Uncertainty Clouds R&D Budget

Research and academic communities urged at AAAS colloquium to make broader pitch to the public and members of Congress; some predict little or no budgetary growth next year

ADOPTED hastily by Congress last fall, the now famous Gramm-Rudman-Hollings legislation has set the nation on a course to sharply cut the annual deficits of the federal budget. But the legislation also has unleashed a budgetary crisis on Capitol Hill, which may not be resolved until late summer. The simmering debate has created vast uncertainty about federal funding levels for research. This problem dominated discussion at the 11th Annual Colloquium on R&D Policy held in Washington 26–27 March by the American Association for the Advancement of Science.

The level of support for research and academe may be subject to greater change than in the recent past, depending on how Congress settles budgetary differences with the White House on ways to meet the $144-billion deficit target for fiscal year 1987. In fact, it is not clear at this point whether the Gramm-Rudman-Hollings goal of eliminating annual budget deficits by 1991 will be retained in future years. But even if the legislation's goal is modified, as some economists and legislators expect, competition for federal dollars will be intense during the rest of the decade. Summing up the funding scene, John P. McTague, acting director of the Office of Science and Technology Policy, says it is necessary to make "More effective use of what we have, together with the reasoned, steady increases the President has proposed."

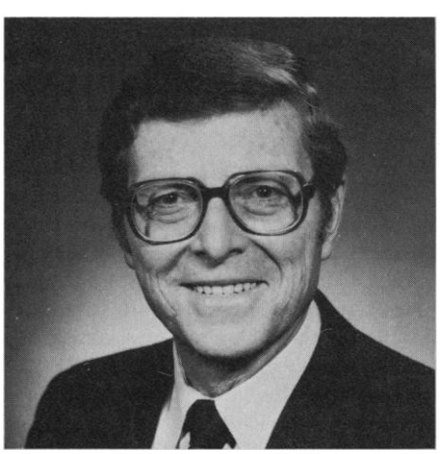
Although much of the research enterprise has been treated well in the Reagan Administration's 1987 budget proposal, Senator Pete V. Domenici (R–NM), chairman of the Senate Budget Committee, warned the colloquium's 425 participants that R&D could be ambushed. Unless the Congress and the Administration agree on a budget, Domenici says, funding for science and academe could be tied to congressional action on a massive continuing resolution in August or September.

"There is no chance in heaven under that scenario that [Congress] will selectively find a way to add 10, 12, or 14%" to selected accounts like NSF, the National Institutes of Health, or NASA, comments Domenici. "It will be something rather formulized for sure." The likely result, he adds, would be to fund research budgets for NSF and other agencies near 1986 levels. This would mean static, or reduced program activities—and few, if any, new project starts.

Indeed, McTague indicated that while the Administration can propose an agenda for research, it must be sold to Congress. "Our success in affecting the right choices will depend on all of us who work in the science and technology community . . . to articulate the importance of investment in science and technology as the keystone to future security and prosperity."

Whether the research communities have the wherewithal to do that is in doubt. Working against science and academic constituencies is the legislative process with its segmented authorizing and appropriations committees. But more problematical, says John A. White, chairman of the American Association of Engineering Societies, is the community's timidness. "We would much prefer to talk with somebody who already is convinced," he notes. That view is shared by Representative George Brown (D–CA), who says the research and academic coteries are "very good at analysis and very weak on action."

Sustained funding, notes Brown, is essential for research. Given the uncertain budgetary climate, he says it is time to adopt an integrated science policy and to shift research funds away from defense activities. "The country benefits most from basic research," says Brown, noting that the bulk of defense research is focused on near-term development.



Senator Pete Domenici *sees R&D funding near 1986 levels if Congress and the White House fail to agree on a budget.*

Robert Rosenzweig, president of the Association of American Universities, says the research community has reacted narrowly to the budgetary crisis. "I cannot speak with confidence about what is or is not happening generally on several hundred campuses, but I can see what is happening here in Washington and what I see is a quite pervasive inability to look beyond the budget function or appropriation line that includes one's own programs." If this persists, the long-term interests of science will not be served, he says. Universities and colleges are particulary vulnerable because they face cutbacks on three fronts: (i) the Office of Management and Budget's proposal to cap administrative overhead charges on university research grants; (ii) reduced availability of student aid and higher borrowing costs; and (iii) cutbacks in funding for basic and applied research.

Widespread disruption and retrenchment on campuses is unnecessary, says Rosenzweig, who asserts that the country can afford to shoulder direct and indirect costs related to basic research. IBM Corporation's vice president and chief scientist, Lewis Branscomb, agrees and says that economic damage to the university sector must be avoided. Universities should continue to operate, he adds, as they traditionally have, and not have to become industrial research houses to survive.

"I think the federal government must squarely face up to the education investment needed to keep the technology base up." In the end, predicts Branscomb, Congress will balk at the Gramm-Rudman-Hollings schedule for reducing the deficit. In fact, Domenici's committee already has agreed in principle to soften the impact by raising $12 billion in new revenue to offset proposed cuts in a variety of federal programs.

Still, Branscomb, members of Congress, and agency officials indicate that budgetary restraints will force federal research centers and academe to scrutinize their research portfolios, set priorities and remove dead wood. "We do need to make some hard decisions," says James F. Decker, deputy director of the office of energy research at the Department of Energy. "We are going to have to shut down some of our older, less productive facilities."

Similarly, Sandra Toye, comptroller of the National Science Foundation, says her office has established a task force to examine how to close down research projects if budgetary priorities make that necessary. Toye noted that NSF would, in fact, eliminate some research projects in the event of budget reductions, rather than paralyze programs with across-the-board reductions.

In the event that Congress and the President reach an agreement on the FY 87 budget, a thinning of research programs still may be necessary. William D. Carey, AAAS executive officer, says the research community "should expect very low growth rates at best." Carey, who was awarded the NSF Distinguished Service Award at the meeting for service to science during 11 years at AAAS and 26 years at the former Bureau of the Budget, notes that future R&D funding also may hinge on broader economic trends. A downswing in the economy would exert even more pressure on the budget and R&D funding, he says. ■

MARK CRAWFORD

A Pivotal Year for Lab Animal Welfare

Tighter regulations, higher costs, and refined methodologies likely to lead to decreased animal use

The past year has been a pivotal time for the animal welfare movement and a difficult one for scientists whose work involves experimental animals. Two major federal actions—amendments to the Animal Welfare Act of 1966 and revisions of the Public Health Service's (PHS) animal care guidelines—tighten standards for the humane use of animals and emphasize that the main responsibility for proper animal care lies at the institutional level.

The National Institutes of Health (NIH) also acted to withhold research money from two institutions—the City of Hope Medical Center in Duarte, California, and the head trauma laboratory at the University of Pennsylvania—in the aftermath of raids by the Animal Liberation Front. And, in its first action under the new guidelines, in February the NIH suspended grants for research on vertebrates other than rodents at Columbia University (see box).

Compliance with the new rules will unquestionably be costly, particularly when combined with the darkening fiscal picture created by Gramm-Rudman and the indirect costs crunch. They are also likely to lead to a reduction in animal use at least in some institutions. But in general, the scientific community has accepted the changes as necessary.

All is not totally serene, however. Although moderate animal welfare groups accept the need for animals in research, there is a growing wing of the movement, made up of old-line antivivisectionists and new "animal rights" groups, who see recent developments as only a step toward the real goal: total elimination of laboratory animals in research. These are the people who have staged laboratory break-ins, the latest being a raid last May at the University of California (Riverside) in which 467 animals were stolen.

It may be partly out of apprehension over future actions by these groups that the scientific community is rallying around to the new regulations. If scientists feel that the regulations are unduly intrusive, they are not saying so in public.

The major regulatory development is the move to locate oversight and monitoring of animal use and care firmly at the institutional level. To this end, the new PHS guidelines require every research institution to appoint an "institutional animal care and use committee." Every committee must have a veterinarian and an outside member on it. Research protocols must be reviewed by the committee to be sure they adhere to established standards. Committees must inspect facilities twice a year. Institutions must designate clear lines of authority for those involved in animal research, submit exhaustive information on the animal care program, and supply a detailed "assurance" from facilities that have not been accredited by the American Association for Accreditation of Laboratory Animal Care (AAALAC). The accompanying NIH "Guide for the care and use of laboratory animals" specifies in excruciating detail requirements for personnel training, animal housing, and veterinary care.

The amendments to the Animal Welfare Act [sponsored by Representative George Brown (D–CA) and Senator Robert Dole (R–KS)] and passed as part of the 1985 farm bill, are designed to harmonize with the PHS guidelines and extend their coverage to other facilities. They cover all research facilities—about 2000—that are engaged in interstate commerce. The amendments, which were the product of several years of intense lobbying and consideration of alternate bills, also mandate the establishment of animal care committees. The new law directs investigators to consider alternatives to animal use and specifies measures to minimize pain and distress. It also has two brand-new provisions—one requires exercise for laboratory dogs, the other [insisted upon by Senator John Melcher (D–MT)] says that primates must be furnished with a "physical environment adequate to promote" their "psychological well-being." This last vague provision could prove quite troublesome. Its official meaning is yet to be determined by the Department of Agriculture which is supposed to issue regulations on the act by the end of this year.

According to a recent report from the Office of Technology Assessment (OTA), on "Alternatives to Animal Use in Research, Testing, and Education," the revised Animal Welfare Act and the new PHS policy, taken together, "bring the overwhelming majority of experimental-animal users in the United States under the oversight of a structured, local review committee."

It is impossible as yet to assess the impact of the regulatory changes on the cost of doing research. Over half of the 800 or so institutions getting PHS funds already had animal care committees, but many have not been particularly active. About half the facilities have AAALAC accreditation according to William Gay of NIH, and many more will probably seek it.

The National Association for Biomedical