United States General Accounting Office

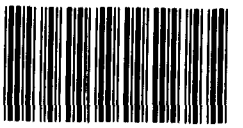
GAO

Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives

August 1992

FEDERAL RESEARCH

System for Reimbursing Universities' Indirect Costs Should Be Reevaluated



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GAO

United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-246629

August 26, 1992

The Honorable John D. Dingell
Chairman, Subcommittee on Oversight
and Investigations
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

As you requested, we examined how the federal government reimburses universities for overhead, or indirect costs, related to federally funded scientific research. The report recommends that the Director, Office of Management and Budget, designate a single cognizant agency to negotiate indirect cost rates for federally sponsored research at universities and examine ways to more directly involve the university community in evaluating alternative methods for reimbursing universities for indirect costs related to such research.

We are sending this report to the Director, Office of Management and Budget; the Secretaries of Defense and Health and Human Services; and interested congressional committees. Copies will also be made available to others upon request.

This work was performed under the direction of Victor S. Rezendes, Director, Energy and Science Issues, who can be reached on (202) 275-1441 if you or your staff have any questions. Major contributors to this report are listed in appendix II.

Sincerely yours,

J. Dexter Peach
Assistant Comptroller General

Executive Summary

Purpose

For every dollar spent for federally funded university research, subject to certain exclusions, the government now pays an average of about 50 cents more to cover its share of university overhead, or indirect costs. Concerned about escalating indirect cost rates and the appropriateness of individual charges covered by the rates, the Chairman, Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce, asked GAO to identify inappropriate indirect costs charged to the government, the causes of the inappropriate charges, and the corrective actions being taken. Because of the significant problems identified in the indirect cost reimbursement system, GAO also identified alternative ways for approaching the reimbursement process at universities in the future.

Background

The federal government awarded about $11 billion in fiscal year 1992 to universities for scientific research. The government pays for direct costs—those costs specifically identified with a particular research project—as well as indirect costs, such as facility depreciation and administration costs. Office of Management and Budget (OMB) Circular A-21 provides the principles for determining which costs can be reimbursed. The actual rate used for reimbursing indirect costs, however, is established through negotiation between the university and the federal agency that was assigned administrative oversight responsibility for the university. Two agencies primarily perform this function. The Department of Health and Human Services (HHS) has oversight responsibility at over 600 universities, and the Department of Defense (DOD), through the Office of Naval Research (ONR), has responsibility for 39 universities.

The indirect cost reimbursement system has evolved over the last several decades, and federal agencies have applied it inconsistently. Prior to 1955, HHS' predecessor agency, the Department of Health, Education, and Welfare (HEW), administratively imposed an indirect cost ceiling of 8 percent on its research grants to universities, which it raised to 15 percent in 1955. In 1958 HEW proposed to adopt a 25-percent ceiling for its research grants to match the average rate then being paid by DOD. However, the Congress set a statutory limit of 15 percent. In 1963 the Congress raised HEW's limit to 20 percent and imposed the same limit on DOD grants. Then, in 1966, the Congress removed rate ceilings but required that universities under both agencies share in the costs of research. In 1969, however, the Congress removed statutory cost-sharing requirements from DOD but not from HHS until 1986. By the late 1980s, the average indirect cost rate was over 50 percent and ranged from a low of 34 percent to a high of 82 percent.

Results in Brief

Because of inadequate federal guidance and oversight and weak internal controls at the universities, the government has been charged millions of dollars for unallowable, questionable, or improperly allocated indirect costs. These charges include unallowable costs, such as entertainment and foreign travel unrelated to research, as well as overallocations of otherwise allowable costs, such as utility and depreciation costs.

Recent disclosures of inappropriate charges have spurred detailed corrective actions by the government and the universities. OMB has revised Circular A-21; the universities have initiated their own indirect cost reviews to address identified problems; and HHS and ONR have increased their oversight. Although these actions are appropriate steps to deal with the immediate problems, they could well contribute to a further increase in indirect costs as well as administrative burden. For example, universities are likely to pass on to the government, as increased indirect costs, a portion of the costs incurred to improve their accounting systems and internal controls and otherwise respond to government requirements.

GAO believes the depth and persistence of the problems and the upward trend in indirect charges over the years make this an opportune time to consider fundamental changes to the existing reimbursement system. A multiagency task force, led by OMB, is addressing the need for such changes. Reaching agreement on major changes to the system will not be easy, however, because some approaches would create financial winners and losers within the university community. An added concern is the possible effect that these alternatives may have on the quality of research. For these reasons, GAO believes that OMB needs to involve the university community in examining possible approaches for restructuring the system.

To assist this process, GAO has identified and analyzed a number of alternative approaches, including their advantages and disadvantages, that it believes should be considered in making structural changes to the reimbursement system. Some of the alternatives, such as instituting a uniform flat rate or different flat rates for different categories of universities, offer greater opportunities to simplify the system than others. Although GAO is not recommending a specific alternative or set of alternatives, it believes the ultimate objective should be to establish a system that sets some reasonable limit on the amount of indirect costs the government would reimburse; is administratively efficient for both the government and the universities; and protects the government's interest by providing for sufficient controls, audits, and periodic analysis.

Regardless of any long-term solution that is selected, GAO believes it is inefficient to have two federal agencies administering the program, particularly when they are using fundamentally different approaches. For the 137 schools that GAO analyzed, ONR's approach—providing for full recovery of the universities' claimed allowable indirect costs—has resulted in an average indirect cost rate of 59 percent. In contrast, HHS' approach—negotiating indirect cost rates that limit the federal reimbursement—has resulted in an indirect cost rate of about 50 percent.

Principal Findings

Widespread Problems Cost the Government Millions of Dollars

According to federal auditors, about $400 million in unallowable, questionable, and improperly allocated indirect costs have been charged to the government. At the four universities GAO reviewed, unallowable or questionable costs occurred for such items as sterling silverware and floral arrangements for the residences of university administrators, overseas trips, receptions, depreciation of a 72-foot luxury yacht, and operation of a shopping center.

The universities also used improper methods to allocate otherwise allowable indirect costs to research. For example, university space was improperly allocated between federal and nonfederal research; cost analysis studies were deficient in justifying specific costs; and special agreements between the universities and ONR allowed for higher costs without proper justification.

Problems Stemmed From Multiple Causes

OMB's Circular A-21 did not provide adequate guidance for determining the allowability and allocability of specific costs. For example, until recently the Circular did not contain specific restrictions on the residence costs of university officials. Weak internal controls at the universities also resulted in inappropriate charges. For example, none of the four universities GAO reviewed had accounts in place to capture all unallowable costs, and university employees responsible for recording transactions were inadequately trained in federal cost principles. Agencies' oversight of the universities was also inadequate. For example, ONR entered into memorandums of understanding with universities without properly reviewing the memorandums, and HHS did not always identify improper allocations before negotiating the rates.

Actions Taken, but Long-Term Solutions Needed

In response to the identified problems, OMB revised Circular A-21, effective October 1991, to clarify the allowability of certain costs, place limits on certain reimbursements, and require greater university accountability. Universities have initiated their own indirect cost reviews and are strengthening their internal controls by, among other things, training personnel and modifying accounting systems. HHS and ONR stepped up their efforts by increasing audit coverage at their universities and requesting that universities themselves review their own internal control procedures.

While the changes made thus far are addressing identified past problems, more fundamental changes are needed to produce a long-term solution to this costly, cumbersome system. More detailed requirements and increased oversight by the federal government and increased internal controls by the universities will better control costs. However, these efforts will also increase the cost of doing business for the government and universities. For example, one university's proposal for 1992 indirect costs included $8 million to develop and implement improved accounting practices and prepare cost studies, among other things.

GAO has identified several alternatives for reimbursing universities' indirect costs that would set limits on what the government would reimburse, simplify the process to reduce both the government's and universities' administrative burden, and provide sufficient controls and oversight to protect the government's interests. For example, placing an overall cap of 50 percent on indirect costs would significantly limit the federal reimbursement to universities. Another alternative—establishing a uniform flat rate for all universities or different flat rates for different categories of universities—would both limit reimbursement and allow for greater simplification of the system. Although flat rates would require periodic oversight to ensure that they are appropriate, the continuous effort now required to identify, document, and justify individual rates could be substantially reduced. These considerations need to be weighed against the possible effect that various alternatives might have on the overall quality of university research and on universities' reimbursements.

Because structural changes to the current system could have significant implications for both the government and the universities, GAO believes that universities should be involved in the process of identifying which alternative, or set of alternatives, would protect the government's interests, be fair to the universities, and reduce the administrative burden of the current system. OMB has formed a multiagency task force to review the cost reimbursement process. However, while OMB has informally asked

for input from the universities, the task force itself includes neither representatives of universities nor a formal method for obtaining their input in considering fundamental changes to the system.

Federal Approach Has Been Inconsistent

Another concern is the inconsistent approach of the two primary federal oversight agencies, which may help explain the difference in the average rates negotiated by the two agencies. ONR's approach generally allows for full recovery of allowable indirect costs claimed, while HHS' approach results in limiting the federal reimbursement. ONR generally negotiates a provisional rate that is later adjusted on the basis of an audit of actual costs, while HHS generally negotiates a predetermined rate that remains fixed for a 2- to 3-year period. For the 137 schools that GAO analyzed, ONR's system resulted in indirect cost rates that are nearly one-fifth higher than HHS'; ONR's system is more resource-intensive to administer as well.

Recommendations

GAO recommends that the Director, OMB, designate a single cognizant federal agency, using a consistent approach, to negotiate indirect cost rates for federally sponsored research at universities. GAO further recommends that OMB examine ways to more directly involve a cross section of the university community in the work of the task force, either through direct membership or a separate advisory committee, in evaluating alternative methods (including, but not limited to, ones that GAO has identified) for reimbursing universities for indirect costs related to federally sponsored research.

Agency Comments

GAO discussed the information included in this report with federal agency and university officials and incorporated their views where appropriate. However, as requested, GAO did not obtain written agency comments on a draft of this report.

Contents

Abbreviations

AAU	Association of American Universities
ACO	Administrative Contracting Officer
CASB	Cost Accounting Standards Board
COGR	Council on Government Relations
DCA	Division of Cost Allocation
DCAA	Defense Contract Audit Agency
DOD	Department of Defense
FAR	Federal Acquisition Regulation
GAO	General Accounting Office
HEW	Department of Health, Education and Welfare
HHS	Department of Health and Human Services
IDC	indirect costs
MIT	Massachusetts Institute of Technology
MOU	memorandum of understanding
MTDC	modified total direct costs
NBDC	non-basic direct cost
NIH	National Institutes of Health
NSF	National Science Foundation
OIG	Office of Inspector General
ONR	Office of Naval Research
OMB	Office of Management and Budget
OSTP	Office of Science and Technology Policy
TDC	total direct costs

Introduction

The federal government awards contracts and grants to universities for scientific research and funds both the direct and indirect costs of conducting such research. Direct costs are those that can be identified with a particular sponsored research project, instructional activity, or other institutional activity. Direct research costs include such items as the salaries of the investigators and project-specific research equipment and materials. Conversely, indirect costs are not specifically identifiable with a particular project or activity and include such costs as utility expenses, depreciation of buildings and equipment, and general university administration costs. These costs are recovered by applying an agreed-upon indirect cost rate to each sponsored agreement.

Since the mid-1960s, when legislatively mandated limits of about 20 percent on indirect cost rates for grants were removed, rates have steadily increased. By fiscal year 1989, the average indirect cost rate had risen to about 50 percent;[1] some schools are currently proposing rates near 100 percent. This increase in rates, applied to corresponding increases in direct research costs, has resulted in significant increases in the amount of federal funds paid to universities for indirect costs.

Such increases have resulted in controversy. University researchers whose institutions have high indirect cost rates have charged that their schools' rates have hindered their competitiveness in receiving research contracts and grants. On the other hand, government officials have questioned the appropriateness of the costs that universities were claiming in their indirect cost submissions.

How Indirect Cost Rates Are Determined

Office of Management and Budget (OMB) Circular A-21 establishes the principles for determining costs applicable to grants and contracts with educational institutions. It defines allowable and unallowable costs and the indirect cost categories (pools) that should be established for accumulating and allocating allowable costs to research projects. OMB revised the Circular in October 1991 to address identified weaknesses.

Allowable indirect costs are normally accumulated in seven indirect cost pools, including

- depreciation and use allowances,
- operation and maintenance expenses,
- general administration and general expenses,

[1]Based on fiscal year 1989 rates at 137 universities. (See app. I for details.)

- departmental administration expenses,
- sponsored projects administration expenses,
- student services administration expenses, and
- library expenses.

These indirect cost pools are then distributed, or allocated, among various direct "cost objectives," such as instruction; sponsored, or "organized" research; and other institutional activities that represent the major functions of the university. The cost bases used for allocating each pool to each cost objective vary, but are most often based on space or "modified total direct costs" (MTDC) for each cost objective to which costs are to be allocated.[2] For some pools, other bases are used, depending on what Circular A-21 requires or what the university can justify as fair. Thus, a portion of each pool is to be allocated to each cost objective as appropriate.

After all costs have been allocated to the relevant cost objectives, the total costs allocated to organized research are used to determine the indirect cost rate. The indirect cost rate is calculated by dividing the total indirect costs allocated to organized research by the MTDC base for organized research.

The actual rate for reimbursement, however, is subject to negotiation between the university and its cognizant agency. OMB Circular A-88 assigns each college and university to a federal cognizant agency. Virtually all of the colleges and universities that receive federal research funds are assigned to either the Department of Health and Human Services (HHS), which is responsible for over 600 institutions, or to the Department of Defense (DOD) through the Office of Naval Research (ONR), which is responsible for 39 institutions.[3] The cognizant agencies are responsible for negotiating the indirect cost rates with their assigned schools on behalf of the government as a whole. Within ONR, negotiation responsibility lies primarily with the Administrative Contracting Officers (ACO). Within HHS, negotiation responsibility has been assigned to negotiators in the regional Divisions of Cost Allocation (HHS/DCA). Once a rate has been negotiated,

[2]Circular A-21 defines MTDC to include salaries and wages, fringe benefits, materials and supplies, services, travel, and the amount of any subgrants and subcontracts up to $25,000 each. MTDC excludes, among other things, capital equipment and the amount of subgrants and subcontracts over $25,000 each.

[3]Two other agencies also have cognizance over universities. The Department of the Interior oversees two universities, and the Department of Energy oversees one. For purposes of this report, our discussion is limited to universities under HHS and ONR cognizance.

other government agencies that fund contracts and grants at a particular university must generally accept that university's negotiated rate.

ONR generally negotiates a fixed-with-carry-forward rate with the schools under its cognizance. Under this approach, ONR initially negotiates a provisional rate for the university to bill at during the year. Once the year is completed, the actual costs are audited by the Defense Contract Audit Agency (DCAA), and any questioned costs are either allowed or disallowed by ONR's ACO. Any difference between the costs allowed and the costs billed becomes a carry-forward adjustment to the next year's rate. In essence, while ONR negotiates rates with its universities, it generally provides full reimbursement for all claimed allowed costs.

In contrast, HHS negotiates rates with its universities, usually for a 2- to 3-year period, that are based on a prior year's actual costs. Once the rate is negotiated, there are no future adjustments for actual costs and, thus, no specific incurred cost audits are required. Also, the rates negotiated by HHS are generally less than what the universities request because HHS' approach limits the amount of indirect cost reimbursement.

History of Indirect Cost Funding at Universities

Initially, the payment of indirect costs for federally sponsored research at universities was limited according to individual agencies' policy. For example, prior to 1955 the Department of Health, Education and Welfare (HEW)—HHS' predecessor agency—administratively imposed an indirect cost ceiling of 8 percent on sponsored research grants, which it raised to 15 percent in 1955. In 1958 HEW proposed a 25-percent ceiling to match the average rate then being paid by DOD. However, the House Committee on Appropriations refused to approve the increase, and the Congress subsequently imposed a statutory limit of 15 percent. In 1963 the Congress increased the limit to 20 percent and applied this limit not only to HEW but also to DOD research grants. Independent agencies, such as the National Science Foundation (NSF) and the National Aeronautics and Space Administration, were also using a limit which was set in their appropriation act at 25 percent for 1963; for subsequent years, the limit dropped back to the same 20 percent level as applied to HEW and DOD.

The House Committee on Appropriations recommended a change in the fiscal year 1966 appropriation for HEW, from a statutory limitation on the amount of indirect costs for research grants to a cost-sharing arrangement. The ceiling was removed for 1966 grants, and the following language was included in the appropriation act:

"None of the funds provided herein shall be used to pay any recipient of a grant for the conduct of a research project an amount equal to as much as the entire cost of such project."

Similar language was included in the acts appropriating money for DOD and independent agencies. However, the statutory cost-sharing requirement was removed from DOD's appropriation act in 1969 but was retained in HHS' appropriations until 1986. In addition, when the Congress removed the formal cost-sharing requirement from HHS in 1986, it did so with the understanding that HHS would take "vigorous steps" to restrain increases in both direct and indirect costs.

After specific rate ceilings were removed, indirect cost rates began to climb steadily. By the late 1980s, the average indirect cost rate was over 50 percent. As a result, the Congress again began to take a more active role in placing, or considering, limits on indirect cost reimbursement at universities. For example, concerned about the large portion of research funding being used to pay for universities' indirect costs, the Congress added a general provision to the Department of Agriculture's fiscal year 1990 appropriation act limiting payments for indirect costs to 25 percent of total direct costs.[4] For fiscal year 1991, the Congress tightened the limit to 14 percent and later extended it to fiscal year 1992 as well. Similar proposals were made in 1992 through the appropriations process to again set limits on indirect costs for National Institutes of Health (NIH) grants. However, action was postponed until the issue could be further studied.

Congressional involvement in indirect cost funding was also generated as a result of disclosures that inappropriate costs were being charged by universities. For example, we testified on indirect costs at Stanford University in March 1991[5] and on our work at other universities in January 1992[6] before the Subcommittee on Oversight and Investigations of the House Committee on Energy and Commerce. These hearings, as well as further disclosures of inappropriate indirect costs at other universities, have generated actions by OMB, the agencies, and the universities to address identified problems.

[4]According to Department of Agriculture officials, a 25-percent rate based on total direct cost is equivalent to a rate of approximately 40 percent on an MTDC base.

[5]Federally Sponsored Research: Indirect Costs Charged by Stanford University (GAO/T-RCED-91-18, Mar. 13, 1991).

[6]Federally Sponsored Research: Indirect Costs Charged by Selected Universities (GAO/T-RCED-92-20, Jan. 29, 1992).

Objectives, Scope, and Methodology

The Chairman of the Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce, asked us to identify indirect cost overcharges to the government, the causes for the overcharges, and corrective actions being taken. Because of the magnitude of the problems with the current indirect cost reimbursement system that have been identified, we also identified and analyzed alternatives that could be used for reimbursing indirect costs in the future.

At the Subcommittee's request, we began our review at Stanford University. We conducted our review at Stanford from October 1990 to February 1991. Subsequently, we expanded our review to three additional schools: the Massachusetts Institute of Technology (MIT), Harvard Medical School (Harvard Medical), and the University of California at Berkeley (Berkeley). MIT, like Stanford, is under the cognizance of ONR, while Berkeley and Harvard Medical are assigned to HHS. Berkeley was also selected because it is a public university; the other three are private. We conducted our audit work at these schools from April to September 1991.

At each university, we met with school officials to obtain an understanding of their accounting and allocation systems. Our work generally involved analyzing each school's rate proposal or cost submission; reviewing and testing backup schedules to support the proposals and cost submissions; reviewing workpapers and reports resulting from other audits or reviews of the universities; and testing selected transactions and allocations for their allowability, reasonableness, and compliance with Circular A-21.

At Stanford, we focused our review on fiscal year 1986, the most recent year that had been audited by DCAA. However, we also reviewed specific problem areas that occurred in other years as well. We reviewed Berkeley's most recent indirect cost proposal, which was based on actual fiscal year 1988 costs and was used to negotiate rates for fiscal years 1990 through 1992. We reviewed Harvard Medical's fiscal year 1991 proposal, which was still under negotiation with HHS. At the time of our review, DCAA was in the process of auditing MIT's indirect costs for fiscal years 1986 through 1990. Therefore, at MIT we primarily reviewed DCAA's ongoing audit work and results.

In reporting the amount of our findings, we determined both the transaction amount and the government's share of the transactions. The government's share was calculated by determining the amount of each cost pool that was allocated to research, then determining the portion of each university's research that was federally sponsored. While the two ONR

schools we reviewed had a carry-forward adjustment for actual costs, the two HHS schools did not. Because of the gap between the amount proposed by the HHS schools and the amount negotiated or being negotiated, not all of the questionable amounts we identified may necessarily be considered overcharges to the government.

We met with officials from HHS, ONR, and DCAA to obtain their input on each school's indirect cost procedures and to determine their roles in the audit and negotiation process at each school reviewed. We also met with DCAA and HHS Office of Inspector General (HHS/OIG) officials to consider the results of and implications for their reviews at other universities that were ongoing at the time of our audit.

To obtain an overall perspective, we also met with OMB officials to obtain additional background and perspective on the intent and substance of Circular A-21 and other criteria. We also met with various university officials from the Association of American Universities (AAU) and the Council on Government Relations (COGR) for additional background on universities. To obtain opinions on alternative ways of dealing with the indirect cost reimbursement process, we solicited input from five members of the Comptroller General's Research and Education Advisory Panel, as well as from various agency and university officials from the other organizations mentioned previously.

We estimated the cost impact of various alternative approaches to the indirect cost reimbursement process by analyzing the indirect cost rates and federal research funding at 137 universities. These universities accounted for about 86 percent of all federally sponsored university research funds in fiscal year 1989. We performed similar analyses for the 20 highest funded of the 137 schools. These top 20 schools accounted for about 36 percent of all fiscal year 1989 research funding. We used data for fiscal year 1989 because it was the latest year for which information on federal research funding was available. Because of data limitations, we needed to make several assumptions in order to proceed with the analysis. Our methodology and analysis assumptions are more fully described in appendix I.

Our audit work was conducted in accordance with generally accepted government auditing standards.

Widespread Problems Have Spurred Corrective Actions, but Long-Term Solutions Still Needed

Widespread, systemic problems in reimbursing the indirect costs of university research have resulted in substantial inappropriate charges to the federal government. Thus far, according to federal auditors, about $400 million in inappropriate costs has been charged to the federal government. These charges include unallowable costs, such as the depreciation expenses of a 72-foot luxury yacht, and the improper allocation of otherwise allowable costs, such as overallocating building space to federal research. These problems occurred because of inadequate federal guidance, insufficient oversight by cognizant federal agencies, and weak internal controls at universities for identifying and eliminating inappropriate costs.

Numerous actions have been taken by federal agencies and by universities to deal with the immediate problems. Although these actions are generally appropriate to correct the identified deficiencies in the current reimbursement system, the system itself remains administratively burdensome and expensive for both the government and the universities. Therefore, more fundamental changes may be needed. In this connection, OMB has formed a multiagency task force that is considering structural changes to the indirect cost reimbursement system. Furthermore, differing approaches by the two primary cognizant agencies—HHS and ONR—remain, resulting in inconsistencies in the way that rates are negotiated.

Widespread Indirect Cost Problems Have Occurred

Unallowable, questionable, and improperly allocated indirect costs were found at all four universities we reviewed as well as at virtually every university that other audit agencies reviewed. Although specific costs could not always be precisely calculated, the identified charges amounted to about $400 million. At the four universities we reviewed—Stanford, MIT, Harvard Medical, and Berkeley—we identified unallowable, questionable, and improperly allocated costs totaling about $29 million. On the basis of DCAA's incurred cost audits of 22 universities, which included reviews of transactions as well as allocation methods, inappropriate charges to the government totaled about $390 million.[1] HHS/OIG reviewed the administrative costs and, in some cases, depreciation and use allowances at 14 universities and found unallowable costs at 12 of these schools. To date, about $4.4 million has been recovered primarily through cash refunds to the government from 10 of these schools. In addition, 4 of the 14 universities had previously conducted their own reviews of administrative costs and identified an additional $11.4 million that was

[1]Of this total, about $250 million was attributed to Stanford and MIT. Because we also reviewed these two universities, some of our dollar findings may be included in this total.

removed from their indirect cost proposals, a portion of which was attributable to the government.

Unallowable or Questionable Costs Were Charged

The four universities we reviewed included numerous unallowable and questionable indirect costs in their cost proposals to the government. An allowable cost, according to OMB Circular A-21, must be reasonable,[2] allocable,[3] and consistently treated, and it must conform to any limitations or exclusions established by Circular A-21 or by individual sponsored agreements as to types or amounts of costs. Costs not meeting these four criteria that were identified by us as well as by the cognizant agencies and the universities included entertainment, travel, decorating items, alumni activities and publications, certain types of dues and memberships, and legal fees not related to federal research.

For example, we found almost $1 million in unallowable or questionable costs charged to the government by Stanford. Of this amount, about $184,000 was paid as the government's share of the depreciation of a 72-foot luxury yacht and athletic equipment and $186,000 to operate the Stanford Shopping Center. In another case, MIT identified $778,000 in overcharges to the government after reviewing its sensitive accounts for fiscal years 1986 through 1990. These overcharges included the costs of such items as floral designs, dues for airline airport clubs, artwork, overseas trips, receptions, dinners, and other party expenses. Harvard Medical and Berkeley both charged other unallowable or questionable items to the government for a total of $329,000 and $66,000, respectively. These costs included furniture and decorating items, excessive athletic facility charges, and alumni publications.

Charges related to the costs of operating the residences of university administrators occurred at all four universities we reviewed. Although such costs were not specifically disallowed by Circular A-21 at the time of our review, we questioned their reasonableness and allocability. For example, we found that Stanford charged to federal research a portion of the costs associated with the three residences of its top administrators and

[2]According to Circular A-21, a reasonable cost is one that is of a type generally recognized as necessary for the operation of the institution and one for which the individuals responsible for incurring that cost acted with due prudence in the circumstances, considering their responsibilities to the institution, the government, and the public at large.

[3]Circular A-21 states that a cost is allocable to a sponsored agreement if it (1) is incurred solely to advance the work under the sponsored agreement, (2) benefits both the sponsored agreement and other work of the institution in proportions that can be reasonably approximated, or (3) is necessary to the overall operation of the institution and is deemed to be assignable in part to sponsored projects.

their families. These charges, which included such items as floral arrangements, sterling silverware, and alcoholic beverages at these residences, amounted to $521,000 to the government over 8 years.

Costs Were Improperly Allocated

Not as striking as the individual unallowed costs, but potentially much more expensive to the government, are the universities' inaccuracies in and improper methods for allocating indirect costs to federal research. Our work at four universities alone identified about $27 million in costs that were improperly allocated to the government.

Three of the universities we reviewed—Harvard Medical, Berkeley, and Stanford—made errors in the space surveys they submitted, and/or the surveys were not done in accordance with Circular A-21 to justify the amount of space allocated to federal research. OMB Circular A-21 requires that depreciation and use allowances for buildings and equipment as well as operation and maintenance costs be allocated on the basis of the square feet that are assignable to federal research. The allocation of space constitutes a significant portion of indirect costs—from 29 to 63 percent of the total at the four universities we reviewed. We did not independently review MIT's space survey because DCAA was already in the process of conducting an audit of MIT.

The kinds of problems with the space studies varied. For example, Harvard Medical developed a separate higher rate for federal research than for nonfederal research, although both types of research share much of the same space. Circular A-21 does not provide for separate rates, and Harvard Medical could not support the basis for this approach. By developing separate rates, the government's allocation was overstated by $700,000. In another instance, Stanford allocated space to research whenever such space was used for research two-thirds or more of the time. Although Circular A-21 states that space used predominantly for one function and only incidentally for others may be assigned to the function in which it is used predominantly, it does not define predominant. However, we believe that using a facility one-third of the time does not appear to be incidental use. We could not determine the dollar impact because the actual usage of facilities in 1986—the year that Stanford was being audited—could not be determined at the time of our review. Finally, Berkeley made errors in its coding and data entry, the result being that 7 percent of the total campus space was coded as unassigned. Because the subsequent allocation of costs did not recognize this unassigned space,

100 percent of the space-related costs were allocated to only 93 percent of the space, resulting in a $580,000 overallocation to the government.

OMB Circular A-21 allows universities to allocate certain costs, such as utilities, on the basis of a cost analysis study if the study demonstrates a more equitable distribution of costs and meets certain other specified criteria. We questioned the adequacy of one cost analysis study because it did not meet all the specified criteria. Circular A-21 states that cost studies must be statistically sound. Stanford based its utility study on a judgmental sample of 10 buildings, then projected the results to all 660 buildings on campus. Because utility usage varies greatly by building according to such factors as a building's age, condition, and type of heating system, Stanford's judgmental sample of less than 2 percent was not statistically sound.

All four universities inappropriately used utility cost analysis studies to allocate higher costs to federal research. None of the studies justified other costs that the universities allocated to federal research on the basis of those studies. For example, all four schools used the studies to allocate utility maintenance costs, such as elevator repairs and fire equipment inspections. Although the universities attempted to justify their approach on the basis that utility maintenance costs are higher in buildings that have higher utility usage, none demonstrated a direct correlation between the two. Other factors, such as the age of the building and type of equipment, could have a greater effect on maintenance costs.

Harvard Medical also used its utility study to allocate the depreciation costs for electrical, plumbing, heating, and other equipment; and Berkeley used its study to allocate the cost of its energy conservation office. Yet, none of these nonutility costs were considered in these studies. Because utility study factors weight costs more heavily toward research, using these factors for nonutility costs resulted in Harvard Medical's allocating an additional $174,000 to federal research and Berkeley's allocating an additional $76,000.

MOUs Allowed Deviations From Circular A-21

ONR entered into numerous questionable memorandums of understanding (MOUs) with universities that allowed these universities to use allocation methods or accounting practices that were not adequately justified, which resulted in millions of dollars in excessive charges to the government. These MOUs were basically special agreements proposed by the universities and approved by ONR that allowed deviations from the

standard Circular A-21 cost methods. These special agreements were based on questionable assumptions and inadequate justifications and generally resulted in higher allocations of costs to federal research than the standard Circular A-21 methods allowed. For example, an MOU allowed Stanford to use an accelerated method of depreciation rather than the straight-line method prescribed by Circular A-21. This resulted in $2.4 million in overcharges to the government in 1986 alone. Although either depreciation method results in the same dollar amount of recovery over the life of an asset, this MOU allowed the university to recover the amount much faster, resulting in a higher effective recovery when the time value of money is taken into account.

In auditing the costs incurred under the MOUs, DCAA examined whether the universities complied with the terms of each MOU but generally did not question the basis for the MOU. Once the problems with the MOUs became public, however, DCAA began reexamining the basis for the MOUs. For example, although DCAA initially reported that all 10 of MIT's MOUs were reasonable, it withdrew its report after congressional hearings commenced, reopened its audit, and questioned several of them. On the basis of DCAA's recommendations, ONR canceled all but one of Stanford's 125 MOUs for fiscal year 1991 and future years. However, DCAA has recommended that the MOUs going back to 1981 be retroactively canceled. Questioned costs at Stanford and MIT account for $250 million of DCAA's $390 million total, largely based on the canceled MOUs.

Accounting Practices Were Improper

Various accounting practices also enabled universities to claim higher costs without adequate justification. For example, at three of the universities reviewed—Stanford, MIT, and Berkeley—capitalization[4] policies and procedures allowed universities to claim higher costs over a shorter period of time. Under Circular A-21, capital expenditures that materially increase the value or useful life of an asset are unallowable as direct or indirect costs, except that a portion may be claimed as depreciation. However, Circular A-21 does not set a dollar threshold for capitalization of buildings and improvements. As a result, the dollar thresholds vary from university to university. MIT's capitalization policy only requires capitalizing additions and improvements when such items exceed $3 million, as contrasted with the capitalization policies of Berkeley, whose threshold is $20,000, and Stanford and Harvard Medical,

[4]Items that are capitalized are inventoried and a portion expensed each year over the life of the asset. Only the annual depreciation is recorded as an expense and reimbursed each year. Items that are not capitalized, i.e., "expensed," are not recorded in inventory, and the full cost is recorded as an expense and reimbursed in the period that the item is purchased.

whose thresholds are $50,000. MIT's policy allows it to expense significantly more costs in the current year rather than capitalize such costs. For example, MIT spent $3.6 million in fiscal year 1990 for 14 building projects that exceeded $100,000 each; $1.9 million of this total was charged to federal research. Had these items been capitalized and subject to the 2-percent use allowance that MIT uses for the rest of its owned buildings, only $38,000 would have been charged to federal research in that year.

Problems Resulted From Inadequate Guidance, Oversight, and Controls

The widespread problems that have been identified in funding the indirect costs of university research stemmed from multiple causes. First, OMB Circular A-21 did not provide adequate guidance. Next, basic flaws in universities' internal controls permitted unallowable and inappropriate indirect costs to enter undetected into proposals and submissions. And, ultimately, inadequate oversight by the cognizant agencies allowed such costs to go unchecked.

OMB Circular A-21 Criteria Were Inadequate

OMB Circular A-21, which establishes cost principles and criteria for government contracts and grants with educational institutions, was inadequate for determining what types of costs should be allowed and how costs should be allocated. The incomplete and unclear Circular A-21 guidance hampered universities' compliance and cognizant agencies' enforcement of the Circular and contributed to many of the identified problems. For example, until recently, Circular A-21 did not contain specific restrictions on the costs of university officials' residences, and we found that excessive costs were charged by several universities nationwide. In addition, although it was revised in October 1991, Circular A-21 still does not define or quantify "predominant," "incidental," or "joint" use space, which is necessary for properly allocating space-related costs. As a result, universities can still develop their own definitions of such space.

Furthermore, the revised Circular does not clearly define the criteria for cost analysis studies, although it allows universities to develop alternative allocation methods on the basis of such a study. For example, Circular A-21 requires that the studies be "statistically sound," but does not define what this means. For a sample to be statistically sound, however, we believe—and OMB agreed—that it should be a probability sample with appropriate confidence levels of accuracy. Finally, Circular A-21 lacks specific guidance on such items as a dollar threshold for the capitalization

of buildings and improvements, which resulted in wide disparities in capitalization thresholds at the universities we reviewed.

DCAA compared Circular A-21 with the Federal Acquisition Regulation (FAR), the primary regulation that agencies use for buying supplies and services, and found that Circular A-21 was not as specific in defining unallowable items, such as entertainment, public relations and advertising, and various other items. In addition, DCAA stated that FAR provides greater clarification in such areas as accounting for unallowable costs and conducting cost studies.

University Controls Were Inadequate

Weak internal controls at universities also caused indirect cost problems. Each of the four universities we reviewed lacked adequate accounting systems and controls to ensure that only allowable indirect costs were charged to the government. Many university employees responsible for recording transactions in the accounting systems did not have adequate training in federal cost principles and thus did not realize the implications of recording transactions incorrectly. Also, all four universities did not properly screen out unallowable costs. As a result, the unallowable costs described earlier in this chapter were not eliminated.

Although Harvard Medical, MIT, and Berkeley had some accounts established to capture and segregate allowable and unallowable indirect costs, the accounts were not set up to capture all categories of unallowable costs. Stanford did not have any general ledger accounts to segregate unallowable costs. Instead, costs were charged to various accounts throughout the year. Then, selected departments provided year-end estimates of the percentage of unallowable costs in various accounts. However, unallowable costs occurred in departments that had not been asked to identify their unallowable costs, and departments that had provided estimates on unallowable costs could not support the estimates.

In internal control reviews at 29 ONR-cognizant schools in 1991, DCAA reported three common deficiencies: (1) inadequate employee awareness and training regarding the regulations and procedures applicable to federally sponsored research, (2) inadequate written policies and procedures to guide employees in cost accounting for government contracts and grants, and (3) the absence of systems to identify and segregate unallowable costs.

ONR and HHS Oversight Was Inadequate

ONR and HHS generally did not adequately review universities' indirect cost rate proposals and submissions. Numerous unallowable costs and allocation errors were found at the four schools we reviewed that had not been detected by the oversight agencies. ONR's inadequate oversight resulted in significant government overcharges. However, because of HHS' negotiation procedures, specific overcharges cannot be determined.

ONR's ACOs entered into many questionable MOUs with universities without adequate justification. Furthermore, the MOUs were generally not subjected to formal audit or legal review. As mentioned previously in footnote 1, DCAA has since questioned about $250 million in costs at Stanford and MIT, attributable primarily to these MOUs. In addition, ONR did not always request incurred cost audits from DCAA on a timely basis. DCAA has also been deficient in performing requested university audits on a timely basis, which has resulted in several years' backlog at most ONR schools. Additional delays are now being encountered because of DCAA's need to reopen prior audits to perform more thorough reviews.

We also found deficiencies in HHS' reviews of the indirect cost proposals at Berkeley and Harvard Medical. While HHS negotiators did make substantial reductions in the indirect cost rates proposed by the universities, they did not detect unallowable transactions and most of the allocation errors that we found at Berkeley. In addition, unallowable cost transactions were also found at Harvard Medical. According to HHS' Director of Grant and Contract Financial Management, because of the limited time that HHS negotiators have to devote to the proposals and the lack of audits, they spend their time examining the broader allocation process rather than individual cost transactions. As a result, they often negotiate reductions that the Director believes more than compensate for any unallowable costs not identified by the negotiators.

Corrective Actions Under Way to Address the Problems

As the severity of indirect cost problems at universities began to unfold, virtually all parties involved initiated corrective actions. Principally, OMB revised several aspects of Circular A-21; universities initiated their own reviews and announced that they would be returning millions of dollars to the government; and HHS and ONR stepped up the volume and scope of their indirect cost audits and requested universities to conduct reviews of their own. Although these actions are generally appropriate to correct the identified deficiencies in the current reimbursement system, we believe the system itself remains administratively burdensome and expensive for both the government and the universities. Federally conducted studies

currently under way offer the opportunity to develop more far-reaching changes to the overall system for indirect cost reimbursement.

OMB Revised Circular A-21

In October 1991 OMB revised Circular A-21. The revision clarified the allowability of specific costs, placed limits on certain reimbursements, and required greater accountability by the universities. The revised Circular disallowed some previously allowable costs, such as personal living expenses for university officers, and incorporated some of the more restrictive FAR language in such areas as entertainment, memberships, and public relations. The revised Circular also requires

- cognizant agencies to impose a 26-percent cap on the reimbursement of administrative costs and universities not to shift their costs to circumvent the cap,
- universities to ensure that federal research does not subsidize other research,
- universities to certify the allowability and allocability of costs in their indirect cost proposals and to make adjustments or refunds when errors are found, and
- the 99 universities receiving the highest federal research funds to use their depreciation and use allowance reimbursements for acquiring or improving research facilities.

Universities Took Action

As the media began reporting the unallowable and improper indirect costs charged to the government, universities began taking a more proactive stance to address these problems. They initiated reviews, returned federal funds, and began making changes in their systems. In reviewing their indirect cost proposals and submissions, universities looked for and removed unallowable or inappropriate costs that they determined should not be charged to the government.

For example, prior to our review of Harvard Medical, Harvard University had reviewed its administrative accounts at both the central University and the Medical School and had identified a total of $1.8 million in unallowable or inappropriate costs, of which $254,000 was allocated to the government. Similarly, according to HHS/OIG officials, four of the universities that the OIG reviewed this past year had performed their own reviews of administrative costs prior to OIG's audits. In these instances, the institutions identified unallowable costs totaling $11.4 million, a portion of which was attributable to the government, and made adjustments as

appropriate. DCAA reported that many other universities have made voluntary refunds or reduced their outstanding claims for significant amounts that were inappropriately billed to the government.

However, the universities' self-initiated reviews, usually conducted by university staff or outside auditors, were not always adequately performed. For example, HHS/OIG identified an additional $5.7 million in unallowable or questionable costs at the four universities that had conducted their own reviews. Similarly, our review at Harvard identified an additional $894,000 in such costs, of which $75,000 was allocated to the government.

Universities have also taken steps to identify and reduce internal control system weaknesses that allowed these inappropriate costs to be charged to the government. All four universities we reviewed have started planning for or have already implemented modifications to their accounting systems to better segregate unallowable costs and have begun training programs to better educate their employees in federal cost principles.

The recent reviews and revisions undertaken by the universities can help to ensure that the government is not charged for inappropriate indirect costs for government-sponsored research. Paradoxically, however, the costs of such efforts represent overhead expenses, part of which may ultimately be charged to the federal government. For example, Stanford University's Chief Financial Officer said that the university's 1992 proposal included $8 million in costs to develop and implement improved accounting practices, prepare cost studies, and otherwise respond to government requests. Other universities have also informed DCAA that they intend to claim similar costs.

HHS and ONR Have Responded to Problems

Since March 1991 both HHS and ONR have taken steps to improve their oversight of universities. Acknowledging that more effort was needed in reviewing indirect cost rate proposals, HHS asked its OIG to provide audit assistance to the negotiators. By agreement, OIG is to work with the negotiators on selected aspects of about 20 proposals each year. HHS has also recently started using consultants in technical reviews of cost analysis studies. HHS also requested universities under its cognizance to review their indirect costs and internal control procedures and is increasing its audit coverage at universities. Specifically, HHS requested 260 of its research universities to review their internal procedures to ensure that only allowable costs are included in the indirect costs allocated to federal

programs and to inform HHS of any discrepancies. HHS/OIG is currently following up with school officials on the results of these reviews. HHS/OIG also conducted audits of limited scope at 14 universities, focusing on administrative expenses and depreciation and use allowances.

ONR has also initiated several actions to improve its oversight. It has requested that all of its universities review their own indirect cost systems to ensure that only proper costs are allocated to federal research. Subsequently, DCAA conducted its own reviews of internal controls and indirect costs at most of these universities. ONR also canceled most of its MOUs and now requires that any new ones undergo formal audit and legal review before approval. ONR has also revised its operating manual for negotiating indirect cost rates, requiring, among other things, that the negotiations be coordinated with other interested federal agencies.

While the actions undertaken by the universities as well as by HHS and ONR are appropriate steps to deal with the immediate problems, in the long-run, they will require the investment of additional resources by the government as well as the universities. Because these actions compound the already administratively burdensome system, the consideration of more fundamental changes may be appropriate at this time.

Long-Term Efforts Have Potential for More Substantive Improvements

An OMB-led task force, the Cost Accounting Standards Board, and an HHS working group have initiated efforts to gather information and propose potentially broader changes to the indirect cost reimbursement system. OMB has formed a multiagency task force that is addressing general policy issues, such as having one federal agency oversee university research, simplifying the overall reimbursement process, studying the federal role in facility/equipment reimbursement, and considering the need for further revisions to Circular A-21. The task force estimated that this work would be completed by the end of fiscal year 1992. Although the task force has informally obtained universities' input and plans to obtain universities' views on various option papers, a mechanism does not exist to formally obtain input from the university research community, which may be significantly affected by the outcome.

OMB has also asked the Cost Accounting Standards Board (CASB) to begin assessing the potential for applying cost accounting standards to educational institutions, which are currently exempt from these standards. On June 2, 1992, CASB published an advance notice of proposed rulemaking—step two of a four-step process—in the Federal Register for

public comment. Proposed changes would require educational institutions that receive federal contract awards over $500,000 to formally disclose their cost-accounting practices, follow these practices consistently, and separately identify any unallowable costs. According to CASB, however, these changes may not produce enough uniformity across universities for the government to make meaningful cost comparisons or set appropriate cost limits. Therefore, further changes to Circular A-21 or additional standards may be required.

HHS also formed a working group consisting of the Assistant Secretary for Management and Budget, the Director of the National Institutes of Health, and the HHS Inspector General to analyze the current system and propose alternatives. A report on the results of the HHS study of indirect costs is expected to be issued soon.

An Inconsistent Federal Approach Remains

Although efforts are under way to improve the cost reimbursement system, ONR and HHS continue to follow different approaches for indirect cost reimbursement at their cognizant universities. While OMB Circular A-21 states that the federal government should bear its "fair share" of total costs of federally sponsored research, fair share has been variously interpreted and applied in the negotiation process. Historically and legislatively based, the different approaches are reflected in the way that each agency negotiates its indirect cost rates. ONR's approach generally provides for full recovery of claimed allowed indirect costs for its universities, while HHS' approach generally results in limiting the federal reimbursement of indirect costs. These approaches result in inconsistent reimbursement of indirect costs for universities and may help explain why, on average, ONR universities have a 59-percent indirect cost rate, while HHS universities have an indirect cost rate of 50 percent.[5]

ONR Provides Full Reimbursement

ONR, which has cognizance over only 39 universities, allows universities to be fully reimbursed for all allowable indirect costs incurred and claimed. In fact, such full cost recovery was one of the principles that ONR developed after World War II for reimbursing universities for federal research. ONR is still committed to the principle that the government should pay its full share of substantiated indirect costs that are reasonable, allowable, and allocable. ONR generally negotiates fixed-with-carry-forward rates with its universities, as described in chapter 1. In essence, ONR

[5]Based on a weighted average of fiscal year 1989 rates at 137 universities that received 86 percent of federal research funding in fiscal year 1989. (See app. I for details.)

follows a procurement model in establishing rates—much along the lines of settling a cost-type contract, which is a very labor-intensive process. DCAA has roughly 60 to 70 staff years annually devoted to auditing the schools under ONR cognizance. ONR has 25 negotiators responsible for, among other things, negotiating the rates at its schools.

HHS Limits Federal Reimbursement

Conversely, HHS, which has cognizance over the great majority of the more than 600 universities involved in federal research, limits the amount of indirect costs that it will reimburse universities. According to HHS officials, the federal government's role is one of assisting universities in carrying out research activities that they propose. Because universities, as well as the federal government, benefit from such research, they are expected to share in the related indirect costs. Thus, universities under HHS' cognizance are generally not fully reimbursed for all their allowable indirect costs.

In support of this philosophy, HHS negotiators take an aggressive stance in negotiating rates with universities, according to HHS officials. The rate review process relies heavily on desk reviews of a university's financial statements and indirect cost proposals. To stabilize the rates and limit the frequency of negotiations, HHS generally negotiates a predetermined rate for a 2- to 3-year period. Once negotiated, the rates are fixed, regardless of the actual costs incurred. As a result, no specific audits of incurred costs are required since there are no subsequent adjustments. Although negotiators have used some audit assistance in their reviews of universities' indirect cost proposals, the assistance has been very limited until recently. HHS has only about 14 negotiators to work with the more than 600 universities for which HHS is responsible.

Conclusions

Recently, unallowable and inappropriate indirect costs billed to the government have been discovered at universities nationwide, totaling hundreds of millions of dollars. Recent disclosures of significant problems have spurred detailed corrective actions to the current system by the government and the universities. Although these measures are generally appropriate and necessary under the current system, it is not clear that this approach is the most efficient path to resolving the problems in the long term. In fact, detailed corrective actions taken thus far by the government and the universities may ultimately result in a system that is more administratively complex and costly for both the government and the universities.

We believe that major changes should be considered to the current system. We have identified a number of alternative cost reimbursement methods that can encourage the universities to contain costs, limit federal funding for indirect costs, and/or simplify the system for both the government and the universities. In chapter 3 we discuss these alternatives and make a recommendation for this decision-making process. In the meantime, however, we believe it is inefficient to have two federal agencies—HHS and ONR—administering the program, particularly when they are using inconsistent approaches.

Recommendation

We recommend that the Director, OMB, designate a single cognizant federal agency, using a consistent approach, to negotiate indirect cost rates for federally sponsored research at universities.

Alternative Approaches for Reimbursing Universities for Indirect Costs

Efforts now under way by OMB and others make this an opportune time to consider revamping the reimbursement system for universities' indirect costs. The current system—even with recent improvements—remains administratively burdensome and costly for both the government and the universities. The alternatives we have identified range from revisions to the current system, such as eliminating the use of special studies to justify higher indirect cost allocations, to more fundamental changes, such as requiring one flat rate for indirect costs for all universities regardless of the universities' actual indirect costs.

We do not prescribe which alternative or combination of alternatives should be selected. However, we do believe that primary consideration should be given to alternatives that (1) set reasonable limits on what the government will reimburse, (2) simplify the process to reduce the administrative burden on the government and the universities, and (3) provide for sufficient controls and periodic oversight to adequately safeguard public funds and instill credibility in the system. Furthermore, all alternatives must be considered within a framework of severe budgetary constraints. Such considerations need to be weighed against the possible effect of various alternatives on the overall quality of university research and on reimbursements to universities. Therefore, we believe that OMB needs to involve the university community in examining possible approaches for restructuring the system.

Alternatives That Limit Federal Reimbursement to Universities

We have identified a number of alternatives that would limit federal reimbursement and thereby create greater incentives for universities to contain their indirect costs. For example, limitations could be established by imposing some form of cap or flat rate or by focusing on the total cost of research proposals. The cap and flat-rate alternatives, however, would require clear federal guidance on how costs—both direct and indirect—should be charged as well as appropriate internal university controls and audits to ensure that universities do not inappropriately charge indirect costs as direct costs. Another alternative would focus on the total costs (i.e., both direct and indirect costs) of proposed research projects in making award decisions to encourage a more competitive environment among universities for research projects and thus an incentive for greater cost containment.

Caps on Indirect Cost Rates

To limit rate increases, the government could simply place a cap, or ceiling, on the amount of indirect cost it will pay. With this approach, the

government could also create an incentive for universities whose indirect costs are at or above the cap to look harder at ways to contain costs.

A cap could be imposed on any or all of the seven cost pool categories. The 26-percent cap that OMB recently placed on the three administrative-related cost pools is the most recent example of how this option could be applied. The cap could be raised or lowered for the administrative categories or extended to the library and student services cost categories as well as to the growing costs in facilities-related categories. Separate caps could be imposed on the various categories of cost, or one overall cap could cover all cost categories. More information and analysis of the experience and trends of indirect costs in each of the seven cost categories could help determine whether caps on all or on only certain additional categories of cost would be most appropriate.[1]

The use of caps is not new and can certainly help stabilize rising cost rates; the resulting savings in government funds might then be used to fund more research projects. For example, government officials estimate that the 26-percent cap on administrative costs would reduce indirect costs charged to the government by about $70 million to $100 million a year. But the savings obviously come at the expense of universities with indirect cost rates above the cap. Because there may be legitimate reasons for some universities' higher cost rates, it would be important to closely examine the specific factors that contribute to those differences in considering any further use of caps. In addition, caps will do little to simplify the administrative process. Rates still would have to be individually justified, thus basically requiring the same degree of administrative attention by both the government and universities.

To illustrate the effect of caps, we analyzed the level of federal research funding and indirect cost rates at 137 universities for fiscal year 1989 (the latest year for which information was available). These schools had received about 86 percent of all federally sponsored university research funds, with an average overall rate of approximately 52 percent in fiscal year 1989.[2] We did some additional analysis of the impact of caps on the 20 highest funded of these 137 schools (top 20), which received 36 percent of federally sponsored research funding in fiscal year 1989.

[1]An ongoing study by the Association of American Universities/Council on Government Relations on the indirect cost of university research, which is being done in cooperation with the OMB task force effort, may provide useful data for this kind of analysis.

[2]Unless otherwise specified, all averages are weighted by the MTDC. (See app. I for more details.)

As shown in table 3.1, if an overall cap of 50 percent had been established, 53 schools (39 percent) would have received about $222 million less in federal indirect cost support, while the remaining 84 schools would have been unaffected. (The top 20 schools would have received about $133 million less of the above federal funding.)

Table 3.1: Effect of 50-Percent Overall Rate Cap on 137 Universities by Type of School and Cognizant Agency

Dollars in millions

		Schools with reduction		Total
	Total	Number	Percent	reduction
Type of School				
Public	88	17	19	$25
Private	49	36	73	197
Total	**137**	**53**	**39**	**$222**
Agency				
ONR	19	12	63	$90
HHS	118	41	35	132
Total	**137**	**53**	**39**	**$222**

Note: Based on fiscal year 1989 research funding amounts and rates.

As table 3.1 indicates, an overall cap of 50 percent would have affected 36 of 49 private schools (73 percent), compared with only 17 of 88 public schools (19 percent). (Among the top 20 schools, only 2 of the 10 public, but 9 of the 10 private schools would have been affected.) By cognizant agency, 12 of 19 schools (63 percent) under the administrative cognizance of ONR would have been affected, compared with 41 of 118 HHS schools (35 percent).

In terms of dollar impact, the cap would have resulted in an overall reduction of about 10 percent in federal indirect cost funding for the 53 schools.[3] However, it would have affected schools differently. For example, the 17 public schools would have experienced an overall reduction of about 2 percent in funding, while the reduction for the 36 private schools would have been about 19 percent. By the same token, the 12 ONR schools would have been cut by about 19 percent, while the 41 HHS schools would have been cut by about 8 percent.

With the cap, 11 of the top 20 schools would have experienced an overall reduction of about 14 percent. Dividing the 137 schools into 2 groups—the

[3]Based on the indirect cost reductions as a percentage of the fiscal year 1989 funding for indirect costs.

top 20 and the remaining 117—illustrates the effects of the cap on different groups. For example, public schools in the top 20 and in the remaining 117 schools would have experienced roughly similar overall reductions. However, 9 private schools in the top 20 would have experienced an overall reduction of about 23 percent, compared with an overall reduction of about 15 percent for the private schools in the remaining 117.

Table 3.2 provides additional perspective on the extent of the impact on the various schools. As shown, 19 of the 53 schools (or 36 percent) would have experienced a 20- to 40-percent reduction in federal funding for indirect costs.

Table 3.2: Reductions as a Percentage of Indirect Cost Funding Resulting From a 50-Percent Overall Rate Cap

Percent reduction	Number of schools	Percent of schools
0 to 9.9	11	21
10 to 19.9	23	43
20 to 29.9	13	25
30 to 39.9	6	11
Total	**53**	**100**

Note: Based on fiscal year 1989 data at the 53 schools that would have received a reduction in federal funding under an overall cap of 50 percent.

By region, as shown in table 3.3, the greatest impact would have been on schools in the New England and Middle Atlantic regions, where the average rates were 64 and 59 percent, respectively, compared with average rates in the Mountain and most of the Central regions of about 45 percent.

Table 3.3: Average and Range of Indirect Cost Rates by Region

Region	Average (percent)	Range (percent)
New England	64	43-77
Middle Atlantic	59	34-82
East North Central	51	43-62
South Atlantic	51	39-78
Pacific	50	36-73
West North Central	45	38-59
East South Central	45	39-49
West South Central	45	39-50
Mountain	44	37-49

Notes: Based on fiscal year 1989 rates for 137 universities .

Regions were taken from Federal Support to Universities, Colleges, and Nonprofit Institutions: Fiscal Year 1989, National Science Foundation (Wash., D.C., Aug. 1991).

In summary, private schools (particularly those in the top 20) would have been more affected by an overall cap than public schools, ONR schools more than HHS schools, and New England and Middle Atlantic region schools more than schools in other regions. Because of these disparate impacts, additional analysis of the reasons for such variations should be considered before moving to this approach.

Set Uniform Flat Rates

Another alternative would be to establish uniform flat rates. Under this approach, the government would pay universities the same rate regardless of whether their actual indirect cost rates were higher or lower than the flat rate. Like a cap, flat rates could be imposed on all, on some combination of, or individually on any of the seven cost pool categories.

A significant advantage of a flat rate is that it would allow for substantial simplification of the indirect cost process because rates would not have to be individually justified by universities or reviewed and approved by the government. Not only would this eliminate the extensive rate negotiation and determination process now entailed with the current system, but it would virtually eliminate the need for the kinds of indirect cost audits that are now being done, or that may be needed, to support the negotiation process. It would also benefit universities by eliminating the need to prepare and justify detailed indirect cost proposals and by offering greater stability and assurance of future funding levels for budgeting and planning purposes.

The principal change for universities would be that certain universities whose indirect costs are above the flat rate would experience a reduction in their reimbursement, while those whose indirect costs are below the rate would receive an increase. These effects could be reduced if flat rates were phased in over time. For example, if the government imposed a 50-percent flat rate, it might have a university whose costs are currently at 80 percent reduce its rate by 6 percentage points each year over 5 years until the university reached the prescribed flat rate. From the government's standpoint, one disadvantage of flat rates would be a significant decrease in the government's oversight of universities' accounting practices, particularly in monitoring how universities charge costs, either directly or indirectly, to federal research. Thus, while the flat rate approach would reduce the need for audits of indirect costs, it might require greater scrutiny over direct charges, although direct charges are more visible and easier to identify and monitor. In addition, the government would still have to review the flat rates periodically to determine whether they were still appropriate.

We assessed the impact of flat rates on universities by using the same information on the 137 schools that we used for the cap alternative.[4] We did additional analyses on the 20 highest funded of these schools (top 20).

As shown in table 3.4, if the same 50-percent rate is assumed, the same 53 schools would have experienced a decrease in indirect cost reimbursement totaling about $222 million. However, 78 of the remaining 84 schools—rather than being unaffected, as in the case of a 50-percent cap—would have received an overall increase of about $138 million. (Eight of the 10 public schools in the top 20 would have received an overall increase of about $50 million.) Six other schools would have been unaffected because their rate was 50 percent. The net effect would have been a reduction of about $84 million in federal reimbursement to universities. Additional savings to both the government and the universities would result from a reduction in indirect cost proposal preparation, negotiation, and audit costs.

[4]As noted earlier, our analyses are based on fiscal year 1989 data and, unless otherwise noted, all averages are weighted by the MTDC. (See app. I.)

Table 3.4: Effect of 50-Percent Flat Rate on 137 Universities by Type of School and Cognizant Agency

Dollars in millions

		Decrease		Increase		
	Total	Schools	Amount	Schools	Amount	Net reduction
Type of School						
Public	88	17	$25	69	$127	$(102)
Private	49	36	197	9	11	186
Total	**137**	**53**	**$222**	**78**	**$138**	**$84**
Agency						
ONR	19	12	$90	7	$16	$74
HHS	118	41	132	71	122	10
Total	**137**	**53**	**$222**	**78**	**$138**	**$84**

Note: Based on fiscal year 1989 research funding amounts and rates.

In terms of dollar impact, the flat rate would have resulted in an overall increase of about 6 percent in federal funding for indirect costs for the 78 schools.[5]

As shown in table 3.5, 27 of these 78 schools (or 35 percent) would have experienced less than a 10-percent increase in funding. However, 17 of these schools (or 21 percent) would have received between 20 and 50 percent more federal funding for indirect costs.

Table 3.5: Increases as a Percentage of Indirect Cost Funding Resulting From a 50-Percent Flat Rate

Percent increase	Number of schools	Percent of schools
0 to 9.9	27	35
10 to 19.9	34	44
20 to 29.9	11	14
30 to 39.9	5	6
40 to 49.9	1	1
Total	**78**	**100**

Note: Based on fiscal year 1989 data at the 78 schools that would have received an increase in federal funding under a flat rate of 50 percent.

Of the 78 schools that would have benefitted the most from a 50-percent flat rate, the 69 public schools would have received about 11 percent more

[5]Based on the indirect cost increases as a percent of the fiscal year 1989 funding for indirect costs.

in federal indirect cost funding, while the 9 private schools would have received about 1 percent more. (Eight of the 10 public schools in the top 20 would have experienced overall increases similar to those of the other public schools. None of the 10 private schools in the top 20 would have received an increase.) In terms of the cognizant agency, the 7 ONR schools would have gained about 3 percent, while the 71 HHS schools would have gained about 7 percent.

This type of analysis could be used for different flat rates, but the end result would be the same: some universities would increase their support, and some universities would lose support because of the variations in university rates. For example, if a 40-percent flat rate had been established, 122 of the 137 schools would have experienced reductions in indirect cost reimbursements, while only 15 schools would have received an increase, with a net reduction in federal payments of about $504 million.

Establish Varying Rate Levels Among Universities

Because of wide variations in rates among universities, another option would be to establish several different caps or flat rates for different categories of institutions. Such an approach presumably could recognize any legitimate differences in costs among schools and provide for reimbursement rates more in line with the rates that schools have been receiving and could justify.

The main difficulty with this type of approach is identifying appropriate criteria for placing universities into various categories. Should the categories be based on (1) the type of university (such as teaching versus research-oriented, or public versus private); (2) the type of research the universities carry out (some types are more cost-intensive than others); (3) the universities' geographical location (as noted, indirect cost rates, on average, tend to be much higher in the Northeast than in the South); or (4) a combination of these and other factors? These questions need to be resolved before moving to a varying-rate level.

That wide rate variations do, in fact, exist is illustrated by table 3.6, as well as by table 3.3.

Table 3.6: Variations in Indirect Cost Rates for 137 Institutions

	Average rate (percent)	Range (percent)
Overall	52	34 to 82
Type of school		
Public	46	34 to 66
Private	61	39 to 82
Agency		
ONR	59	34 to 74
HHS	50	36 to 82

Note: Based on fiscal year 1989 rates weighted by the MTDC.

While the overall indirect cost rate for the 137 universities in fiscal year 1989 averaged about 52 percent, rates ranged from 34 percent to 82 percent. Therefore, key to resolving the question of whether the government should establish different rates for different categories of schools—as noted in our discussion of caps—would be further analysis of the real reasons for such wide variations in rates. Past studies have suggested that there are some valid reasons for differences among schools in different regions of the country, while differences between private and public schools may be more a factor of the aggressiveness with which they seek to recover indirect costs. For example, the study group associated with HHS' task force effort suggested that private schools have a much greater incentive to aggressively pursue indirect cost reimbursement than do public schools, which must often return indirect cost recoveries to their state governments.

Other key factors for this range of rates include differences in the negotiating strategies of the cognizant agencies and differences among universities in their accounting treatment of direct versus indirect charges. We have already noted the differences in agencies' negotiating strategies and approaches in chapter 2. By the same token, differences in accounting treatment of indirect costs by the universities, if found significant, might be addressed through more definitive guidance in Circular A-21 or by the application of cost accounting standards, as further discussed in a later section of this chapter.

Focus on Total Costs of Research Proposals

A final option in this area would be to require sponsoring agencies to focus on total costs (i.e., both direct and indirect costs) of proposed research projects in making their award decisions, rather than on only the direct

costs. While this would not change the negotiation process for indirect costs, it would encourage a more competitive environment among universities for research projects and thus create more incentive for cost containment.

The advantage of this approach, which is already being undertaken by the National Science Foundation and was recently adopted by NIH, is that it encourages greater cost consciousness both by the university and the government. A potential concern is that cost could conceivably replace basic research quality as the primary criterion for award decisions. However, according to NIH and NSF officials, the merit of individual research proposals continues to be the primary factor in the award decision. When differing proposals are of comparable quality, cost can then be the deciding factor in making the award.

Alternatives for Simplifying the Current System

Regardless of what other alternatives are pursued, both the government and the universities have much to gain if ways can be found to make the process work more easily and efficiently. We present below two possible approaches for simplifying the current system.

Eliminate Cost Analysis Studies

OMB Circular A-21 establishes standard methods for allocating costs accumulated in the indirect cost pools between federal research and other university functions. But it also allows universities to deviate from these standard allocation methods if they perform cost analysis studies (special studies) to justify allocating costs to the government in some other way.

As discussed in chapter 2, special studies are generally used by a university to justify some higher allocation of costs, such as library or utility costs, to federal research and are usually performed for the university by outside consulting groups. To be allowed, however, the studies must provide appropriate documentation for federal review, be statistically sound, be consistently used, and be reviewed at least every 2 years and updated if necessary—all of which is expensive and time-consuming to carry out as well as to review and approve. The net result is that the government generally pays not only for a large portion of the cost of the studies themselves but also for the associated higher cost allocations that these studies justify. In addition, the studies we examined contained numerous problems.

Thus, an obvious option would be to eliminate special studies. However, if this were done—in the spirit of fairness—we believe the existing

allocation methods of Circular A-21 should first be revisited to determine if they are generally fair and reasonable and, if not, to replace them with ones that are. This would then allow Circular A-21 to provide for a consistent application of methodologies that could be generally acceptable to both the universities and the government while saving the cost of the special studies and greatly simplifying the process for both parties.

Negotiate Multiyear Fixed, Predetermined Rates

Another alternative that would streamline the process and benefit both parties would be to encourage the use of multiyear fixed, predetermined rates at each school. Such an approach, generally followed by HHS, would greatly simplify the administrative aspects of the negotiation process for the government. It would also benefit universities by cutting back on their administrative work load as well as by providing them with a greater certainty of future funding levels for budget and planning purposes.

A further elaboration of this alternative would be to combine it with the use of uniform flat rates by category of institution, as discussed on page 37. Thus, rather than negotiating multiyear fixed, predetermined rates on an institution-by-institution basis, the government could establish uniform rates for various categories of institutions and the uniform rates could be revisited periodically to ensure their appropriateness. Such an approach would maximize the simplification concept, while recognizing basic differences between types of institutions.

According to ONR officials, the Federal Acquisition Regulation currently prohibits multiyear predetermined rates on cost-reimbursement contracts with educational institutions. Therefore, in broadening the use of this approach, a change to the FAR may be needed to allow multiyear rates to be used for contracts and grants.

Continuing Need for Controls and Oversight

Since disclosure of the indirect cost problems at universities, audit oversight has significantly increased by DCAA, HHS/OIG, and university and external audit groups. Such a dedication of resources, however, may represent a one-time effort while the public spotlight is focused on this issue. Therefore, it will be important to consider what kinds of more permanent controls and oversight need to be directed to this area in the future. Such considerations might include the role to be played by both internal and external audits, the possible need for more definitive

guidance in Circular A-21 on how costs should be charged to federal research, or additional cost-accounting standards to deal with this potential problem.

The level and nature of such controls and oversight, however, would largely be governed by the types of alternatives that are pursued. For example, a simple flat rate system would eliminate the administrative effort involved in negotiating indirect cost rates. However, adopting such a system would still require periodic reviews and audit surveillance to ensure that the rate was still appropriate and that only appropriate costs were charged directly to research projects. Thus, consideration of the appropriate approaches to take in this area must be closely tied to other proposed changes.

Greater reliance on external audits required by OMB Circular A-133 could supplement the efforts of federally conducted audits. OMB Circular A-133 establishes audit requirements, generally carried out by independent public accounting firms, and defines federal responsibilities for implementing and monitoring those requirements for universities receiving federal awards, effective with the fiscal year beginning on or after January 1, 1990. Suggested audit procedures included in an October 1991 compliance supplement include, among other things, testing to ensure that the items contained in indirect cost pools and methods of allocating costs are in accordance with Circular A-21 principles. However, the federal government would still have to periodically verify that A-133 audits were providing adequate audit coverage of indirect costs.

Depending upon what other options are pursued, it may be desirable to provide more definitive Circular A-21 guidance or to consider the need for cost-accounting standards in addition to those that OMB is currently examining. For example, if the government places further limits on the level of indirect cost reimbursement, some universities may shift certain costs from the indirect cost categories to direct cost categories. In this connection, OMB stated in recent revisions to Circular A-21 that universities should not change their accounting or cost allocation methods in order to change a particular type of cost from indirect to direct. However, more definitive Circular A-21 guidance or institution of cost accounting standards may be needed to more clearly define direct versus indirect costs for universities, as well as to help ensure greater consistency among universities in how costs are accumulated and charged. A similar standard applicable to government contractors is already in place and, conceivably, could be adapted for universities.

Conclusions

The current system for reimbursing universities for indirect costs related to federally funded research remains administratively burdensome and costly for both the federal government and the universities. In addition, the system does not create sufficient incentives for universities to contain their costs. These problems and the fact that several efforts are underway by OMB and others to analyze indirect cost reimbursement make this an opportune time to reevaluate the system. While we believe that the multiagency task force that OMB has formed to address the indirect cost issue is a good starting point for such a reevaluation, the task force does not include representatives of all affected parties, including the universities, nor a formal method for obtaining their input.

We believe the alternative approaches we have presented should be considered as the reimbursement system is reevaluated. Some of the alternatives, such as instituting flat rates, offer greater opportunities to simplify the system than others, such as eliminating special studies used to justify indirect cost rates. Although we are not recommending a specific alternative or set of alternatives, we believe that greater emphasis should be placed on considering those alternatives that offer the greatest potential for creating incentives for universities to contain costs and for reducing the administrative burden on both the government and the universities.

Because some of the alternatives could result in significant increases or decreases in the amount of indirect costs reimbursed at universities and because of concerns about the effect that changes to the system may have on the quality of research, we believe the OMB task force needs to find ways to involve the university community more directly in the evaluation of alternatives for revising the reimbursement system. The ultimate objective would be to establish a system that (1) sets some reasonable limits on the amount of indirect cost that the government will reimburse and that can be efficiently administered by both universities and the government and (2) protects the government's interest by providing for sufficient controls, audits, and periodic analysis.

Recommendation

We recommend that OMB examine ways to more directly involve a cross section of the university community in the work of the task force, either through direct membership or as a separate advisory committee, in evaluating alternative methods (including, but not limited to, ones we have identified) for reimbursing universities for indirect costs related to federally sponsored research.

Methodology to Determine Effect of Alternative Approaches

To illustrate the impact of alternative approaches for reimbursing indirect costs, we estimated both the change in funding amounts and the number of schools that would be affected by each alternative approach considered.

From the Division of Cost Determination Management, Office of Grant and Contract Financial Management, Department of Health and Human Services (HHS), we obtained a list of schools receiving federal research funding. The list was developed by HHS on the basis of the amount of federal research and development funding awarded to each HHS and Office of Naval Research (ONR) school in fiscal year 1982. Only those schools whose fiscal year 1982 funding was at least $6 million were included. These 137 schools, called "high-dollar" schools, are the only schools for which negotiated rate components are tracked in a central location. Because of this, our analyses are limited to these schools.

The National Science Foundation (NSF) maintains a centralized record of the amount of federal award dollars that institutions receive. We used these data to determine the dollar amounts awarded to the list of 137 "high-dollar" schools. However, the most current data available at the time of our analysis were for fiscal year 1989. We therefore also used the negotiated rates for fiscal year 1989, and all of our estimates are in terms of fiscal year 1989 rates and dollars. We determined that the "high-dollar" schools received about 86 percent of the fiscal year 1989 federal obligations for research and development to universities and colleges. Our analysis of a particular alternative estimates the impact that these schools would have incurred had that alternative been in effect in fiscal year 1989.

We repeated some of our analyses on the 20 highest funded of the 137 "high-dollar" schools. These "top 20" schools received about 36 percent of the fiscal year 1989 federal obligations for research and development to universities and colleges.

The only funding data available from NSF is aggregated to the level of total funding per university. However, within many universities, different rates exist for different schools (e.g., Harvard University has three schools with different rates—Cambridge General Campus, Harvard Medical School, and Harvard School of Public Health). Even within each school of a university, different rates may be in effect (e.g., on-campus rate versus off-campus rate). Because the funding data are the total amount for a university, it is not clear what portion of the money should be applied to each of the different rates.

For universities with different rates among their schools, the Division of Cost Determination Management, HHS, told us to best approximate the actual figures by "splitting" the total dollar amount among the different schools. We performed this "split" on the basis of the school's "organized research base," a number used in the rate negotiations, that was supplied by the Division of Cost Determination Management, HHS. However, we were unable to determine within a school which of the possible rates was used. Under the advice of the Division of Cost Determination Management, HHS, we assumed that all grants were totally on-campus, and applied the on-campus rates to all moneys.

Another complication related to the level of aggregation of the funding data is due to the method of calculating indirect costs. Total cost can be broken into two parts—indirect costs (IDC) and total direct costs (TDC). TDC are then broken down into two more parts—modified total direct cost (MTDC) and non-base direct cost (NBDC). Therefore,

Total cost = IDC + (MTDC + NBDC).

The indirect cost funding is determined by multiplying the negotiated rate by the MTDC. However, this piece of information (the MTDC) is not maintained by NSF.

The Division of Cost Determination Management, HHS, was able to obtain unaggregated funding data for the "high-dollar" schools, including total costs as well as TDC and IDC. These data were limited to funding from the National Institutes of Health (NIH) and were for fiscal year 1990. Using these data, along with the fiscal year 1990 negotiated rates for these schools, we determined the MTDC for each "high-dollar" school for fiscal year 1990 funding from NIH. We used these results to determine that the ratio of the MTDC to the TDC (MTDC/TDC) for fiscal year 1990 NIH funding at the "high-dollar" schools is approximately 0.82.

In order to use the aggregated fiscal year 1989 funding data available from NSF, we assumed that this ratio—MTDC/TDC—would be constant from fiscal year 1989 to fiscal year 1990. We also assumed that the ratio would be constant for funding that was not limited to NIH but was governmentwide. We were then able to estimate the MTDC for fiscal year 1989 federal funding to each of the "high-dollar" schools.

Changing the value of this ratio does affect the results of our analyses. To illustrate, we show in table I.1 the change in our estimate of the total MTDC

at the "high-dollar" schools resulting from adding and subtracting 0.05 from the MTDC/TDC ratio.

Table I.1: Changes to the Estimated Total MTDC Due to Varying the Assumed MTDC/TDC Ratio

Dollars in millions

MTDC/TDC	Total MTDC
0.77	4,020
0.82	4,200
0.87	4,381

Note: Based on fiscal year 1989 funding and rate data at 137 universities.

Unless otherwise specified, all averages of fiscal year 1989 rates presented in this report are weighted by our estimate of the MTDC at each "high-dollar" school. We weighted the averages to reflect the proportion of total federal funding received by each of the 137 schools. For example, a school with $10 million in funding would receive more weight than a school with only $1 million.

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