

National Science Foundation

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R&D Spending Expected to Reach \$150 Billion in 1990

Total U.S. R&D expenditures in 1990 are expected to reach \$150 billion, which would be a 6-percent increase from the 1989 level, or one percent after adjusting for expected inflation. The federal government is expected to fund \$69 billion of the 1990 total, industry \$74 billion, and universities and colleges \$4 billion or most of the remainder. The federal and industry support levels are each up about 5 percent over 1989, or about one percent in real terms; the support from universities and colleges constitutes a 12-percent increase, or 7 percent in real terms.

Total R&D spending is expected to increase by more than 50 percent in real terms during 1980-90. This growth occurred primarily from 1980 to 1985, when federal support for defense-related programs grew from 50 percent of the federal R&D budget authority to 68 percent. Since then, growth of federal civilian-related R&D authorizations has exceeded that of defense-related R&D; but the latter still accounts for an estimated 62 percent of the federal R&D budget authority as proposed in the Administration's 1991 Budget. The average annual growth rate of total R&D spending, in real terms, was 6.9 percent during 1980-85; R&D support slackened during 1985-90 to an average rate of 2.1 percent per year.

Since the early eighties, the federal government has consistently provided about 46 percent of all funds spent on R&D in the United States. From 1980 to 1990, federal R&D support increased about 52 percent. This growth was especially strong in the first half of the decade when federal R&D support grew on average by 6.2 percent annually. Support then slowed considerably in 1986, reflecting the budgetary constraints imposed on all government programs; During 1985-90, it is estimated that real federal R&D support will have increased on average by 2.3 percent per year.

During the same two 5-year periods, the average annual real rates of increase of nonfederal R&D support fell from 7.5 percent to about 2.0 percent. Most of the decrease is attributable to a deceleration in industry's R&D funding, which coincides largely with companies' declining expectations in sales and profits.

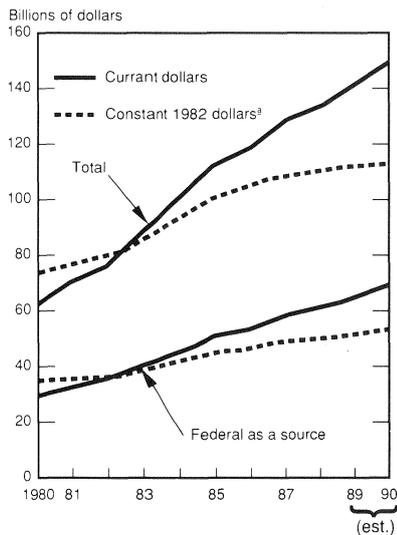
In terms of performance,¹ industry is expected to account for \$108 billion, or 72 percent of the nation's 1990 R&D effort. This represents a 5-percent increase from the 1989 level, or 1 percent in real terms. Of industry's expected 1990 R&D performance total, 67 percent will be company funded; federal funding is expected to account for the rest. The federal government will perform R&D at an estimated level of \$17 billion in 1990, which is a 6-percent increase over 1989 levels, or slightly more than 1 percent in real terms. Much of the expected growth is for intramural activities of the Department of Defense and the National Aeronautics and Space Administration.

The nation's academic sector, including university-administered federally funded research and development centers, is expected to perform 14 percent, or \$21 billion, of the total U.S. 1990 R&D effort. Overall, real R&D performance growth during the 1985-90 period is stronger for the academic sector than for any other sector of the economy.

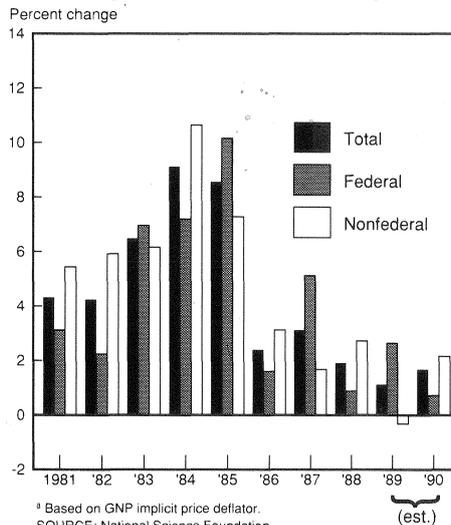
As a result of recent R&D trends, the proportion of GNP spent on R&D activities dropped slightly from 2.8 percent in 1985 to an estimated 2.7 percent in 1990.

National R & D expenditures

A) Expenditures



B) Percent change from previous year (based on constant 1982 dollars^a)



^a Based on GNP implicit price deflator.
SOURCE: National Science Foundation

¹ Performance is the conduct of R&D by a given economic sector with the use of funds from all sources, including that sector's own.