

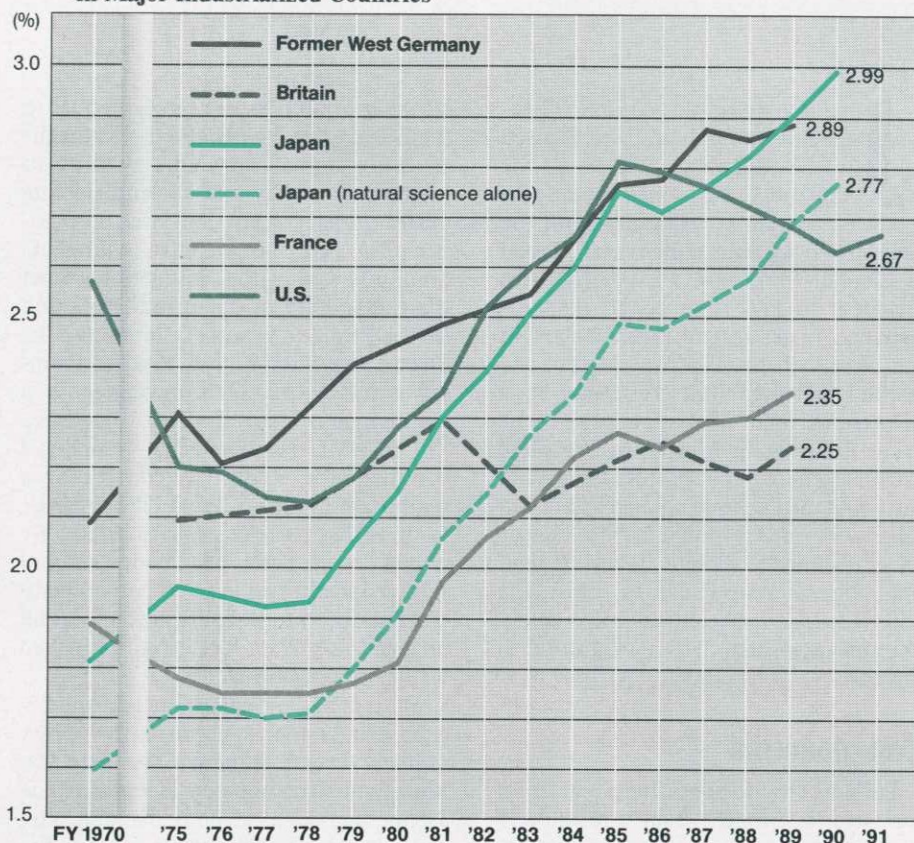
# Comparing Spending on R&D

Industrialized countries give high priority in their national policies to scientific and technological issues in order to address globally important problems such as protection of the environment and development of natural resources and energy, or to bolster their industrial competitive positions. Other countries are not to be outdone. Their industries continue to increase investment in research and development to deal with intensified international competition and the growing use of high technology in products.

An international comparison of the ratio of research spending to gross national product (GNP), made in the 1992 white paper on scientific and technological research compiled by the Science and Technology Agency, shows that Japan's research spending has continued to increase markedly (Fig. 1). The continued vigorous R&D spending in the private sector is considered to have greatly contributed to the surge in Japan's research spending.

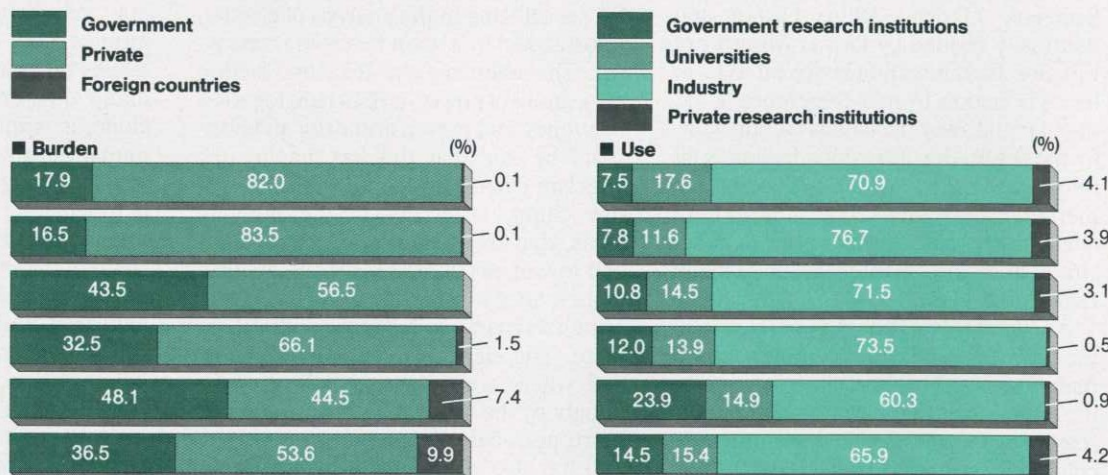
Comparison of the ratio of the burden and the ratio of use of research spending in major industrialized countries by the OECD classification (Fig. 2) shows that the private sector in Japan shoulders more of the burden than in other countries and that the flow of research funds from the government into the private sector is smaller in Japan than in other countries.

**Fig. 1 Changes in the Ratio of Research Spending to GNP in Major Industrialized Countries**



Notes: 1. Figures include spending on research on humanities and social science. In the case of Japan, spending on natural science alone was given separately.  
 2. The 1990 figure for the U.S. is tentative and the 1991 figure is an estimate.  
 3. Based on budget, statistics and research reports of each country.  
 Source: White Paper on Science and Technology, 1992, Science and Technology Agency.

**Fig. 2 Ratio of Burden and Use of Research Spending in Major Industrialized Countries**



Notes: 1. Figures include spending on research on humanities and social science.  
 2. Government means central and regional governments.  
 3. Private-sector burden means burden on institutions other than governments and foreign institutions.  
 4. U.S. figures are estimates.  
 5. Based on budget, statistics and research reports of each country, as well as OECD statistics.  
 Source: White Paper on Science and Technology, 1992, Science and Technology Agency.