

F. A. S. NEWSLETTER

FEDERATION OF AMERICAN SCIENTISTS — Founded 1946
A national organization of natural and social scientists and
engineers concerned with problems of science and society.

SPECIAL ISSUE ON
R&D AND THE BUDGET

Vol. 26, No. 3

March, 1973

FAS WARNS AGAINST MISALLOCATIONS OF R&D

Twice in 14 months, the United States has been forced, in effect, to devalue the dollar by about 10%. The largest balance of trade deficit ever recorded has just been announced for 1972 (\$6.44 billion), right on the heels of the first such deficit ever recorded in this century, which occurred in 1971 (\$2 billion). A superficial glance at trade statistics shows that, in addition to agriculture, only high-technology products continue to provide us with a substantial and reliable trade surplus. And this surplus is itself threatened by the dramatic failure of the U.S. to keep up with its industrialized allies in the productivity race.

An analysis of growth in industrial productivity for the years 1955-1968 shows the United States dead-last among 14 OECD Nations—with France, Ger-

many and Japan showing rates of productivity growth two to three to five times higher.

Competition in technology-intensive goods also requires the best engineering talent. But half of America's research and development scientists—the more talented half—are working on the high-paying and glamorous defense and space projects. Eighty percent of Federal R&D expenditures go for defense and space. Not so in NATO, where less than half our percentage of GNP is spent on defense, and little on space, or in Japan, where defense expenditures are negligible.

The situation is not improving. In the last ten years, America has been assigning an ever lower priority to
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This statement, continued on page 2, was approved by the FAS Executive Committee with the advice and consultation of Professors of Economics: William Capron, Marc J. Roberts, of Harvard, Anne Pitts Carter of Brandeis University, and Ed Kuh of MIT.

A CONFLICT OF PATRIOTISMS?

America faces a conflict of patriotisms. Those who partake of what de Tocqueville called an instinctive patriotism find themselves impelled to rally around what has become patriotism's greatest symbol: the Presidency. By manipulating their reverence for country, the Presidency can make: a face-saving peace become a peace with honor; an unconstitutional impoundment of appropriated funds become fiscal responsibility; an unauthorized reorganization of Government become good executive management; treaties lacking Congressional consent become "Executive" agreements; and waste and mismanagement in weapons programs become a measure of prudence.

By contrast, those who partake of what de Tocqueville called the "patriotism of reflection" are beginning to see the power of the Presidency itself as the ultimate source of danger to liberties heretofore little challenged. The press is under attack by the Executive Branch on two such fronts: prior restraint of publication, and confidentiality of informants. The Congress is losing to the Executive Branch budgetary control, the right to approve treaties, rights to compel the testimony of a growing circle of important witnesses, and morale.

In the midst of this interlocking series of constitutional crises, new threats are arising about which there is in-

sufficient popular concern. In an historical oscillation, Germany and Japan return to compete with us now in an industrial arena. But a large American constituency for strategic weapons sees the end of the Vietnamese war only as an opportunity to put back on the tracks strategic bombers and submarines which would—at best—have the most marginal effect on our strategic posture.

Instinctive patriotism welcomes a return to the purchase of these symbols of strength and reassurance that served as "deterrents" for a quarter century. The patriotism of reflection wonders if they do not represent that famous tendency of generals to fight the last war over again.

Even in the struggle over the funding of science, lines are drawn that are not too dissimilar. There is one approach that wants to see science applied even at the cost of basic research. But another approach sees this as a way of selling the long run short, of using up scientific capital rather than generating quick results. The anxiety of this school of thought about the future of science is further excited by irritation over the political and bureaucratic flaws in our social system that permit funds to be wasted so freely in other ways—see pages 6 and 7 for example. See back page for excerpts from de Tocqueville. □

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science and technology, as reflected in a constantly diminishing share of the Gross National Product devoted to R&D funding. The last five years have even shown a continued decline in overall R&D funding measured in constant dollars. And, during this period, non-federal R&D spending, in constant dollars, has simply stayed constant. Evidently, the civilian sector is missing the opportunity to absorb the R&D resources released as a result of the overall decline in military and space R&D. The costs of this failure in terms of foregone opportunities for economic growth, increased productivity, improved goods and services, and a better trade balance are likely to be large.

Meanwhile, the Defense Department continues to squander R&D resources in a series of projects for which there exist simple and decisive objections: the Trident Submarine (a premature effort to defend against antisubmarine warfare threats we cannot define), the B-1 Bomber (an unnecessary goldplating of a backup strategic system), more MIRVed missiles (to penetrate a massive ABM the Soviets have agreed by treaty not to build), and R&D for an ABM which we have committed ourselves by treaty not to build. After a quarter century of arms race, these projects reflect a "business as usual" attitude in the face of rising new threats. An enormously effective, and enormously secure, strategic force has now been built. Technology can do little more. Our deployment of R&D resources should be adjusted correspondingly. Technology should prepare for future threats rather than past ones.

Shifts in deployment of R&D resources require Government encouragement in one way or another. Only the Government can free the militarily-occupied resources for civilian use. And, unfortunately, it may require extensive Government help also to induce the civilian sector to use the resources freed. As technology becomes more advanced, the research required for further advances becomes more basic. And, since the advances that spring from basic research cannot be easily monopolized, the incentive for particular firms and industries to do the basic work is weakened. In general, the motivation of individual firms to increase their profits—in the short run and in nearby markets—may or may not be sufficient to give America a strong long-run position abroad. And imperfections in the market may also impede the solution of ever more complex long-standing socio-technological problems at home, as well. We believe that Government should provide suitable financial incentives to encourage the implementation of R&D.

It is not possible to give a hard and fast rule for the absolute level of R&D that should be provided by Federal and civilian sources. As a result, long-standing Congressional inquiries for specific numerical advice have gone unanswered by the scientific community. We therefore propose these considerations: in order to restore a greater priority to the application of science and technology, total R&D spending might be

raised as a percent of GNP until it reaches a level halfway between the present (2.5%) and the 1964 peak (3%). And military and space R&D should stay below 50% of the total and, hopefully, decline.

Basic research is now 15% of the national R&D effort and 15% of the R&D funded by the Government as well. It is especially important to protect this portion of the R&D budget. The new ideas from basic research have the greatest impact in the long run. The training of researchers for applied research and for development is often done best as part of basic research activities. The desirability of a continuing interchange between basic and more applied work also militates for a vigorous sector of basic research. And the relative economic cost of this effort is small. We should therefore avoid "big push" policies, often premature, that come at the cost of disruption of on-going basic research, whether these crash programs be onslaughts on disease or glamorous space projects.

In 1957, America was shocked by sputnik but it drew the right conclusion, recognized the importance of stepped up R&D support, and maintained its strategic-technological advantage. The two most recent dollar devaluations are, in part, analogous danger signals of a misallocation of technology which we should now correct. □

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MILITARY R&D IS EXPENSIVE AND OFTEN UNNECESSARY

By and large, the 80% of the Federal R&D outlays that go for space and military, buys about half of the R&D scientists including—because high wages are paid and the work is glamorous—the best R&D talent. These expenditures then spoil the engineers and scientists with high pay and cost-is-no-object standards. The firms supported by the \$9.6 billion currently involved learn how to deal with a market in which there is one buyer and many sellers; the management and sales skills they acquire for manipulating the DOD and NASA contract system are not of much use in the private sector.

A kind of tacit collusion has grown up between the Defense Department and its major industrial suppliers. They share a desire to keep weapons flowing and the procurement system unembarrassed. Both know that the Department will overlook the sins of the suppliers and that no companies will be allowed to go under. The results of this unspoken conspiracy were documented by the Congressional Joint Economic Committee in 1969: economic inefficiency and waste, undeserved subsidies for contractors, an inflated defense budget, low competition and high concentration of firms, cost-overruns and weapons that fail to meet standards.

The R&D going to these firms for military equipment has been rising since 1971. R&D on aircraft is rising to \$2 billion a year. So is R&D on other military equipment. R&D on missiles already oscillates around \$2 billion a year. (By comparison the budget projects these R&D figures: Health \$1.5 billion; Education, Manpower and General Science, \$.75 billion dollars; Commerce and Transportation, \$.6 billion. In short, we spend more on R&D for aircraft and missiles together than we spend on all of health, education, and commerce.

The following four unnecessary projects for which \$1.5 billion military R&D is being asked together require funds in excess of the entire Health R&D budget.

Trident: \$657 Million R&D and \$1 Billion In Procurement and Construction

The purpose of this submarine is to replace the Polaris submarines when they wear out and to protect against antisubmarine warfare breakthroughs—of which none are apparent. The problem is this: the submarine to be built is as likely to be vulnerable to unknown breakthroughs as the submarine to be replaced. We are committing ourselves to a follow-on submarine before the threat emerges to which it is supposed to respond. And Polaris submarines have many years more life in them than is required to build a replacement. This year alone Trident will require close to \$2 billion. When built each submarine will cost more than an aircraft carrier!

B-1 Bomber: \$473.5 in R&D for Fiscal 1974

The B-52 G's and H's which are now in the strategic force are expected to be flying into the 1990s. We no longer need non-ballistic methods of weapons delivery since the Soviet Union has agreed not to build an ABM in any case; indeed, we believe they could not build an effective one anyway. The bombers are not necessary,

AEROSPACE EQUIPMENT: OUTDATED AND UNRELIABLE

"The aerospace industry can build complex equipment which is reliable when there are no constraints on cost. The Apollo program is a magnificent example of what can be done, and there are some equally impressive defense programs.

Most of the defense development and procurement programs, however, have not produced the kind of equipment the industry can be very proud of. Most of our current military aircraft can fly only a few hours without a system failure. The development process in the industry is so slow and inefficient that most new systems are out of date by the time they go into the inventory."

—David Packard, former Deputy Secretary of Defense to the American Institute of Aeronautics and Astronautics (See Congressional Record, S2712, February 19, 1973)

even in theory therefore, to circumvent Soviet missile defenses. The strategic bombers are vulnerable on the ground, expensive to build (the total cost for 200 will be about \$9 billion), and to maintain (about \$2 billion per year). Under these circumstances, it is wasteful of R&D resources and of general funds to build the B-1 bomber. (R&D costs alone have already been \$1 billion, and another \$1 billion will be needed.)

Minuteman III: \$94 Million in R&D and \$674 Million in Procurement and Construction

The purpose of these funds is to complete placing multiple (Minuteman III) warheads on the first 500 of the land-based missiles. The avowed purpose of the warheads, however, was to penetrate a Soviet ABM—now precluded by Treaty. The Air Force is planning, also, to put these same unnecessary warheads on the remaining 500 Minutemen either this year or next. The Air Force is reduced to putting out the story that almost 5,000 secure submarine-based warheads at sea are "not enough" to deter the Russians who have, after all, only 50 large cities. This is fantastic nonsense.

ABM: R&D \$486 Million

Although the United States is committed by Treaty to build only one ABM site to protect the land-based missiles, although this site is nearly completed, and although the Administration does not propose to build the other permitted site around Washington, the fiscal 1974 budget contains about \$.5 billion dollars on R&D for ABM! What are we researching and developing ABM for? The budget says that about half of this amount is being spent as a hedge against Soviet abrogation of the agreement. But this prospect of abrogation is very slight. Moreover the need to be ready to urgently match Soviet construction is nonexistent. We have ourselves been without ABM for 25 years—what's the potential hurry that makes these costs necessary? If anything, we must keep offensive weapon preparations ready for penetrating the Soviet ABM. □

R&D IN THE EUROPEAN COMMUNITY

Governmental expenditures for R&D in the European community are rising rapidly and, even, accelerating. Using pre-1971 American dollars, the expenditures in billions of dollars were: 1967: 3.6 billion; 1968: 3.8 billion; 1969: 4.0 billion; 1970: 4.4 billion, and 1971: 5.0 billion. This represents successive rates of increase of 4.9%, 6.8%, 9.9% and 13.5%—overall, an increase of 39% in four years. During this period, U.S. federal expenditures for R&D—in current dollars—stayed constant. In the most recent two years, U.S. rates of increase in R&D spending have been about 4% a year—but this is still only about the rate of inflation.

During this period, military appropriations in the European community steadily decreased from 24.7% of the total R&D to 17.7%. As a result, the figures quoted above hide an even greater increase in appropriations for civilian R&D which averaged, over the period, 10.8% a year—50.9% overall. This general decline in military R&D was common to all EEC countries. In the United States, however, the percentage share of defense R&D was rising.

Inroads of Foreign Competition

In 1971, the degree of competition faced by U.S. technology could be glimpsed in further hearings of the House Committee on Science and Astronautics on "Science, Technology, and the Economy." Secretary of Commerce Stans showed that West Germany and Japan were both setting a much higher priority on civilian R&D expenditures:

	% GNP 1968	Adding Capitalized Value of Purchased Foreign Technology
United States	1.5%	1.6%
West Germany	2.6	3.6
Japan	2.0	3.0

Estimates on the Average Annual Growth Rate of Productivity showed Japan and Europe coming from behind to out-distance the United States:

	1870-1950	1950-1965	1965-1969
United States	2.4%	2.6%	1.7%
Europe*	1.5	4.0	4.5
Japan	1.4	6.8	10.6

*Europe=Italy, West Germany, France, Belgium, Netherlands and the U.K.

Stans called the level of technological development "the major element which we can influence decisively for the long run" and said it might be our only hope for maintaining a satisfactory trade position. Agricultural products were showing a small but fluctuating surplus likely to disappear with increased self-sufficiency of developing nations. Raw materials showed a large and persistent deficit. Low technology products showed a growing deficit. Only high-technology manufacturers were then holding a stable advantage. □

COUNCIL ON ECONOMIC ADVISERS REPORT ON THE ECONOMY

In many ways, 1972 was a good year. The 6% real growth of the GNP was the largest—and the 3% price rise (as measured by the Gross National Product deflator) was the smallest—since 1966. The Council on Economic Advisers now foresees with some confidence another year with 10% growth in the GNP but it is less sure how the 10% will be divided into inflation and real growth. It hopes to hold inflation to 3% again but this is on the low side of the estimates being given by other private sources.

In the effort to hold inflation down, the Administration asked Congress for a ceiling on budget outlays—funds actually spent—of \$246 billion for fiscal 1973; this was the amount the President had asked to have spent in his budget. In September, the Administration made an analogous request but raised the limit to \$250 billion. In the interim, it began to impound spending authorized by Congress (see page 5).

1972 was the first full year in which there were wage and price controls in the absence of war or its immediate aftermath. The controls were imposed in August 1971, at which time the rate of inflation was already in decline and expected by some, optimistically, to get to the level of 3% by the end of 1972. This, in fact, is what occurred and some believe, therefore, that the controls had little effect. In particular, there was no discontinuity to point to in the rate of inflation as a result of the controls. On the other hand, the rate of inflation might have risen in the absence of the controls, as was feared by some of the Government economists. (Interestingly, U.S. rates of inflation have been lower than those in Japan, France, Germany, Italy and the United Kingdom in 1971 and 1972, as well as when averaged over 1958-68.)

Unemployment

The Administration plans to try to reduce unemployment to about 4.5%. Four percent unemployment has often been considered "full employment" and standard calculations of "full-employment output" are based on it. In 1965, before the Vietnamese war deficits ignited the inflation, the Johnson Administration had reached the goal of 4.5% unemployment and, with it, potential output had reached 99% of the full-employment level. The Administration thinks a more ambitious goal than 4.5% might reignite the inflation.

In the meantime, the problem is seen as one of restraining the rate of growth of expenditures or raising taxes, which all are unwilling to do. An examination of expenditures shows that the highest rate of growth in terms of the full-employment GNP arises from education, health and welfare. From 1955 to 1971, this has risen, in the Federal budget, from 1.6% of GNP to 3.5% (excluding old-age and disability) while defense expenditures have declined from 10.4% to 7.3%. Comparable increases have arisen in state and local government spending. Further large increases have occurred in social security program payments as more and more people become eligible to receive the pensions for which they have already paid.

The Gross National Product is now about 1,152 billion

dollars. Increases of 10% per year give Federal, State and local Government about \$20 billion more each year to play with, of which about a third is necessary simply to meet inflation. The Federal Government gets, however, only about 40% of the increase, hence about \$5 billion in real dollars. And much of this is, of course, already committed by previously authorized but growing programs.

Balance of Payments

In 1971, the U.S. balance of payments had been almost \$30 billion, of which almost \$28 billion was outflows of capital frightened by U.S. inflation and preferring investment opportunities abroad. This outflow was sharply reduced to about 15% of the previous total. But the trade deficit deteriorated very substantially and unexpectedly. Part of the problem was the rising cost of importing fuels which grew by 50%. □

PRESIDENTIAL IMPOUNDMENT OF FUNDS

There is abundant legislative history in connection with the enactment of the Antideficiency Act to support our conclusion that this legislation goes no further than authorizing the President to establish reserves to provide for contingencies, to reflect savings, and to take into account changes in requirements subsequent to the appropriation action, and to reserve funds because of changing circumstances. We are not aware of any specific authority which authorizes the President to withhold funds for general economic, fiscal, or policy reasons.

—Elmer B. Staats, Comptroller General of the United States, Jan. 30, 1973, before the Senate Judiciary Subcommittee on Separation of Powers

The President decided to impound \$8,723 million dollars of appropriated funds, rather than seek a Congressional reversal of authorization, ask for a tax increase, or simply risk the inflation that might result from larger deficits. A list of funds impounded was filed, as required by law, on February 5, with reasons for each impoundment. The usual, and accepted, reasons are: provide for contingencies; effect savings through unexpected changes in requirements; achieve effective and economical use of funds for later periods; etc. However, \$6,171,448,000 was impounded under the President's constitutional duty to "take care that the laws be faithfully executed." The laws referred to (about which the President is claiming to be more concerned than he is to execute the specific laws passed appropriating the money) are not provided directly. But these reasons are given: (a) expenditures that might contravene an environmental law; (b) expenditures that might require exceeding statutory limitation on the national debt (assuming existing tax laws); and (c) President's authority to help maintain economic stability without undue price and cost increases. For example, \$5,387,579,000 was impounded because it was claimed these funds would—presumably if taken together—cause an illegal rise in the debt ceiling.

A critical underlying question is whether appropriations made by Congress are "ceilings" on expenditures or "mandates" to spend. Other Administrations have impounded

funds for specific projects: for example, Truman impounded funds for a 70-group Air Force and, later, for an aircraft carrier; Eisenhower refused to build 20 strategic bombers or to begin building Nike-Zeus. The present impoundments involve more than ten times as much money, and a hundred times as many programs, making Congressional examination of the issue inescapable.

Senator Sam J. Ervin, Chairman of the Separation of Powers Subcommittee has more than 50 co-sponsors on a resolution that would require the President to get Congressional approval of any impoundments within 60 days. However, witnesses have pointed out that the President might, after failing to get the approval in sixty days, release the funds and then immediately reimpose them for another sixty days.

A brilliant statement by Ralph Nader, for Public Citizen, Inc., documented the decline of Congressional power, warned against any compromises that might be interpreted in the courts as partial authorizations of impoundment, and suggested that Congressional approval or disapproval of impoundments be handled procedurally, in the same fashion as requests for supplemental appropriations. He urged Congress to establish an Office of General Counsel to protect itself against Executive encroachments on the legislative prerogative.

Concern in Congress over the validity of the charge that Congress is fiscally irresponsible has produced a variety of proposals. For example, Senator Adlai Stevenson (D., Ill.) proposes that Congress set a firm ceiling on spending at the beginning of each year, above which it would not appropriate funds. Under his proposal, at the beginning of each year, a series of rapid fire successive hearings by a Joint Committee on Internal Revenue Taxation, the Joint Economic Committee, and the Appropriations Committees would report out a bill with an absolute limit, and a vote would be taken approving one such limit or another.

In due course, after the usual hearings by all committees concerned, the Appropriations Committees would issue a single appropriations bill calling for expenditures adding up to the approved total. (The bill would also limit "outlays" to control the fiscal impact of the budget.) Amendments on the floor, urging increases, would then have to specify also corresponding cuts. □

NOMINEES FOR VICE-CHAIRMAN SELECTED

The nominations committee has proposed two nominees for Vice-Chairman: (1) Christian B. Anfinsen, biochemist at the National Institutes of Health, 1973 Nobel laureate, and former Vice-Chairman of FAS (in the late fifties); (2) Frances Low, Professor of Physics at MIT, and former Chairman (at different times) of two FAS chapters, one in Illinois and one in Boston. Dr. Low was also chairman of the FAS Ad Hoc Committee on Science, Technology and Education which published its report in the November 1972 newsletter.

The election will be held by mail ballots on April 1st, along with the election for Council members.

RECOMPUTATION: RETIRED MILITARY MARCH ON WASHINGTON

A retirement system for military officers was started during the Civil War. Over the next fifty years, in order to keep the pay for these officers up to the cost of living, a retirement system evolved in which the pay of the retired officer was kept at a fraction (e.g. 75%) of the *current* pay of existing officers, in the rank from which they retired. Thus whenever Captains got a pay raise, all those who retired in the rank of Captain would find that their retirement pay was "recomputed" upwards.

At first, retirement benefits were offered only to a few—those who had served 40 or even 45 years. Gradually, the requirement was dropped to thirty years; it is now permitted at *twenty* years of service. Thus a soldier entering the service at age 17 can retire at age 37 with a pension that begins at once. To such early retirees, the question of keeping up with the cost of living is obviously a very important one. And while relatively few are that young, the average retiree on military pay is 51 years old—his life expectancy is at least 20 more years.

In 1958, military pay was revised and the practice of recomputation was dropped. Instead of recomputation, the retired were given a 6% cost-of-living raise. Pressure immediately began to grow for recomputation—in addition to the 6%. After efforts beginning in 1960, the veterans succeeded in 1963 in getting Congress to pass a "one-shot" recomputation which—their representatives testified more than once—would settle the issue permanently. At the same time, they won a refinement of their cost-of-living system in which they now receive a 4% raise for every 3% increase in the consumer price index. These periodic cost-of-living increases were the Congress' substitute for recomputation. Indeed, since June 1, 1958, the veterans have received cost-of-living increases totaling 58.6% while the cost-of-living went up 47.5%.

In August, the military-retired returned for another "one-shot" recomputation sponsored by Senator Vance Hartke (D., Ind.). They argued that recomputation was a tradition that they had been promised when originally recruited (there is no real evidence for this and a court has rejected the issue). They argued that, without recomputation, more recent retired would get more in benefits than later retired (indeed, this happens in most professions). And they applied pressure. The proposal would have cost \$343 million the first year and \$19 billion over the lifetime of the amendment.

While running for President in 1968, Mr. Nixon wrote the president of the Retired Officers Association a letter endorsing recomputation and blaming Humphrey and the Democratically controlled Congress for not approving it. With a lobby four times the size of Common Cause, and the flag to wave, the retired military had an easy time. More than 45 Senators endorsed legislation for recomputation. And when Senator Stennis opposed the Hartke bill—with the support of the Administration—only three Senators joined him: Buckley, Fulbright and Mansfield. Eighty-two Senators voted for it and ten abstained.

In short, recomputation is one of those issues which Congress finds hard to oppose for political reasons but which has no merit whatsoever. A most courageous subcommittee of the House Armed Services Committee,

ARMED SERVICES COMMITTEE UNDER PRESSURE

Mr. Stennis: Mr. President, on the record of history, there is no such thing as one-time recomputation bill. It just means that this is one for now. There will be another one in 4 or 5 years. That is the history of it. This is just an installment plan on permanent recommendation. Let us not be fooled by terms.

Congressional Record, Senate, August 1, 1972, S12390

It is also important to note that retirement costs are the fastest growing of all manpower costs. Expenditures on retirement pay and benefits in FY 73 show a 260% increase over expenditures in FY 64. The reasons for this cost growth are twofold. First, the average number of retired military annuitants has risen from 411,000 in FY 64 to an estimated 937,000 in FY 73, an increase of about 128%. Second, the pay and benefits per man of these annuitants has increased from an average of \$2944 per year in FY 64 to an average of \$4486 per year in FY 73.

—pg. 100, *Military Manpower Requirements Report for FY-1973, Department of Defense, February, 1972*

chaired by Congressman Samuel S. Stratton, issued a report (H.A.S.C. No. 92-80) on December 29, 1972, saying exactly this. (It can be purchased from the Government Printing Office, Washington, D.C. 20402 for 40¢.) The Committee found: no legal obligation to provide recomputation; no evidence of large numbers of retirees in conditions of economic deprivation; no relationship between recomputation and active-duty retention; no documented evidence that recomputation was used extensively as a career inducement. It noted flatly that "the present retirement system is superior to any system in the private sector."

Earlier, on March 10, 1971, an interagency committee

CONSTITUTIONAL CONFLICT OF INTEREST

Mr. Goldwater: Mr. President, I find myself in a very unusual situation, in that I think I have fought longer and harder to obtain recomputation than any Member of this body. But I stand here today as a retired major general of the Air Force Reserve, receiving retirement income which a Reservist is allowed to do by law. I think I would be voting against principle if I voted for or against the amendment . . .

—*Congressional Record, Senate, August 1, 1972, S12393*

. . . no person holding any Office under the United States, shall be a Member of either House during his Continuance in Office.

—*Constitution of the United States, Article I, Section 6.*

was set up in the Executive Branch by Domestic Council Study Memorandum 14. Its four-man committee included James R. Schlesinger, then Assistant Director of the OMB. The report, which seems to have disappeared from circulation—and may not ever have been shown to President Nixon—suggested a number of changes to encourage military men to stay in service longer than 20 years. It proposed decreased annuities for short-term retirees and increased ones for longer term retirees. It criticized the fact that 20-year service was required before pensions could start since this handicapped management from removing men short of retirement eligibility and was unfair to the men as well.

One goal of the committee was to equalize and make comparable the treatment of military and civilian civil servants. With this in mind, the committee said of recomputation that the evidence was “overwhelmingly” against it: “Compared with the consumer price index method for adjusting civil service retirement annuities, recomputation would be much more generous and without justification under the principle of comparability.” □

BROOKINGS STUDY URGES CUTS IN MILITARY SUPPORT COSTS*

There are three kinds of “support” costs for combat forces. In the first place, “organic” costs refer to support functions of individuals assigned to a combat unit such as maintaining tactical aircraft. Direct Mission Support or Direct Program Support refers to the costs of operating a base, training, or command. Finally, “central” support or “indirect” support refers to centralized supply, maintenance, training and headquarters functions.

The important conclusion for budget-cutting purposes seems to be this: support spending, which grew substantially during the Vietnam war, did not decrease proportionately with the force and manpower reductions that accompanied the winding-down of the war. In particular, the priorities afforded to support activities at the expense of combat forces and their modernization have unbalanced the distribution of defense resources.

The table below shows that indirect support costs went up 48% from 1964-68—much higher than the other indicators and then declined much more slowly in the next five years (20%) than the other indicators. It is thus evident that no one has dealt with “indirect” support. If the proposed fiscal 1974 force had been supported at fiscal 68 levels, \$2.5 billion could have been saved; if supported at 1964 levels, \$4.4 billion could have been saved.*

Among areas of indirect support which could be cut are: recruit training, which costs about \$4 billion per year; pilot training, which costs about \$.5 billion per year (more people are trained as pilots than are needed for careerist reasons); personnel transfers, which normally assume 10% of the Army being shifted around at any one time; depot level maintenance costs, which could produce savings if a mean time between maintenance overhauls was specified; headquarters operations, which are overstaffed and cost about \$1.3 billion per year; base operations, which cost \$8 billion in 1972 to operate 556 installations (hence \$14 million could be saved per installation closed, on the average). □

TOTAL BUDGET CEILINGS INADEQUATE

“The Administration now relies largely on total budget ceilings to manage the defense program. With the return to more decentralized defense decision making, the Nixon Administration reinstated the practice of providing broad financial guidance to the Department of Defense and allowing the services greater freedom in structuring military programs. As noted earlier, the incentives in the system tend to keep support programs relatively fixed and to vary forces as the total budget is reduced.”

... Some Suggested Solutions

Policy decision	Estimated savings (millions of FY 1972 dollars)
Training	
Shorten skill training courses by one week	80
Increase reliance on on-the-job training by 25 percent	150
Reduce pilot training to operational needs	100
Personnel assignment	
Increase average tour length by 2½ months	500
Depot maintenance	
Adhere to FY 1971 level of maintenance	200
Headquarters	
Reduce manning by 25 percent	250
Base operations	
Close “excess” bases	1,000
Total estimated savings	2,280

—Support Costs in the Defense Budget, Martin Binkin, Brookings Institution staff paper, pg. 28, 29, 39.

Table 3. Changes in Defense Forces, Manpower, and Support Costs, Selected Fiscal Years*

Description	1964	1968	Change, 1964-68	1973	Change, 1968-73
Forces					
Army divisions	16-1/3	19	+16%	13	-30%
Commissioned ships	859	932	+ 8%	594	-36%
Air Force tactical squadrons	119	136	+14%	105	-23%
Manpower (thousands)					
Military	2,685	3,547	+32%	2,358	-33%
Civilian	1,035	1,287	+24%	1,036	-20%
Indirect support costs					
Total obligational authority (billions of constant 1973 dollars)	18.9	28.2	+48%	22.2	-20%

*“Support Costs in the Defense Budget: The Submerged One-Third,” Martin Binkin, Brookings Institution staff paper.

FAS DEPLORES ABOLITION OF WHITE HOUSE OFFICE OF SCIENCE AND TECHNOLOGY

(Text of FAS release on January 26; this statement was approved by the FAS Executive Committee)

President Nixon has now decided to disband the Office of Science and Technology in his Executive Office; to abolish essentially the job of Presidential Science Adviser; and to move PSAC, in one sense or another, to the National Science Foundation. Thus, while the Executive Office of the President continues to expand in numbers of entities, the scientists are being moved in the opposite direction toward a lesser and more subordinate role. We view with dismay and alarm this further decline in the role of scientists in Government. We believe it reflects the fact that PSAC scientists have been calling the shots as they see them. Their very objectivity makes the Administration question their reliability.

The decision of President Eisenhower to appoint a Presidential Science Adviser was a wise one. Under his Administration—and the subsequent Administrations of Presidents Kennedy, Johnson and Nixon—the Presidential Science Adviser and his President's Science Advisory Committee (PSAC) provided Presidents with competent and disinterested information on a wide range of important issues: the arms race, military policy, space, atomic energy and many others. PSAC had no bureaucratic ax to grind. And PSAC had the expertise to let the President know that side of the issue that DOD, NASA, AEC, and other agencies were often less interested in emphasizing. Thus PSAC was an indispensable part of Presidential checks and balances in the always difficult job of getting the facts and keeping the bureaucracy in line.

We wish the NSF and its Director well in trying to fulfill some of the roles of the Science Adviser. But we are sceptical that this job can be done from the NSF. Before OST and the Presidential Science Adviser's job was created, NSF did have the authority to review science-related programs, but it never functioned as a watchdog

for the major science-related agencies: DOD, NASA, and AEC. Only a collection of scientists in the White House, with access both to the Departments and to the President, can really do that. Instead of being positioned to whisper in the President's ear, we anticipate that NSF will be at least one, possibly two, levels below that.

As the issues of national policy become more complicated, the voice of science becomes more necessary. We believe that disinterested expertise should be sought rather than suppressed. The policies being followed by the Administration, in downgrading science, are leaving the scientific community with an ever greater feeling of frustration. It is no accident that our own Federation, a unique public interest lobby, is growing at the rate of 60% each year and now includes 40% of American Nobel Prize winners. The scientists are, in desperation, taking their case to the Congress. □

de TOCQUEVILLE ON PATRIOTISM

"There is one sort of patriotic attachment which principally arises from that instinctive, disinterested, and undefinable feeling which connects the affections of man with his birthplace. This natural fondness is united with a taste for ancient customs and a reverence for traditions of the past; those who cherish it love their country as they love the mansion of their fathers. . . .

But there is another species of attachment to country which is more rational than the one I have been describing. It is perhaps less generous and less ardent, but it is more fruitful and more lasting; it springs from knowledge; it is nurtured by the laws; it grows by the exercise of civil rights; and, in the end, it is confounded with the personal interests of the citizen. A man comprehends the influence which the well-being of his country has upon his own; he is aware that the laws permit him to contribute to that prosperity, and he labors to promote it, first because it benefits him, and secondly because it is in part his own work."

DEMOCRACY IN AMERICA

March 1973, Vol. 26, No. 3

FAS NEWSLETTER

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