

National Science Foundation

Washington, D.C. 20550

Official Business

PENALTY FOR PRIVATE USE, \$300

Postage and Fees Paid
National Science Foundation



BULK RATE
U.S. POSTAGE PAID
PERMIT NO. G69
WASHINGTON, D.C.

National R/D expenditures expected to reach \$85 billion in 1983

- Total expenditures for research and development in the United States are expected to be an estimated \$85 billion in 1983, 10 percent more than was estimated for 1982. In constant dollars,¹ the expected increase between the years is 4 percent. National R/D spending has been increasing in real terms each year since 1975, averaging 4 percent annually through 1983. The growth over this period has resulted from federal increases in defense, space, and energy areas as well as from general industrial increases. It followed a 10-year period of no real-term growth in the nation's R/D effort.

- The federal government is expected to increase its support of research and development activities by nearly 10 percent between 1982 and 1983, to \$40 billion. In real terms the increase is estimated at 3 percent. Federal spending of this kind has increased in constant dollars each year since 1975 and is expected to average about 3 percent annually through 1983. In the first five years of this period, government R/D investment reflected the growing national emphasis on energy conservation and development. After that time the emphasis began to shift toward defense activities. The 1983 budget proposals suggest that defense R/D programs will account for 55 percent of the federal R/D total that year, compared to 44 percent in 1980.

- Nonfederal research and development support is expected to increase slightly faster than federal in 1983—10 percent more than in 1982, or 4 percent in real terms—to more than \$45 billion. This projected real-term growth is slightly higher than that shown for the previous two years, reflecting hopes that the current recession will end and the inflation rate will go down. Since 1975 nonfederal R/D support has increased in constant dollars at nearly twice the annual rate of federal R/D spending.

- Almost 95 percent of nonfederal support comes from industry each year. The constant-dollar growth in industry spending since 1975 has reflected to a large extent increases in energy and environmental programs.

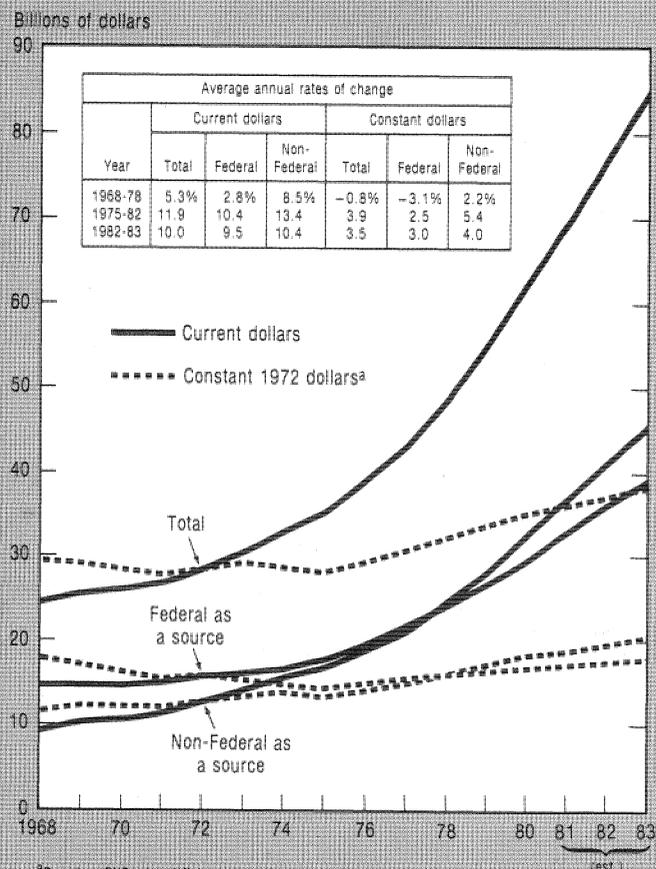
- National R/D spending as a percentage of the gross national product has increased slightly each

year between 1978 and 1982—from 2.2 percent to 2.4 percent; this reflects a real-term leveling of the nation's GNP during this period, compared to a peak of 3.0 percent in 1964. On the assumption that the current recession will end by early 1983, the ratio is expected to remain at the current 2.4 percent level in that year.

- Basic-research expenditures in 1983 should approach \$10 billion—7 percent more than in the previous year. National applied-research spending is

expected to increase about 9 percent to more than \$18 billion. Both basic and applied research have remained relatively level in real terms since 1981. This reflects nonfederal growth as well as federal cutbacks in both areas as industry continues to emphasize longer-range research and the government shifts more toward development activities, primarily in the defense area. National development spending may reach \$57 billion in 1983, 11 percent more than in 1982.

National R&D expenditures



^aBased on GNP price deflator.
SOURCE: National Science Foundation

¹In the absence of a reliable R/D cost index, the implicit price deflator for the GNP has been used to convert R/D expenditures to constant dollars. The GNP deflator includes the effects of price changes for all goods and services in the economy; it therefore can only indicate approximate changes in costs of inputs specifically related to R/D performance. The increase in the GNP deflator between 1982 and 1983 is estimated at 6 percent.