

Inflation—and Congress—kill growth in funds for basic science

President Carter has had difficulty persuading Congress to increase support for basic research. Next year promises to be even harder. **David Dickson** reports.

Now that the dust is beginning to settle, it appears that apart from bio-medical research President Carter has failed to deliver one of the promises made in his budget request to Congress for the financial year 1979, namely a "real growth" in funds for basic science.

The President had asked for a total of \$3.6 billion, which would have resulted in an overall funding level 5 per cent above inflation. But the request has fallen victim to two factors: a higher-than-expected inflation rate, and a Congress reacting strongly to grass-roots demands for general reductions in federal spending.

Both factors continue to dominate planning for the 1980 budget, which will be announced in January. And despite indications from the president that he wants to see basic research protected from the most severe cuts, few expect that it will receive any particular privileges, or escape from the general constraints being imposed.

Speaking at a news conference earlier this month, for example, the President merely said that: "I have directed in the preparation of the 1980 fiscal year budget that basic research and research and development in general *should not be reduced as a percentage of the total federal budget*" (emphasis added).

The precise effects of Congressional actions on the science budget over the past year have yet to be officially calculated. The one bright spot—which tends to make the overall picture appear better than it really is—is a 34 per cent increase in the funds available for basic biomedical research through the National Institutes of Health.

Apart from this, officials of the American Association for the Advancement of Science have calculated the funds for basic science in all other fields will be 9.3 per cent higher than 1978. Dr Richard Atkinson, director of the National Science Foundation, gave a figure last week of 8.3 per cent; and others expect the figure to be even lower—close to the inflation rate.

The result has been a major disappointment to the scientific community. "The President's request for real growth in the science budget was met with great delight by the academic community; we are obviously disappointed by the lack of significant real growth in the budget", Dr Gerald Lieberman, vice provost and dean of research at Stanford said last week.

Overall, funds for research and development have not done too badly. The President asked Congress for an increase in R&D expenditure of 6.8 per cent, to a total of \$29.3 billion. This figure was increased by Congress by a further \$315.5 million, the major growth occurring in the Department of Energy, and the Department of Health, Education and Welfare (which funds NIH).

Furthermore, not all requests for increased support for basic science were handled roughly by Congress. There was general support for new research in the energy sciences, for example. Many Congressmen have been impressed by the performance of Dr John Deutch as director of the Office of Energy Research.

Similarly the budget for the National Aeronautics and Space Administration emerged relatively unscathed. The two main casualties were the proposed search for extraterrestrial

intelligence, and continuing research on lunar samples brought back by the Apollo missions; however major new starts, such as the solar-polar satellite and the earth radiation budget satellite, remained intact.

The two agencies to suffer most were the National Science Foundation and the Department of Defense. The former had been slated by President Carter for an increase in basic research funding of 9.7 per cent; it ended up with an increase estimated by NSF director Richard Atkinson as 5.6 per cent, well below the expected level of inflation (although still, according to NSF officials, better than some had feared.)

Finally Congress responded unsympathetically to administration requests for an increase in expenditure for military-related research. The Senate, for example, although indicating that it might be prepared to consider increases in existing university-based programmes, rejected a proposal to start a new "Defense Science and Engineering Programme" for university research which would have been allocated \$9 million in 1979 and \$27 million in FY 1980.

The administration had been hoping that some of the research items cut from the DoD budget could be included in a supplemental request now being prepared following a presidential veto of the final defense appropriations bill, which included provisions for building an extra aircraft carrier unwanted by President Carter. However both Senate and House committees are reported to be unsympathetic towards such a move, arguing that such requests should be placed in the 1980—rather than the 1979—budget.

The net result of the various Congressional actions is what Dr Norman Hackerman, chairman of the National Science Board, has described as a "let-down feeling" among members of the scientific community.

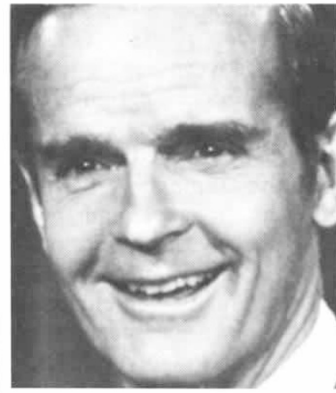
Basic research, by agency (\$millions)

	1979 Budget	Congress Approved	Change	% From Budget	% From 1978
NIH	856.0	1,019.0	+163.0	+19.0	+33.6
Other HEW	133.1	123.5	-9.6	-7.2	+28.1
NSF	754.9	741.9	-13.0	-1.7	+7.8
NASA	519.8	513.1	-6.7	-1.3	+9.6
Energy	467.5	465.5	-2.0	-0.4	+7.6
Defence	363.9	354.7	-9.2	-2.5	+10.8
Agriculture	251.9	256.2	+4.3	+1.7	+9.0
Interior	164.3	164.3	—	—	+4.6
Commerce	31.7	30.4	-1.3	-4.1	+10.9
Smithsonian	33.0	33.0	—	—	+5.8
EPA	30.0	24.0	-6.0	-20.0	+14.2
Others	30.6	30.6	—	—	+10.1
Total basic research	\$3,636.7	\$3,756.2	\$+119.5	+3.3%	+15.0%

From the AAAS report "Congressional Action on R&D in the FY 1979 budget".



● Representative Whitten: "no friend of basic science"



● Senator Proxmire: "scourge of the scientific community"

As far as next year is concerned, things look little brighter. The President has repeatedly stressed the importance he attaches to supporting basic science to guarantee the long-term health of the country. In his nation-wide anti-inflation speech of 24 October, for example, he said that despite other budgetary constraints, "federal support for research and development will continue to increase, especially for basic research".

Some observers in Washington feel that the budget request for 1980 will propose a growth rate for basic science of 2 to 3 per cent above the expected inflation level. They take comfort, for example, from the fact that one of the first visits paid by Mr Alfred Kahn, the President's chief inflation fighter, was on Dr Frank Press, director of the OSTP, to confirm that he agreed with Dr Press' emphasis on the importance of research and development for long-term national prosperity.

The great unknown is Congress. This month's elections sent a clear message to Washington: US electors are demanding greater prudence in the way that the federal government spends its money and popular support gathers rapidly for those seen willing to yield a budget-cutting knife.

As far as authorisation bills are concerned (those that represent policy decisions about the future directions of science) there is not likely to be too much problem. The new chairman of the House Science and Technology Committee will probably be Representative Don Fuqua of Florida, who has worked closely with agencies such as NASA in the past (and has several major research universities in his state).

Similarly the fortunes of science authorisation in the Senate are likely to remain in the relatively sympathetic hands of Senators Edward Kennedy and Adlai Stevenson Jr.

Appropriations committees, however—those that agree to disburse the funds—are a different story. In the House, the retirement of Representative George Mahon as chairman of the appropriations committee means that the position may be taken by Representative Jamie Whitten of Mississippi, the next in line on grounds of seniority.

Mr Whitten is no great friend of the basic science community, or of its peer review system. This year the appropriations subcommittee of which he was chairman rejected an administration request for \$30 million for a competitive grants programme for agricultural research in the 1979 budget, an attempt to shift away from the present system by which research funds are handed out to state land-grant colleges on a pro rata basis.

Defending this cut—half of which was later restored in the conference

with the Senate—Mr Whitten said: "Congress must not allow itself to be placed in the position of being held accountable to the people for their research priorities established by a non-elected bureaucrat issuing grants to his fellow scientists". And his subcommittee's report contained detailed directions on how agricultural research money should be allocated.

It is the Senate appropriations committee, however, which is giving the scientific community the greatest cause for concern, in particular over the implications of the loss of Republican Senator Edward Brooke.

The chairman of the subcommittee responsible for passing both NSF and NASA funds is Mr William Proxmire, scourge of the scientific community with his infamous "Golden Fleece" Award for esoteric sounding research. (It was Senator Proxmire, for example, who was responsible for deleting most of the lunar sample analysis from NASA's 1979 budget).

Proxmire strengthened

The results of the elections have strengthened Mr Proxmire's hand. Last week he said "The fiscal scalpels must be applied to both military and civilian programmes, foreign and domestic spending, and to the sacred cows of the powerful economic interests . . . No program, no interest group, and no region of the country, should remain immune to tough, detailed, and in depth budget cuts."

Up to now, Mr Proxmire's attempts to restrict funding for basic research has encountered strong—and frequently successful—opposition both from Mr Brooke, and from the ranking Republican member of the subcommittee, Senator Charles Mathias of Maryland.

However following Senator Brooke's departure, Senator Mathias is reported to be considering moving to a different subcommittee; and the concern of scientists that such a move could leave both NSF and NASA highly vulnerable has been heightened by the news that the subcommittee's minority staff member and aide to Senator Mathias, Mr Bob Clarke, is leaving the Senate to enter private law practice.

Much, of course, remains unknown about the future membership of committees, and will not be definitely resolved until Congress reconvenes in January. However one of the lessons brought home by the last Congress was the increasingly significant role played by intensive lobbying efforts.

Part of the substantial increase in support for basic biomedical sciences seems to have been due to a widely-publicised visit to Washington at the beginning of the year by a group of eminent biomedical scientists. In both public hearings and private meetings

with Congressmen and their staffs, members of the group, which included three Nobel laureates and the heads of some of the leading US research institutions, argued that the long-term understanding of disease required a shift from a "disease of the month" mentality to a greater concern for basic science problems.

These arguments were subsequently reflected in Congressional action on the NIH budget. Funding for cancer research, traditionally a recipient of Congressional largesse, was increased by 6.8 per cent; in contrast, the research budget of the National Institute for General Medical Sciences was raised by 25 per cent, to a total of \$231 million. Particularly significant was the emphasis placed in Congressional reports on the need to support "investigator initiated" projects, a point repeatedly stressed by the visitors to Washington, and the increase in funding for the Biomedical Research Support Grants programme.

A further illustration of the value of direct lobbying was memorandum sent by President Carter in June to the heads of appropriations committees and subcommittees requesting that they respect the integrity of the R & D package in his budget request. Although the success of the memorandum was limited, some feel that it helped limit damage to the budget of, for example, the NSF.

One message seems clear. Despite widespread awareness of the economic importance of research and development, the scientific community no longer enjoys any privileged position with respect to members of Congress, but must argue with everyone else for a share of the cake. "The universities, scientific societies and even industrial organisations will try to do even more than this year to increase support for research", Dr Jack Crowley, of the Association of American Universities, said last week.

It remains to be seen whether President Carter's concern for the health of basic science is any more successful next year than this. Certainly his public statements, and the close relationship which his scientific advisers have been able to build up with the Office of Management and Budget, have reassured the scientific community that, unlike some of his recent predecessors, they now have an ally in the White House.

But since much of the science budget is in the form of nonmandated expenditure (unlike, for example, social security and Medicare), it remains highly vulnerable to marauding budget cutters. And it will take more than fine words and noble sentiments to secure any real growth for basic science in the immediate future. □