

VARIATIONS IN RESEARCH INDIRECT COST RATES

A STUDY OF SIX UNIVERSITIES

February 14, 1969

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February 14, 1969

Mr. John F. Morse, Director
Commission on Federal Relations
American Council on Education
1785 Massachusetts Avenue, N.W.
Washington, D.C. 20036

Dear Mr. Morse:

At your request we conducted a study of the variations in indirect cost rates applicable to Federally sponsored research conducted by universities.

OBJECTIVES OF THE STUDY

The study was designed to provide the American Council on Education's Ad Hoc Committee on Indirect Costs with information which will assist in clarifying questions raised by Congress on indirect costs, their relationship to the performance of research and the rates developed for allocation of indirect costs to research projects. The purpose of our study was to determine the reasons for variations in research indirect cost rates developed by the six universities and the extent to which these variations affect the total share of research costs recovered from the Federal government. During the course of our study we attempted to determine to what extent variations in rates were affected by university policy, management decisions, university structure and diligence in developing the rate. We also tried to determine whether there existed sufficient flexibility and freedom to change present methods of rate development.

SCOPE

A sample of six universities was selected by the Ad Hoc Committee on Indirect Costs. It consisted of three publicly supported and three privately supported universities. One institution from each group of three was among those universities considered as having high indirect cost rates; one from each group was considered as having an intermediate rate; and the remaining one from each group represented institutions with low rates. The institutions selected were located in the northeast, midwest, south and far west of the United States.

APPROACH

The time constraints involved in undertaking this study were necessarily severe. Our approach was fashioned to meet this requirement.

We drafted a study questionnaire designed to elicit as much information as might reasonably be expected to be readily available and which normally would have a substantial impact on the level of indirect cost relative to the direct cost of research. We particularly requested information on management decisions, university policy and organizational structure that might affect rate construction and recovery of costs. The draft questionnaire was reviewed with representatives of the Ad Hoc Committee as well as staff of the American Council on Education, the National Association of College and University Business Officers and its Committee on Governmental Relations. The questionnaire was then completed and mailed to a designated representative at each of the six universities.

Ten days later we commenced day long interviews with the university officials responding to the questionnaire. The interviews were used to clarify and amplify the written answers provided to the questionnaire.

SUMMARY OF FINDINGS

Our findings are set forth in detail in the report which follows. They are summarized here for the sake of convenience and clarity.

(a) Institutional Involuntary and Voluntary Contributions to Sponsored Research

The initial concern giving rise to this study stems from the suggestion that universities might be profiting unfairly from Federally sponsored research projects. Our study indicated exactly the opposite condition.

Because of the cost allocation principles which are applied uniquely to educational institutions, the universities are not recovering costs which are important to their ability to sustain a desirable research capability. Other organizations including other non-profit institutions do recover such costs. Additionally, limitations already imposed by certain Federal agencies and others on the reimbursement of indirect costs attributable to research reduces the level of support to which the universities would otherwise be entitled. Voluntary support of research by these institutions further augments the application to this function of financial resources derived from other sources.

(b) Effect of Rate Differences on Recovery of Costs

Much confusion about indirect cost rates and their implications exists because of a general lack of understanding of how the rates are computed. An analysis of the process indicates that variations in the rates can be categorized into six groupings. Because of the variations found among the six universities studied, we concluded that the indirect cost rate could not be used as a measure of relative cost to support research. The rates are only useful devices used to determine the total cost of a research project.

After analyzing the chief factors which caused the difference in rates among the six institutions studied we concluded that the rate developed has little bearing on any comparative evaluation of research efforts. These may be measured perhaps by the total cost, but not by the relative distribution of direct and indirect costs.

The main cause of rate differences is the result of a decision to treat a particular type of activity as either a direct or indirect cost. While some universities feel that there are institutional advantages to treating certain costs as indirect, all such universities would reconsider their positions if a ceiling were imposed on indirect costs.

In theory, treatment of a cost as direct or indirect should have no effect. In practice, we found that charging more activities as direct costs not only lowers the indirect cost rate, but also leads to a higher reimbursement of total costs. The converse of this condition also appears to be true. This situation is caused chiefly by the inability of the universities to recover all indirect costs, as mentioned earlier.

Several universities have developed weighting factors for use in distributing indirect pool costs to organized research. These factors are developed usually as the result of extensive studies to determine the full impact of research demands on supporting services. Such studies could be conducted by any university and thus change its basis for distribution of cost pools.

Audit and negotiation add further judgmental factors which influenced several indirect cost rates. Different interpretations of the same cost principles were found. The tendency for auditors and negotiators to react negatively to awkwardly presented or poorly substantiated indirect cost submissions could be mitigated by the use of a more standardized approach to indirect cost rate determination and presentation. Any such standardized approach, however, must

always provide for fundamental differences among universities which in turn will continue to cause different rates to be computed. Failure to recognize these unique characteristics could be damaging to the institutions of higher education and the national welfare.

Yours truly,

PEAT, MARWICK, MITCHELL & CO.

Peat, Marwick, Mitchell & Co.

Variations in Research Indirect Cost Rates

A Study of Six Universities

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I - INTRODUCTION

This study concerns indirect cost rates applicable to Federally sponsored research in universities. The Ad Hoc Committee on Indirect Costs of the American Council on Education wanted to identify the reasons for substantial variations in indirect cost rates among universities. It also wished to determine what internal situations or decisions contribute to these variations and whether there is freedom to change present methods of rate development.

Six universities were selected as a sample for this study, namely:

Princeton University
Stanford University
Columbia University

Iowa State University
University of Michigan
Louisiana State University

These six universities collectively developed 19 different research indirect cost rates ranging from a high of 78.09% to a low of 18.11%. Multiple campuses, special facilities and off-campus research activities accounted for the number of different rates employed.

This study consisted of a review and analysis of certain information supplied in writing by each university in response to a questionnaire prepared by us. This material was augmented by personal interviews with responsible university representatives.

Our findings are set forth in detail in sections II and III of this report. A summary of our conclusions is set forth in section IV.

II - INSTITUTIONAL INVOLUNTARY AND VOLUNTARY CONTRIBUTIONS TO SPONSORED RESEARCH

In our study, one basic fact became immediately obvious. No profit is being earned by universities on research projects sponsored by the Federal government. Quite the contrary, costs recovered by universities for sponsored research are less than the costs incurred. Support for Federal projects must be provided from other university revenue sources.

There are three basic reasons why a substantial part of the cost of government sponsored research projects is contributed by the university. First, cost allocation principles established by the Federal Government militate against full indirect cost allocation to Government sponsored research projects. Second, those indirect costs allocated to Government sponsored research under the present cost principles are not fully reimbursed by the awarding Government agency. Third, the university, because of its own institutional policies, may not charge all research cost incurred on Government sponsored projects to those projects.

COST ALLOCATION

Perhaps the largest single reason for under-reimbursement of Federally sponsored research projects performed by universities derives from the difference between cost accounting principles used to compute university research overhead rates and those principles established for other organizations performing research for the Government. Accounting for Federal contracts and grants performed by universities is governed by the cost principles set forth in Bureau of the budget circular A-21, revised March 3, 1965 (BoB A-21) with subsequent amendments. Contracts for research with commercial organizations and non-

profit institutions other than educational institutions are generally governed by cost principles set forth in the Armed Services Procurement Regulations, Section 15-2 (ASPR 15-2) for awards from Federal military agencies and the Federal Procurement Regulations, Part 1-15.2 (FPR 1-15.2) for the civil agencies.

The chief difference in these regulations is that BoB A-21 follows a concept of by-product cost accounting, whereas ASPR 15-2 and the companion FPR 1-15.2 is based on unit or joint costing. In unit or joint costing generally each unit of production is costed at its direct cost plus a pro-rata share of all indirect costs generated in the department or division in which the unit is produced. In addition a portion of overall organization costs is assigned to the unit using a distribution base that permits allocation of the cost on the basis of benefits received or support generated.

Under the by-product cost accounting principles of BoB A-21, however, the indirect costs that can be attributed to organized research must be segregated or removed from each department or division and set out in a separate pool of research support costs. After the support costs of organized research are segregated they are then distributed to each unit of research production (BoB A-21 requires salaries and wages to be used as the unit of measure for distribution purposes).

One effect of the different costing methods is best explained by the following example. In a commercial or non-profit organization a professional researcher who had been employed on a contract recently completed, may perform support duties and charge his efforts to an indirect cost objective, pending assignment to another contract. His salary costs are absorbed by other contracts as part of the total department indirect costs. The absorption of these costs permits the contractor to retain personnel and smooth out the cycles of its contract work load. Under the cost principles of BoB A-21, not only is the university not

permitted to charge the salary of the professional to a research indirect cost pool, but the costs must be reflected as a direct charge to instruction and departmental research. This causes the university to absorb the direct cost of the employee as well as a share of indirect costs allocated based on the individual's salary cost during the period not engaged in a sponsored project. The institution, therefore, has a choice of terminating the professional employee and losing that research capability or absorbing the direct cost and allocated indirect charges.

Other problems in by-product costing occur because of the necessity to segregate organized research support costs. To assure that the indirect cost is segregated in a reasonable relationship to the support generated by direct organized research activity, special allocation bases must be developed to reflect the proper matching of costs with cost objectives. Simple unweighted allocation bases do not always achieve this objective. Several of the institutions studied found it necessary to expend substantial effort on their own part or hire outside consultants to determine and justify weighted bases for the segregation of organized research indirect costs.

For example, in determining space usage research oriented space is generally more costly to construct, uses more light and power and requires more expensive maintenance service. At one institution included in our study, the cognizant Government audit agency requested that the university perform a detailed study to support weighting methods used to allocate space costs. The study required the use of four employees full time for five months, plus an indeterminable effort on the part of the users of the space.

At the same institution, a study of library usage, necessary to allocate library costs to research, was conducted over a six month period at a cost to the

university of approximately \$16,000. The costs of such studies are sometimes included in research overhead pools, but more often the costs are accumulated in general overhead pools and are borne not only by research projects but are also allocated to instruction and other activities of the institution.

To indicate the extent of this problem, another institution included in our study uses a base of salaries and wages to allocate space costs, a base for which statistical information is readily available in the accounting records and which does not require additional studies and the attendant expenses. The cognizant Government negotiating agency has indicated to the institution that this base will probably not be accepted in future negotiations without a study that will support the reasonableness of costs allocated to research.

Our study indicated that the universities generally were not able to allocate indirect costs to organized research to the same degree that similar indirect costs were charged to instruction and other university activities. The cost principles used, institutional policies, and the diligence of cost finding efforts by institutional personnel are the chief causative factors.

For example, at one institution \$.63 in indirect costs was associated with each dollar of research salaries incurred. Each dollar of direct labor cost of instruction carried with it almost twice as much indirect cost, or \$1.24. Since research effort probably requires at least the same level of supporting services as does an equal amount of instructional effort, then other revenue resources of the universities are bearing a substantial share of the cost of Government sponsored research. It is interesting to note that commercial research indirect cost rates, exclusive of profit, more closely resemble the instructional indirect cost rate of 124% than the research indirect cost rate of 63%.

A similar comparison of research versus instructional indirect cost rates at another institution studied produced a research indirect cost rate of 60% and an instructional indirect cost rate of 125%.

It is apparent then that the cost principles of BoB A-21 preclude equal cost treatment of the different activities of an educational institution, and that the full cost of supporting services required for organized research is not recognized. Furthermore, educational institutions, as with other contractors, cannot recover certain necessary costs of doing business which the BoB A-21 cost principles treat as unallowable.

LIMITATION ON REIMBURSEMENT

At the present time no Government-wide ceilings or limitations are imposed on the reimbursement of research indirect costs. However, limitations imposed by individual agencies because of the authorizing legislation, through agency administrative regulations or by negotiation substantially limit indirect cost reimbursement on Government sponsored research.

In the six institutions studied, for the last year for which figures are available, we found that actual reimbursement of research indirect costs was substantially less than the amount accepted by the cognizant Government negotiating agency as allocable to Federally sponsored research projects. The difference between the amount accepted and the amount reimbursed in that year represented 10%, 16%, 24%, 27%, 34% and 45% of the amount accepted for each of the six universities.

Therefore, at the same institution discussed previously, which was allocating \$.63 to each dollar of research direct labor, only \$.53 was actually recovered on each dollar, with the institution sharing in the indirect cost allocated to Government sponsored research at the rate of \$.10 per dollar of direct effort.

For other institutions with lower ratios of recovery the sharing was substantially more.

VOLUNTARY SUPPORT OF RESEARCH

In addition to involuntary sharing of research support costs because of the cost principles used and because of other Government imposed limitations on reimbursement, the majority of the educational institutions studied voluntarily contributed to the support of Government sponsored research. The reasons for the voluntary sharing generally stemmed from overall university policy or policies of individual departments engaged in research.

In four of the six universities studied, faculty salaries are not charged to research for a substantial portion of faculty effort on research projects. A study was made by one institution for its fiscal year 1966, which indicated that salaries of \$872,000 and allocable indirect costs of \$370,000 were not charged to Government sponsored research for research efforts of faculty members. Comparable figures were not available for the other three institutions which charged faculty research effort on Government projects to instruction.

Some of the reasons given for not charging faculty research efforts to Government sponsored research agreements are as follows:

Institution A:

"We adopted the above policy on faculty salaries some years ago because we felt it was a reasonable approach, would provide a brake against overextending ourselves if funds were to be cut off, and it has now proved very useful as the essentially sole way in which we handle cost sharing."

Institution B:

"Generally, all applicable costs which can be identified are charged directly to grants or contracts. The salary of the principal investigator is an exception to this rule. The University has traditionally absorbed this expense, partly at least, in order that

the faculty member would not feel that his tenure depended upon his ability to secure grants or contracts to support himself. It is very difficult to estimate the cost of this practice. It is probable that the salaries of 75% to 80% of the graduate faculty are involved."

III - EFFECT OF RATE DIFFERENCES ON RECOVERY OF COSTS

The indirect cost rate is the ratio of accumulated indirect costs to a direct cost base. It enables the cost accountant to distribute indirect costs to direct activities. The indirect cost rate is affected by both elements in the ratio, that is, by what is determined to be indirect cost and what is categorized as direct cost. It also is affected by the base selected to distribute the indirect cost.

Under the cost principles of BoB A-21 there are actually two levels of indirect cost distribution. This two level computation geometrically compounds the effect of variances in methods of costing. Indirect costs are accumulated in pools. The first level of distribution allocates to research that portion of cost in each pool applicable to the organized research efforts of the institution. The second level of distribution then allocates those indirect costs to individual research projects.

Our study indicated that there were many variations in rate computations and that these variations generally were permitted under the cost principles established by BoB A-21. The variations could be categorized as follows:

1. Selection of activities to be charged directly to projects or accumulated in indirect cost pools.
2. Selection of base for distribution of research indirect costs to organized research projects.
3. Construction of indirect cost pools.
4. Selection of units of measure for allocating pool costs to research.
5. Differences in cost level of indirect functions.
6. Results of audit and negotiation.

Our study also indicated that because of these variations in rate construction the indirect cost rate could not be used as a measure of relative cost of

research. The rate is simply a device used to determine the total cost of a research project.

Finally, our study indicated that the institutions do have flexibility in changing costing methods and that some standardization is probably feasible. Our study was not in sufficient depth, however, to determine whether a completely standard formula can be devised, or whether such a formula would serve a useful purpose.

DIRECT VERSUS INDIRECT CHARGING

Many university activities can be accounted for either (a) as direct charges to projects or (b) accumulated in cost pools and allocated to projects on a common base that reasonably assigns costs to projects in accordance with relative benefits received. For example, the activities of secretarial and clerical help, machine shops, plant or equipment repair, report preparation, special facilities (wind tunnels, electron microscopes, atomic reactors, etc.), general stores, mailing service, communications, and the like, can be charged directly to the using project or accumulated in indirect cost pools and allocated to all projects based on salaries and wages incurred, total direct cost or other reasonable units of measurement of cost generation.

Within the institution as a whole total costs remain the same since all costs are charged to some benefiting cost objective, either directly or as an indirect charge. The amount of cost charged to individual projects and activities within the institution, however, will vary. The extent to which this variance may occur will be in direct relation to the effectiveness of the base selected to measure cost generation.

In theory, whether a cost is charged directly or indirectly to research projects, the total effect on the university should be the same. As a practical

matter this is not true since universities are not reimbursed for all indirect costs allocated to research projects. Costs that are not charged directly to sponsored research projects, therefore, will not be fully reimbursed by the sponsoring agencies because of the limitations on reimbursement mentioned earlier. In effect, the more activities that are charged directly to research, the lower will be the resulting indirect cost rate, while total costs recovered by the university will be higher. Conversely, the more activities that are indirectly charged, the higher will be the indirect cost rate, and the lower the total cost recovery by the institution.

For example, at one university where non-academic personnel (secretarial, clerical, etc.) are included in departmental administration, a study was conducted by the university to determine the effect upon the indirect cost rate of charging these personnel on a direct basis to benefiting projects. The study indicated that the indirect cost rate would be reduced by 11 percentage points, and reimbursement from sponsors might be increased significantly.

The other five institutions in our study stated that they charge directly all costs that can reasonably be assigned directly to a research project. From a cursory review of information received this appears to be true. Any effort by the five universities to direct charge additional institutional activities would probably increase administrative costs in excess of benefits to be derived from direct charging. All six institutions indicated, however, that, if a limitation was imposed on the reimbursement of indirect costs, they would be required to reconsider their position since the relationship between cost and benefit would be significantly changed.

BASE DIFFERENCES

The distribution base is the measure by which indirect costs of research are allocated to individual research projects. One kind of base is direct research salaries and wages. This is the base used by BoB A-21. Another kind of base is total direct cost of research. This base has been used on various occasions particularly in reference to the imposition of limitations on indirect cost recovery.

The indirect cost rate is the ratio of the indirect costs of research to the base, expressed as a percentage. The use of different bases thus has a direct bearing upon the indirect cost rate. An illustration of how the two bases mentioned above affect the indirect cost rate follows:

Costs applicable to organized research at university X.

A. Direct salaries and wages	\$10,000,000
B. Other direct costs	<u>6,000,000</u>
C. Total direct costs	\$16,000,000
D. Indirect costs	<u>4,000,000</u>
Total Costs	<u>\$20,000,000</u>

	<u>Direct Salaries and Wages Base</u>	<u>Total Direct Cost Base</u>
Ratio of indirect costs to base	4:10 (D:A)	4:16 (D:C)
Indirect cost rate	<u>40% of A</u>	<u>25% of C</u>

It should be noted in the example given that indirect costs and total costs of organized research are the same in either case even though the indirect cost rates are different. Failure to understand this basic concept has led to unnecessary confusion and misinterpretation of the facts.

In our study, five universities used a base of direct salaries and wages (including vacation, holiday and sick pay) for computation of an indirect cost rate. The other institution used a base of salaries and wages plus fringe benefits. This larger base had the effect of reducing the institution's indirect

cost rate, although indirect costs charged to individual research projects were the same as would have resulted from using a higher rate computed by using a base limited to salaries and wages. The reason given by the institution for using the larger base indicated sufficient flexibility in their accounting system to permit the use of either base.

CONSTRUCTION OF INDIRECT COST POOLS

Under the cost principles established by BoB A-21, costs that have been incurred for common or joint objectives, and thus not readily subject to treatment as direct costs of research agreements or other ultimate cost objectives, are accumulated in pools for allocation or apportionment to research, instruction or other direct activities of the institution. The pools recommended by Bob A-21 to be used for accumulating indirect cost are as follows: general administrative and general expenses, departmental administrative expenses, research administrative expenses, library expenses, operation and maintenance expenses, and depreciation or use charges.

The universities have substantial flexibility in determining which activities are to be assigned to each of the three administrative cost pools, general administrative and general expenses, departmental administrative expenses, or research administrative expenses. This flexibility is significant in that the three pools are allocated differently. General administrative and general expenses are allocated to all direct activities of the institution. Departmental administrative expenses are apportioned between instruction and research. Research administrative expenses are charged only to research. Therefore, those institutions that develop a research administrative expense pool will allocate a larger percentage of research administrative costs to research than institutions that do

not develop such a pool. In the same way, institutions which more completely identify and separate research administrative functions from general administrative functions which benefit the total institution, will have a greater percentage of research administrative expenses assigned to research projects.

Of the six institutions included in our study, three had not established a research administrative expense pool, while two had established a pool which accumulated research administrative expenses incurred at the departmental level. Only one institution included in our study had established an identifiable administrative unit at the university general administrative level to perform functions unique to research. This institution thus was able to charge the cost of the functions performed solely to research projects in accordance with BoB A-21.

DISTRIBUTION OF POOL COSTS

BoB A-21 indicates that the unit of measure (or base) used to allocate pool costs should be that base best suited for assigning the costs to appropriate cost objectives either in accordance with the relative benefits derived, in relation to cause and effect, or by logic and reason where neither benefit nor cause and effect relationship is determinable. These cost principles established by BoB A-21 permit some flexibility in the determination of the unit of measure or base selected. This flexibility can have a substantial effect on the relative amounts of indirect cost allocated between research, instruction and other direct activities. Of all differences in indirect cost rate construction observed during the study, the distribution of pool costs varied the most between institutions and was one of the major factors in accounting for rate differences. The differences in methods of pool cost distribution consisted of either selecting different units of measurement or weighting the units of measurement used.

For example, in distributing departmental administrative expenses four universities used direct salaries and wages of instruction and research, the other two, total expenditures. In distributing library expenses, one institution used a simple population count; one used an arbitrary percentage relationship; another used working hours of students, faculty and staff; and another used working weeks of students, faculty and staff and then weighted faculty and staff weeks by a 2 to 1 ratio. The other two universities performed sophisticated studies designed to determine actual library usage. Operation and maintenance expenses were distributed by one university on a salaries and wages base, the other five universities used space as the allocation base. Three of those five used some weighting formula for space usage, while the other two used only square feet of space used.

In our review it was apparent that some of the institutions were more willing than others to expend additional effort and money in an attempt to define research support more carefully in areas where simple units of measure, such as square footage, population and salaries and wages, did not appear adequate. The use of special formulas and weighted units seems to be in direct proportion to the time and effort expended on indirect cost rate development. Any university thus could change its method of distribution if it chose to allocate additional resources for that purpose.

DIFFERENCES IN LEVEL OF SUPPORT

Research indirect cost rates sometimes are assumed to be indicative of the level of supporting services provided for research activities at an educational institution. While the limited time available for the study did not permit determination of the level of supporting services supplied at each institution studied,

our examination did indicate that the indirect cost rate is not a measure of the relative cost to support research. The rate is merely a tool used to determine total cost. Many other factors, several of which have been enumerated previously in this report, have substantially more effect on the rate than actual support costs generated by the research activities at an institution.

For example, one of the institutions in the study with a relatively high indirect cost rate is accumulating clerical, secretarial, and similar salaries in an indirect cost pool rather than charging such services directly to research projects in the manner of the other institutions. By changing this one accounting treatment the institution could reduce its rate by 11 percentage points. Even so total cost would be no less.

A standard formula for determining total cost of research including derivation of the indirect cost rate might permit comparison of relative levels of indirect support. The level of indirect support, however, would not indicate whether personnel charged to indirect cost pools were relieving direct research personnel of administrative and clerical duties which would permit them to spend more of their direct time in research. For example, the extent of involvement in proposal preparation, time or effort reporting, budgeting, financial reporting, and the like, by direct research personnel varies considerably from institution to institution. An indirect cost rate in itself could not be descriptive of the services rendered, but would only be a measure of cost incurrence, as related to the financial records of the institution, and useful only for determining total cost of a research project.

AUDIT AND NEGOTIATION

Audit and negotiation of rates by the Government agencies did have a substantial effect on the indirect cost rate and the amount of indirect costs

reimbursed to two of the institutions included in the study. Without discussing the validity of the university's proposal or adjustments made by the Government, we found that in one case the rate was reduced by 14 percentage points reducing allowable indirect costs by approximately \$250,000. In the other case the rate was reduced by 5 percentage points, reducing allowable indirect costs by approximately \$1 million.

Audit and negotiation by their very nature involve a significant amount of judgment. Our study of only six institutions indicated different interpretations of the same cost principles. Any set of cost principles, BoB A-21 or others, will never be interpreted in all instances by all persons in the same way.

Sometimes persons performing audit or negotiation functions can be influenced adversely by an indirect cost submission which is not well prepared. Awkward presentation, missing information or poorly substantiated calculations on the part of the university can create a negative reaction on the part of the auditor or negotiator. This reaction could be mitigated to some extent through the use of a more standardized approach to indirect cost rate determination and presentation. The indirect cost rates so developed, however, would still be different.

Any set of cost principles or procedures used must always allow for substantive differences within an institution, such as on and off-campus or other special conditions. Similarly, fundamental differences among institutions as to relative level of research activity, organization structure, operating policies and the like need to be recognized. Imposition of formulas, principles, procedures or limitations which ignore the uniqueness of individual institutions of higher education could be damaging to the institutions and the national welfare.

IV. SUMMARY OF CONCLUSIONS

The chief conclusions which can be drawn from our study of these six universities can be summarized as follows:

A. The costs recovered by universities for Federally sponsored research are less than the costs incurred. The causes are:

1. The cost allocation principles applied by the Federal Government uniquely to institutions of higher education militate against full indirect cost allocation to Government sponsored research projects. This is in addition to costs which are unallowed as with other types of contractors.
2. Individual Federal agencies impose limitations on indirect cost recovery. This is caused by authorizing legislation, agency administrative regulations or by negotiation.
3. The majority of universities studied voluntarily contributed to the support of Federally sponsored research. This practice stemmed generally from institutional policy.

B. The many variations in rate computations among the six universities generally were permitted under the cost principles established by BoB A-21. The differences in rates were found to be attributable generally to:

1. Charging certain activities as indirect rather than direct costs.
2. Use of different bases for allocation of indirect costs to individual research projects.
3. Differences in construction of indirect cost pools.
4. Differences in bases used to allocate pool costs.
5. Differences in the level of supporting services.
6. Results of audit and negotiation.

C. The variations in indirect cost rates found among the six universities has little to do with any comparative evaluation of research efforts.

D. The treatment of the cost of an activity as a direct rather than an indirect charge in theory should have no effect on reimbursement. In practice direct charging results in higher total reimbursement to the university and a lower indirect cost rate.

E. Studies to develop special formulas and weighting factors for use in distributing indirect cost pools to organized research could be conducted by any university. Changes in the bases for distributing pool costs would result.

F. Use of a more standardized approach to indirect cost rate determination and presentations might be helpful to the universities, auditors and negotiators. Indirect cost rates, nevertheless, still would be diverse.

G. Any set of cost principles, formulas, procedures used or limitations imposed must give cognizance to fundamental differences among educational institutions. Failure to recognize and recover full costs could be damaging to a university's ability to sustain a desirable research capability and thus adversely affect the nation as a whole.