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OECD-MOST Workshop on Science and Technology Indicators
Chongqing China Oct 19-20 2006

HR for Innovation in Enterprises in China: --Key issues

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Outline

- 1. Introduction**
- 2. Key Issues about HR for Firm Innovation**
- 3. HR for Innovation in Enterprises**



1. Introduction

China has issued its Med- & long-term plan for S&T development and related supportive policy for implementing the plan earlier this year.

However, there are still lots of barriers for building the capacity of enterprise innovation, although some data show that the human resources for innovation (HRI) in enterprises have increased obviously in recent year.

One of the most interesting phenomenon is that the university, the research institutes and enterprises are facing a dilemma to employ qualified personnel, while lots of graduates have difficulties to find a satisfied job.



1. Introduction

Another interesting phenomenon is that most of top 100 richest persons in China are not innovative in technology, namely, most of them make money not relying on innovation. Who intend to invest money in innovation if one can make money without innovation.

Government's responsibility is to build a rational innovation system and innovation culture so as to safeguard the interest of innovators. Therefore, it is necessary to evaluate/monitor the effectiveness/efficiency of allocation of innovation resources, the demands/supply of innovation resources, the capacity for innovation, and related policy environment, with quantitative indicators.

2. Key Issues about HR for Firm Innovation

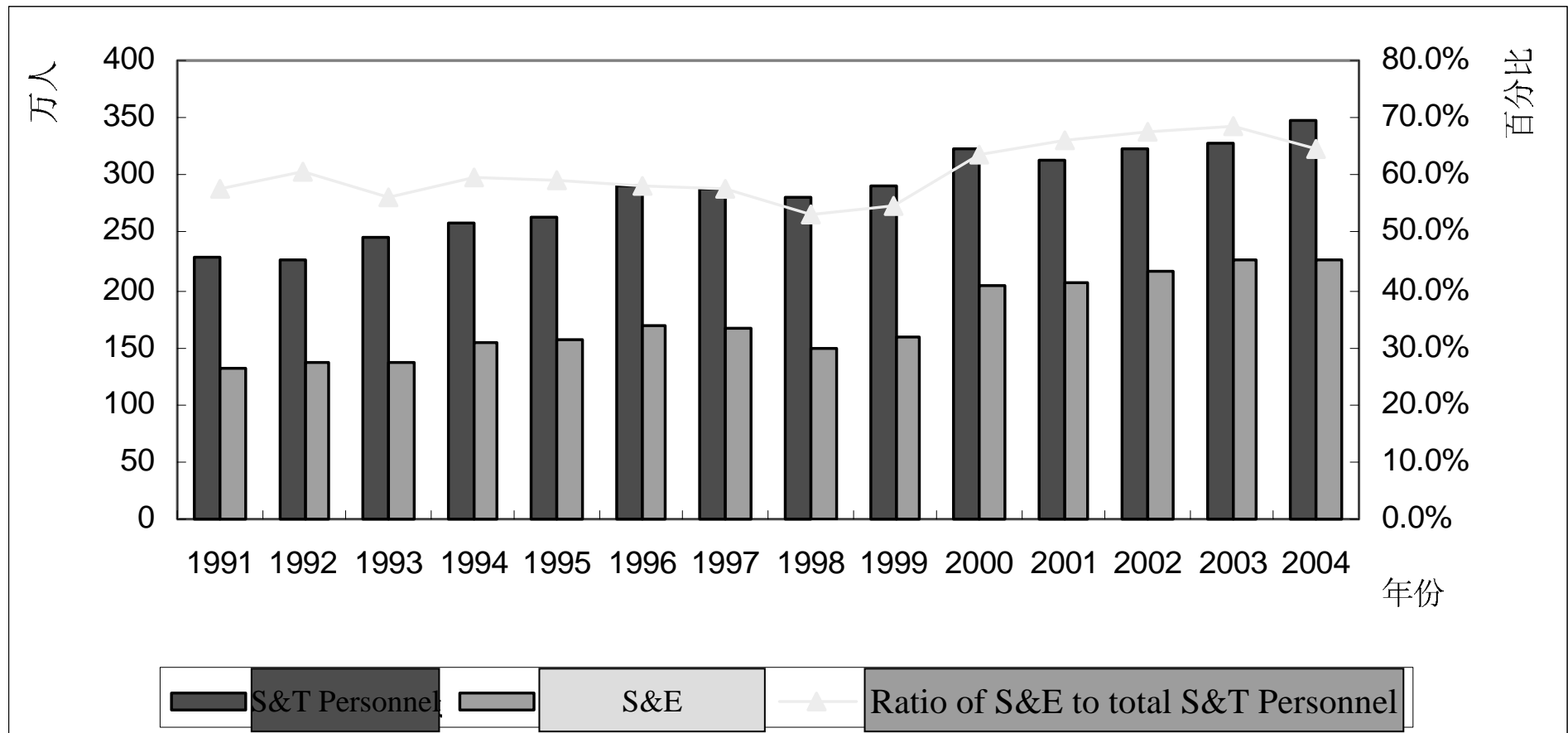
- The effectiveness/efficiency of personnel Investment in R&D/S&T
 - To what extent does enterprise development rely on the investment?
 - Should innovative country invest more in R&D?
 - the productivity of knowledge (paper, patent, and others)
 - What is the rational ratio of R&D personnel?
 - The structure of R&D/S&T personnel in enterprises
- The availability of qualified personnel in enterprises
 - The quantity/quality of education and training
 - The demands and supply of personnel by discipline



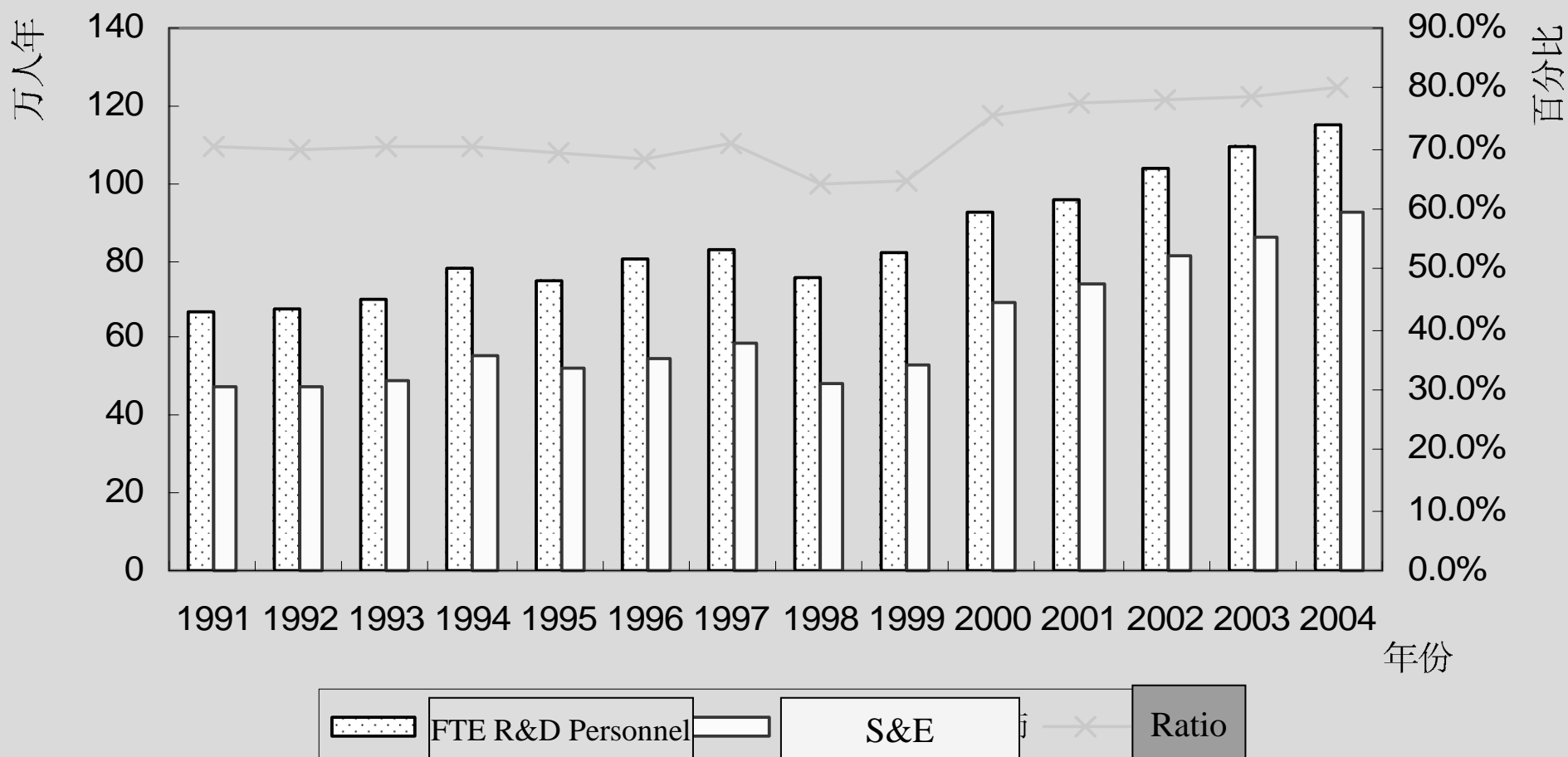
2. Key Issues about HR for Firm Innovation

- The mobility of qualified personnel in enterprises
 - The flow of personnel among universities, inst. & enterprises
 - The flow of skilled personnel within enterprises
 - The flow of skilled personnel from FDI enterprise to domestic
- The big gap in technology capacity among enterprises, universities and independent research organizations
 - The gap of S&T capacity between uni/inst.&enterprises
 - The gap of innovation capacity between uni/inst.&enterprises
 - Cooperation model & capacity gap between uni/inst.&firms

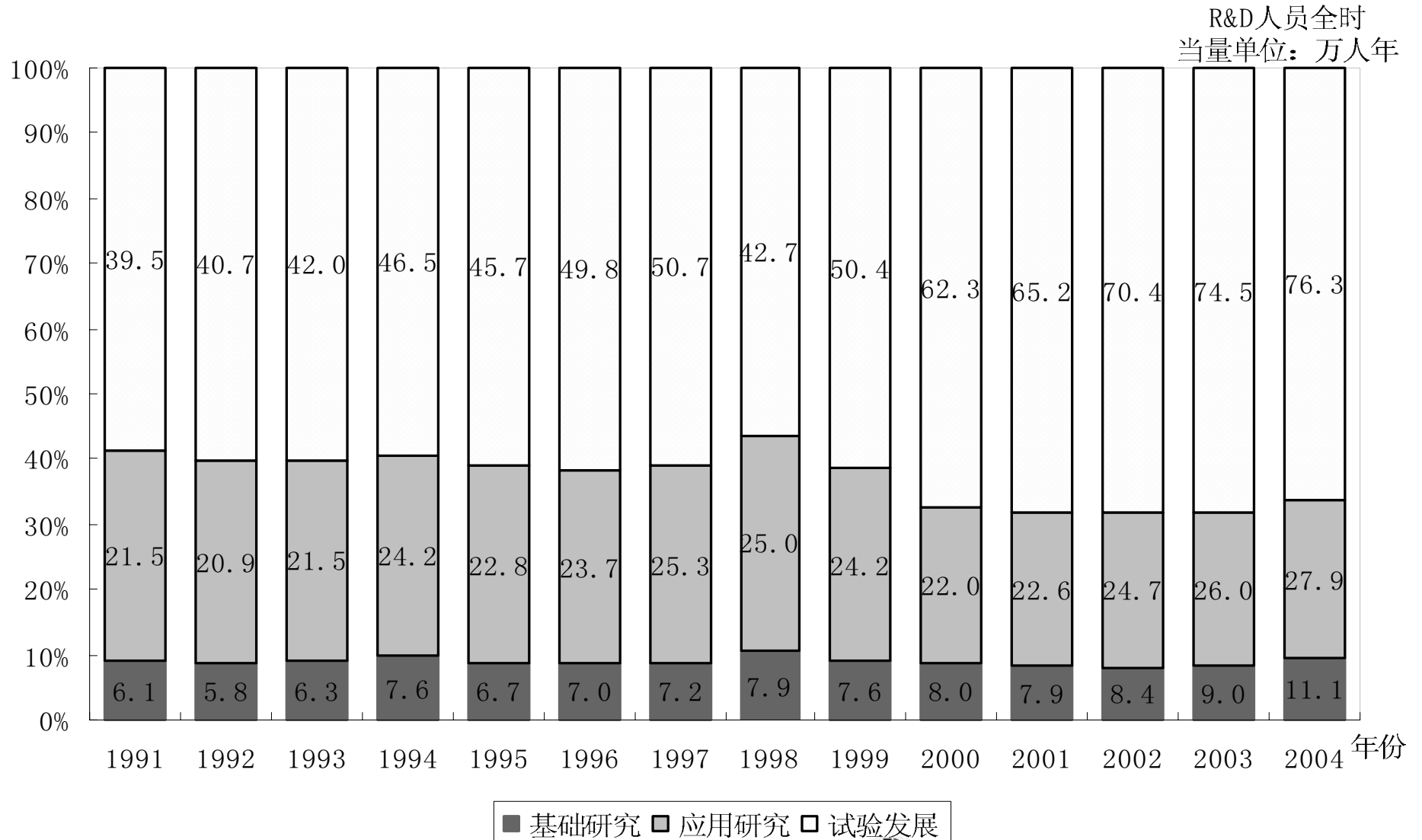
3. HR for Innovation in Enterprises



3. HR for Innovation in Enterprises

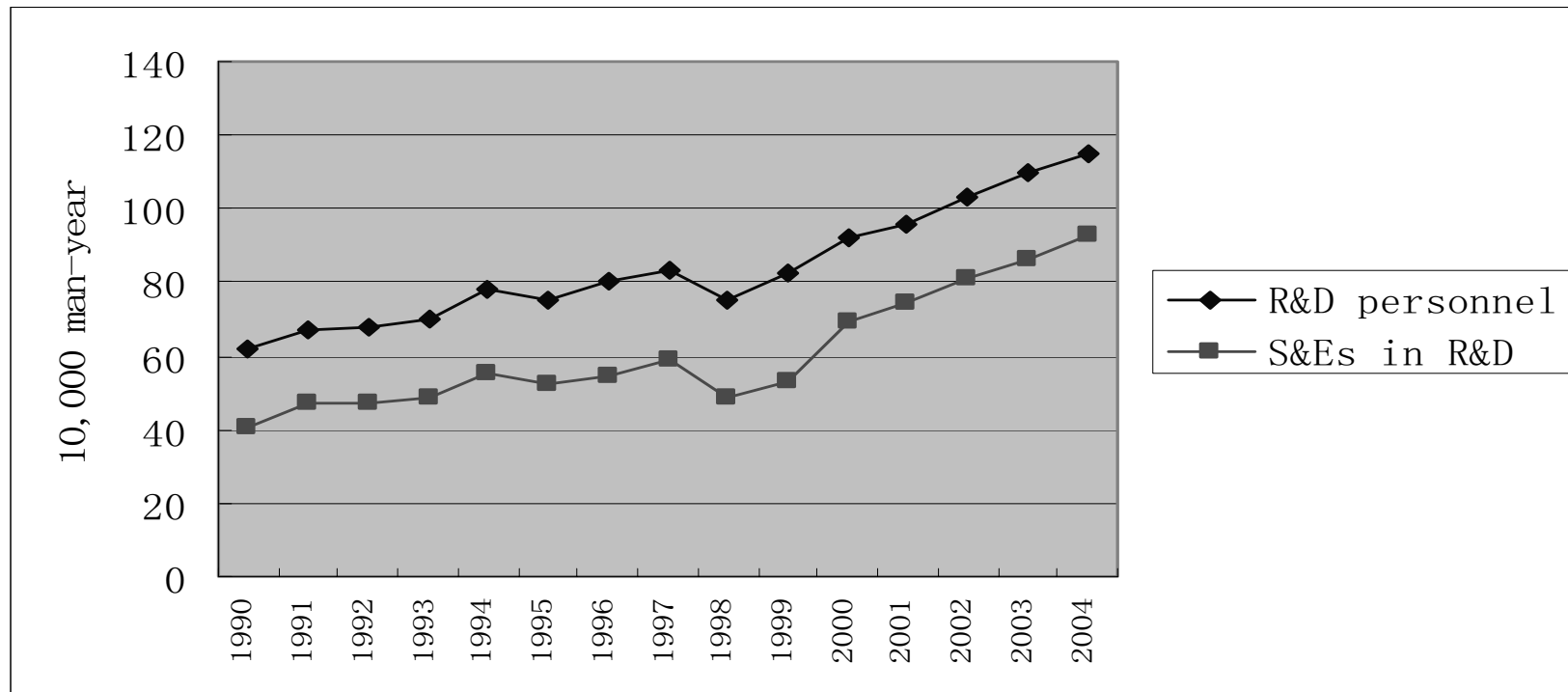


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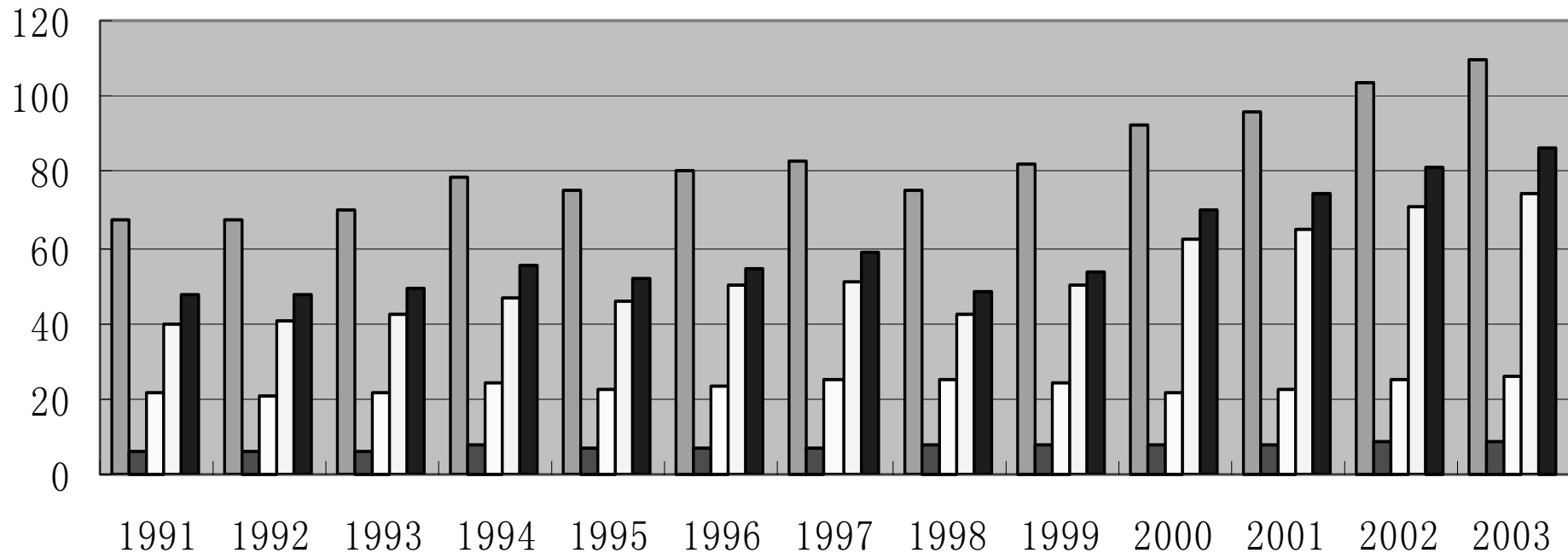
3. HR for Innovation in Enterprises

The Quantity of S&Es increases gradually in China



3. HR for Innovation in Enterprises

Full-time Equivalent of R&D Personnel (10,000 man-year)



- Total
- Basic Research
- Applied Research
- Experimental Development
- Scientists and Engineers

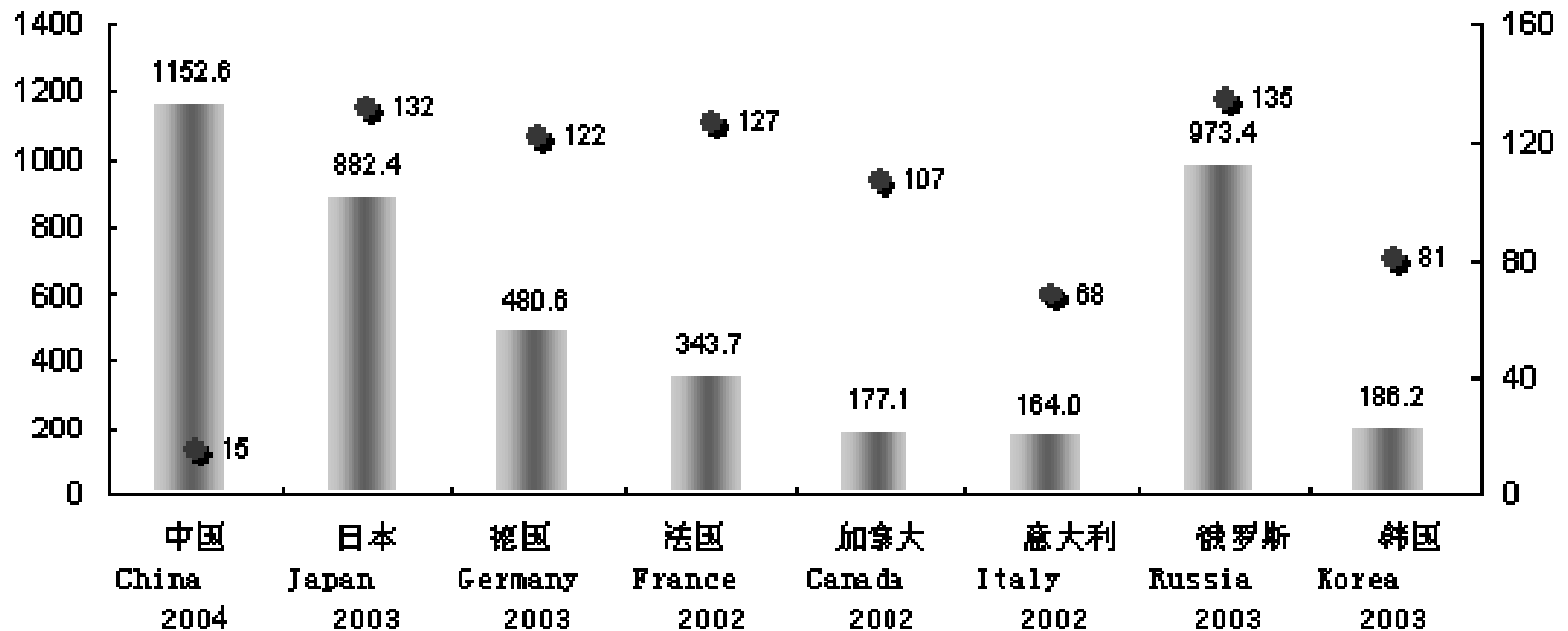


3. HR for Innovation in Enterprises

- R&D人力 R&D personnel
- ◆ 每万个劳动力中R&D人力 R&D personnel per 10,000 labor force

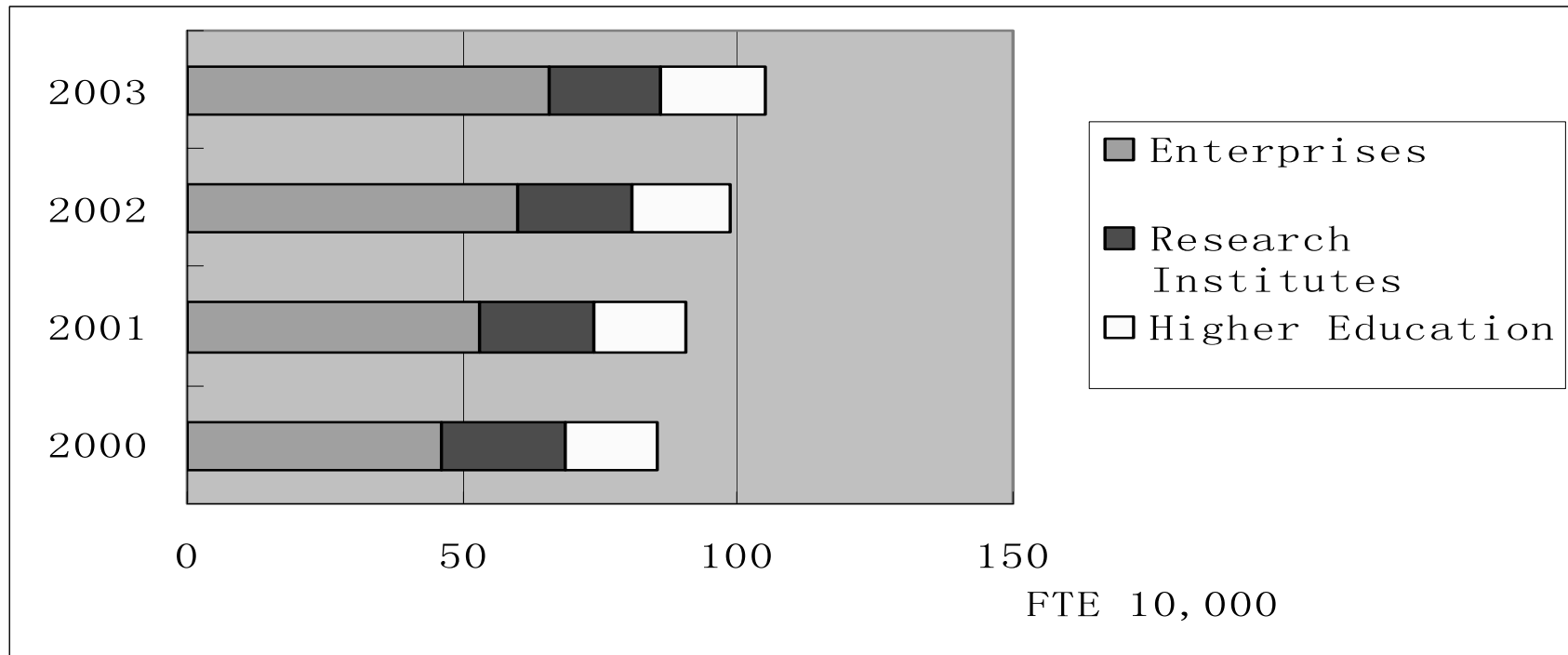
千人年 1,000 person-years

人年 Person-year



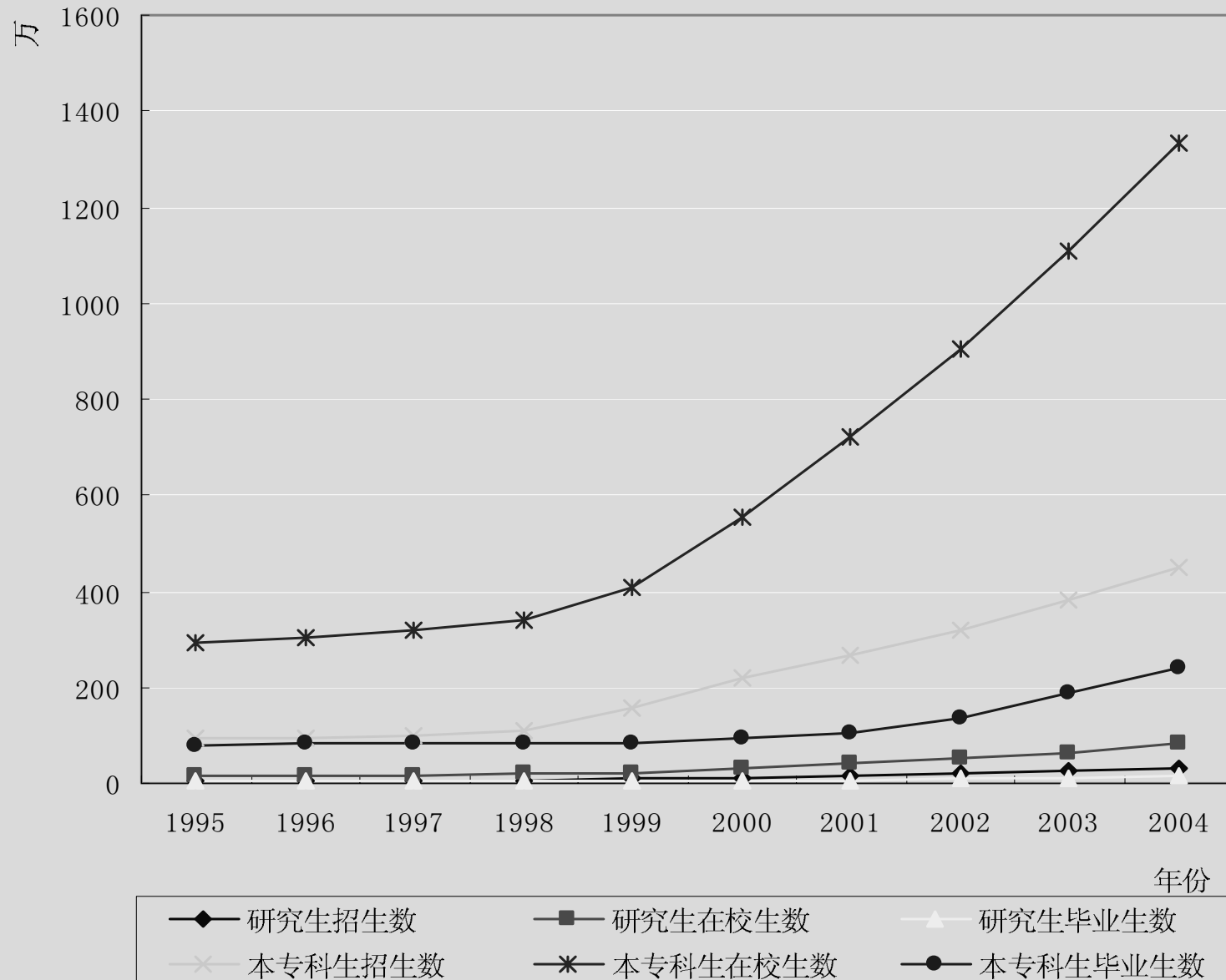
3. HR for Innovation in Enterprises

Distribution of R&D personnel by performing sector in China

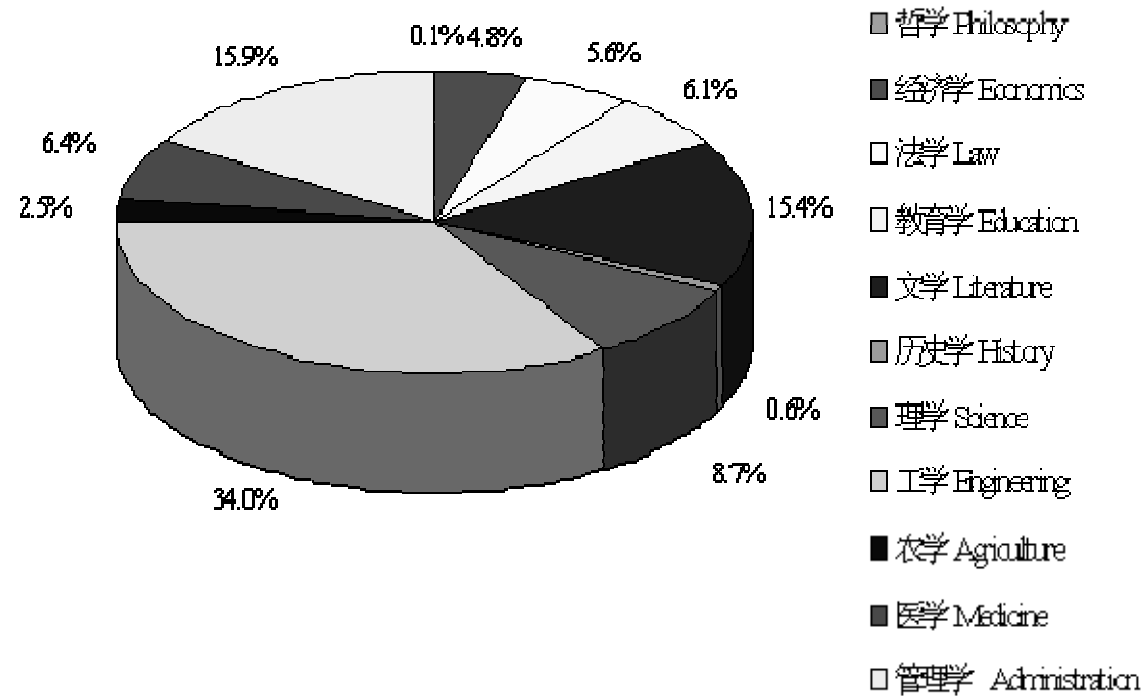


- The amount of R&D personnel in enterprises is increasing rapidly, while that in R&D institutions showed the trend of persistent lowering.

3. HR for Innovation in Enterprises



3. HR for Innovation in Enterprises



3. HR for Innovation in Enterprises

- The state commission for development and reform has authorized 360 technology development centers in enterprises. The province governments (including municipalities such as Shanghai, Qingdao) has authorized 2918 technology development centers in enterprises.
- The 3278 enterprises with above two kinds of centers represent the key enterprises that are more innovative than usual ones.
- The average sales of 3278 key enterprises increase from 1.14 billion RMB yuan in the first half of 2005 to 1.22 billion RMB yuan in the first half of 2006. The average profit increases from 143 million to 184 million.

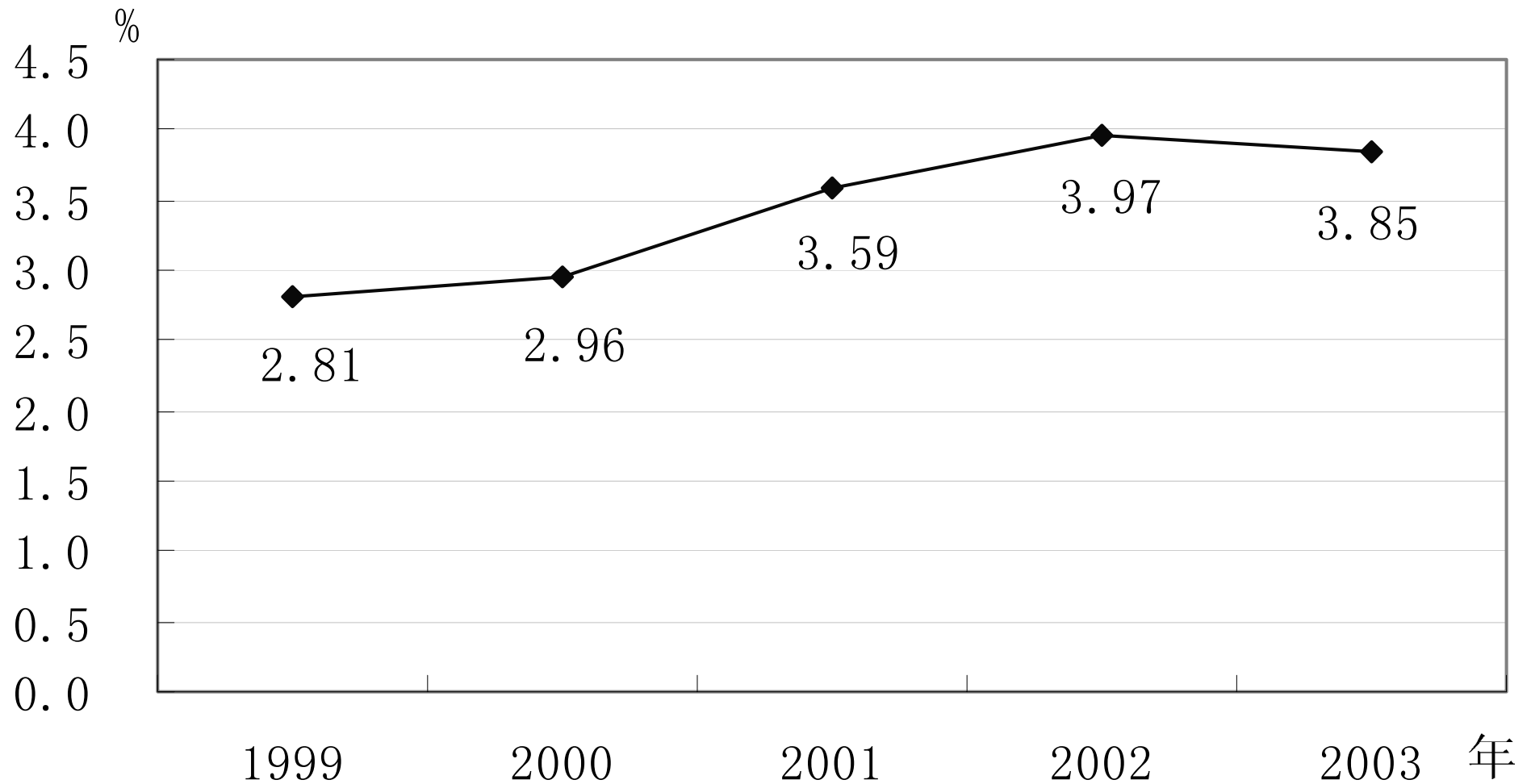
3. HR for Innovation in Enterprises

- The personnel input in innovation of key enterprises have increased steadily in June 2006 comparing with that of 2006.
- The S&T personnel in 3278 key enterprises increase from 1.23 million in the first half of 2005 to 1.49 million in the first half of 2006.
- The R&D personnel increase from 0.595 million in the first half of 2005 to 0.70 million in 2006.
- The ratio of R&D personnel with PhD degree increases from 1.53% in the first half of 2005 to 1.60% in the first half of 2006.
- The average R&D personnel in 3278 key enterprises increase from 206.6 in the first half of 2005 to 213.7 in the first half of 2006.



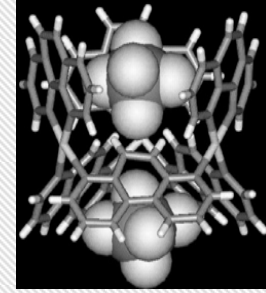
3. HR for Innovation in Enterprises

The ratio of R&D expenditure to sales in firms with TDCs



4. Related Surveys concerning HRST

- Survey on Engineering Technological Talents**
- Survey on Activity of Foreign S&T Talents in Japan**
- Survey on Talents with M/PhD: Volume & Flow in Shan'xi**
- Survey on Women Scientist: Key Factors for Success**
- The Key Factors of Regional Agglomeration of the HRST in Beijing**
- The Income of S&T Personnel in Public Research Institutes**
- Survey on Supportive Personnel for S&T&I**



谢谢!