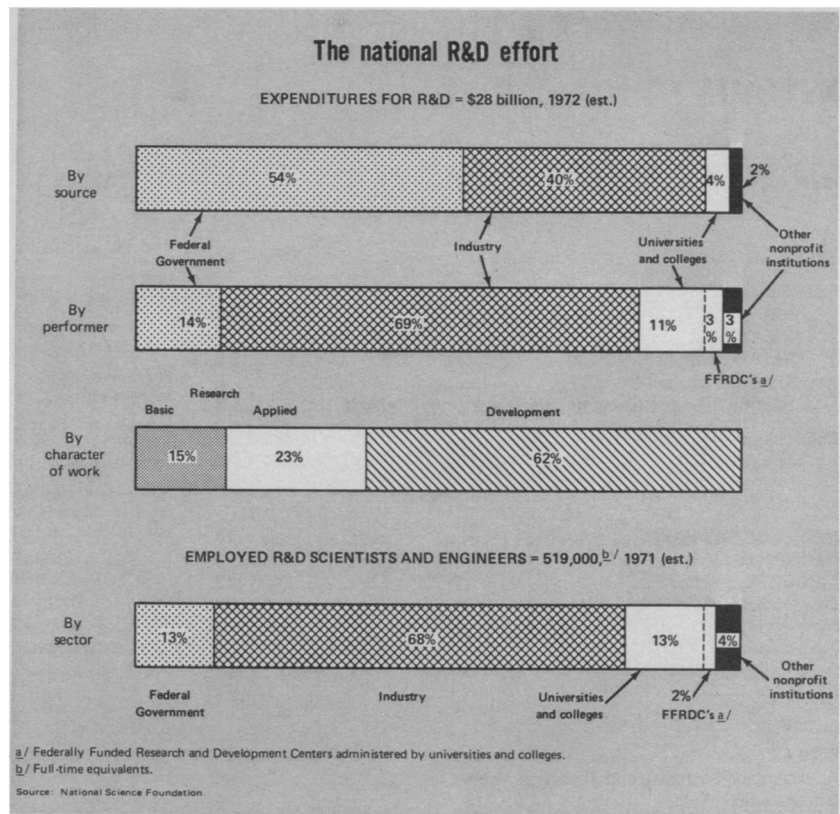


R&D in the United States: Who pays for it, who does it?



A new report on the resources devoted to research and development in the United States over the last two decades illuminates some patterns and trends obscured by the annual early year forays into the morass of the Federal Government's budget for science and technology.

For those who tend to think of "science" as anything having to do with something new, whether it be a consumer gadget, a military machine or an esoteric advance in knowledge, the report issued last week by the National Science Foundation may contain few surprises. But those who think of it solely as basic research conducted primarily in university laboratories may be reminded how narrow their view is. Either way, the figures reveal some noteworthy trends.

One is the decline of research and development expenditures as a percentage of the gross national product. Estimated total R&D expenditures for 1972 are expected to amount to 2.5 percent of the GNP, a steady decline from the high of 3.0 percent in 1964.

Total expenditures for research and development in the United States are expected to reach \$28 billion in fiscal 1972, the report estimates. Fifty-four percent of the money comes from Federal funds, which of course is the portion given so much prominence each January by news accounts and discussion of the Administration's proposed budget (SN: 1/29/72, p. 69). But 40 percent of the money comes from private industry. Industry's share has been rising steadily since 1964. During those eight years the amount of money spent

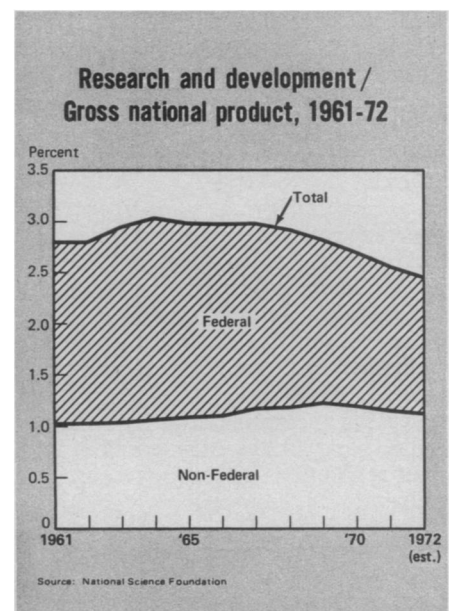
Industry has been taking on an increasingly larger share of the R&D effort.

annually on R&D by industry has nearly doubled; the amount spent annually by the Federal Government has increased by less than a fourth. The figures cast a certain amount of irony on the Administration's current concern and efforts to stimulate more industrial R&D (SN: 3/25/72, p. 197). The Government has been rather self-righteously proclaiming that industry has been a laggard in this respect.

When the \$28-billion research and development effort is categorized by who actually performs the work, the industrial role is clearly prominent. Sixty-nine percent of the R&D is performed by industry, fourteen percent by the Government and eleven percent by universities and colleges.

Categorization of the R&D effort by character of work also is revealing. Basic research accounts for only 15 percent of the total amount of R&D. Applied research accounts for 23 percent, but the big share, 62 percent, goes for the "D," development. Actually basic researchers get a bigger share of the pie now than they did 10 years ago, when their slice was only 12 percent. It is with basic research that academic institutions come to the fore; some 55 percent of it is performed in universities and colleges.

Development is clearly the specialty of the industrial firms. The report shows that they perform 85 percent of the nation's development, and that nearly three-quarters of their R&D outlays are for "D." The leading industries in terms of development are aircraft and missiles,



NSF
R&D decline as percentage of GNP.

electrical equipment and communication.

Much of the development work is military-related, but those who claim to sense a growing emphasis on the military in the nation's total R&D effort will find little support in the report's figures. In 1953, 47.5 percent of the nation's total R&D outlays were defense-related. By 1959 the figure had climbed to 53.3 percent. But since then the percentage has been steadily dropping, and for 1972 the estimated figure is 29.0 percent. □

—KENDRICK FRAZIER