THE BUDGET OF THE UNITED STATES GOVERNMENT

FISCAL YEAR 1975

BUDGET REVIEW

Background 635
Energy 636
Health 638
Military 639
NSF 640

R & D Budget: The Total Is Up 10 Percent, But . . .

As Administration briefers have taken pains to point out, the federal research and development budget for fiscal year 1975 calls for the largest dollar increase in 10 years. This would not by any means, however, be an across-the-board boost for science. Of the $1.7 billion increase proposed, which would raise the total R & D budget to $19.6 million, by far the largest portion would be earmarked for the energy and military budgets.

Most other sectors of the science budget are ticketed for cost-of-living increases or a bit more. The biomedical research budget is again scheduled for substantial new funds for cancer and for heart and lung research; most other parts of the biomedical budget show little change—which means inflationary erosion—but again there are some cuts.

Under the new budget, a modest historical milestone would be passed next year with the total civilian R & D budget (excluding space R & D) reaching an estimated $7 billion, thus surpassing for the first time the peak annual budget of more than $6 billion spent on the space program in its heyday. The space budget next year, incidentally, is put at $2.6 billion, down $200 million from the current year. For the first year since the space program got into high gear, a year will pass with no new manned space activities on the calendar. NASA planners still feel that the current pace of funding will make it possible to achieve the goal of putting the space shuttle into operation by 1980.

The events of the last year, particularly of the past few months, have left a heavy and obvious imprint on the budget. In the R & D portion of the budget, the energy shortage is reflected not only directly in increases in funds for R & D on new sources of energy, but indirectly in the transportation and agriculture R & D budgets, for example.

In reacting to sharp changes in circumstances, the budget makers have come up with a budget quite different from last year's model. The Nixon budget appeared last year at a time when the economy was growing at an annual rate of about 6 percent, the dollar was taking a battering in international money markets and balance-of-payments problems seemed to be worsening. The Administration proposed a restrictive budget then setting total expenditures at $268.7 billion and serving notice on Congress that it would do what was necessary to hold the line to control inflation. The clear implication was that funds voted by Congress in excess of budget levels would be impounded. By early autumn, when the budget requests for fiscal '75 began to reach the Office of Management and Budget (OMB) from the operating agencies there was a feeling in the Administration that the economy might generate revenues sufficient to absorb increases Congress would vote and that this would not be a "hard" budget year. Then came the Mideast war

Conduct of research and development (in millions of dollars).

Department or agency	Obligations		
	1973 actual	1974 estimate	1975 estimate
Defense—Military functions	8,382	8,573	9,581
National Aeronautics and Space Administration	3,085	3,309	3,122
Health, Education, and Welfare	1,844	2,332	2,228
Atomic Energy Commission	1,361	1,429	1,702
National Science Foundation	480	530	654
Transportation	311	358	396
Agriculture	371	393	412
Interior	254	287	510
Commerce	191	210	266
Environmental Protection Agency	181	174	336
Veterans Administration	74	85	94
Housing and Urban Development	58	65	70
Justice	35	52	56
All other	176	132	128
Total, conduct of research and development	16,802	17,930	19,556
Total, conduct of research	6,478	7,287	7,607
Total, conduct of development	10,324	10,643	11,950

Totals in this table may not correspond to figures elsewhere because of rounding. Source of all figures in all tables in this section is federal agency briefing materials.

and the oil embargo to send the budgeteers back to the drawing board.

The new budget recommends total outlays of $304.4 billion in the 1975 fiscal year, which begins on 1 July, compared to the estimated $274.7 billion to be spent during the current year. The deficit for fiscal 1975 would be $9.4 billion compared to an estimated $4.7 billion for the current year.

The watchword this year, as OMB deputy director Frederic V. Malek reiterated at the Treasury-OMB briefing on the budget on 2 February is "flexibility," and the obvious intention and hope of the Administration is to be able, if necessary, to head off a recession precipitated by a rise in unemployment and disruption in industry caused by the energy shortage and rising oil prices.

Treasury Secretary George P. Shultz and Council of Economic Advisers chairman Herbert Stein made extraordinary efforts at their briefings to explain how economic projections, which show a very low, 1 percent growth in the gross national product in the coming year, do not necessarily spell recession. The Administration's reasoning seems to boil down to the argument that under the very unusual circumstances prevailing it is necessary to disentangle, as Schultz put it, "the short-term effects of the energy shortage from the broad movement of the economy."

However recession is defined, the Administration is clearly prepared to spend more money than is called for in the budget under a "contingency plan" which would be put into effect to bolster the economy should a serious sag develop. It is unlikely that R & D spending would be greatly affected if a Keynsian contingency plan were invoked since such spending is not held to be very effective in providing the economy an immediate shot in the arm.

While the budget has required heavy revision in recent months, the Administration's basic strategy in dealing with research and development seems to have changed little. Administration R & D requests continue to reflect a higher priority for work on applications than for basic research. This emphasis is not surprising in the context of the energy shortage, but it is fairly consistent throughout the budget. In the Department of Defense budget, funds for R & D would rise by about 10 percent, but according to National Science Foundation director/President's science adviser H. Guyford Stever, virtually all the new money will go into development.

R & D funds for colleges and universities—most of which goes to support basic research—would rise from about $2.1 billion to nearly $2.3 billion under the new budget. Much of this increase, of course, would be eaten up by inflation. A lot of questions remain to be answered on how the new money for energy R & D will be allocated among government labs, industry, and universities, and the decisions could increase the flow of funds to universities.

At the risk of sounding like a Kremlinologist speculating on who was standing where on the podium in Red Square on May Day, it is worth noting that the main briefing on the R & D budget, which in the past was usually given by the President's science adviser, was handled this year by a triumvirate of Stever, AEC chairman Dixy Lee Ray, and the new energy office's deputy director John C. Sawhill. Such a constellation may be in the ascendant over R & D for some time.—JOHN WALSH

Energy

Not since the early, halcyon days of the space program has an Administration seen fit to inject so much money so rapidly into a single major sector of civilian research as the Nixon Administration proposes to pump into energy R & D next year: an 81 percent, $816 million increase over the billion dollars obligated in fiscal 1974. Some, like Senator Henry Jackson (D–Wash.), believe the government could justifiably spend even more on energy R & D, but the infusion of funds proposed for fiscal 1975 is nonetheless massive.

Money isn't everything, of course, and a lot of it doesn't necessarily add up to a new Project Manhattan or Apollo. The energy program falls short of this lofty stature, lacking as it does both a central leadership and clearly defined objectives. Nor is there a lot about it that could be called daring or innovative.

For the most part, the new budget would rapidly inflate existing R & D programs and reduce the disparities among the major categories—nuclear energy, fossil fuel technology, and everything else. In this respect the budget generally follows (though with some deviations in detail) the path of conventional wisdom staked out by the 5-year spending plan that Atomic Energy Commission chairman Dixy Lee Ray produced hurriedly last fall at the President's request. The narrowing of disparities continues a trend apparent in the 1973 and 1974 energy budgets, and is less dramatic in this one than the sheer growth in overall size.

Thus, nuclear fission remains the single largest item in the 1975 energy budget (at $725 million); within that category the liquid-metal fast breeder project retains its status as the government's most expensive energy R & D undertaking. Even so, nuclear fission's 40 percent share of the overall energy budget represents a substantial drop from 60 percent in 1973.

At the same time, support for fossil fuel and related "environmental control" technology—with one-quarter of the energy budget in 1973—would rise to one-third of the budget or $636 million in 1975. Funding of solar energy, geothermal power, and conservation R & D—"the neglected resources," Ray calls them—would undergo dramatic percentage increases, though actual sums spent would remain an order of magnitude less than for the major fossil fuel and nuclear efforts.

Few new departures are evident in the 1975 energy budget, a reflection either of its conservatism or the possibility that R & D support in the past has left few stones completely unturned. In one notable exception, the AEC will spend $11 million to learn whether high-powered lasers can be used to enrich uranium and concentrate deuterium from water, a project for which physicist Edward Teller has been lobbying lately. The AEC also will significantly increase support of gas-cooled reactors—one of the few areas of energy technology in which industry has shown more interest than the government. Gas-cooled reactors are thought to offer some significant advantages over the conventional water-cooled variety. Not the least of these advantages are said to be greater efficiency, less vulnerability to catastrophic accidents, and a capability of using thorium, a resource quite possibly as abundant in the United States as uranium.