

Congress, Confusion, and Indirect Costs

Legislators misdirect concerns about academic research.

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There can be no doubt that government sponsorship of academic research has created a troublesome nexus between universities and the federal establishment. The benefits to society of sponsored research for the most part are indisputable, and will not be at issue here. It is an auspicious time, however, to examine the character of the government-university relationship as it is shaped and reinforced by the well-established system by which the government underwrites in part the costs of mission-oriented research undertaken by university-connected scientists. A recent attempt by the United States Senate to reimpose, in the so-called "Mansfield Amendment" to the Department of Defense (DOD) appropriations bill, an arbitrary limitation on reimbursement of indirect costs connected with DOD research grants and contracts, illustrates the problems that seem to inhere in this aspect of government-university affairs. The Mansfield Amendment, its disposition, and its implications, are discussed below, after a brief description of the salient features of government-financed university research.

Universities Pay for Federal Grants

Financially compromised university presidents might cheer Glenn Seaborg's remark that "... the idea has been established irrevocably that science, being both important to the general welfare and expensive, must receive its major support from the Federal Government" (1). I should suppose, nonetheless, that a lustier cheer from the same beleaguered presidents would attend the re-

mark of Yale's graduate dean John Perry Miller: "We cannot afford much more bounty upon the terms on which we have been receiving it" (2). In the judgment of many persons, the system of project support has contributed to a fragmentation of authority within institutions, a growing neglect of the teaching mission, distortion of institutional priorities, and a bundle of costs—not only fiscal in nature, but social and psychological costs as well—that are involved whenever institutional resources must be withheld from activities not federally supported in order to help defray the indirect expenses of maintaining federally funded projects.

Unlike profit-making industrial contractors, universities have always been expected by Congress to share in the costs of federally sponsored projects. The rationale is that research is one of the three primary functions of the academy, so that the government is simply "subsidizing" an activity that the institution would be engaged in to the extent of its capacity in any event. Thus, for many years there was a statutory limitation on full reimbursement by the sponsoring agency of the indirect costs borne by the university in connection with research projects. The percentage limitation, however, was naive in its conception and uneven in its impact. It failed to account for differences in types of research projects, but more important, its application was destined to be irrational because of the variance among institutional accounting methods. For example, both "indirect" and "direct" costs are real costs. The distinction between them is artificial, being determined, within the appropriate Bureau of the Budget guidelines, by institutional management procedures. An additional problem with percentage limitation is that the same dollar amount

of reimbursement for indirect costs would vary in its percentage of direct costs, depending on whether the indirect cost rate is calculated on the full direct costs of research or on salaries and wages. Thus, the manner of sharing in the costs of research is one complex problem that illustrates how Congress, acting on a legitimate and proper concern but without adequate understanding of the implementing mechanisms, can impose nettlesome restrictions on institutions, often beyond those intended in the law.

A more fundamental problem in the university-government research relationship is a prevalent inability among decision-makers to distinguish the scientific community from the academic community (3). In this age of professional entrepreneurship, the elite of the scientific establishment—those who receive and advise on the awarding of research grants and contracts—usually are regarded by members of Congress as the legitimate representatives of higher education, or are mistaken as official spokesmen of their institutions. Government support for an individual scientist's project consequently is mistaken as a subsidy to the institution with which his name happens to be associated at the time, when in fact the institution must transfer funds that might have gone for other purposes to pay the indirect costs of the researcher's undertaking. This is the kind of confusion that can lead Senator Mansfield, for example, to make such a statement as:

The grantee has always insisted upon an additional award which is claimed necessary to prevent a loss of money occasioned by accepting the Government grant. The Government is simply giving away money to help spend money that it has given away. This amounts to a subsidy on top of a subsidy. Such a practice should at least have a ceiling [(4)].

The university, of course, is not the grantee. Rather, the university and the government together are incurring costs in order to support the research of individual scientists, some of whom display little loyalty to the institution and others of whom are patently remiss in meeting their other institutional responsibilities, such as teaching. Ironically, when the Senate reacted with Mansfield's amendment to a situation that it in some vague way found to be disconcerting, the remedy was aimed at the institutions rather than at the grantees.

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Mansfield Amendment and Its Background

When H.R. 18707, the appropriations bill for the Department of Defense, was before the Senate for floor consideration on 3 October 1968, Majority Leader Mike Mansfield (D-Mont.) introduced an amendment to add the following section to the bill:

No part of the funds provided in this Act shall be used to pay any recipient of a grant or contract for the conduct of a research project an amount for indirect expenses in connection with such project in excess of 25 per centum of the direct costs.

Senator Mansfield reportedly introduced the amendment at the behest of and with the unanimous approval of the members of the Senate Appropriations Committee who were present when the issue was discussed in committee.

After considerable discussion, which indicated that several senators were troubled by the costs of research but were unable to pinpoint the source of the problem, the Senate adopted the amendment by a vote of 47 to 19 (5). Later, when Senate and House conferees met on the bill, the House members prevailed upon their Senate counterparts to accede to a deletion of the Mansfield language. The conference committee in its report, however, included the following language:

It is felt that new and comprehensive studies should be made of this entire area by the General Accounting Office, appropriate legislative committees and the Appropriation Committees.

The studies should be directed towards achieving a uniform formula for the ascertaining of indirect costs on research grants throughout the entire government.

The government should set the basis for indirect costs based upon sound accounting principles and the committee feels that if such allocation is properly made between direct and indirect costs, it appears that the proper proportion of indirect costs to direct costs should not exceed 25 percent [(6)].

Had the conferees (and subsequently the two chambers in their adoption of the conference report) accepted Mansfield's amendment, the effect would have been to turn back the clock to that period of time before 1966 when there existed similar percentage limitations on the reimbursement of indirect costs. In 1965 higher education had scored a "victory" (which now has come dangerously close to being Pyrrhic—and

may yet be) when the arbitrary limitations were removed in the appropriations acts for fiscal 1966, and there was substituted a more general provision requiring cost sharing. Much of the impetus for a change in the language came from Representative Emilio Daddario's (D-Conn.) subcommittee of the House Committee on Science and Astronautics. The subcommittee on Science, Research and Development had held hearings in May and June of 1964 on the indirect costs question. In its report the subcommittee had recommended that the flat percentage limitation be eliminated, and that the Bureau of the Budget promulgate a new set of guidelines for cost sharing (7).

Within the House Appropriations Committee, the late Representative John Fogarty (D-R.I.), along with former Representative Melvin Laird (R-Wis.), had exerted influence in 1965 to convince both the House and Senate committees to modify their stands. The appropriations acts for fiscal 1966 made cost sharing mandatory on the part of the universities, but left it up to the individual agencies to negotiate the amount.

Although not all universities have been particularly happy with the mandatory feature of cost sharing, arguing that cost sharing is inevitable anyway, and that the institution incurs indirect costs much more extensive than those that are "allocable" under Budget Bureau Circular A-21, nonetheless hardly anyone with administrative responsibility in the academic community would prefer the earlier procedure of setting an arbitrary limitation on the recovery of indirect costs. Senate adoption of the Mansfield Amendment, therefore, came as a shock to higher education.

There had been, however, some earlier indications of unrest in the Senate. Senator Allott (R-Colo.) consistently had made queries concerning indirect cost rates during appropriations hearings (8). Others on the committee had echoed Allott's concerns. Moreover, there had been periodic snipings at the titles of research projects, perhaps reaching a high point during the 1968 hearings on independent offices appropriations in the Senate at which time a number of projects sponsored by the National Science Foundation were the objects of ridicule. But most, if not all, persons in the academic community had come to regard the indirect costs issue as essentially settled.

Plausible Reasons for Introduction of the Amendment

What, then, explains the action of the Senate? I would suggest that there is a cluster of motivations involved. At least five basic concerns have been expressed recently by members of Congress and other observers of the university-government relationship. Each of these, I believe, in some way provided motivation for the move to reimpose an arbitrary ceiling on the recovery of indirect costs of research.

Defense expenditures and the growth of a military-industrial complex. Many of the more liberal members of the Senate, among them Senator Mansfield, have been bothered by the proportion of the total budget that is allocated to the Department of Defense, and by the consequent influence that DOD has in society. There is a concern in this regard, shared quite obviously by many faculty and students, that the integrity of universities is jeopardized by too cozy a relationship with the Defense establishment. On 19 April 1968, Senators Mansfield, Fulbright (D-Ark.), and McGovern (D-S.D.) criticized DOD sponsorship of social science research, not because they were opposed to government support of the social sciences, but because of the implications of such support coming from the Defense Department (9). Mansfield and others have felt that DOD has assumed too large a share of the sponsorship of academic research, and that this is largely because of the relative ease with which its projects are funded by Congress (10). Harold Orlans has expressed this general concern in the form of a question:

Sooner or later, a discussion of the effects of federal programs comes to one large and overriding question: Has the academy been in any way suborned? Has the dispassionate pursuit of truth been redirected to the pursuit of truths useful to government and to that subgovernment to which the power of sparing life or inflicting death has so often been delegated: the Department of Defense? [(11)].

Imbalance between teaching and research. Dean Miller of Yale has described the "diversion of the attention of faculty from teaching to entrepreneurship" which results from the system of project support (12). Orlans presents data to show that in 1961, 23 percent of the professional personnel in science and engineering employed by universities were not faculty members

(11). Add to this the number of full-time faculty who seldom teach undergraduates, and one can understand the complaints of students and administrators that teaching is being neglected. The reward structure for professors reinforces the inclination to disregard the importance of instruction. One might argue that it is not the business of Congress, or of the Executive Branch, to judge the operative priorities of academic institutions. But a man of impeccable ethics, such as Senator Mansfield, must justify to himself the probable implications of any legislative vote that he casts. Mansfield, importantly, has indicated that he does not believe that even graduate education ought to be funded primarily through the project system. He said, during floor debate on his amendment:

It is indeed essential that a strong educational system be maintained at the graduate level in our country and that we continue to expand and improve these institutional facilities. But Federal subsidies provided in the form of indirect overhead research allowances are not the proper way. Is it necessary that we so conceal this emphasis on graduate education? Can we not fund directly and in the open what now goes through the back door in the way of exorbitant overhead charges? [(12)].

Linked to these first two concerns is the current atmosphere of student unrest that permeates nearly all of American higher education. Members of Congress may not approve the activities of student rioters, but they are not unmindful of what frequently are given as the issues: university contamination through military-sponsored research, and a disregard for undergraduate teaching and meaningful student-faculty or student-institution relationships.

A lack of economy in Defense spending. For years members of Congress have complained about the need to get "more bang for the buck." On 2 October 1968, the day before the Senate took up the Mansfield Amendment, Senator Stuart Symington (D-Mo.) announced his intention to vote for the amendment, and explained his reasons. Symington expressed the belief that research money was being wasted on non-essentials. Symington remarked that "... recent testimony has revealed that the overhead on these university research programs—that amount paid to university administrators for the overseeing of contracts—in many cases now exceeds the amount going into actual research" (13).

Need for more "equitable" distribution of research funds geographically and among institutions. Senators from the South and the West (or from virtually anywhere but California and Massachusetts) have long sought to influence a wider dispersion of federal money for research. Although the Johnson Administration successfully sponsored several programs—such as THEMIS—to effectuate this desire, debate on the Mansfield Amendment indicated that the present pattern of project awards still is unsatisfactory to several influential members. The institutions that were going to be "hurt" by the amendment, therefore, were not those which were dear to the amendment's chief proponents, but rather the powerful and prestigious institutions that received a disproportionate share of federal research "support" (14). Senators Mansfield, Allott, and Richard Russell (D-Ga.) commented as follows with reference to this point:

Russell: We hear the cry from the smaller and poorer educational institutions when these things come up and they do not get the crumbs that poor Lazarus got from Dives' table.

They get a small amount directly received, and it is wholly insignificant when compared to the totality of the amount received by what we call the Ivy League—what they themselves call the Ivy League, and we follow them in calling it the Ivy League—and some larger institutions on the west coast [(15)].

Mansfield: ... it is the private institutions, some of which are subsidized almost entirely by the Government, that get the gravy under these programs and it is the land-grant colleges that get the droppings [(16)].

Allott: ... if we tighten up the research provision in this bill, and keep it tight in the future, we are not going to find all of the research money spent in this country, or the great bulk of it, spilling into a small area on the eastern coast and two or three big institutions on the west coast; rather, we will have more money available for research throughout the length and breadth of this country, and particularly in our land-grant colleges and universities in the West and Midwest [(17)].

An urgent need for congressional monitoring of the research enterprise. Notwithstanding the genuinely high caliber of performance on the part of the Daddario subcommittee, or of Senator Fred Harris' subcommittee on research in the Senate, there apparently exists a strong feeling within the Senate, particularly among members of the Appropriations Committee, that there must be a more continuing congressional sur-

veillance of federally sponsored research. Senator Gordon Allott, an important member of the Appropriations Committee, for some time has advocated the establishment of a Joint Congressional Committee on Science and Technology. Moreover, the debate on the Mansfield Amendment revealed an abiding frustration on the part of otherwise powerful senators who believe that there is something wrong with the sponsored research system, and that they are unable to evaluate the procedures much less influence any necessary or appropriate changes. Senator Mansfield spoke during the debate as follows:

The real purpose of this amendment is to focus much needed attention on this area that has been greatly neglected in the past; to encourage further scrutiny, not only by Congress but by other Government and non-Government institutions as well; and to demonstrate that this is but the beginning of an in-depth evaluation that will continue over the months and years ahead [(18)].

Questions and statements expressed by other senators, such as Russell and Pastore (D-R.I.), indicated that they, too, are anxious that the question of federally sponsored academic research be studied thoroughly, and that some continuing means be established whereby Congress might assert itself knowledgeably respecting the matter.

In addition to the fundamental congressional concerns that underlie the occurrence of the Mansfield Amendment, a more proximate explanation for its introduction rests in an exchange of letters between Senator Mansfield and Philip Handler, chairman of the National Science Board. On 12 September 1968, Mansfield by letter asked Handler two basic questions: (i) What categories of university activities are dependent on federal research funds? (ii) Would it be possible to continue the current pace of academic research with a reduced federal expenditure by imposing some limits on the expenditure of the federal grant for other than research itself? (19). Handler responded on 16 September 1968, with a lengthy letter that included, about midway into the text, the following statement: "Please understand that this analysis is provided not to deplore the manner in which the funds were utilized. Indeed, quite the contrary is the case" (20). The Handler letter, although written apparently to explain the workings of the current system and to dispel unwarranted Congressional doubts, neverthe-

Table 1. Utilization, at the universities, of all federal funds in support of research, fiscal year 1967.

Category	Object titles in agency budgets (\$ million)	Actual utilization (\$ million)
Research projects	1246	426
Institutional funds	103	542
Departmental funds	92	473
Development funds	40	40
Facilities	166	166
Fellowships	24	24
Total	1671	1671

less was susceptible of damaging misinterpretation. The most important conclusion that Mansfield and others reached from Handler's letter was that of \$1.67 billion in federal money appropriated for academic research, only \$426 million was used for the actual conduct of research. The data table which appeared in Handler's letter is reproduced verbatim in Table 1. Handler interpreted it this way:

What is most striking in the table [Table 1] is that whereas one billion two hundred and forty-six million dollars of the funds utilized were identified simply as research support in agency budgets, only four hundred and twenty-six million were utilized for the support of research in the most immediate sense.

The ambiguity of the above presentation led to the conclusion by Mansfield that "Of the \$1.67 billion just \$426 million was actually expended on direct costs of research projects. A disproportionate \$1.2 billion, or about 75 percent, was expended on indirect or overhead costs" (21). The other five object titles, however, are separable from research projects and are funded independently of research projects; the allocation of federal money to these programs does not constitute indirect cost payments on research projects. That the federal government, at the level where it employs the broadest categories, lumps these six object titles together under the heading, "support of academic research," does not justify the conclusion that the provision of graduate fellowships, for example, constitutes an indirect cost of sponsored research. Moreover, even if the aggregate overhead rate were calculated more correctly, as a percentage relationship between \$1.2 billion and \$820 million (the difference between \$1.246 billion and \$426 million), the figure in isolation would have little analytical meaning. The percentage

relationship itself reveals nothing about the fairness or justness of indirect cost reimbursement at whatever level. The academic community has to realize, however, that such figures do cause concern in Congress.

Federal support of graduate students has never been justified on the basis of its contributing to research, but has constituted a separate line item for the furtherance of graduate education. Moreover, a graduate student who performs academic research associated with a sponsored project is meeting a manpower requirement that, if the same research were conducted by a non-university contractor or grantee, surely would be considered a direct cost.

A similar point needs to be made with respect to faculty salaries. Universities have expanded their faculties in order to facilitate released-time arrangements for the conduct of sponsored research. The same persons, outside of a university context, would have their full salaries charged as part of the direct costs of the sponsored research project.

The basic problem with the Handler letter is that it neglected the very important task of explaining to the Senate just what indirect costs are. Second, it presented data in such a manner as to suggest distinctly that virtually any federal funds channeled to universities for any purpose related to the conduct of research are paid to the recipient as indirect costs charged against sponsored research projects. Senators still believe, therefore, that money which the federal government intends to spend on the conduct of research is siphoned off by the host institution in order to pay the salaries of janitors, deans, and members of the faculty.

Implications of the Recrudescence of the Indirect Costs Issue

The fact of its introduction and passage by the Senate, and not the fact of its elimination by the conferees, should be the more compelling feature of the Mansfield Amendment for the academic community. The conference report, moreover, did state that 25 percent "seems" to be a justifiable maximum indirect cost rate, and did call for continuing study of the entire overhead question. Congress, presumably, is dissatisfied and suspects that the present cost-sharing arrangements might be the source of its dissatisfaction. What are

the implications of the recrudescence of this issue?

The most immediate concern is in determining what the government plans to do. The conference report calls upon the General Accounting Office (functionally an arm of Congress), the appropriate legislative committees, and the Senate and House Appropriations Committees to study the question of federally sponsored research. The primary focus will be on cost-accounting procedures, even though the conferees directed that the studies be both "new" and "comprehensive." The Daddario subcommittee plans to study the matter again. During the Senate debate Mansfield mentioned also, in response to questions asked by Senator Russell, regarding whether Congress is going to "get a definition of indirect expenses," that the General Accounting Office "... has in the works a study which is about completed and which it expects to release shortly" (22).

The academic community has the immediate task of preparing in understandable terms the necessary documents directed at clarifying the question of indirect cost for members of Congress. But beyond that, there now is even more evidence than there was before that a clear distinction must be made between the "academic community" and the "scientific community," and that the message must be transmitted unmistakably that support of scientific research is not correspondingly support of institutions. It is not obvious to Congress, but it must be made obvious, that university presidents and the associations that represent institutions are the legitimate spokesmen of higher education in the policy-making process.

That the indirect costs issue could have run so far afield indicates also that there is a need for the assertion of presidential authority on campus, or, through the president, the assertion of the general interests of the academic community when necessary in order to checkmate the self-interested and increasingly autonomous activities on the part of a small fraction of the faculty. The use of an institutional committee to approve allocation of the necessary matching requirements before any grant or contract could be accepted would serve not only to buttress administrative coordination of campus research activities, but also would impress upon faculty the extent of institutional commitments necessary to accommodate externally supported projects.

At the collective level, the following three actions, presented in ascending order of plausibility, could be taken.

1) Universities could agree among themselves not to accept on the part of their faculty any research grants or contracts that did not provide for full reimbursement of indirect costs. It is extremely doubtful, academic competition being what it is, that any agreement of this kind could be reached, or that it could be monitored effectively if it were promulgated.

2) Institutions could attempt to use more uniform accounting procedures so that it would be unnecessary in the future to attempt to explain to members of Congress a wide variation in indirect cost rates. Difficult as this objective might be to achieve, its implementation looks more and more necessary if the university-government dialog is to be improved.

3) Institutions of all kinds can coalesce behind proposals to provide general-purpose federal support for higher education institutions—probably not as a substitute for, but as an addition to, project support. Such proposals are imminent. The rationale for general support cannot be divorced from an assessment of the conditions imposed by the present project support system. As a matter of fact, members of Congress are bound to ask why general support is necessary when higher education already is getting over \$1 billion in research support, along with smaller amounts in other categorical programs.

Unquestionably it will be essential to distinguish between support of science and support of higher education more broadly conceived. The process of making that distinction—and of making it clear to Congress—surely will involve a sensible explanation of the indirect costs question.

References and Notes

1. G. T. Seaborg, remarks delivered on acceptance of the 1968 Arches of Science Award, Pacific Science Center, Seattle, Wash., 16 October 1968.
2. J. P. Miller, presidential address before the Association of Graduate Schools in the Association of American Universities, San Francisco, Calif., 21 October 1968.
3. I have discussed the emergence of a higher education policy system and the inhibitions placed upon its development by this same confusion. In an important sense, the early development of a science policy system pre-empted the territory of a higher education policy system. L. K. Pettit, *Legislative Breakthrough in a Policy System: The Higher Education Facilities Act of 1963*, in preparation.
4. *Congressional Record*, 3 October 1968 (daily ed.), p. S11963.
5. *Ibid.*, p. S11971. Prior to passage of Mansfield's amendment, the Senate rejected a substitute amendment offered by Senator Gordon Allott (R-Colo.) which would have stricken the words, "or contract." The effect of the Allott substitute would have been to exempt industrial contractors from the restriction, leaving universities as the primary targets.
6. *Ibid.*, 10 October 1968, p. H 9763.
7. The result was Circular A-74 (Executive Office of the President, Bureau of the Budget, Washington, D.C., 13 December 1965), with reference to cost sharing, which has been used in tandem with the older Circular A-21 (Executive Office of the President, Bureau of the Budget, revised 3 March 1965, 1 June 1968, 2 January 1969, Washington, D.C.), which provides guidance in determining the costs applicable to research.
8. Allott has warned: "... unless some adequate means are developed so that the taxpayers and their elected representatives know what they are 'buying' with their research dollars, a reaction would set in one day which would cause a severe cutback in funds allocated for research." [G. Allott, *Science* 162, 214 (1968)].
9. *Congressional Record*, 19 April 1968 (daily ed.), p. S4327.
10. See Senator M. Mansfield's remarks, *Congressional Record*, 3 October 1968 (daily ed.), p. S11962.
11. H. Orlans, "The impact of the federal government on higher education," *The Encyclopedia of Education*, L. C. Deighton et al., Eds. (Macmillan, New York, in press).
12. *Congressional Record*, 3 October 1968 (daily ed.), p. S11963.
13. *Ibid.*, 2 October 1968 (daily ed.), p. S11857.
14. That supposition was somewhat faulty if one examines the indirect cost rates of representative institutions in the *Congressional Record* of 3 October 1968 (daily ed.), p. S11966.
15. *Ibid.*, pp. S11963-S11964.
16. *Ibid.*, p. S11966.
17. *Ibid.*, p. S11967.
18. *Ibid.*, p. S11963. One could argue that this is just another example of the fragmentation of decision-making authority within Congress and the incoherent manner in which Congress consequently acts. The Daddario subcommittee in the House had produced an authoritative document on cost sharing and indirect costs, and the Senate, in the form of the Harris subcommittee of the Government Operations Committee, has its own unit with authority and expertise respecting government-sponsored research. But obviously—and understandably, given the range of attention imposed on each Senator—the Senate Appropriations Committee members were not conversant with the work of either the Daddario or the Harris subcommittees.
19. I have no doubt that the second question has occurred to many research scientists also, and that the erroneous idea that overhead reimbursements are "profits" for academic administrators is held by many university-based scientists as well as members of Congress.
20. The full texts of both letters appear in the *Congressional Record*, 3 October 1968 (daily ed.), pp. S11968-S11969.
21. *Ibid.*, p. S11963.
22. *Ibid.*, p. S11964. There is also a provision in the Intergovernmental Cooperation Act of 1968, P.L. 90-577, that provides for periodic review by appropriate Congressional committees of all federal grant programs. The bill itself is directed at liaison among levels of government, but the provision for grant review appears to be broader than that.