Carter Transmits an Interim Budget

His fiscal finale provides increases for R & D nearly all around, but the real budget this year will be Reagan's revised version

The fiscal year (FY) 1982 budget sent to Congress by President Carter before he left office contained a kind of Carter last hurrah for science. In his parting budget, Carter requests substantial boosts in funding for R & D that exceed the inroads of inflation. But the future of these increases is cloudy indeed.

For science funding, as for other elements of the budget, the big question is how drastic the Reagan Administration's revisions will be. The immediate reaction of key Reagan economic advisers was to condemn Carter's $739.2-billion budget as a political document; they pledged to overhaul it extensively.

The uncertainties apply not only to FY 1982, which begins 1 October, but to the current FY 1981 budget. As a candidate, Ronald Reagan promised to cut 2 to 3 percent from this year's budget. Conflicting signals from Reagan officials make it uncertain whether the Administration will try to make significant cuts in current spending or concentrate on the FY 1982 budget.

The issue will become clearer if the President goes through with his plan to send Congress an economic message soon after his inauguration outlining his program for spending and taxes. Details of a revised budget would not be expected until later. Some observers say that it would be difficult to move major cuts in 1981 spending through Congress before the current fiscal year is far advanced.

As it stands, therefore, the Carter budget is much less a reliable forecast of future spending than a final benchmark for judging the Carter Administration's intentions and performance. In science and technology the former President and his lieutenants embraced the budget message and briefings as an opportunity for a Carter Administration swan song.

In his farewell briefing on R & D funding, the President's science adviser Frank Press discussed the FY 1982 budget in the perspective of the 4-year Administration record. At the briefing, Press restated what became a major theme for him—over the last 4 years an Administration priority has been to ensure real growth above inflation for basic science. He acknowledged that inflation had exceeded planners' expectations but argued that the goal of real growth had been achieved.

For total R & D funding, including construction of facilities, the Carter budget calls for $44.2 billion, up some $7.1 billion or 18.9 percent from FY 1981. The increases vary from agency to agency and program to program, but real growth above inflation in R & D funding throughout the government is about 8 percent. Press said a 9.7 percent inflation rate is being projected.

In the FY 1982 budget, $5.9 billion is requested for basic research. This would amount to an increase of $739 million or 14.4 percent over FY 1981. The boost in funding would exceed the projected rate of inflation by 4.3 percent.

Biomedical Budget: Slight Boost

Just as he did a year ago, President Carter granted the National Institutes of Health only a modest increase in his 1982 budget. The budget for research and development at NIH was raised by 7.3 percent, the smallest percentage increase of any science agency. The raise, however, is offset by double-digit inflation.

All of the 11 NIH institutes received increases and most of them were awarded overall raises of about 5 percent over last year's figures. The National Cancer Institute, for example, was not given any raise in the past budget, but in the 1982 proposal was awarded a 5 percent increase. The National Institute of Environmental Health Sciences fared the best of all the institutes with an 18 percent boost, bringing its budget to $112 million. About $39 million is targeted for intramural research and $30 million for the "prediction, detection and assessment" of environmental diseases. The National Institute on Aging and the National Eye Institute were next in line with increases of about 13 percent.

Allocations for new and renewed research projects were increased by 9 percent. The proposed budget sets aside $1.93 billion for 5000 "investigator initiated" projects, a number that was agreed to last year by the Department of Health and Human Services to "stabilize" long-range planning of research.

Funding for research training grants remained virtually the same. The 1982 budget calls for an authority of $192 million, compared with $189 million last year. Intramural research captured one of the largest boosts among NIH programs with a 10 percent increase and a 1982 budget authority of $465 million. Carter, however, rescinded $6.6 million from its 1981 budget.

Contract money for research and development was reduced slightly by $11 million to $357 million in the 1982 budget authority. The program received the biggest rescission of any NIH program with a $13 million cutback of the 1981 budget.

Capitation funds for medical schools were rescinded completely from last year's budget and were not given any budget authority in Carter's 1982 proposal.

The National Toxicology Program was given $64 million, almost twice as much as its original budget authority in 1978. With the 1982 money, the program is to emphasize the development of speedier tests to determine toxicity.

In the area of mental health, drug abuse, and alcoholism, research funds were kept about the same.—MARJORIE SUN

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FEDERAL BASIC RESEARCH OBLIGATIONS BY AGENCY: FY 1980-82

(MILLIONS OF DOLLARS)

AGENCY	FY 1980	FY 1981 est.	FY 1982 est.	PERCENT CHANGE 1981-82
TOTAL	4,682	5,121	5,861	+14.4
HHS	1,758	1,887	2,053	+ 8.8
NIH	(1,639)	(1,759)	(1,909)	(+ 8.5)
NSF	812	923	1,057[a]	+14.4
DOE	523	591	710	+20.1
DOD-MILITARY	539	605	704	+16.4
NASA	559	555	681	+22.8
USDA	275	322	367	+14.1
ALL OTHERS	215	239	289	+21.3

[a] AN ADDITIONAL $75 MILLION IN NEW FUNDING IS INCLUDED UNDER R&D FACILITIES FOR NSF FOR MODERN SCIENTIFIC APPARATUS AND FACILITIES TO SUPPORT BASIC RESEARCH AT UNIVERSITIES.

SOURCE: OFFICE OF MANAGEMENT AND BUDGET

If the requests in the new Carter budget survive the budget process, it would mean that funding for basic research in the Carter years (FY 1978 through FY 1982) would increase from $3.7 billion to $5.9 billion. This represents a growth of 58 percent in current dollars or 10.8 percent above inflation.

Considered against the background of prevailing economic and political circumstance, the requests for FY 1982 seem very substantial indeed. The Carter Administration appears to be counting on the new management to carry through a big increase in R & D funding to round out the Carter budgetary record. This could involve a kind of wish fulfillment that is unrealistic to expect.

What the Carter Administration has done is to carry on the rescue effort begun in two Gerald Ford budgets and reverse the fortunes of R & D funding, particularly basic research. Charts used in the budget briefing show that, in terms of constant 1972 dollars, real if modest growth did occur during Carter's years in office. Although government estimates may understate the effect of inflation on R & D, the Carter Administration can reasonably claim it did keep R & D funding afloat and moving forward against a rising tide of inflation.

The Carter FY 1982 budget requests for agencies with major R & D programs generally show substantial increases, subject, of course, to action by the new Administration and Congress. The Department of Defense, which absorbs almost half of federal R & D funding, would receive the biggest boost. Asked for is a $3.8-billion increase to $20 billion in obligational authority, up 23 percent over FY 1981. Some $900 million of the increase would go to work on strategic weapons, mainly the MX missile.

The National Aeronautics and Space Administration would get nearly as large a percentage increase, 22 percent, with the request for a $1.2-billion raise in the NASA R & D budget to $6.6 billion. The troubled space shuttle continues to claim a lion's share of NASA funds, virtually all of which are classified as R & D money. However, one major new program, the Venus Orbiting Imaging Radar mission, would be initiated.

The National Institutes of Health, a traditional growth sector in the budget, is slated for a raise just shy of a cost-of-living increase (see page 459). The R & D funding for the Department of Energy would rise by $475 million to $5.6 billion, with much of the new money going to construction of research facilities.

A conspicuous loser in the proposed budget would be the Environmental Protection Agency, whose R & D funds would be cut from $364 million to $345 million. The reduction is attributed to completion of major regulatory efforts and a shift in the focus of research to review and refinement of regulations.

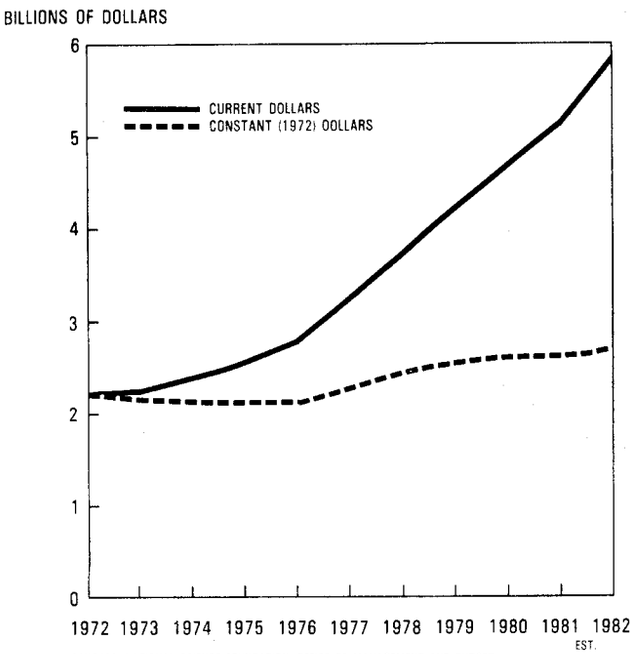
If the Administration has put its special mark on any agency program, it is that of the National Science Foundation. The FY 1982 budget requests a total $1.353 billion for NSF, up $257.5 million or 23.5 percent over the current year. Much of the increase reflects the Administration's continued emphasis on basic research. Support for basic research in all fields would go up 14.4 percent to $1.057 billion. But NSF is also the Administration's chosen vehicle for attacking special problems in the scientific community that Press says have been identified in the past 4 years.

According to Press, these problems include "degradation of instrumentation" used in university research, difficulties of young scientists in getting started in research careers, shortages of manpower in computer science and some engineering fields, and deficiencies in instructional equipment in these fields.

The NSF's FY 1982 budget, for example, contains a request for $75 million for a new program for university research facilities and instrumentation and $25 million for computer science and engineering instructional equipment.

The budget also requests money that would help to implement the recently adopted NSF reorganization plan aimed at enhancing engineering research and education and integrating applied re-

FEDERAL OBLIGATIONS FOR BASIC RESEARCH



SOURCES: NATIONAL SCIENCE FOUNDATION; OFFICE OF MANAGEMENT AND BUDGET

In the chart at left, showing trends in basic research funding, the 1981–1982 increases indicated are based on the assumption that the Carter lame-duck budget will be fully funded in the coming year.

search into NSF programs at large. Funds for engineering, for example, would rise about 20 percent to $104.6 million.

The Administration's special initiatives to support last summer's economic revitalization plan have not survived in the budget, or at least are not labeled as such. Originally, some $600 million in science and technology initiatives were contemplated. Subsequently, plans to seek a $300 million supplemental appropriation to the FY 1981 budget were abandoned. Press said at the budget briefing that revitalization initiatives totaling $300 million were integrated into budget requests for NSF and other civilian agencies, but that they were not identified as a package.

It should be emphasized that at this point in the process the Carter FY 1982 budget is an abstraction, and a particularly fragile one. The Carter budget is a product of a precarious balancing act. The budget-makers have proposed substantial increases in military expenditures while protecting nondefense programs, including civilian R & D, against deep cuts. At the same time they seek to avoid a bigger deficit that would send inflation to further heights. They would accomplish this through substantial tax increases aimed at limiting the gap between revenues and expenditures.

Some proposed cuts in social programs notwithstanding, the Carter budget runs generally counter to the Reagan pledge to cut taxes and reduce government spending. The reaction of Reagan budget director David A. Stockman to this budget was to characterize the Carter approach to control of the deficit as "cosmetic and artificial" and to reaffirm Reagan's goal of pursuing a 30 percent tax cut over 3 years.

From the Reagan Administration, aside from reports of a favorable estimate of the economic value of science and technology, there are as yet no solid clues to a Reagan R & D policy. However, with a major battle of the budget brewing within the Administration and Congress, the major influence on R & D funding is likely to be the shape of the new Administration's overall economic strategy.—JOHN WALSH

Utilities Lose Power on Wall Street

Electric companies start the decade in poor financial health; some will halt construction, seek emergency aid

America's electric utilities are in trouble, not as much trouble as the auto and steel industries, but enough to make Wall Street nervous about their future. Nineteen eighty-one may be an especially traumatic year for the investor-owned companies, which supply more than three-quarters of the nation's electric power, for some will have to change radically to survive. They are losing income because the demand for electricity has fallen, construction costs are rising rapidly, and the public is refusing to pay higher electric bills. Many companies are finding it impossible to finance new capacity, costly to stop work in progress, and dangerous to stand still.

Confronted with this situation, investment experts such as those at New York's bond rating company, Standard & Poor's, are beginning to echo the advice given to utilities in years past by conservationists. They are telling hard-pressed companies to cut back construction programs and try to cut demand.

The response to this advice is varied. A few big companies have scrapped the high-growth assumptions that have guided the industry for the last 20 years and set themselves up on an entirely new basis. They are promoting conservation as a low-cost source of new energy, aggressively installing equipment designed to cut demand, and investing in small-scale generating stations. Other companies maintain a traditional outlook, which stresses the need for steady economic growth (3 percent or more) to provide for social stability. The traditionalists tend to assume that growth in electric demand will increase at least as rapidly as general economic growth. Conservation is seen as desirable, but not essential.

Utilities that guess wrongly about the future—whether by over- or underestimating the need for new generating capacity—will pay dearly. The costs will be measured in billions of dollars. It is possible, one New York bond analyst says, that some companies will come down with Chrysler's syndrome this year. They may have to plead for emergency help to get them out of a financial jam. Should this happen, those who undertake the rescue missions will want to find out just what went wrong. As in the Chrysler case, they may want to set limits on the generosity of the bailouts, and they may demand that specific corrective steps be taken to prevent the need for future bailouts.

There is good evidence that trouble is brewing. In the month of December alone, the *Energy Daily* reported, six major utilities withdrew bond offerings from the market because the prospects for selling them were so poor. Company directors decided that the interest rates they were being offered were too high, and so chose to postpone the bond sales until later, when rates might be lower. One company that went ahead with a planned bond sale, the income-poor Public Service Company of New Hampshire, had to accept an interest rate of 17 percent, apparently the highest rate ever paid by an electric power company.

Utility managers who pulled bonds off the market in December said they made a strategic retreat because the market was "chaotic," churned up by increases in the prime rate and by expectations of more inflation. Bond analysts say electric utilities are being asked to pay high interest rates in part because their credit is not as good as it used to be. New York's bond raters downgraded appraisals of many utility bonds in 1980, sending a message to investors that these companies were not as sound as in the past.

Roger Taylor, vice president in charge of utility issues for Standard & Poor's, says, "We have cut more bond ratings than I would care to relate over the past several years, and we continue to cut. In 1980 we cut 28 or 29 out of a universe of 125 companies." The electric utilities, Taylor thinks, face problems that are "pretty serious indeed." Their credit has been deteriorating for a decade and will continue to deteriorate. "This doesn't mean the industry will go out of business tomorrow," although there may "a Chrysler or two."

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