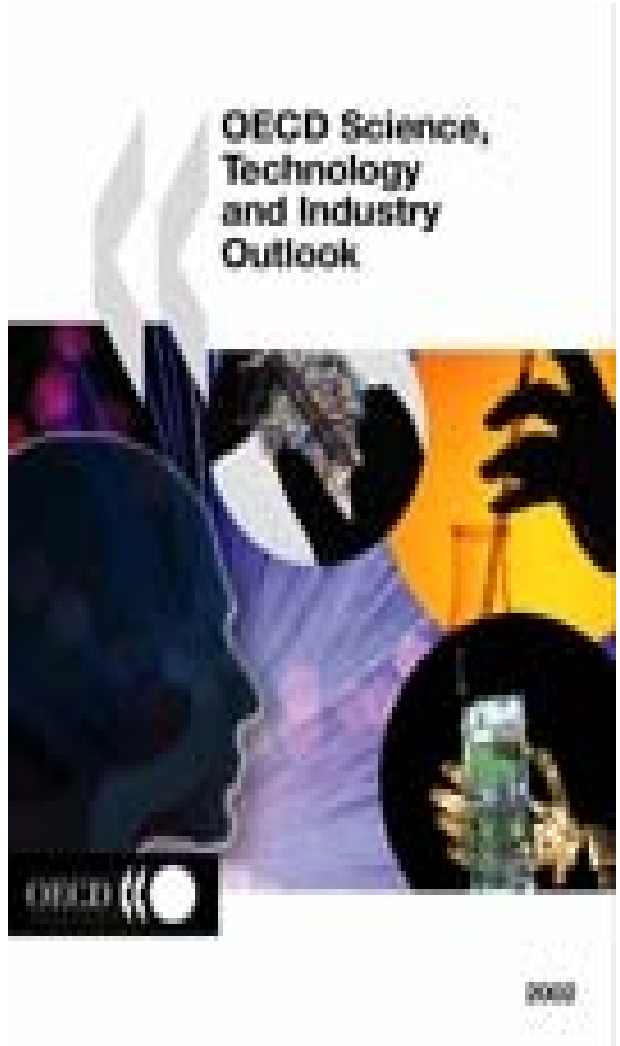
The state of play of innovation in China:
Progress to date and challenges ahead

Global Innovation Policy Dialogue: China and India

14 -15 April 2005

Beijing, New Delhi, Paris, Rome
Washington D.C.



抛砖 引玉

"To throw a brick to induce a jade"
– Chinese proverb

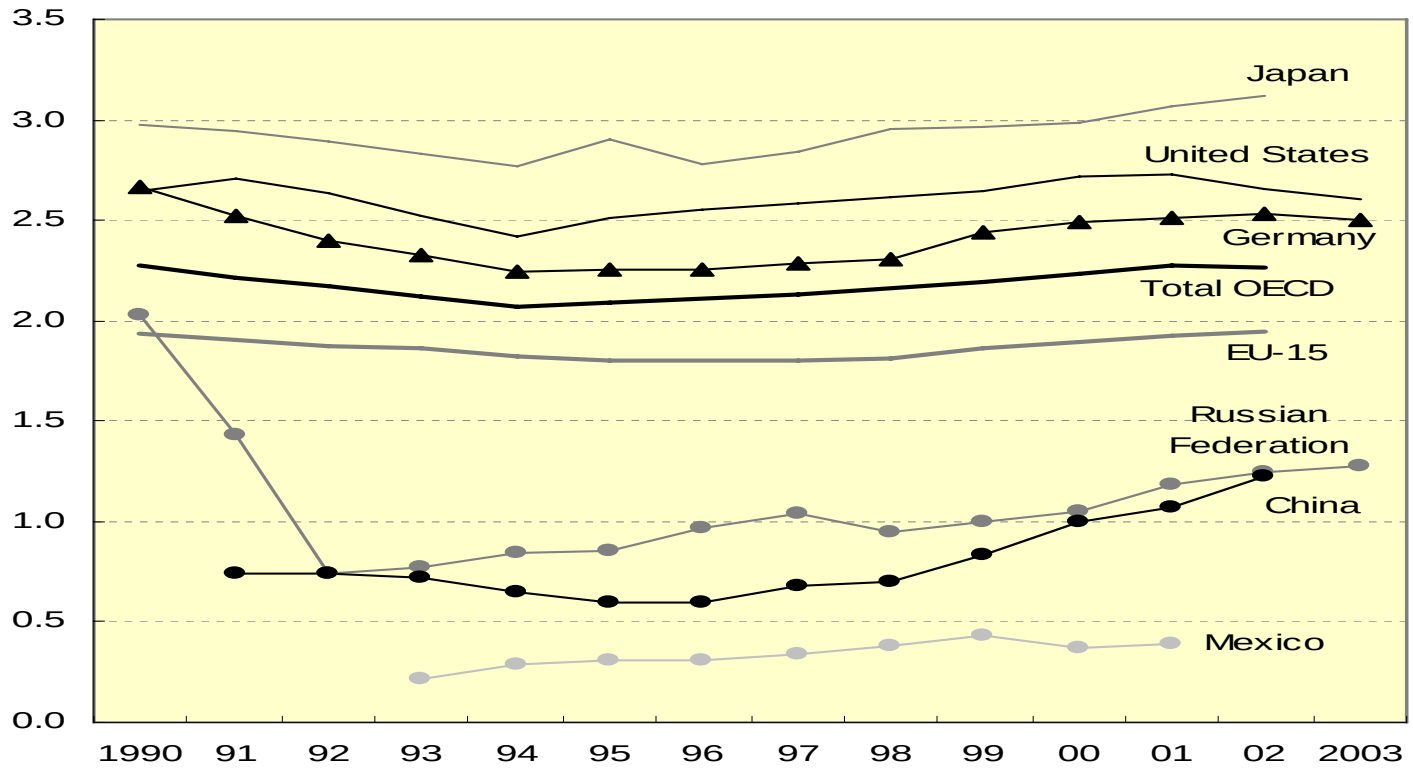
The locus of increasing strategic emphasis on S&T and innovation

- *Science and technology are productive forces* - Deng Xiao Ping (1978)
- "Revitalising the nation by science and education" strategy by Jiang Zhe Min (1995)
- Adoption of China's new growth strategy, where innovation is given an unprecedented central role, as outlined by Hu Jintao and Wen Jiabao (2005)

The main phases of S&T reform

- 1978-1984: recovery from C R. and preparation for reforms
- 1985-1995: reforms, capacity building
  - 1992 S&T management and funding mechanisms reforms
  - Since 1992 reforms of PROs
  - Technology markets and enterprise absorptive capacity (*863* Plan (86), Spark Prog (86), Torch Prog (88)
- 1995-2005: deepening reform and commercialisation
  - Transforming PROs into business unities and downsizing
  - Commercialisation programs: Trade promotion through S&T action plan, Innovation Fund for tech-based SMEs. Etc.
- 2005- strategic shift to innovation driven growth
  - IPR- independent IP innovation, HR, competitiveness, sustainable development,
  - Innovation as a key engine for growth

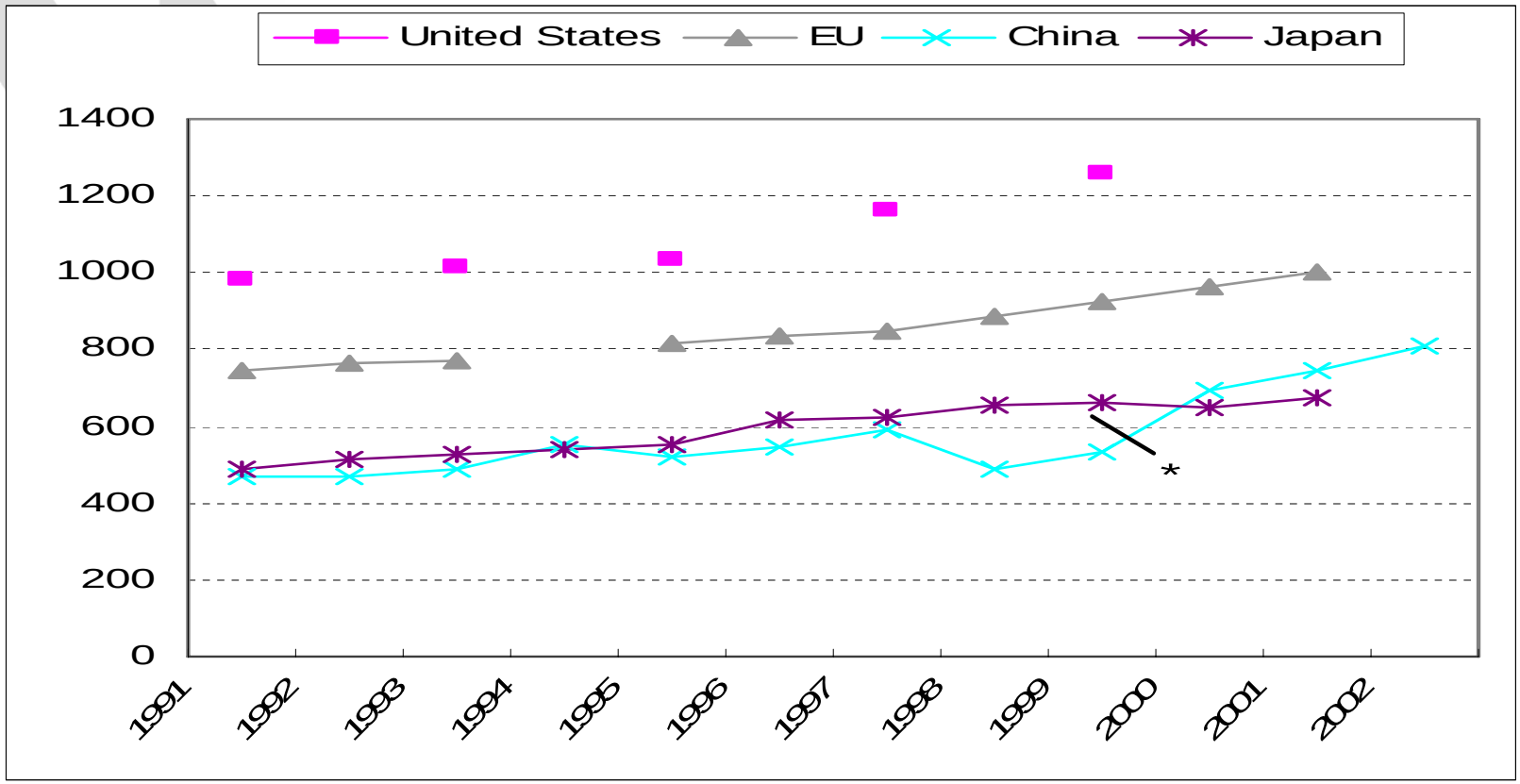
Increasing intensity of GERD, 1990-2003



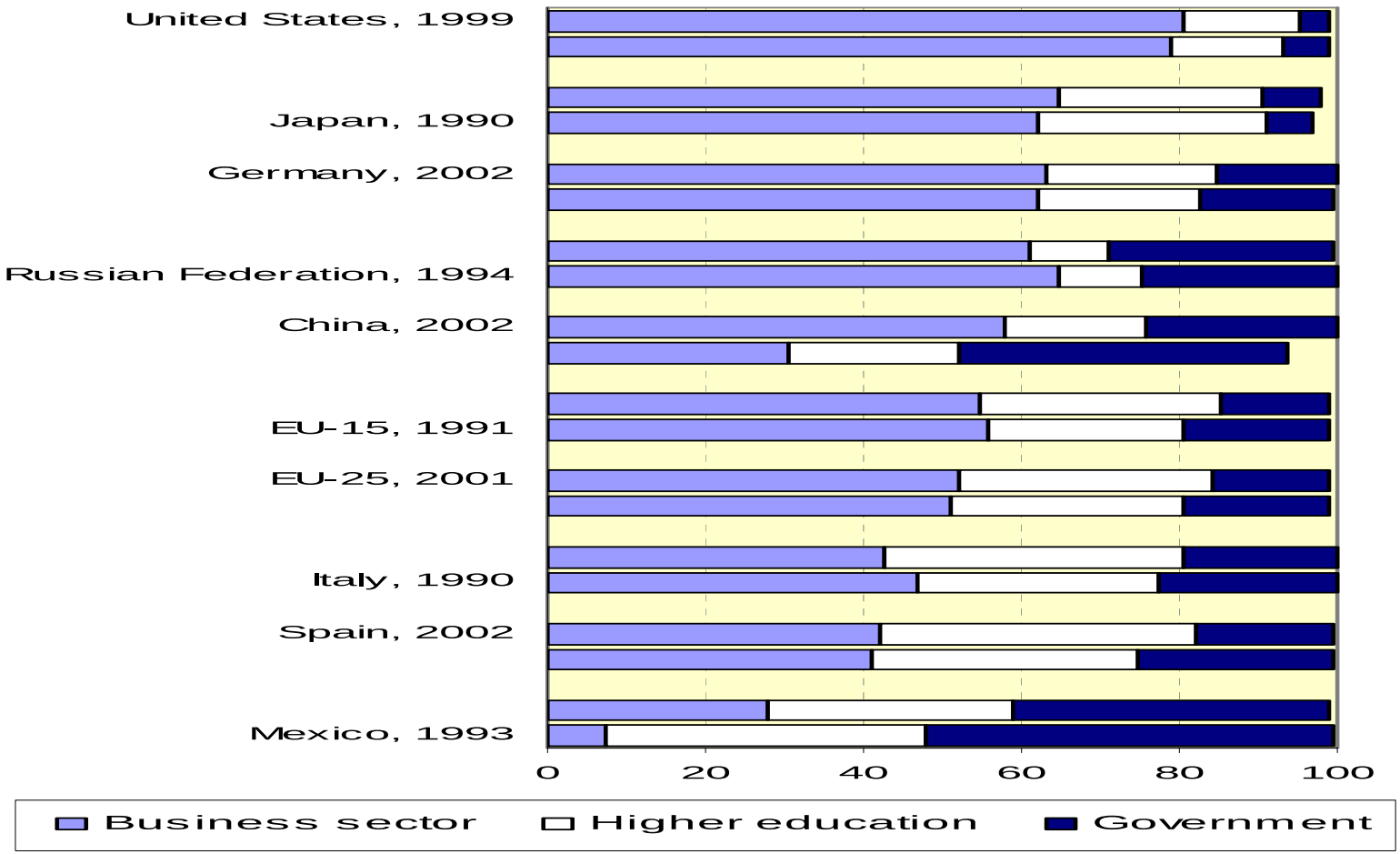
Source: OECD, MSTI database, April 2005.

Increasing number of researcher: China, EU Jap. US

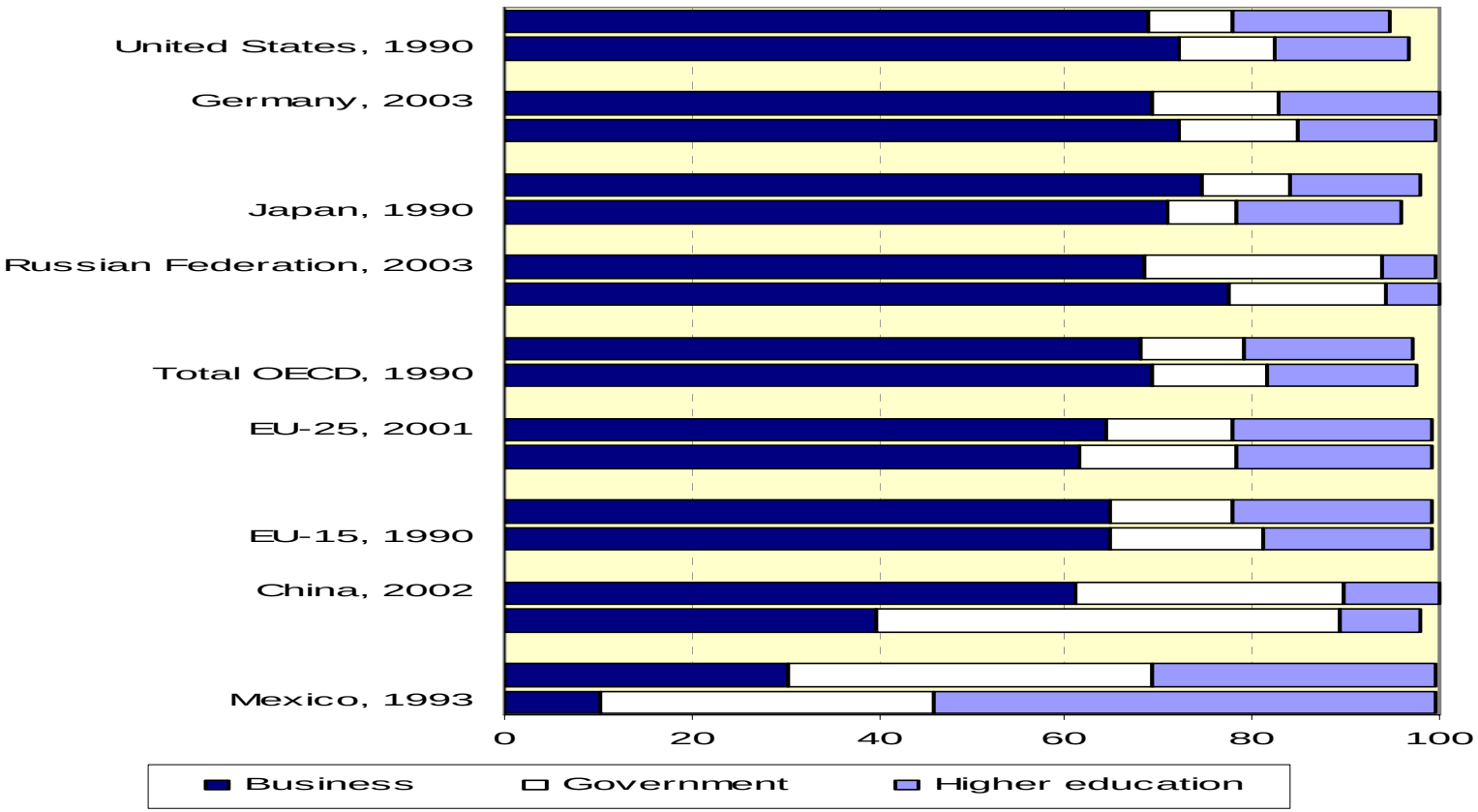
in ‘000 of FTE



China's changing S&T landscape: R&D personnel by performing sectors, %

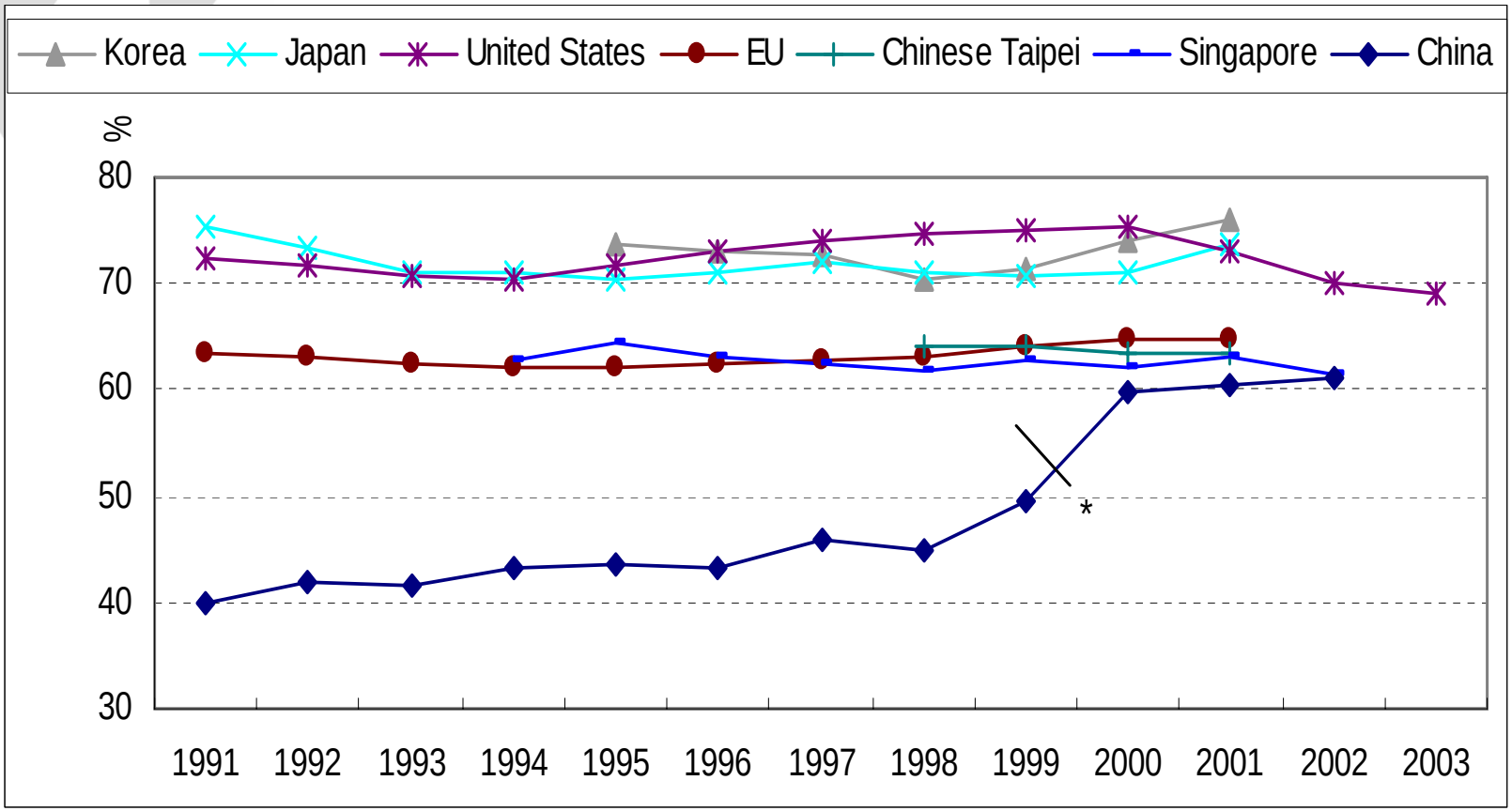


China's changing S&T landscape: GERD by performing sector, % of total

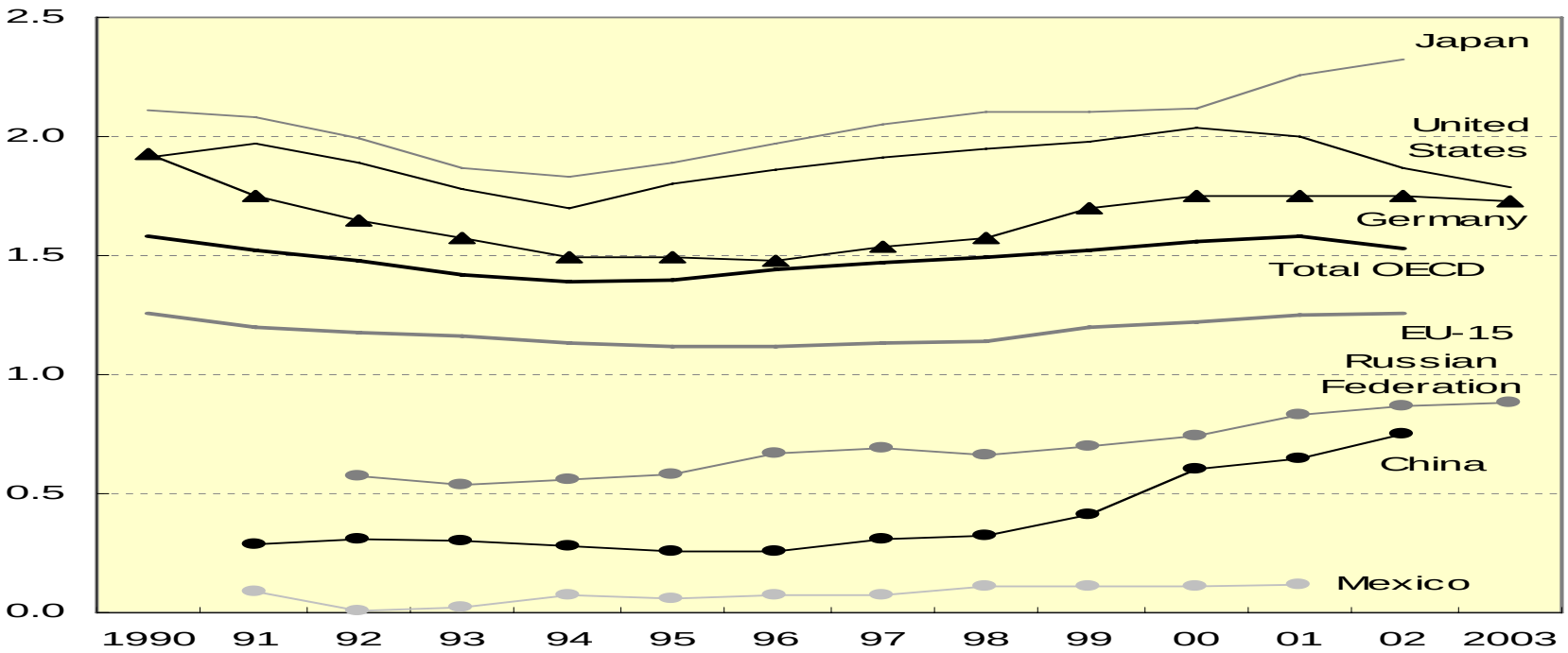


- Source: OECD MSTI database, 04 2005

Percentage of GERD performed by business sector, 1991-2003

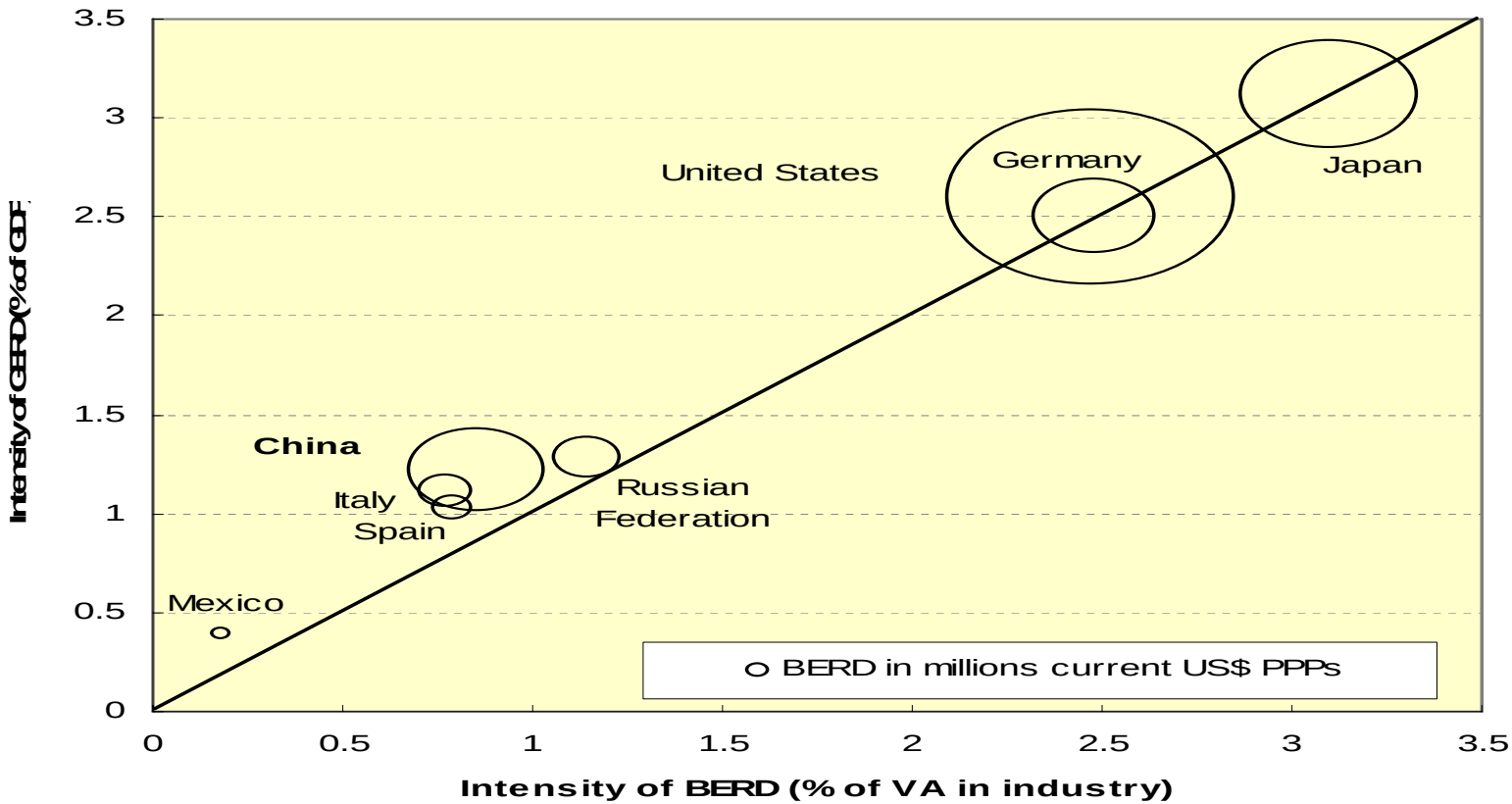


Increasing intensity of business R&D expenditures, 1990 -2003, in % of GDP



Source: OECD, MSTI database, April 2005.

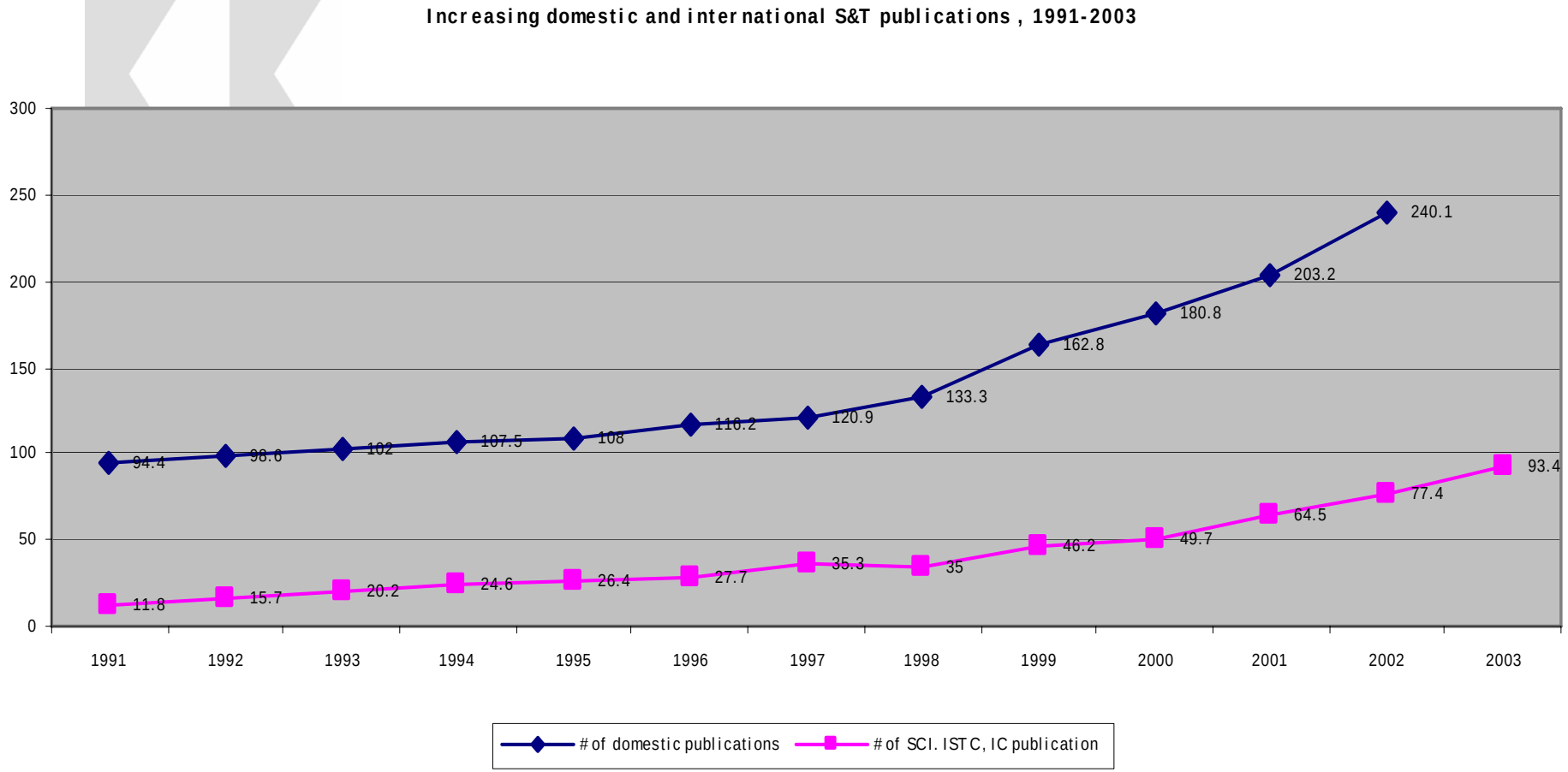
Enterprise sector innovation input: BERD of China and OECD countries, 2003*, %



Note:* or the lasted year for which data is available

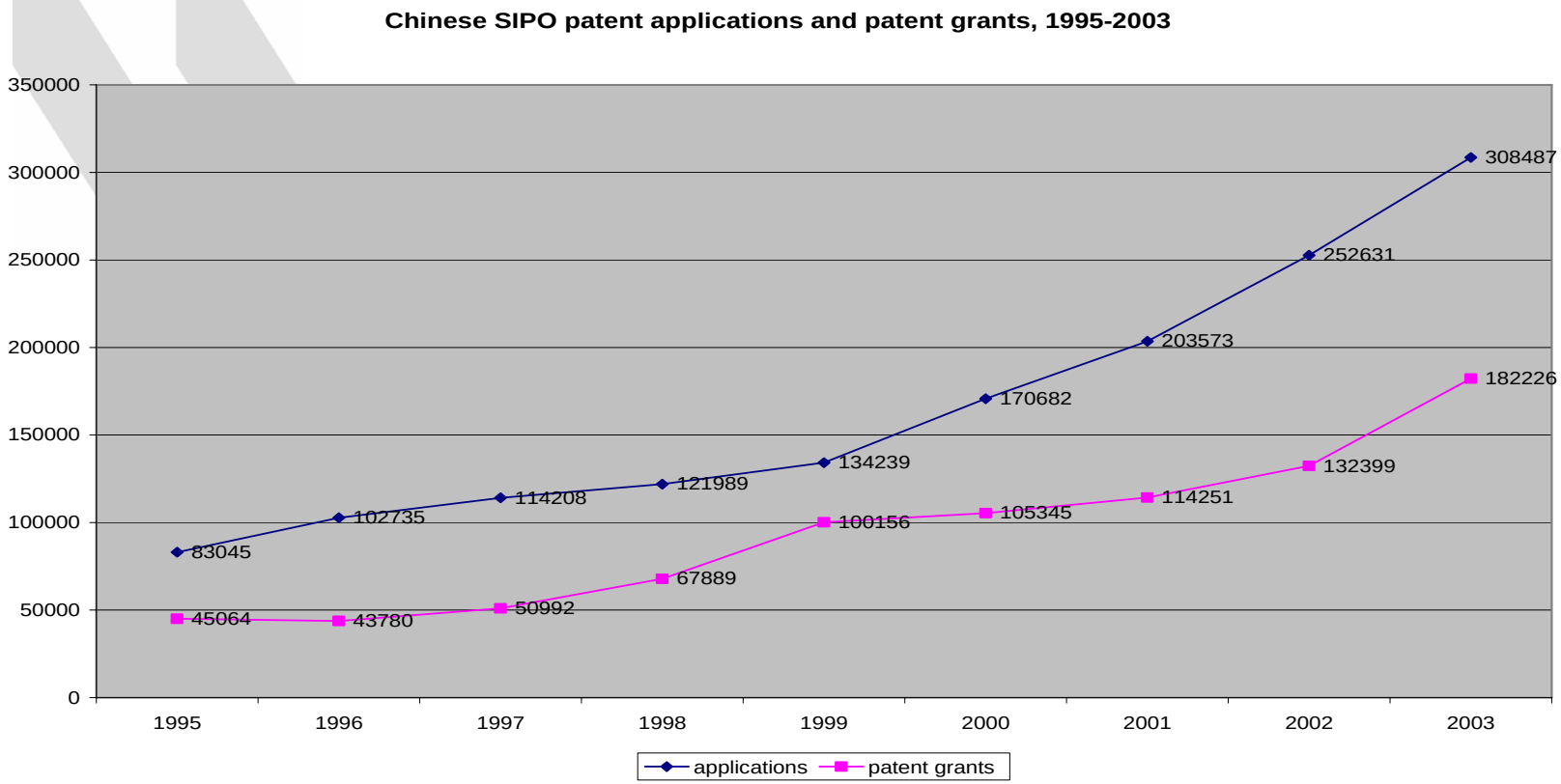
Source: OECD MSTI Database 04 2005

S&T output: Increasing domestic and international S&T publications 1991-2003



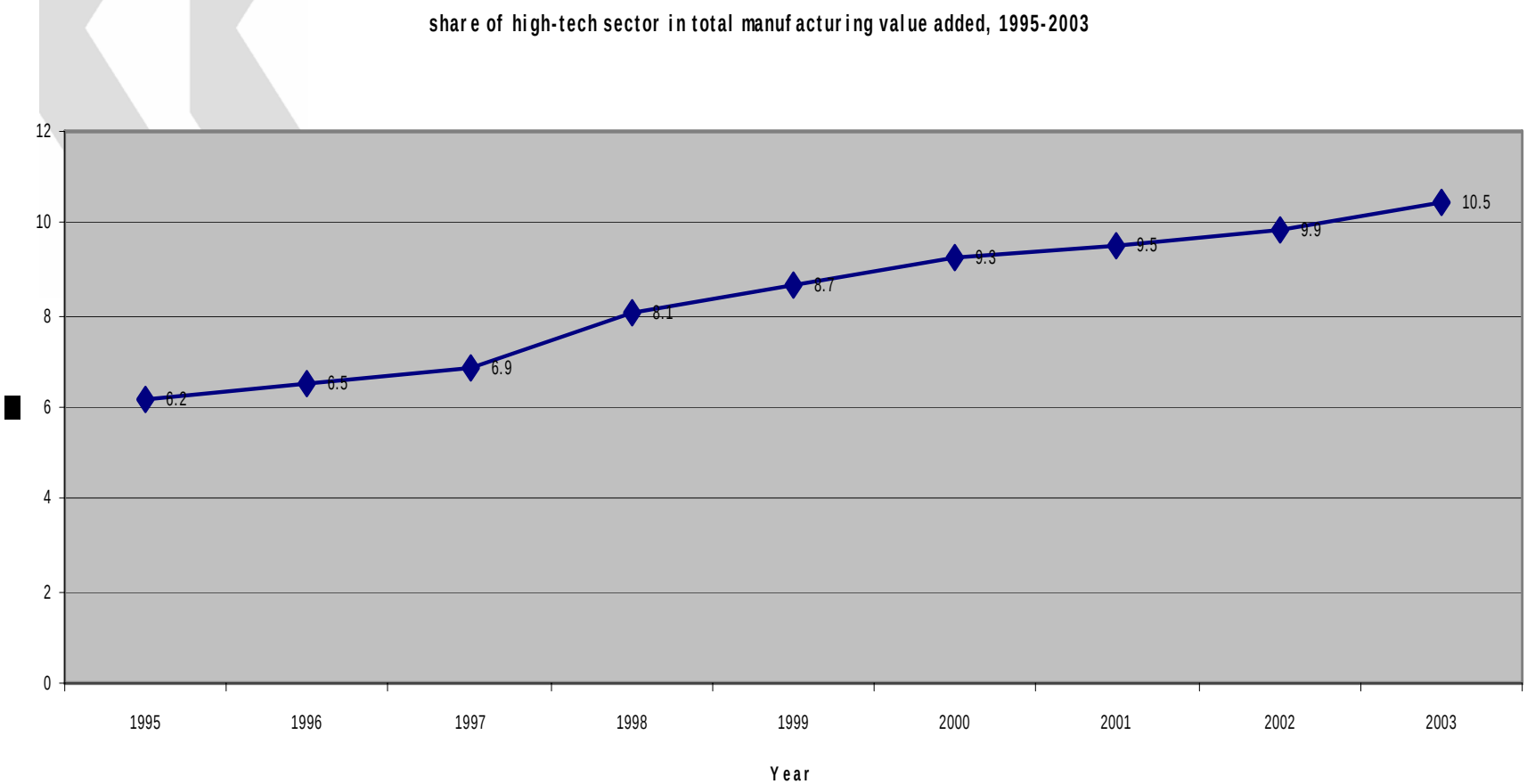
- Source: MOST online Database.

Increasing patent applications and patent grants, 1995-2003



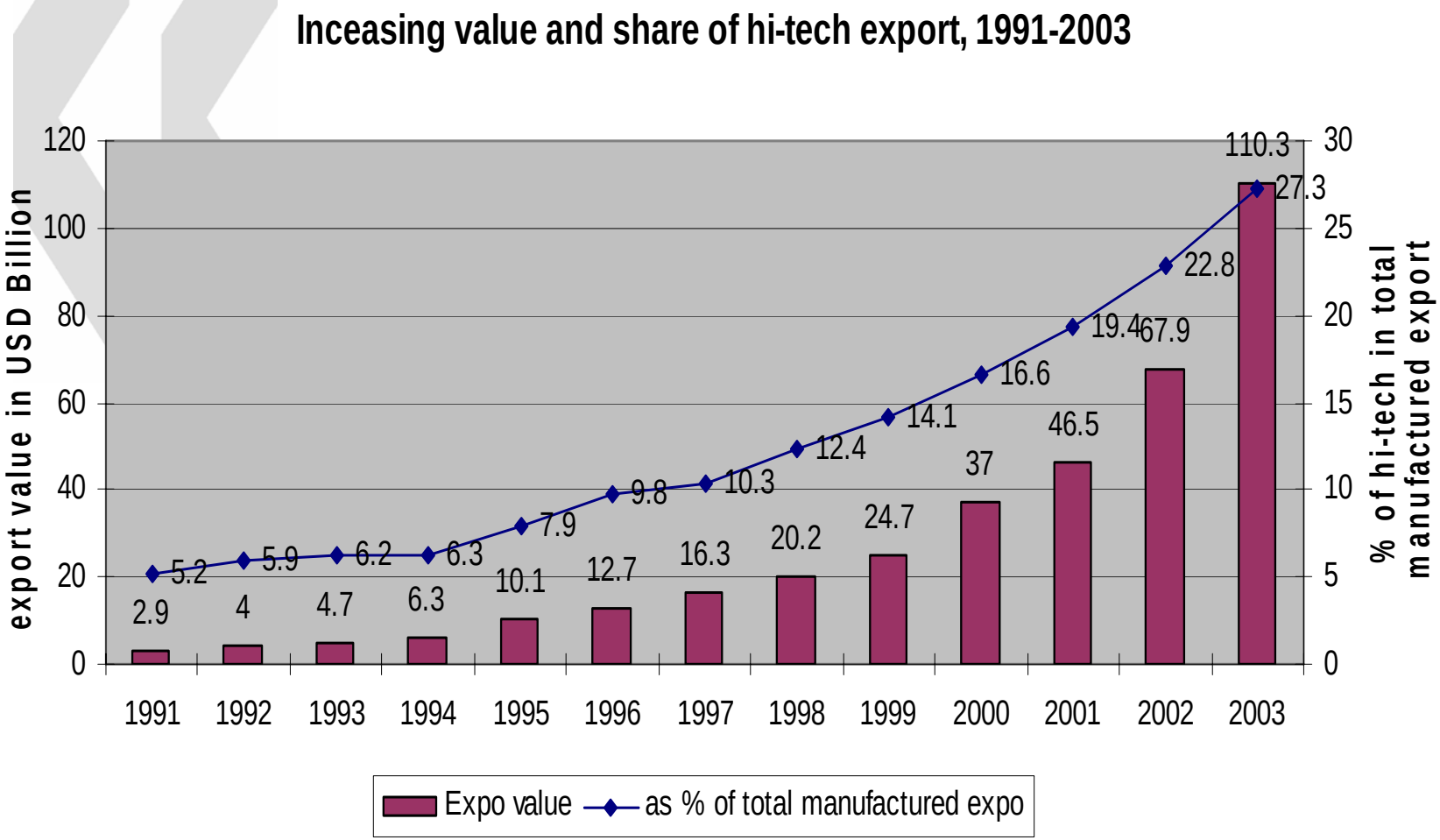
Source: MOST online database

S&T output: Increasing value added by high-tech sector, 1995-2003



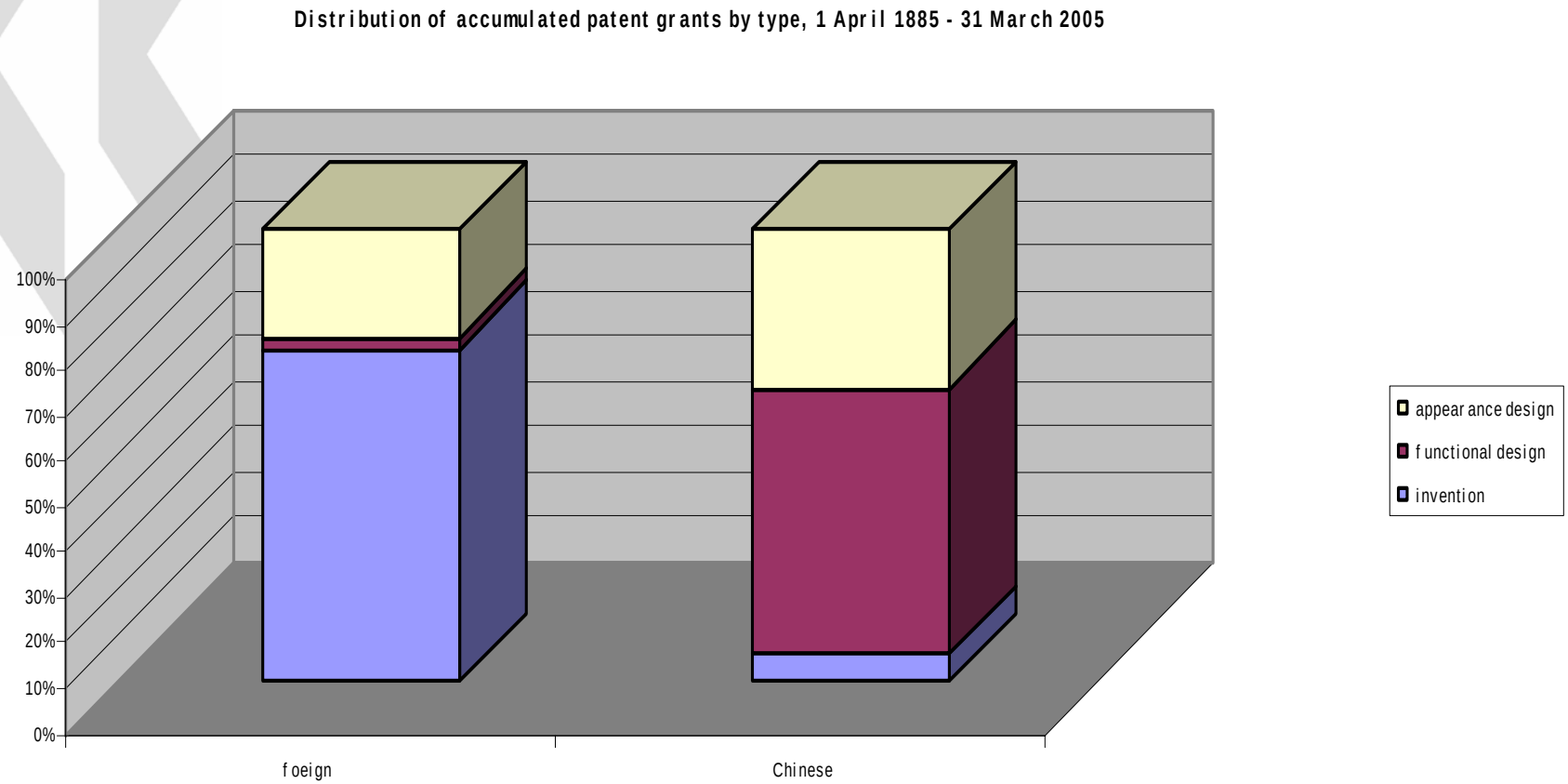
Source: MOST online database

S&T output: increasing high tech export



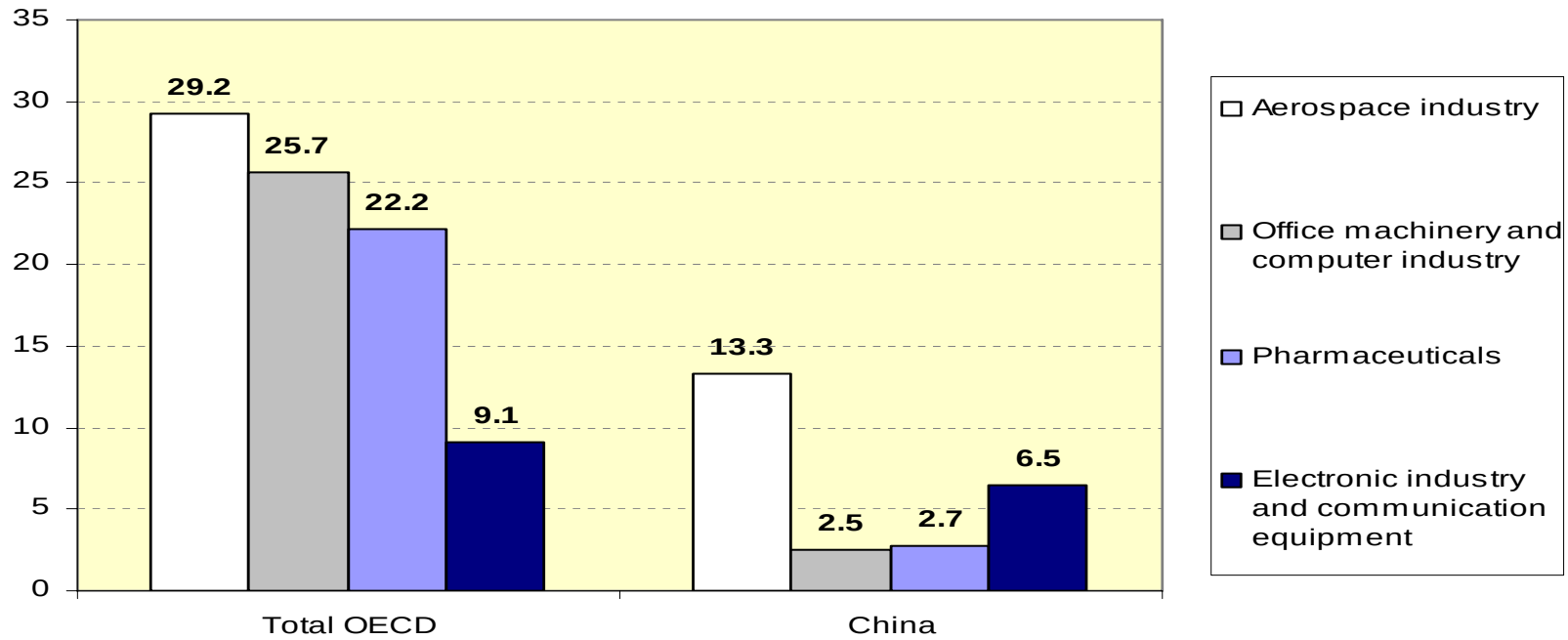
Source: MOST online database

Distribution of accumulated patent grants by type, April 1, 1985- 31 March 2005



Source: SIPO online database

Enterprise innovation input: R&D intensity in high-technology sectors

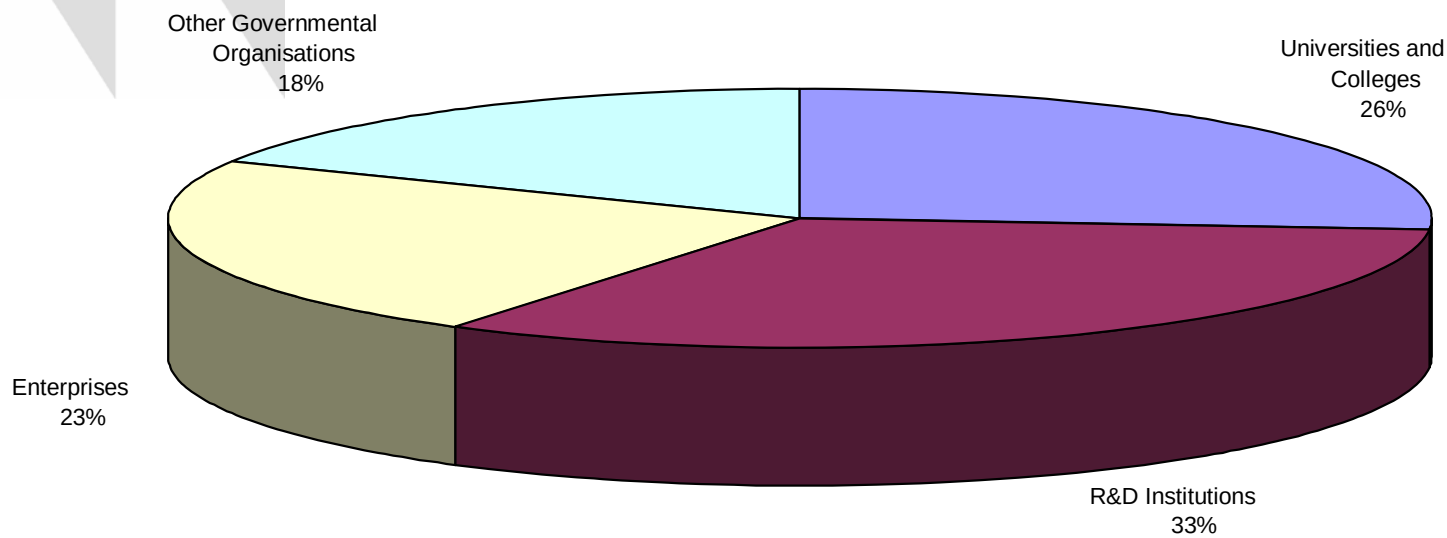


Note:Total OECD includes Canada, Denmark, Finland, France, Germany, Italy, Japan, Norway, Spain, Sweden, the United Kingdom and the United States.

Sources:OECD, STAN, Juin 2004 and MSTI database, April 2005. MOST: Hi-tech statistics, 2003

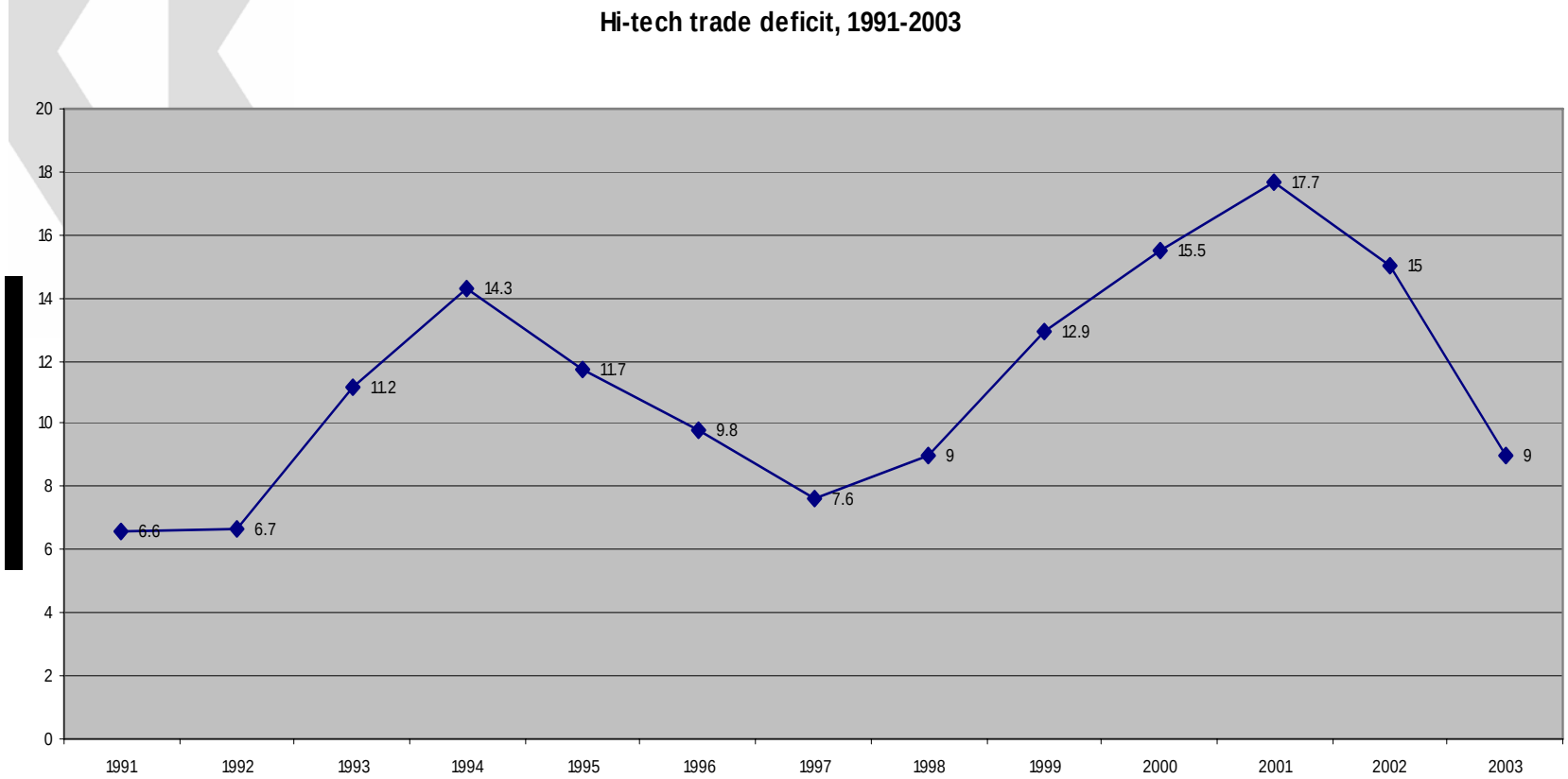
Enterprise Innovation output: Domestic invention patents granted by sector, 1996-99

Figure 13 Domestic Service Invention Patents Granted by Sector, 1996-1999 (%)



Source: China Science and Technology Statistics, 2000.

Continuing hi-tech trade deficits,1991-2003



Source: MOST Database online

Globalisation of R&D

- Highly internationally mobile Chinese S&T workforce: from brain drain to brain circulation
- Attracting increasing foreign investments in R&D in China
- Lagging behind India as a destination for multinational R&D investment
- China has still great potentials but IPR protection (including trade secret) is a main concern.

Future Challenges: further improving China's S&T system

- Redefining the role of the government in NIS
- Enhancing the enterprise innovation capability
- Enhancing tech-diffusion and commercialization: public-private and Industrial-university partnerships?
- Tapping into the global knowledge network
- Securing framework condition that are conducive to innovation, e.g. competition, financial market and IPR protection.

Thank you!

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April 2005.
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