

National Science Foundation

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Federal, Nonfederal Academic R&D Support Grew from 1977 to 1987

In the ten years from 1977 to 1987, both federal and nonfederal academic research and development support showed increases after adjustment for inflation: federal support grew 4 percent per year, nonfederal, 7 percent. Industrial support, although accounting for only 6 percent of the total, averaged increases of 12 percent per year in this period. According to officials of academic institutions, this rapid growth in nonfederal sources was attributable to university/industry cooperative research ventures.

Universities' own institutional funds, the largest nonfederal source, averaged 9 percent growth. State and local governments increased research and development support by 4 percent. The contributions of all other sources, which include nonprofit foundations and voluntary health agencies, increased 4 percent per year during this period.

Separately budgeted R&D expenditures at universities and colleges totaled \$12.1 billion in FY 1987, up 11 percent from 1986. When adjusted for inflation, academic R&D spending increased 7 percent over the 1986 level, higher than the 5 percent average annual growth rate reported during the previous nine-year period. In 1987, nonfederal funds increased 9 percent in constant dollars over 1986 compared to a 6 percent increase in federal funds. During the 1977-87 period, nonfederal funds recorded steady gains in the share of academic R&D support, from 33 percent to 39 percent.

Universities and colleges have historically accounted for about one-half the basic research performed in the United States. In 1987, academic institutions expended \$8.3 billion for basic research activities—more than two-thirds of the \$12.1 billion total. From 1986 to 1987 academic spending for basic research rose 11 percent (7 percent in real dollars), reflecting funding increases from both federal and nonfederal sources

of 10 percent and 12 percent respectively. The National Institutes of Health and the National Science Foundation, the primary federal agencies funding basic research in 1987, together provided more than 70 percent of the federal total.

By field

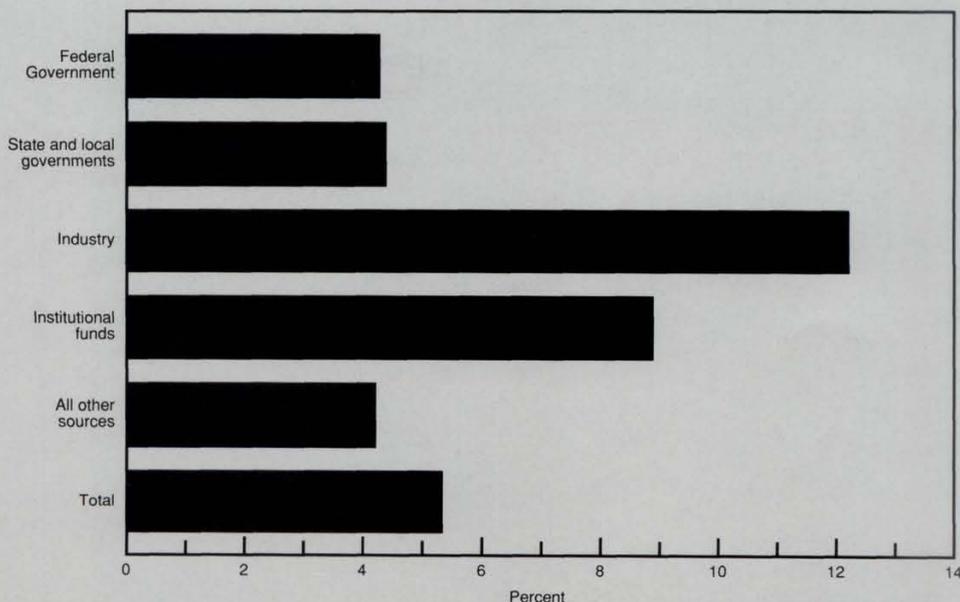
Between 1986 and 1987, R&D expenditures increased faster than the 4 percent inflation rate in all major science and engineering fields. The highest increase was in mathematical and computer sciences (up 18 percent and 16 percent

respectively); the low, in the environmental sciences (up 7 percent). Academic spending in engineering was 15 percent above 1986 levels, with federal sources providing more than one-half of the increased support.

Expenditures from separately budgeted projects that were used to acquire research equipment totaled \$833 million in 1987, up 7 percent (4 percent in constant dollars) from 1986 levels. Federal agencies accounted for three-fifths of academic research equipment expenditures in 1987, down slightly from their nearly two-thirds share in 1986.

Average annual growth of R&D expenditures at universities and colleges, by source: FY 1977-87

(Constant 1982 dollars)



Source: National Science Foundation, SRS

* These data were obtained from a stratified probability sample of approximately 400 universities and colleges selected from the 565 institutions that grant graduate science and engineering degrees and/or perform at least \$50,000 in separately budgeted R&D activities. The sample was designed to provide national R&D expenditures estimates for the academic sector and included all spending in SE fields in fiscal year 1987. All R&D expenditures in this report refer to fiscal year spending levels. Data are reported in current dollars except where specified as constant 1982 dollars. The gross national product implicit price deflator developed by the Department of Commerce is used to convert current dollars to constant 1982 dollars.