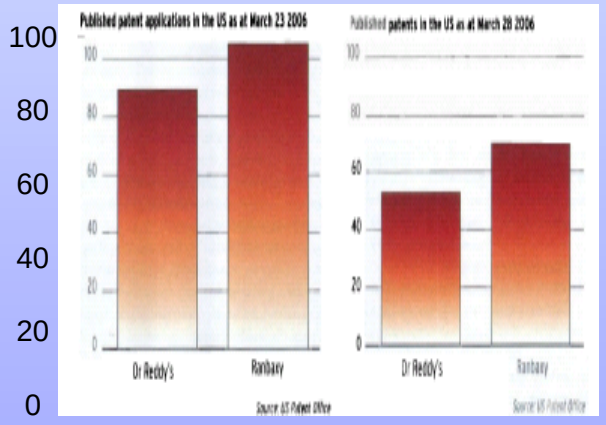
U.S. Patents in Drugs Granted to Indian Inventors from 1997-2001



Source:
IIC International Review of Intellectual Property and Competition Law, 3/2006, C.H. Beck, Munich

Dr. Reddy's & Ranbaxy's US Patent Activities

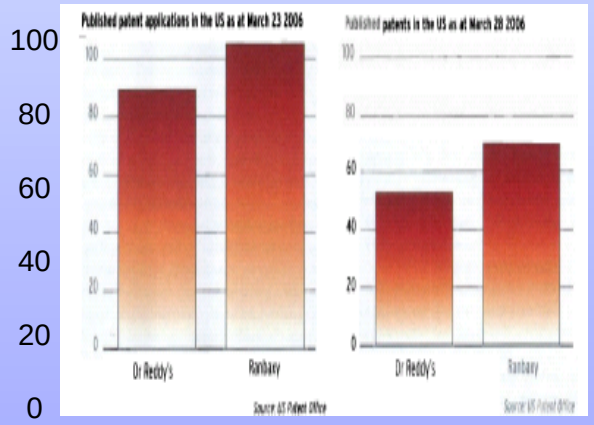
Published patent applications in the US as at March 23 2006



Dr Reddy's **Ranbaxy**

Source: US Patent Office

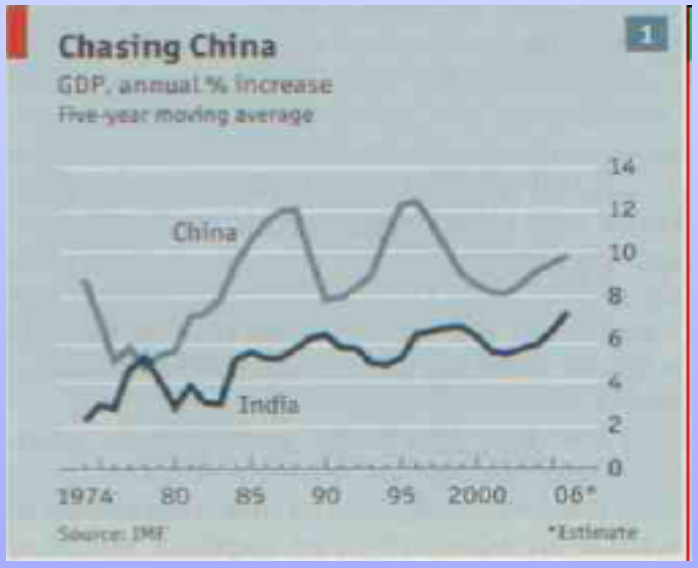
Publishes patents in the US as at March 28 2006



Dr Reddy's **Ranbaxy**

Source: US Patent Office

Chasing China
GDP, annual % increase
Five-year moving average



Source: The Economist February 3rd 2007

Weaknesses of Pre-TRIPS Systems

- Principle of territoriality vs. de-territorialized economy
- National treatment vs. deficient minimum rights
- Increasing opening of commodity markets

Pre-TRIPS Situation – Exclusions from Patentability in Paris Union Member States

• Pharmaceutical products	49 Members
• Animal and plant varieties	42 Members
• Food products	35 Members
• Computer programs	32 Members
• Chemical products	22 Members
• Pharmaceutical processes	10 Members
• Micro-organisms	9 Members

[Out of 92 Paris Union Members]

TRIPS Objectives – Article 7

- The protection and enforcement of IPRs should contribute to the
  - Promotion of technical innovation
  - Transfer and dissemination of technology
  - To the mutual advantage of producers and users of technical knowledge
- In a manner conducive to social and economic welfare, and to a balance of rights and obligations

TRIPS Principles – Article 8

- Members may adopt
  - Measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development
  - Appropriate measures needed to prevent the abuse of IPRs by right holders or the resort to practises which unreasonably restrain trade or adversely affect the international transfer of technology
- Provided – such measures are consistent with TRIPS provisions

TRIPS – Basic Rules

Basic Principles

- Rights conferred - Minimum Standards
- National Treatment, subject to exceptions existing under PC (Art. 3)
- Most-Favoured-Nation Treatment (Art. 4) [with some exceptions]

Mandatory TRIPS Protection Standards

- Patents must be available for **inventions** in all fields of technology – no discrimination allowed (Art. 27 (1))
- Exclusions allowed – if necessary to prevent **commercial** exploitation which would violate *ordre public* or morality – thus applicable only if the **respective exploitation** not allowed (Art. 27 (2))
- Further allowed exclusions: Diagnostic, therapeutic and surgical methods for the treatment of humans or animals; plants and animals, as well as essentially biological processes for their production (Art. 27 (3))
- However, micro-organisms, and – in general - non-biological and micro-biological processes – **mandatorily** eligible for patent protection (Art. 27 (3))

Room to Manoeuvre
– Patentable Subject Matter –

- Notion of Invention – Discovery – Product of Nature
- Art. 6 b of Decision 344 Andean Group – excluding:
  Substances pre-existing in nature and their replications
- Art. 6 g Argentinean PA – excluding:
  Any kind of life material or substances already existing in nature
- Art. 18 Brazilian IP law – excluding
  Parts of plants and animals, extracts & active substances isolated from plants, animals or natural micro-organisms
- TRIPS compatible? Advantageous?

Room to Manoeuvre as to the Effects of Patents

- **Research Exemption covering: research for further improvements and further developments, clinical trials of all kinds with patented substances (see, e.g. USA, Japan), irrespective eventual commercial aim, use as research tools (in academe?), use of biological material for breeding purposes (Germany) (Art. 30)**

- **Compulsory and dependency compulsory licenses, also for plant breeders vs. Patentees (Art. 31, EU Biotech Directive)**

- **Farmers privilege, at least to the extent available under PBR scheme (EU Biotech Directive)**

Impact of IP on investment in research – The GATT/TRIPS Context

- High IP protection standards

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- Liberalized commodity & IP world Markets

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- Low labor & regulatory costs

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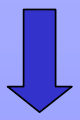
- Reliable judiciary

+

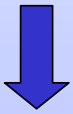
- Predictable stable political environment

+

- Well functioning of education



Impact of IP on investment in research – The GATT/TRIPS Context



- Irresistible for multinationals to relocate production and R&D activities – China, Taiwan, India prominent examples
- Increase exports from there
- Improve local R&D skills
- Tiger States of South-East Asia have successfully coped with globalization – they can massively narrow the welfare gap

[Joseph Stiglitz, Nobel Laureat]

The Aim of Flexibility
= Macro-Economically "Optimal" Legal Solution

- Decision-making: based on past and present facts
- Decision-making: taking into account (real) national interests
- Needed: a balanced patent system, using room to maneuver under TRIPS – adapted to national needs
- Patents & IPR only one factor of development!

Thank you