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BUDGET RESOLUTION PASSES: NSF APPROPRIATIONS GIVEN BOOST

As noted in the last Update, a budget resolution agreement could positively affect the FY 1988 appropriation for the National Science Foundation (NSF). On June 22, House and Senate conferees reached such an agreement, which increases the Science Function by $1 billion above the House-passed figure.

Earlier in June, the HUD-Independent Agencies Appropriations Subcommittee, using the smaller figure in the House budget resolution, cut $150 million from the administration's request during its markup of NSF (see Update, June 19, 1987).

However, when the full House Appropriations Committee met on June 25, Rep. Edward Boland, Chair of the HUD-Independent Agencies Subcommittee, was able to offer an amendment increasing the NSF appropriations for FY 1988 by $100 million. The additional funds were divided between Research and Related Activities ($80 million) and the Antarctic program ($20 million). The bill, which passed the full appropriations committee, leaves the Foundation $50 million below the administration request, but with a 13.6% increase over the FY 1987 appropriation. Research and Related Activities receives a 10.6% increase, and remains $80 million below the request. The Antarctic program receives its requested 22% increase. All the programs protected by the...

The Science and Engineering Education Directorate, which received increases of 26% over the request and 47% over FY 1987 funding, was given special attention in the Committee's report. The report notes: "[The Committee] believes that for too long this activity has been severely 'shortchanged.'" Pre-college science education was targeted for a major effort, including increased funding for teacher preparation and enhancement and materials development. The report added that part of the funds for the latter may be used for continued research in teaching and learning. This compensates for the $3 million transfer of funds to the College Science Instrumentation Program from the $4.3 million requested for research in teaching and learning.

The action by the full House Appropriations Committee makes probable a significant increase for NSF in FY 1988. The full House of Representatives was expected to act on the bill before leaving for the July 4th district work period. However, the bill was removed from the House calendar abruptly, perhaps not to reappear until September, for reasons open to speculation. There was some concern that the bill was vulnerable to an across-the-board reduction amendment. Another reason suggested was Rep. Boland's time-consuming role on the Iran-Contra investigating committee. There is the 'conventional wisdom' that Congress will try to avoid President Reagan's veto strategy by presenting him with one huge 'take-it or leave-it' omnibus appropriations bill in late September. As part of this strategy, the Democratic leadership may have decided to hold up floor consideration of the HUD-Independent Agencies bill.

As the House waits until September, the focus of efforts to secure the significant increase for NSF shifts to the Senate HUD-Independent Agencies Appropriations Subcommittee chaired by Sen. William Proxmire (D-WI). Although the Senator earlier expressed doubt (see Update, March 27, 1987) as to the Subcommittee's willingness to support the administration's full 16.5% requested increase for NSF, there may be a chance that he will be persuaded to change his mind, given the supportive actions of the NSF authorizing and appropriating committees so far.

COSSA WELCOMES NEW AFFILIATE

COSSA is pleased to announce that the Federation of State Humanities Councils has become an Affiliate of the Consortium. The Federation is a national membership association representing public programs in all humanities disciplines. It provides support for the state humanities councils, and strives to create greater national awareness of the importance of the humanities.
Hearings Held on Visa Denial Legislation

On June 23, 1987 the House Subcommittee on Immigration, Refugees and International Law, chaired by Rep. Romano Mazzoli (D-KY), conducted a hearing on the "Immigration Exclusion and Deportation Act of 1987" (H.R. 1119). This bill, introduced by Rep. Barney Frank (D-MA), would repeal parts of the McCarran-Walter Act to ensure that the government may not exclude or deport people from the United States solely on the basis of political ideology. (For further background see Update, March 27, 1987.)

Abraham Sofaer, Legal Advisor to the State Department, and Alan Nelson, Commissioner of the Immigration and Naturalization Service (INS), were the main witnesses. Sofaer and Nelson agreed with most of what Rep. Frank was attempting to do. The State Department promised the Subcommittee a legislative package within 30 days that would provide suggestions for improvements in the bill. Sofaer indicated that the Department had issued approximately 45,800 visa denials under one section of McCarran-Walter, and 45,200 waivers of the denials under another section of the law. Therefore, Sofaer argued, changes are welcome from a bureaucratic point of view.

Echoing Secretary of State George Shultz's remarks at the PEN writers conference, Sofaer testified: "We have no wish to exclude any person simply because of his or her personal political views or associations." All agreed, however, that terrorists and criminals and those who engaged in terrorist or criminal activities should be kept out. The problems State and INS had with H.R. 1119 centered around the question of excluding people whose presence in the United States the Department believes would be detrimental to U.S. foreign policy interests. Sofaer noted: "We are committed to reconciling the concerns of both Congress and the Executive Branch to protect the free exchange of ideas while at the same time protecting important security and foreign policy interests." Nelson also noted that "substantial considerations of foreign or domestic policy or both will militate against the admission of particular individuals." Frank disagreed, arguing such exclusions are not justified in a free and democratic society.

The bill also includes judicial review of visa denial decisions, a provision the State Department and INS vehemently opposed. Rep. Steny Hoyer (D-MD), Chairman of the Commission on Security and Cooperation in Europe (the Helsinki Commission), testified vigorously in favor of the legislation, noting the McCarran-Walter Act was an "internal embarrassment" to the United States in its attempts to foster compliance with the human rights provisions of the Helsinki accord. Chairman Mazzoli suggested things could be worked out with the State Department to produce a bill this session.
DEBATING THE FUTURE OF THE NATIONAL SCIENCE FOUNDATION

The June meeting of the National Science Board (NSB), the body that formally governs the National Science Foundation (NSF), is typically a broad look at the year in progress and a discussion of how things may look for the NSF a couple of years hence. In June, the NSF’s current year is winding down (with most of the themes, proposals, and awards known); the administration’s intentions for the next year’s budget are known, and the question is only what Congress will do to it; and the budget for the year following that is under preparation internally.

The NSB meeting that took place on June 18-19, followed on June 22 by a meeting of the NSF’s Advisory Council which covered much of the same ground, seemed to the participants like a watershed, with the Board and the NSF management looking far back and far forward. Some of the participants spoke of a ‘sea change.’ In FY 1986, after all, under Gramm-Rudman-Hollings, there was a sequestration, and the Foundation’s budget diminished for the first time since the early 1980s. There were predictions (COSSA’s, among many others) of hard times ahead for NSF, of cuts across the board, and of a temporary end to growth.

NSF Director Erich Bloch and the Board, faced with stagnation or worse, picked up the rising anxiety over economic competitiveness and built on a 1986 White House Science Council report (the Packard-Bromley report that analyzed the poor state of university-based scientific research) to set an aggressive goal: doubling the NSF budget in three years. The administration budget office modified this somewhat, but the goal is still a doubling in five years, by FY 1992. This would involve about a 17% increase in FY 1988, and about 14% each year thereafter.

At the meeting, the NSF and NSB were, thus, looking at FY 1992 from a point of view that would have seemed ridiculous a couple of years ago. Whether or not Congress provides a full 17% increase for FY 1988, it is still likely that real growth will occur at the Foundation during the rest of this administration, at least, though the dynamics of change may alter slightly.

This year’s State of the Union address called for conducting more basic research, for increasing our economic competitiveness, and for the strengthening of universities’ research capacities in terms of grant funds, the support of people, and the improvement of the infrastructure. The address added one more element: increased federal funding for large-scale, coordinated research, fundamental in nature but to some degree targeted to areas of technological promise, and involving in some form the participation of industry and the states and attention to the ‘transfer’ of knowledge from research to development. Though these general themes were in the Packard-Bromley report, the NSF leadership came up with the most attention-getting mechanism: the creation of large-scale, multidisciplinary, university-based science and technology centers.
NSF funded centers are to involve research, training, and transfer efforts. In keeping with the ethos of fundamental -- i.e., field-determined -- research, the areas of concentration are not to be preselected. However, after review for scientific merit, clearly, some consideration will be given to whether these areas are relevant to competitiveness and the research-to-technology promise. NSF's current thinking is that centers could be intradisciplinary, where appropriate, and that more than one center can be funded at a given university. The form of participation by other sectors (states, industry, national laboratories, et al.) remains to be worked out. Typically, a center grant might run about $2-$4 million a year. There might be a 10-year cut-off policy, with commitments of funds for three years at a time, with rigorous reviews every few years.

A recent study by a special National Academy of Sciences committee, "Science and Technology Centers: Principles and Guidelines," emphasized the advantages science and technology centers have in the Foundation's research portfolio and their contributions to science and to the nation's economic competitiveness. Yet, it cautioned that "Great care will be needed to keep the science and technology centers program in proper balance with other modes for supporting U.S. science." The NAS committee also recommended that centers need not involve heavy investment in facilities or instrumentation, and could involve a network of investigators across institutions.

The interaction of themes -- NSF doubling, competitiveness, and 'big science' centers -- produced one of the more turbulent NSB meetings in recent years. On competitiveness, everyone acknowledged the possibility of overselling the role of fundamental research, especially since the NSF cannot go far toward ensuring 'transfer,' product development, and the like. Director Bloch simply argues that a nation cannot be competitive without knowledge generation, without the education of scientists and engineers, and without at least providing the scientific mechanism for R&D transfer. Some members of the Board and the Advisory Council continue to worry about a backlash from overselling science, but do not believe that the NSF leadership is doing the overselling.

The increasing prominence of research centers, however, stirs up a good deal of skepticism about whether you can coordinate and partially target scientific work on the campus; about the balance between centers and individual grants; and about issues of merit review, 'haves' versus 'have-nots,' and the like.

Asked about the difficulty of reviewing multidisciplinary proposals for merit, Bloch admitted, "We have problems in reviewing multidisciplinary proposals; everyone tells us it's true...and it is true." The NAS study suggests levels of sequential review that may help. In terms of big science/little science issues, Bloch emphasized that coordinated research is nothing new in the NSF portfolio. There is large-scale coordinated multi-investigator research in all the directorates, and there are many examples of
research 'groups,' which is NSF's term for multi-investigator research without a special administrative structure and long-range funding plan. NSF intends to increase its support of groups as well as centers, in order to build flexibility and take advantage of existing scientific affinities. Part of the issue is a terminological or accounting one; for example, some 38% of investigators currently funded in the disciplinary programs regard their own research as 'interdisciplinary.' In addition, though FY 1988 figures suggest a faster rate of increase for centers and groups than for individual investigators, that increase is on a much smaller base. Moreover, the budgeted increase for individual grants includes a substantial upgrading of facilities (in this context, not bricks and mortar, but instrumentation, databases, etc.), in the service of individual research. Some thoughtful NSB and Council members remarked that individual investigators do not really work alone, anyhow, or that "disciplines don't exist to discover knowledge, but to transmit it."

Despite this, the Board was uneasy. There was concern over pooling most of the best talent in a special subfield in one structure, which might create a scientific monopoly at that center. There was more concern about a reversal of good budgets: if bad times come, can NSF close down some centers? Without harming the universities they are meant to enrich? Without kicking up political storms? Bloch and his colleagues said that it had been done before, and could be done again; there was some doubt among his auditors. "Centers cast long shadows" was the phrase. Bloch emphasized that by FY 1992, about 8% of NSF's research budget would be for centers, and that centers, like the grant portfolio, are phased in and out over a number of fiscal years.

One Board member warned against premature NSF targeting of areas (despite the official rhetoric), pointing out that some directorate projections handed out at the meeting spoke in advance of two centers in this division, four centers in that. Other Board members wondered whether industry really needed basic research, rather than applied research. Others questioned what evidence there was for the crucial role of multidisciplinary research ("who says the 'ferment' is at the interdisciplinary frontier?"). Others deplored central planning in science, or were worried that universities would over-commit their own resources to centers, some of which inevitably would not pay off.

In the end, consensus developed on only one principle: it all comes down to balance and good scientific management. The long-term risk, not lost on the board, is that NSF has justified its daring demand for more funds by promising centers, growth in science and engineering education, more individual investigators, larger grant sizes, and improving facilities -- all wrapped within the competitiveness mantle.

Since there was no focus in these meetings on specific fields, there was little mention of behavioral and social science. It was widely pointed out, however, that competitiveness and the research-development relationship needed a lot more empirical social science research. In the words of one Advisory Council member, "Much is known by the much-maligned social sciences."
SOURCES OF RESEARCH SUPPORT: NATIONAL SCIENCE FOUNDATION

COSSA provides this information as a service, and advises readers to contact the agency rather than COSSA for more information. A comprehensive list of federal funding sources is contained in COSSA’s Guide to Federal Funding for Social Scientists.

History and Philosophy of Science Fellows Program

At its May 22nd meeting, the National Science Board authorized the National Science Foundation to initiate a new postdoctoral fellowship program for scholars interested in the history and philosophy of science. The program, which will be administered through the NSF History and Philosophy of Science Program, has two components: (1) fellowships for individuals who have recently received the doctorate in the history of science; and (2) fellowships for senior scientists. Recipients will spend one year conducting original research at an institution other than their own, working with a sponsoring senior scholar.

The program is designed to meet the growing need for experienced scholars in the history and philosophy of science in light of the expected retirement of many senior scholars over the next few years. Other important factors underlying the decision to create this program are the increasing methodological sophistication of scholars in the field, and the need to encourage greater interaction between scientists and engineers and historians and philosophers of science.

Ten awards a year will be made to scholars who have earned a doctoral degree in the history and/or philosophy of science within the five years preceding the year of award (in the case of this year’s competition, December 1, 1982 to January 1, 1988). Up to four senior fellowships will be awarded to experienced scientists or engineers who wish to enhance their knowledge and methodological skills in the history and/or philosophy of science and technology.

Projects involving all time periods and fields of science are eligible, although proposals on 20th-century topics are particularly encouraged. Topics in the social sciences are welcome.

Restrictions on awards: The fellowships carry an annual stipend of $18,000, plus $1000 for research costs and a $2000 grant to host institutions. Scholars may choose to spend the year at a foreign institution, although in that case there is no institutional grant.

Deadline: The deadline for applications is December 1, 1987 for fellowships beginning between May 1, 1988 and March 31, 1989.

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