



中华人民共和国科学技术部

Ministry of Science and Technology of the People's Republic of China



CHINA S&T NEWSLETTER

No.3 2019

Content

Major S&T indicators over 40 years since reform and opening-up



Major S&T indicators over 40 years since reform and opening-up

The year of 2018 marks the 40th anniversary of reform and opening-up in China. Over the 40 years, China has been working proactively against the challenges, strengthening coordination at home and abroad and doing a good job in all links related to science and technology. This issue deals with four major S&T indicators over the 40 years since reform and opening-up, namely S&T input, S&T output, major players of S&T activities and international comparison.

(Source: MOST)

1. S&T input

1.1 Technical staff (1978-2016)

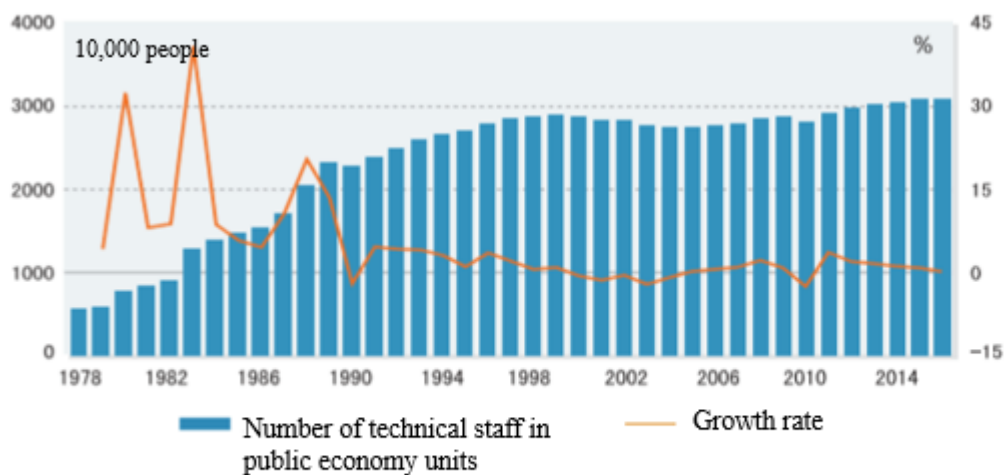


Fig1.1-1 Number of technical staff in public economy units and growth rate

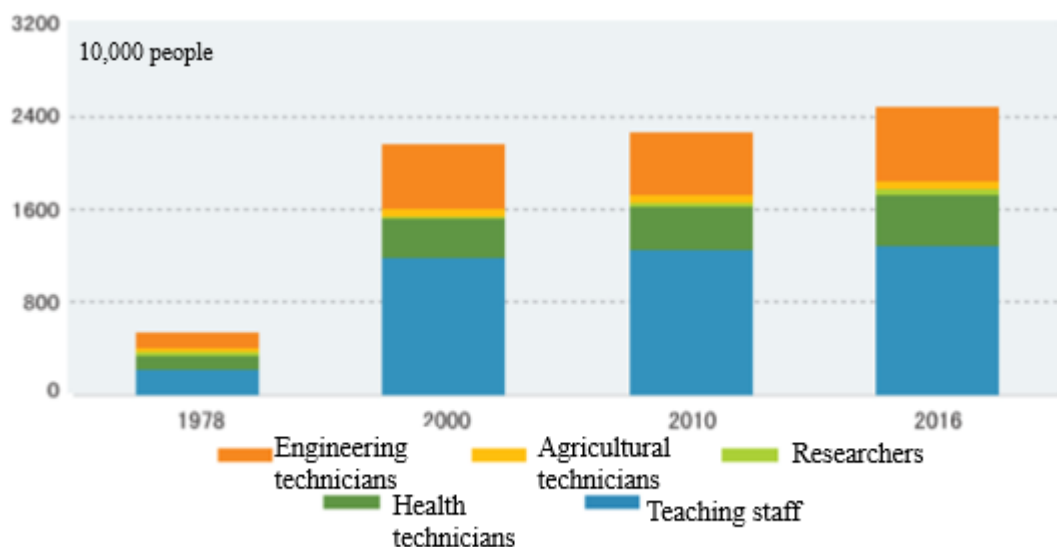


Fig1.1-2 Technicians devoted to specific areas in public economy units

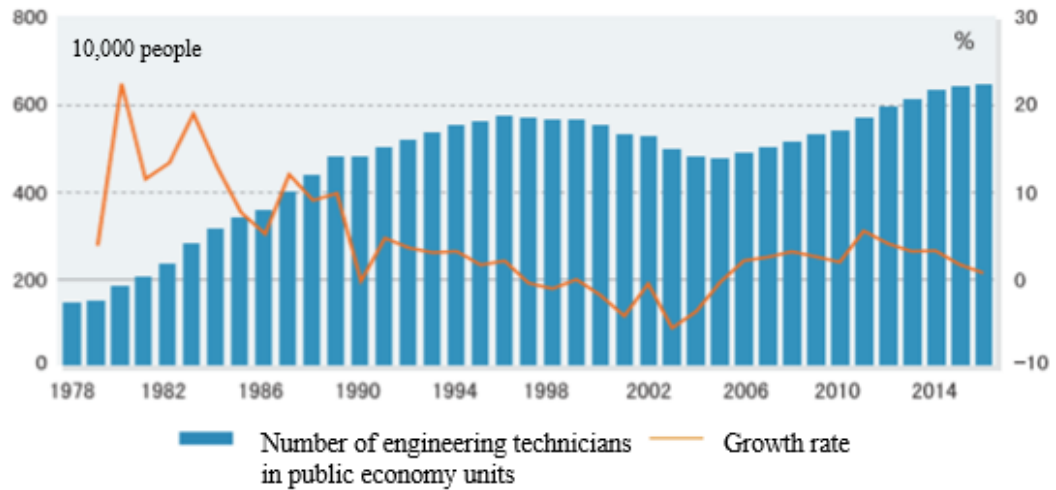


Fig1.1-3 Number of engineering technicians in public economy units and growth rate

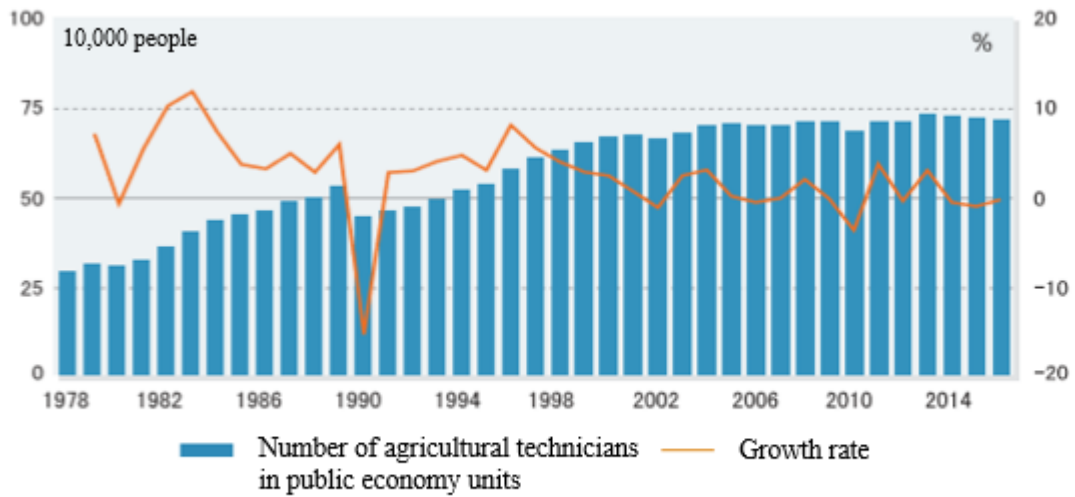


Fig1.1-4 Number of agricultural technicians in public economy units and growth rate

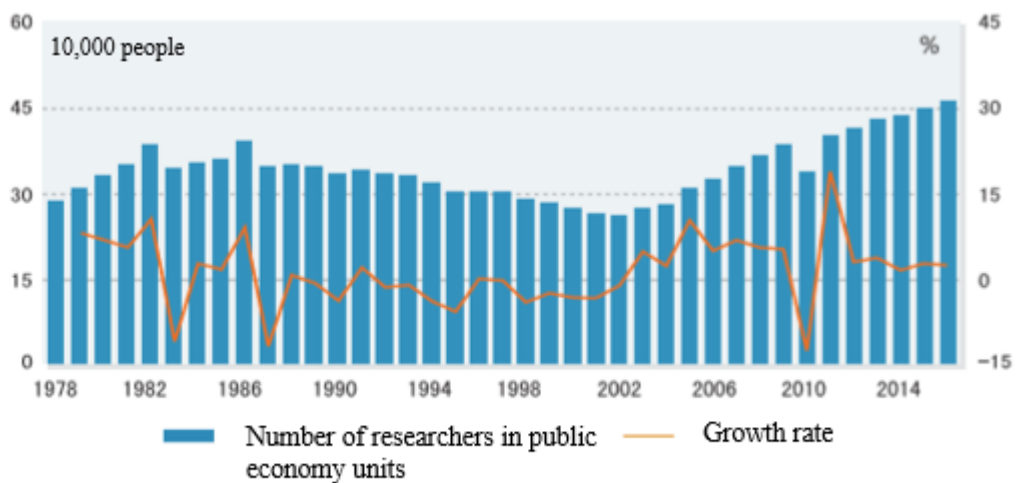


Fig1.1-5 Number of researchers in public economy units and growth rate

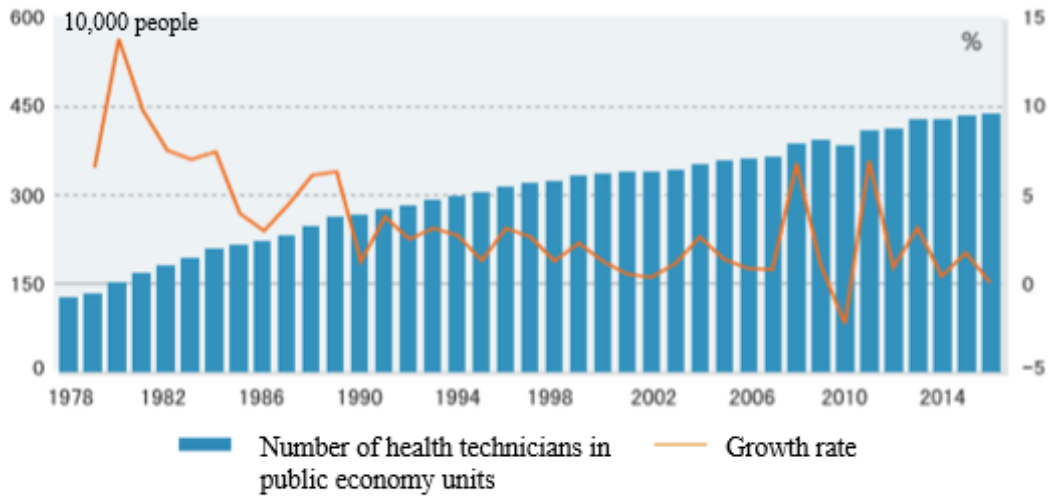


Fig1.1-6 Number of health technicians in public economy units and growth rate

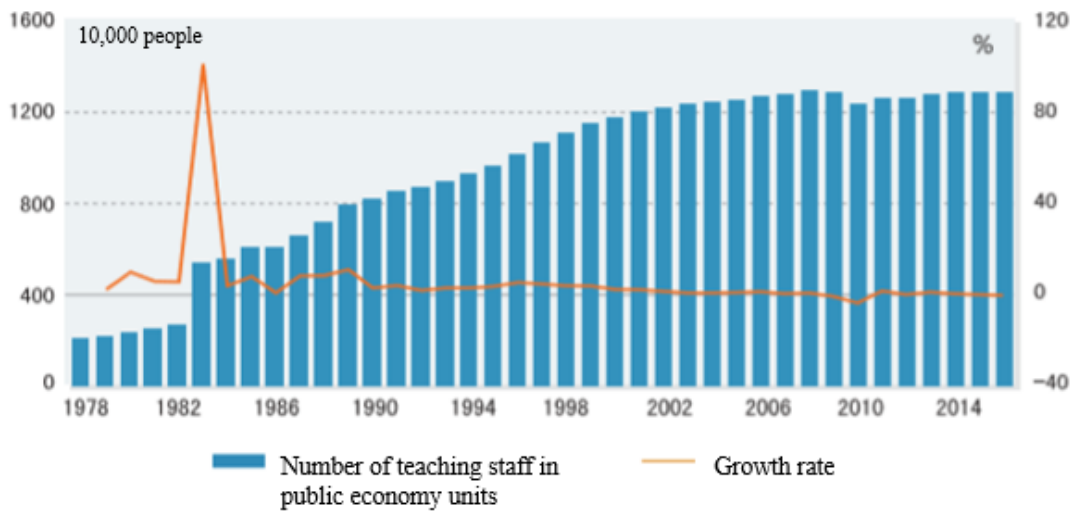


Fig1.1-7 Number of teaching staff in public economy units and growth rate

1.2 R&D staff (1991-2017)

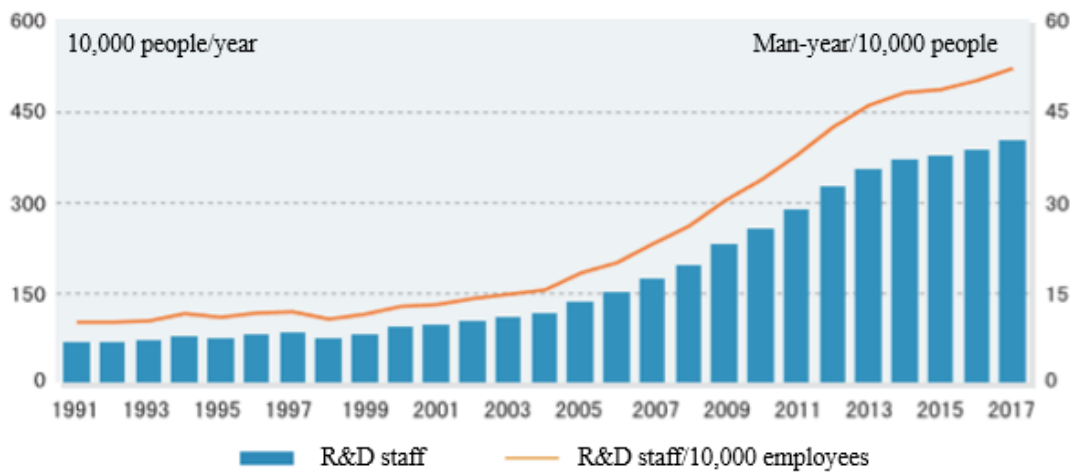


Fig1.2-1 R&D staff and R&D input intensity

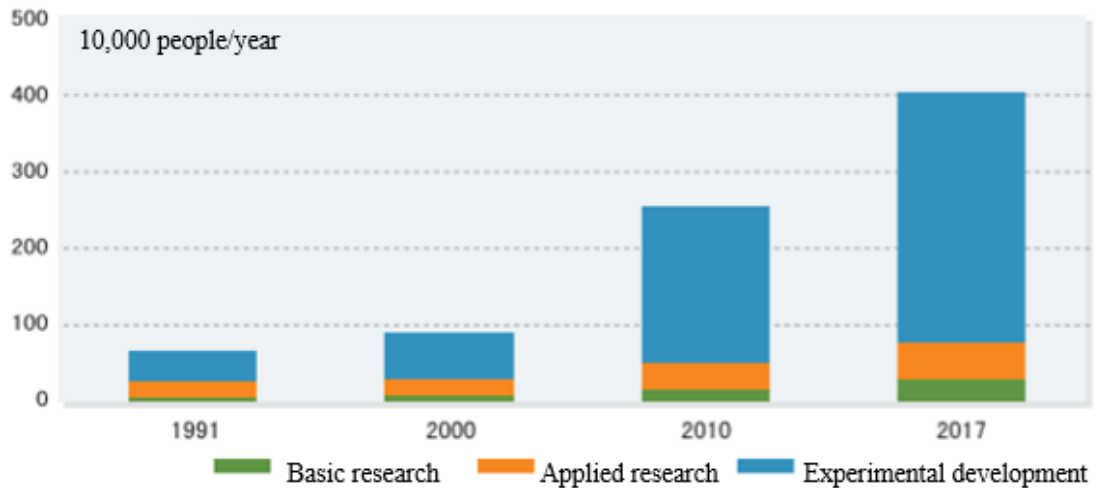


Fig1.2-2 Distribution of different types of R&D activities (1991, 2000, 2010, 2017)

1.3 College graduate (1978-2017)

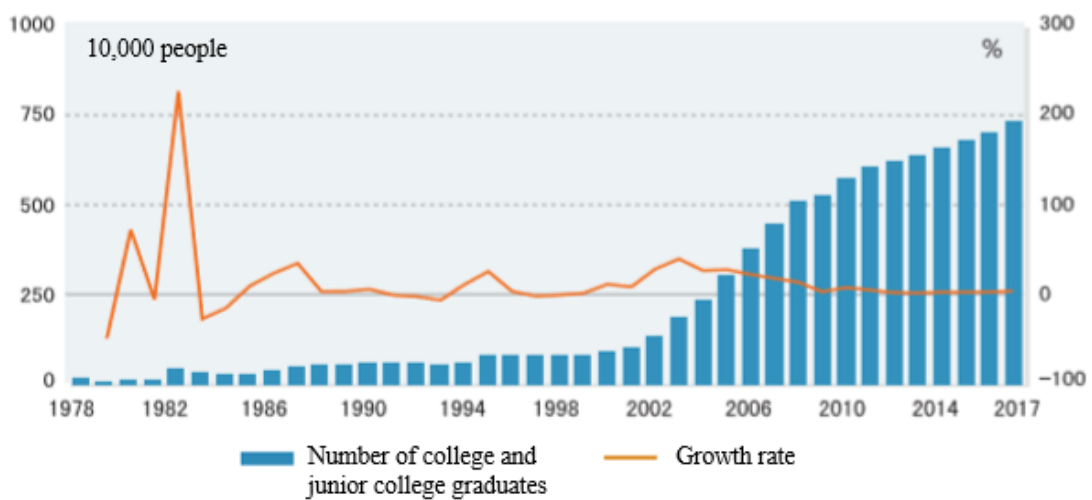


Fig1.3-1 Number of college and junior college graduates and growth rate

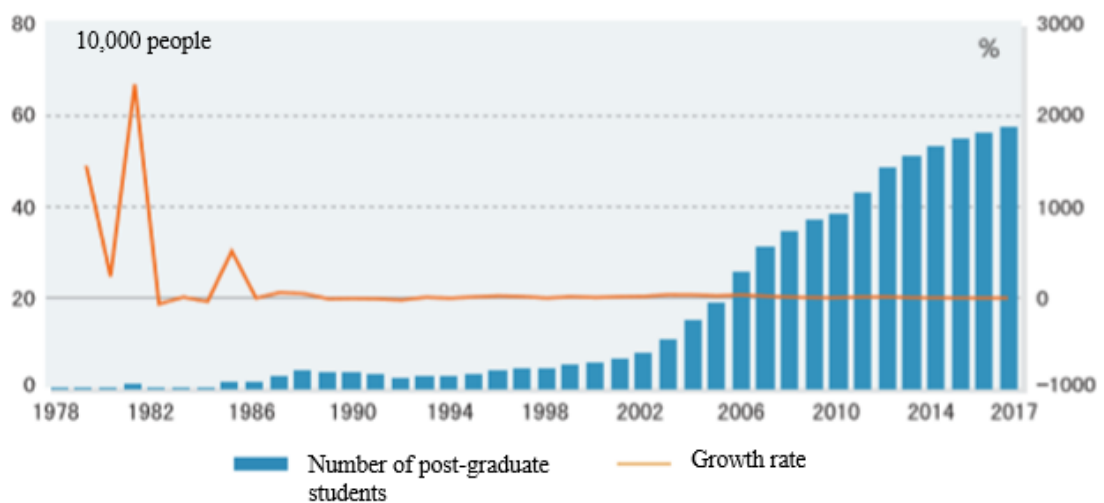


Fig1.3-2 Number of post-graduate students and growth rate

1.4 R&D expenditure (1985-2017)

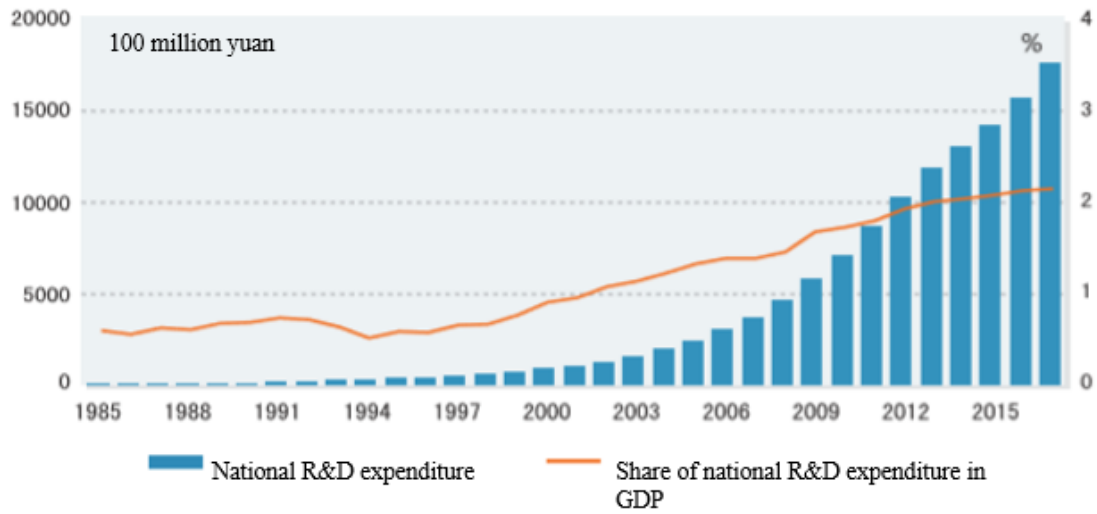


Fig1.4-1 National R&D expenditure and its share in GDP

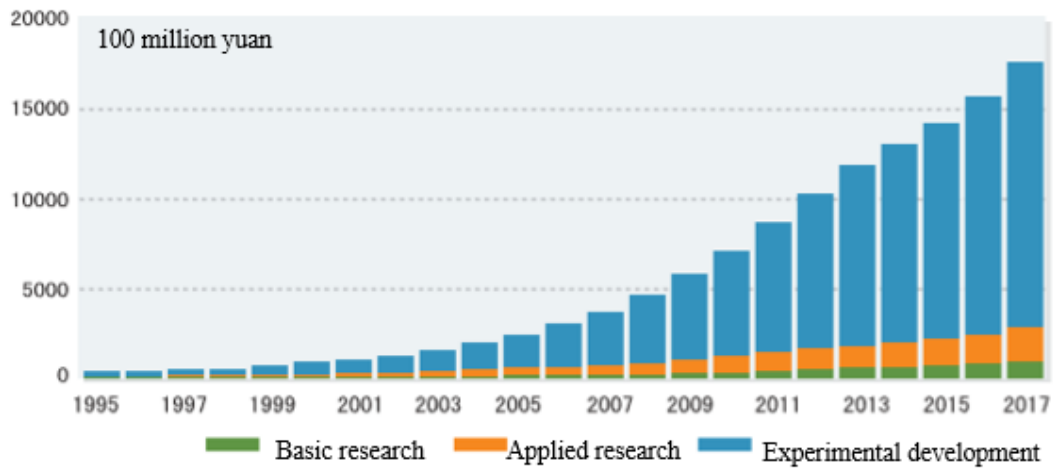


Fig1.4-2 Expenditure of various types of R&D activities over the years

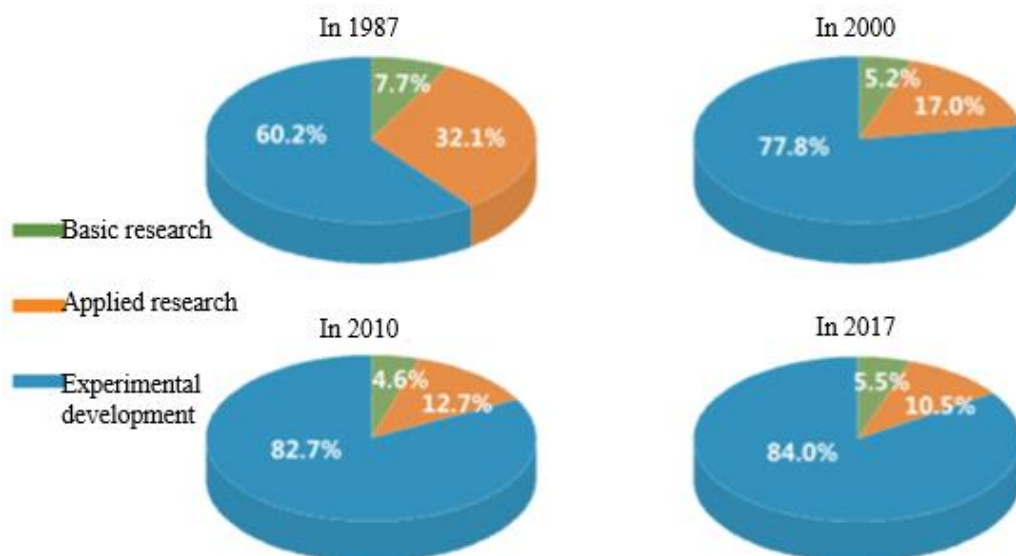


Fig1.4-3 Distribution of expenditure for various types of R&D activities (1987, 2000, 2010, 2017)

1.5 State-budgeted S&T input (1978-2017)

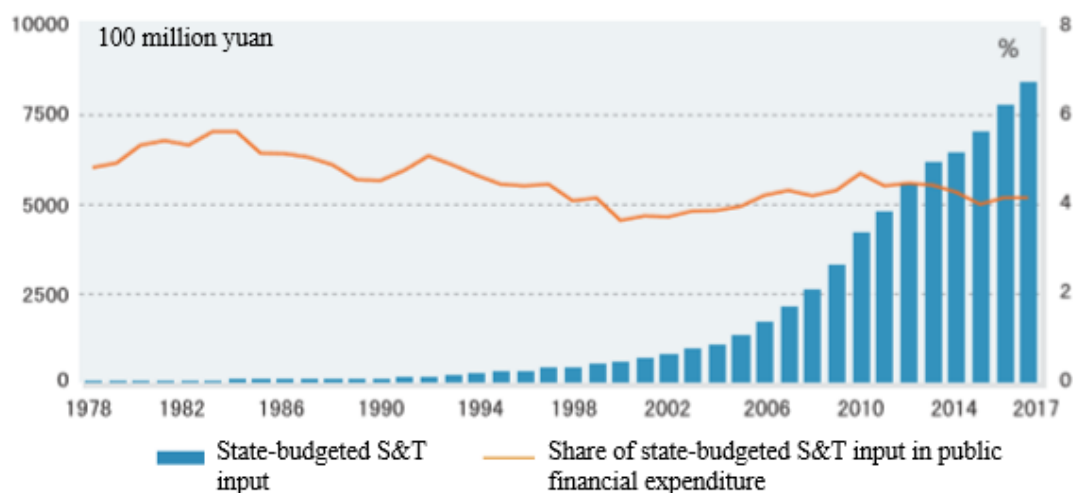


Fig1.5-1 State-budgeted S&T input and its share in public financial expenditure

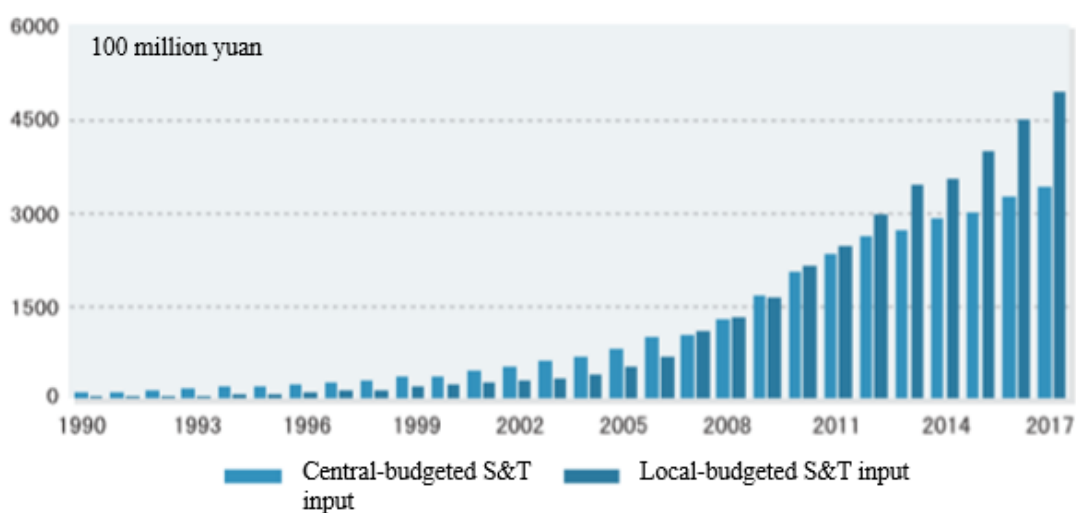


Fig1.5-2 Central- and local-budgeted S&T input (1990-2017)

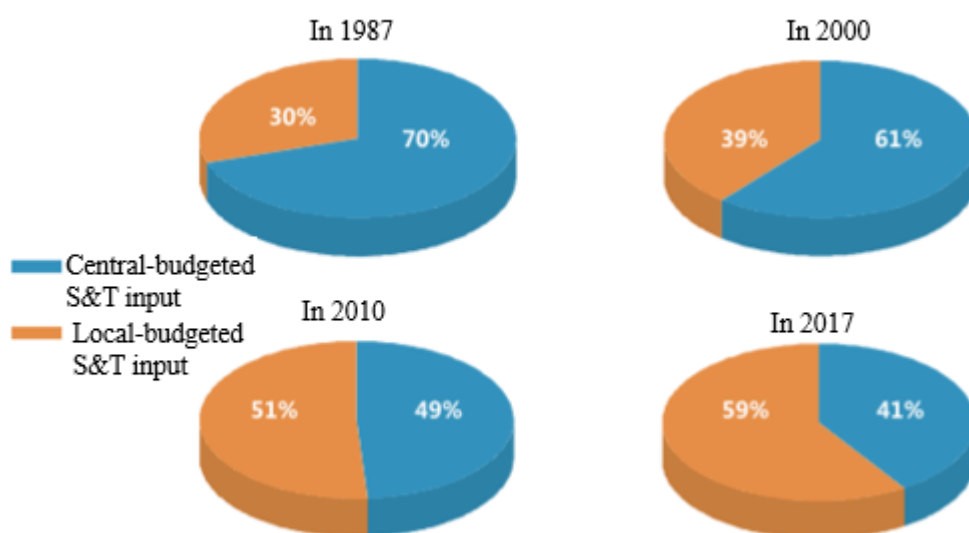


Fig1.5-3 Central- and local-budgeted S&T input (1987, 2000, 2010, 2017)

2. S&T output

2.1 Science papers

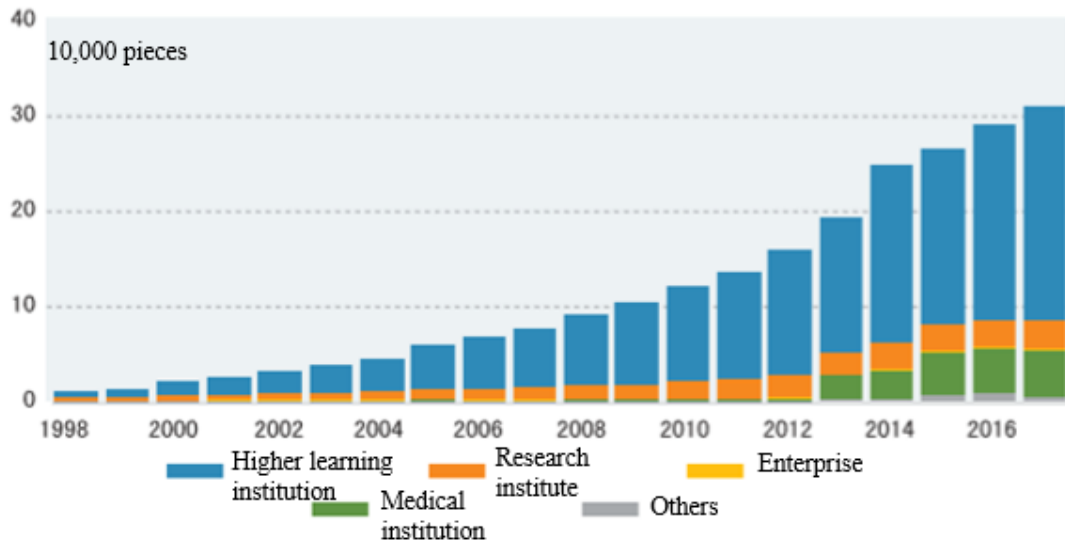
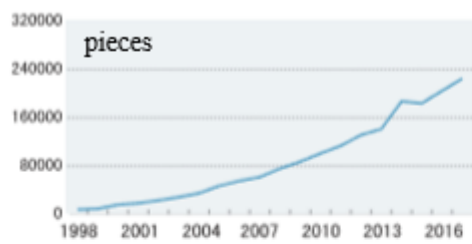
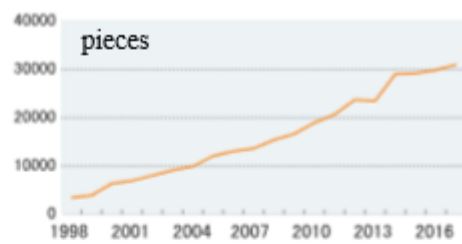


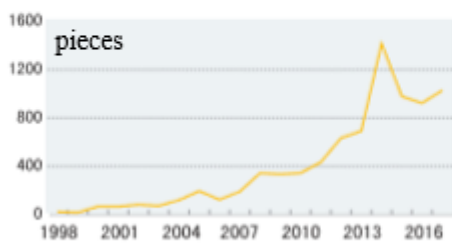
Fig2.1-1A Number of SCI of various kinds of institutions



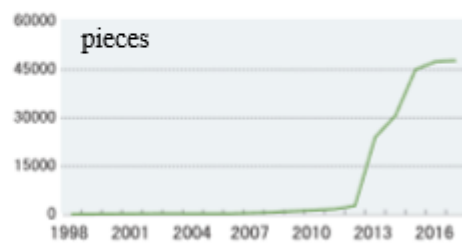
Higher learning institution



Research institute



Enterprise



Medical institution

Fig2.1-1B Historical change of SCI of four kinds of institutions

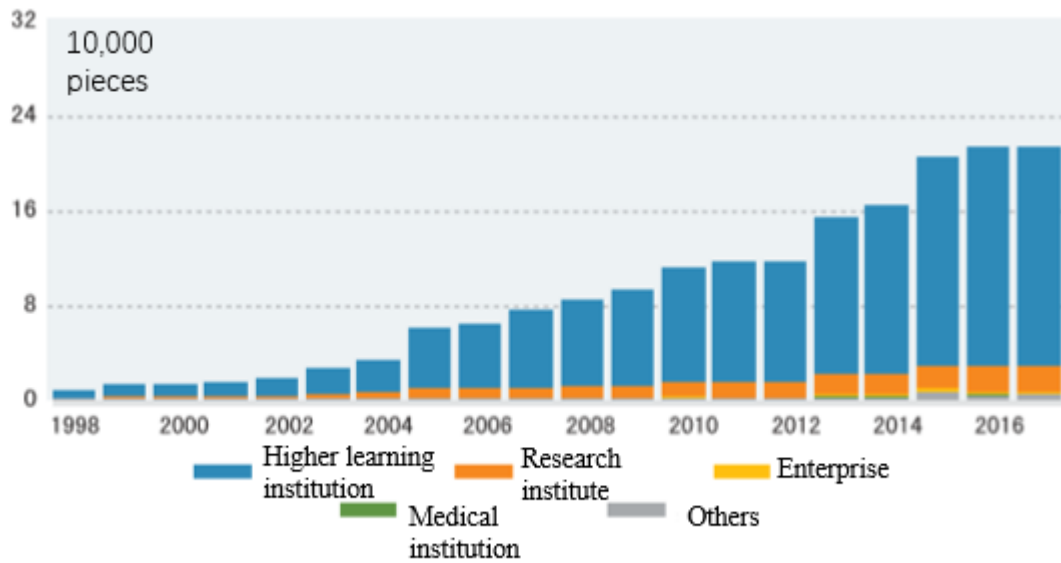


Fig2.1-2A Number of EI of various kinds of institutions

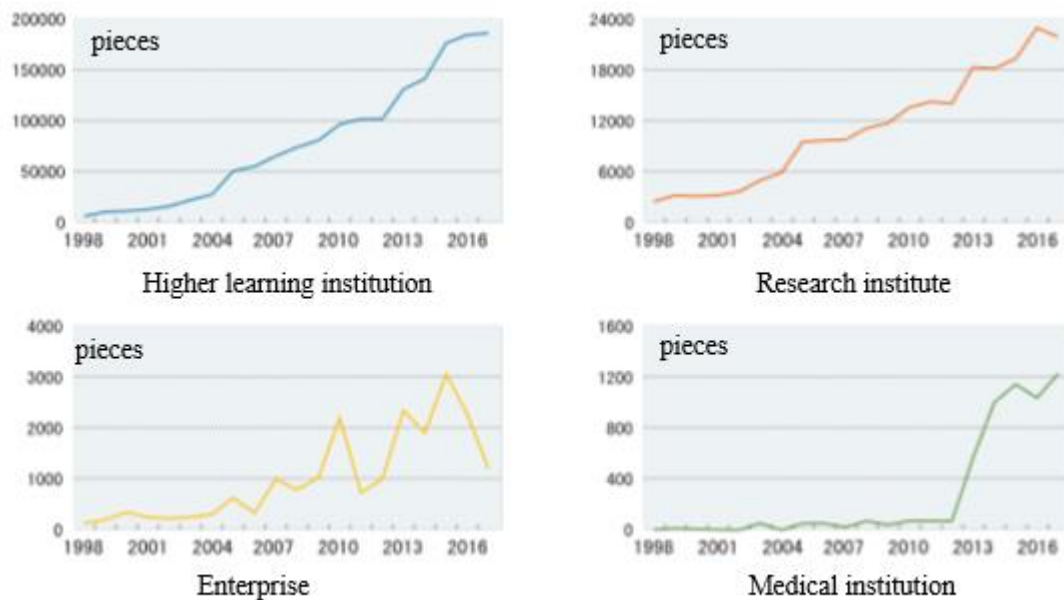


Fig2.1-2B Historical change of EI of four kinds of institutions

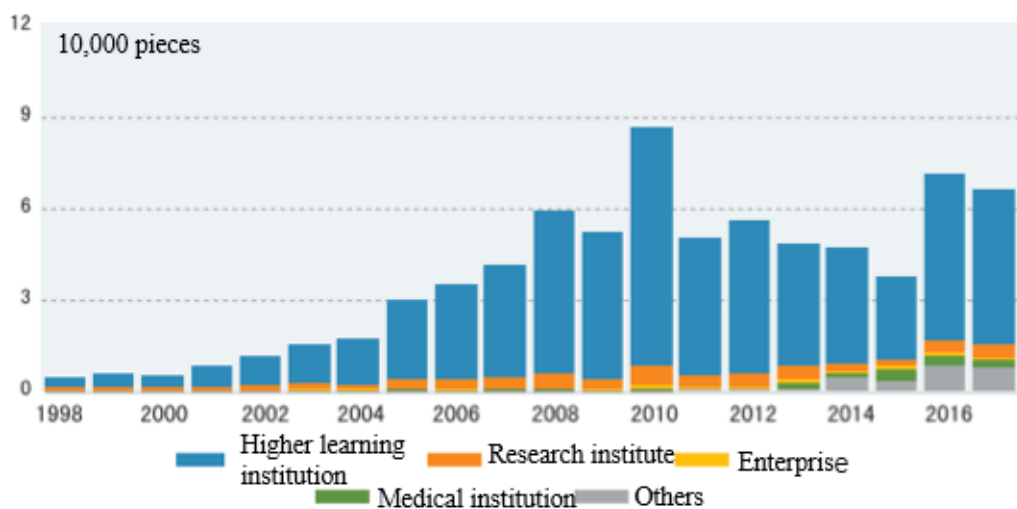


Fig2.1-3A Number of CPCI-S of various kinds of institutions

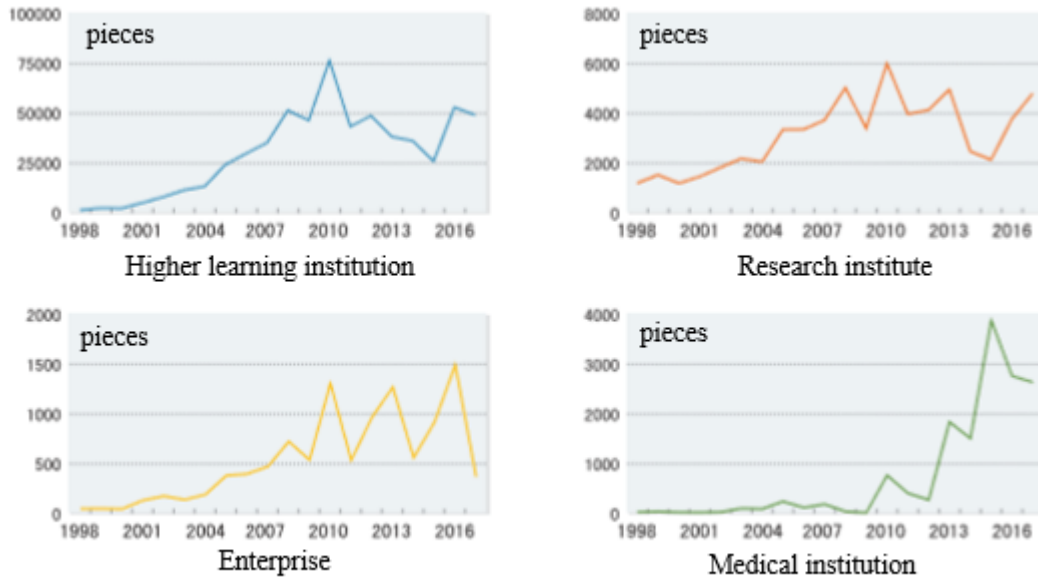


Fig2.1-3B Historical change of CPCI-S of four kinds of institutions

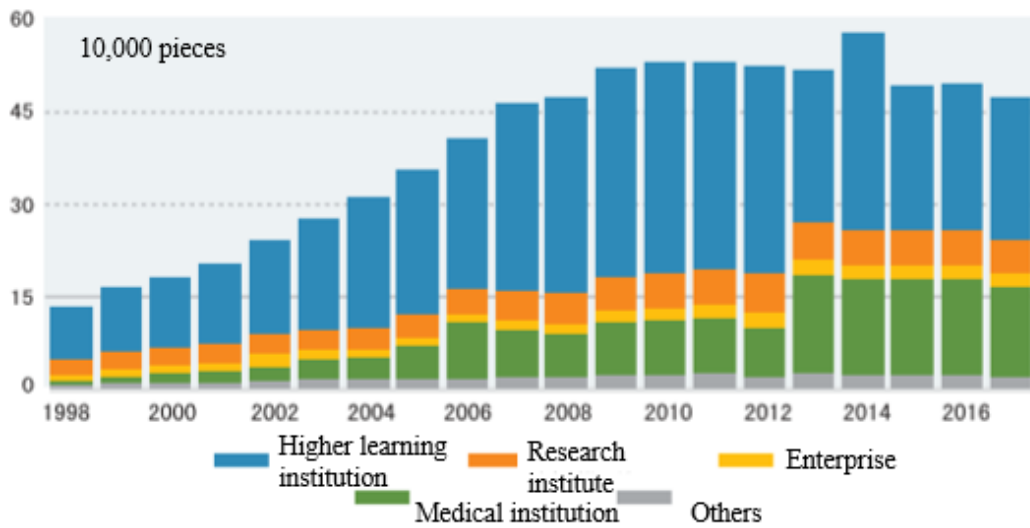


Fig2.1-4A Number of CSTPCD of various kinds of institutions

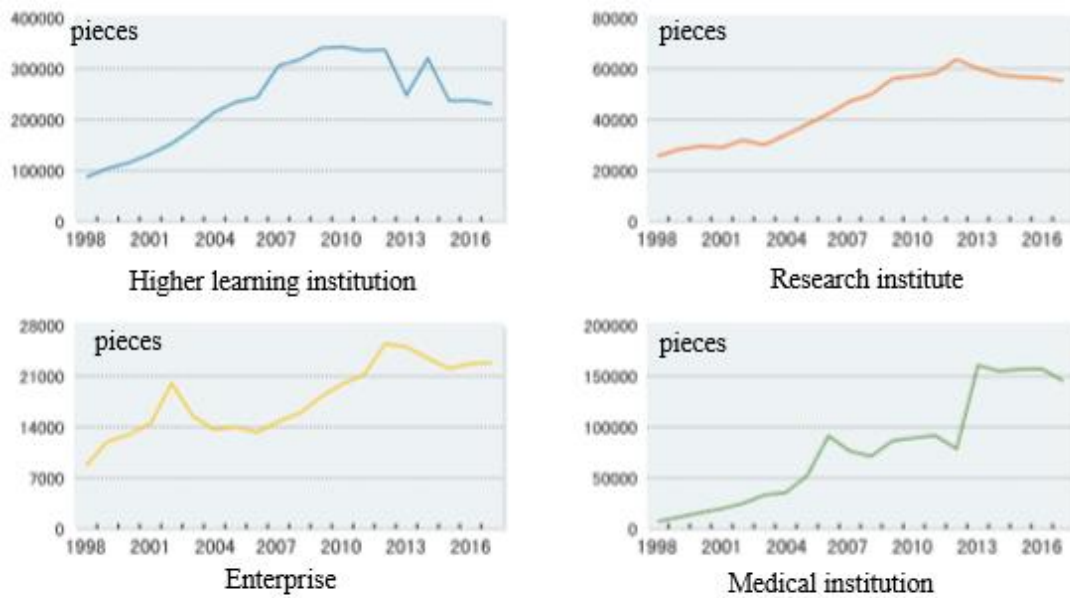


Fig2.1-4B Number of CSTPCD of four kinds of institutions

2.2 Invention patent (1986-2017)

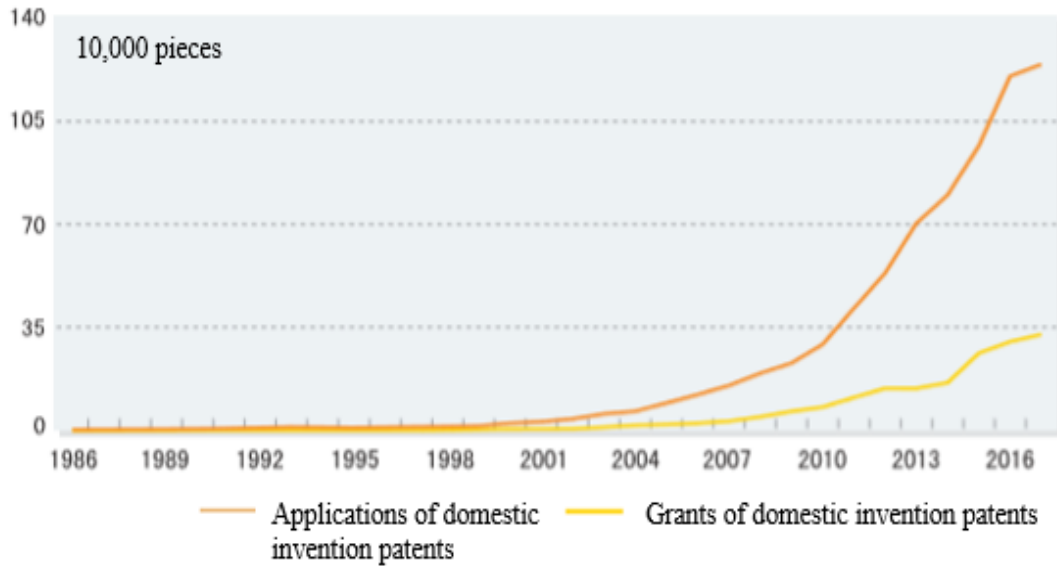


Fig2.2 Applications and grants of domestic invention patents

2.3 National technology market transaction volume (1985-2017)

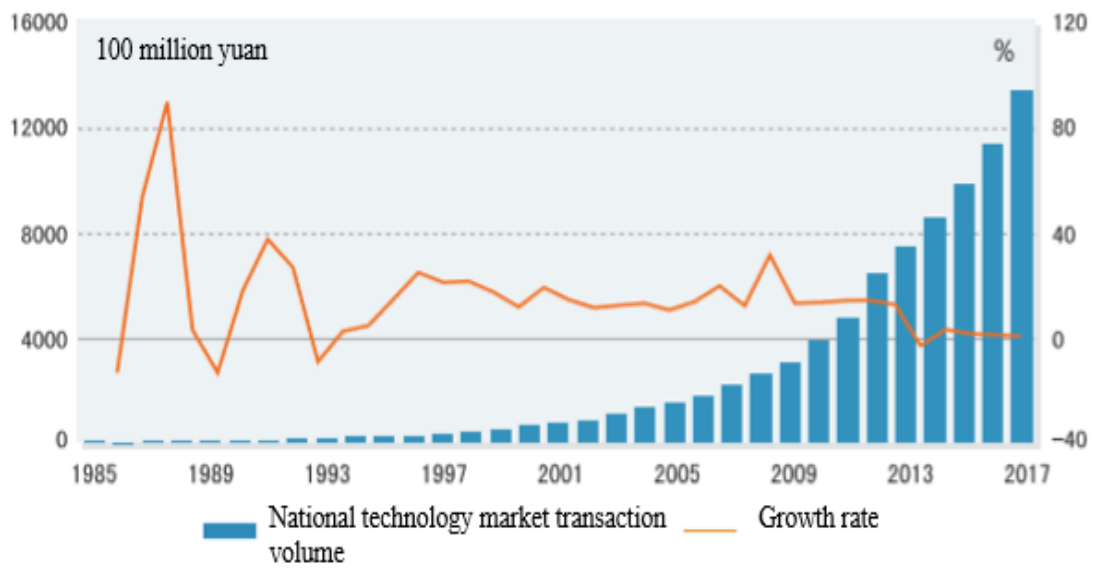


Fig2.3 National technology market transaction volume and growth rate

2.4 Major economic indicators of hi-tech industries (1995-2017)

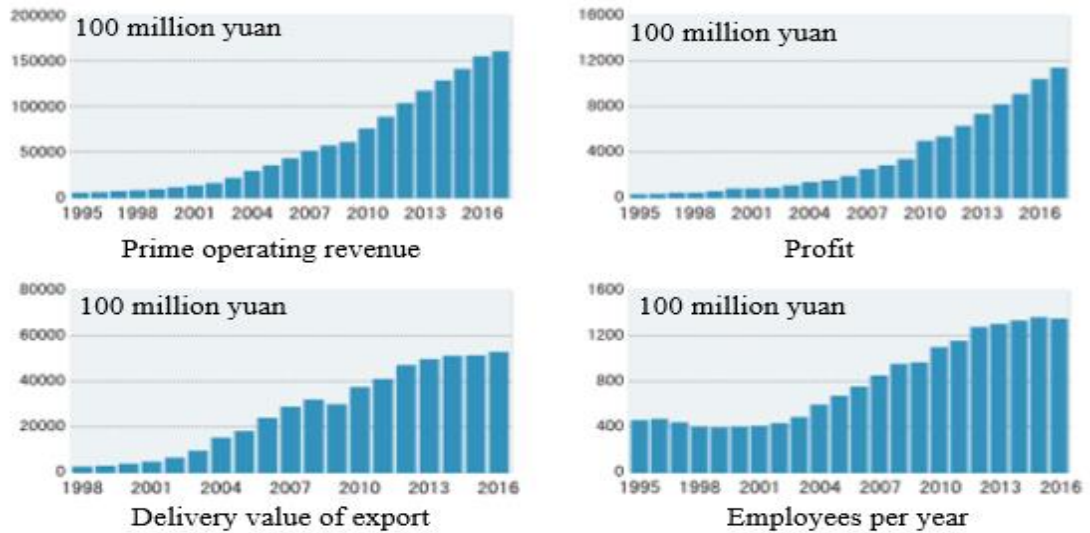


Fig2.4 Major economic indicators of hi-tech industries

3. Major players of S&T activities

3.1 The country

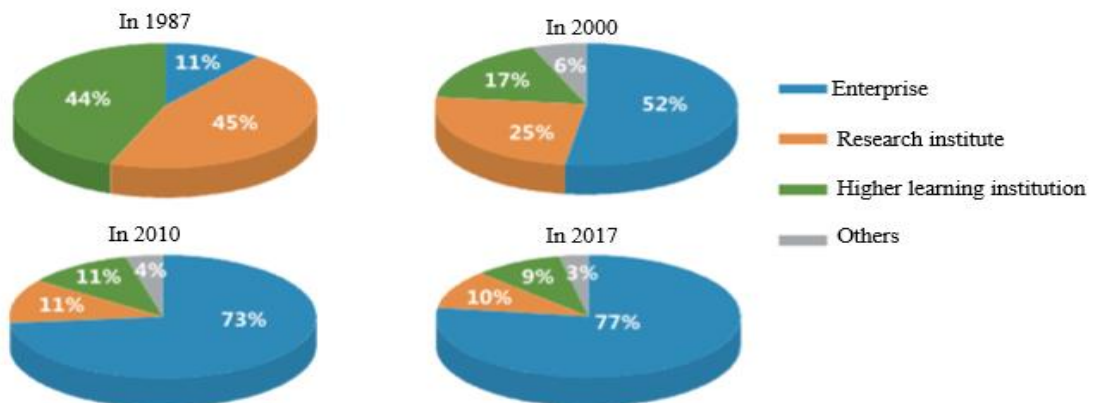


Fig3.1-1 Distribution of enforcement bodies of R&D staff across the country (1987, 2000, 2010, 2017)



Fig3.1-2 Distribution of enforcement bodies of R&D expenditure across the country (1987, 2000, 2010, 2017)

3.2 Enterprise

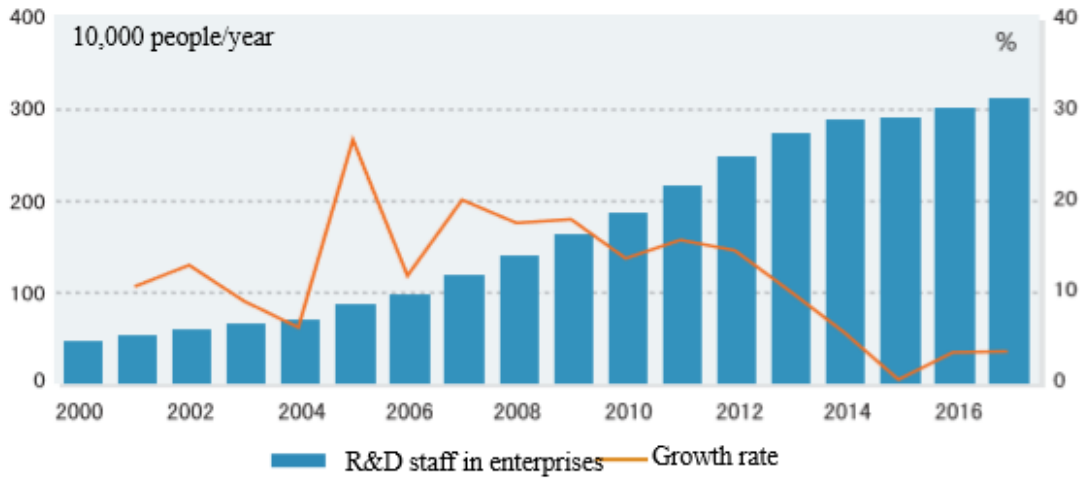


Fig3.2-1 R&D staff in enterprises and growth rate (2000-2017)

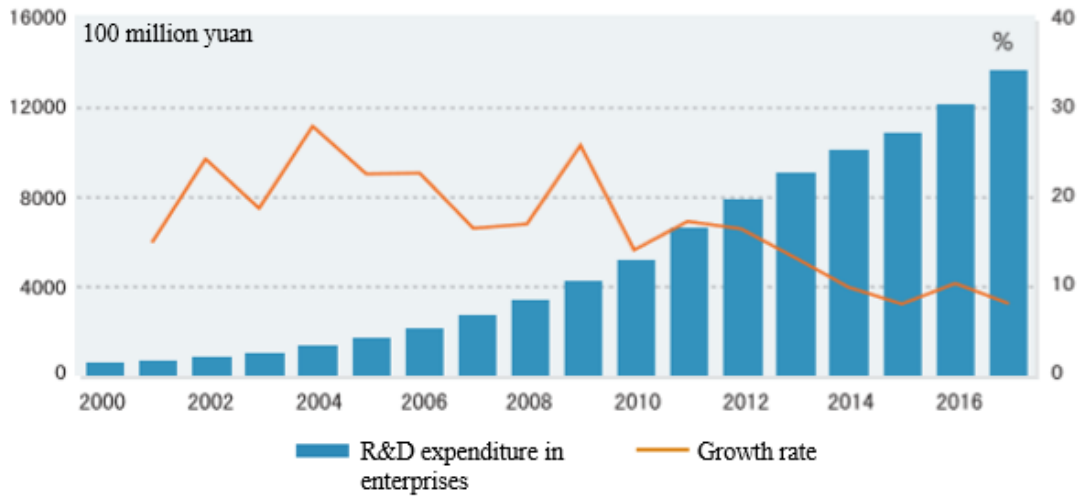


Fig3.2-2 R&D expenditure in enterprises and growth rate (2000-2017)

3.3 Research institute

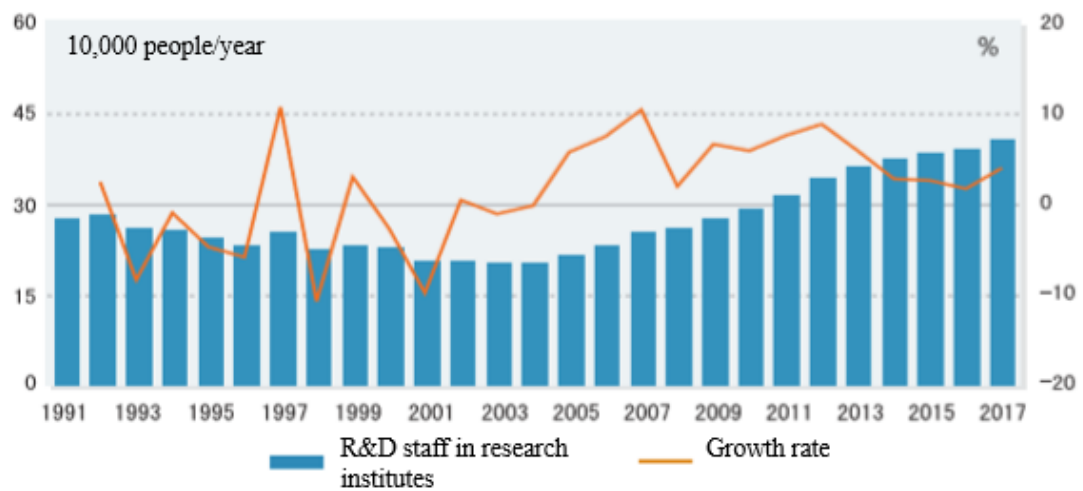


Fig3.3-1 R&D staff in research institutes and growth rate (1991-2017)

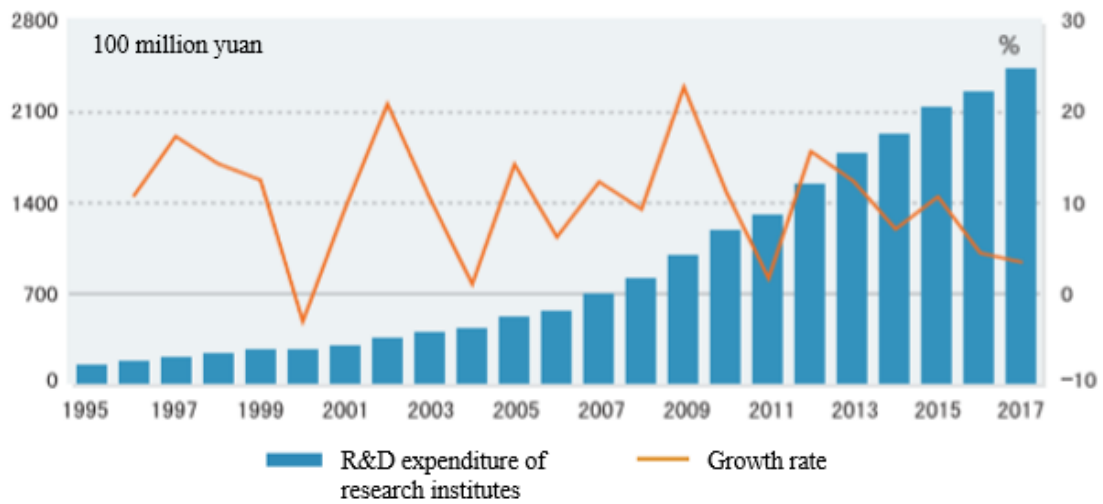


Fig3.3-2 R&D expenditure of research institutes and growth rate (1995-2017)

3.4 Higher learning institution

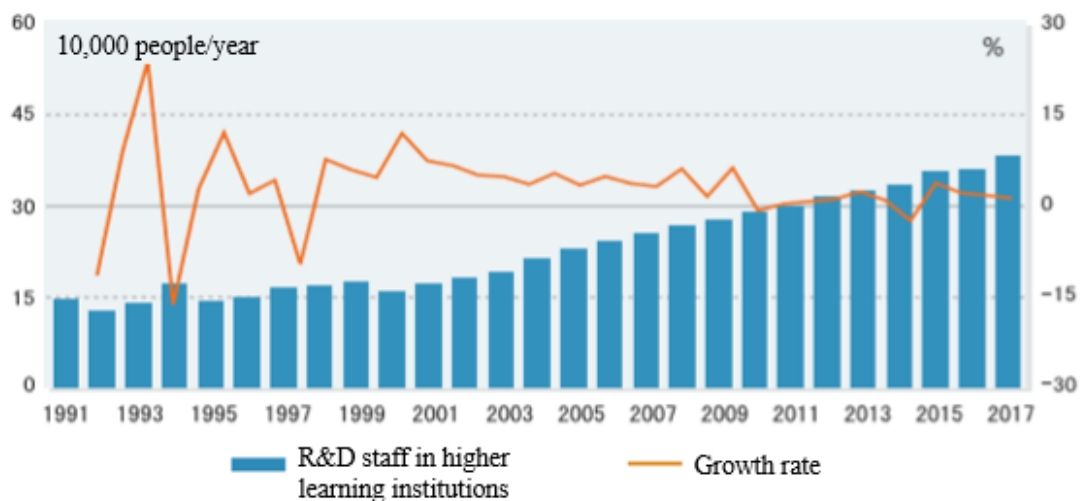


Fig3.4-1 R&D staff in higher learning institutions and growth rate (1991-2017)

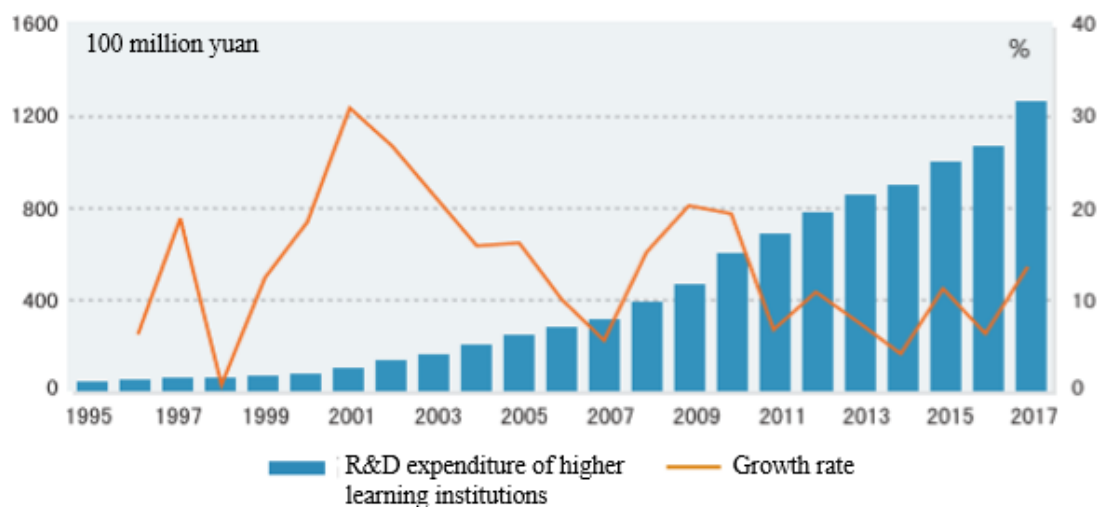


Fig3.4-2 R&D expenditure of higher learning institutions and growth rate (1995-2017)

4. International Comparison

4.1 Total number of R&D staff and R&D input intensity

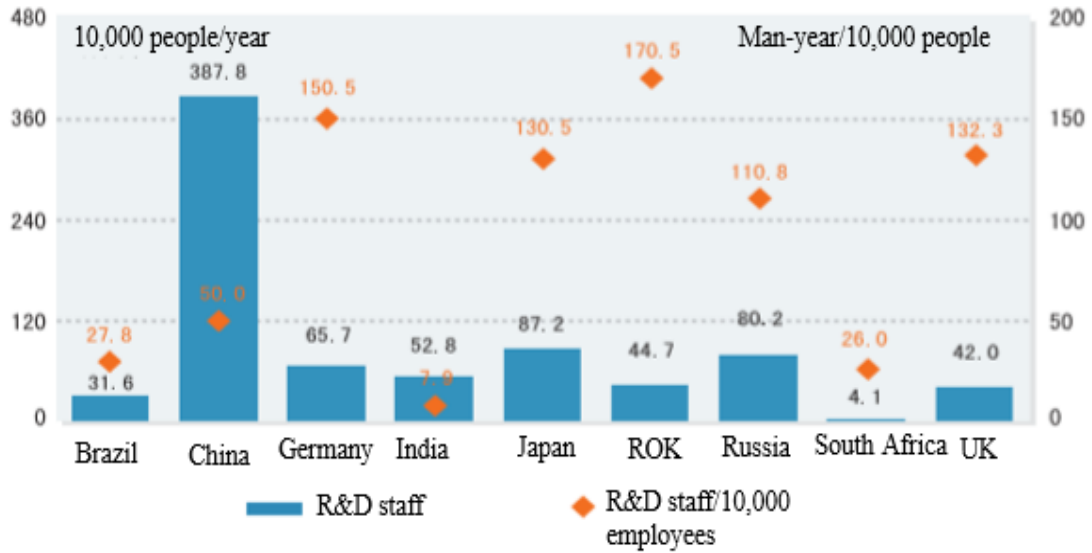


Fig4.1-1 Total number of R&D staff and R&D staff per 10,000 employees in some countries (2016)



Fig4.1-2 Total number of R&D staff and R&D staff per 10,000 employees in some countries (2000, 2010, 2016)

4.2 Total R&D expenditure and R&D input intensity

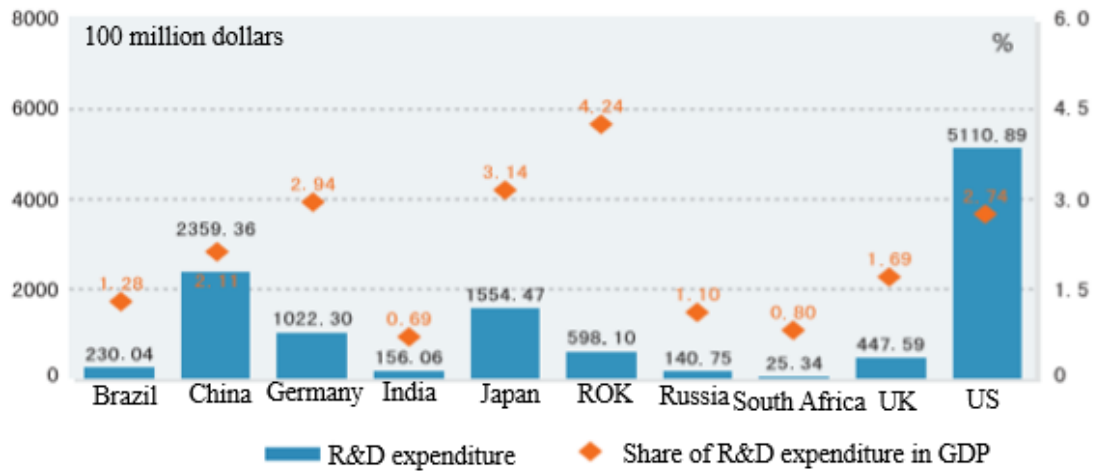


Fig4.2-1 Total R&D expenditure and its share in GDP in some countries (2016)

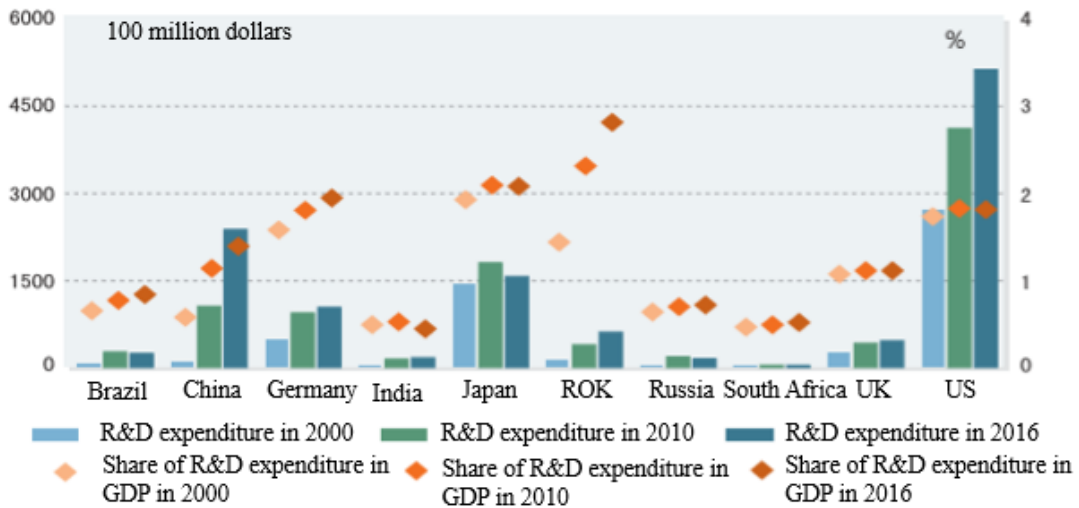


Fig4.2-2 Total number of R&D expenditure and its share in GDP in some countries (2000, 2010, 2016)

4.3 Grants of invention patents and number of third-party patents

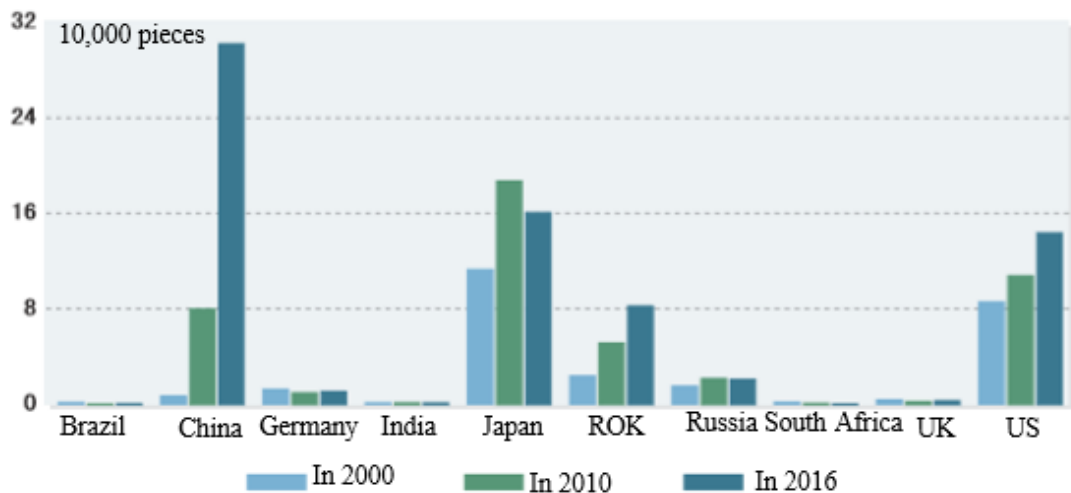


Fig4.3-1 Grants of invention patents in some countries (2000, 2010, 2016)

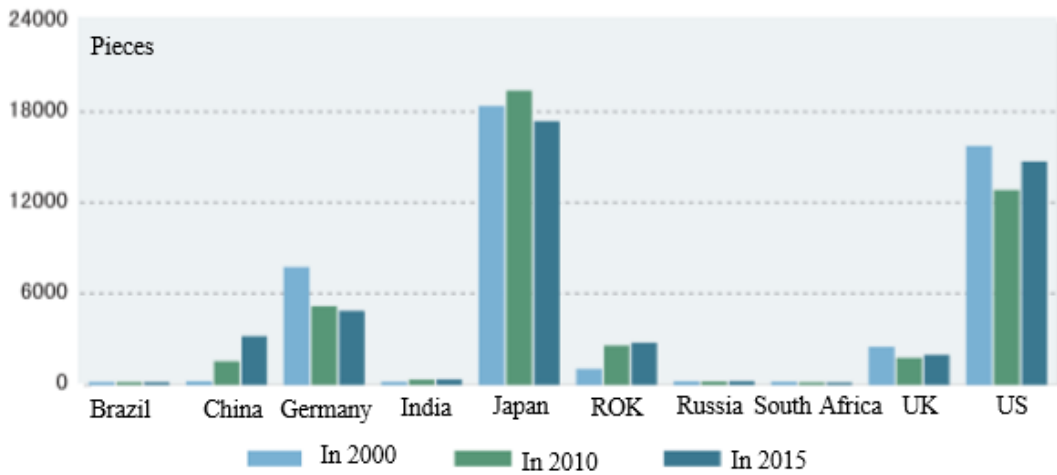


Fig4.3-2 Number of third-party patents in some countries (2000, 2010, 2015)

4.4 Hi-tech industry export

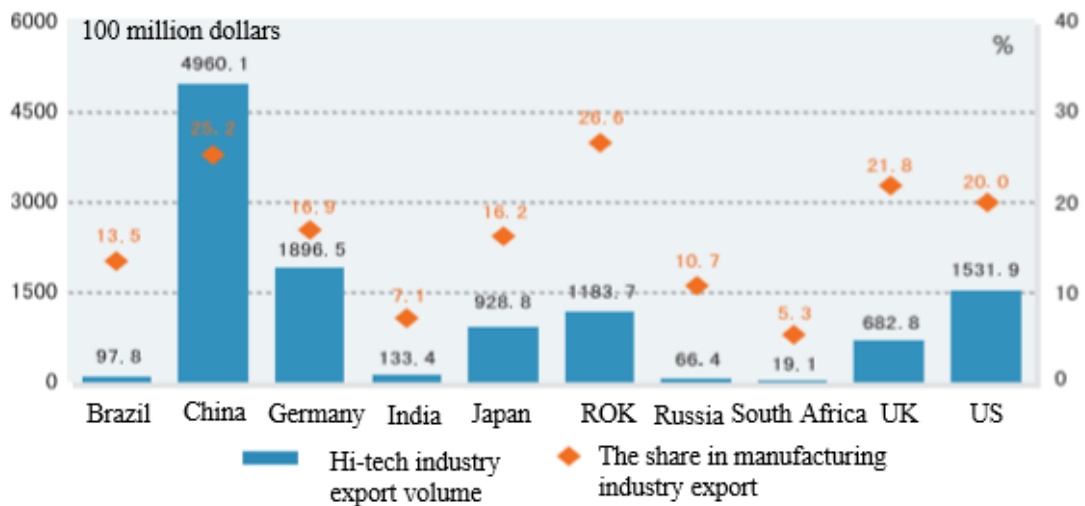


Fig4.4-1 Hi-tech industry export volume and its share in manufacturing industry export (2016)

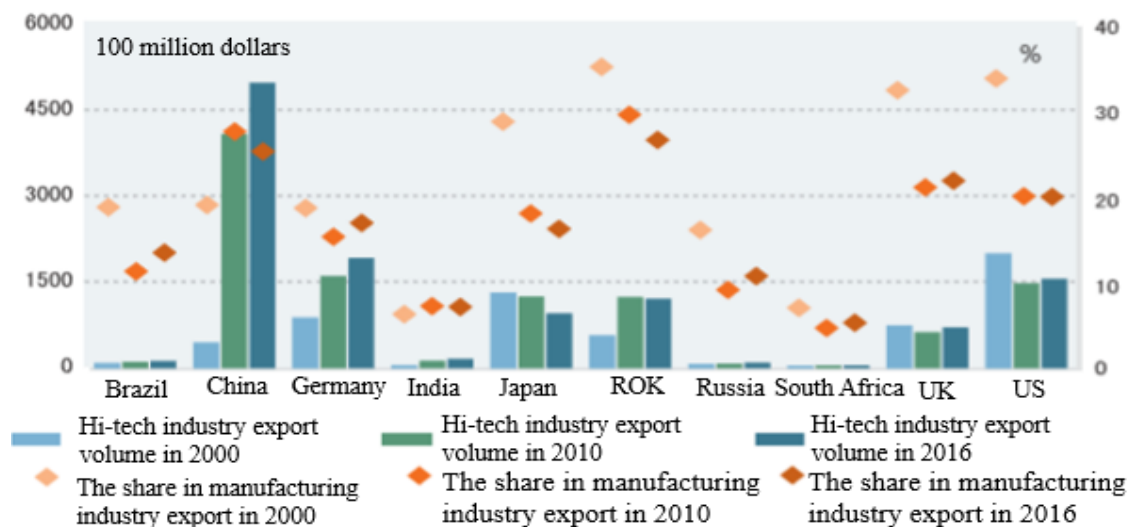


Fig4.4-2 Hi-tech industry export volume and its share in manufacturing industry export in some countries (2000, 2010, 2016)