NATIONAL ASSOCIATION OF COLLEGE AND UNIVERSITY BUSINESS OFFICERS

COLLEGE AND UNIVERSITY COST IDENTIFICATION AND ALLOCATION

INTRODUCTION

This paper is designed to familiarize the reader with financial and cost accounting practices generally followed by colleges and universities. It was intended to facilitate discussions on simplifying the allocation of indirect or overhead costs to unrelated business activities, specifically the potential use of the overhead allocation process used for federally sponsored research. The unique accounting and reporting requirements of colleges and universities and the distinction between direct and indirect costs are addressed.

A discussion of fund accounting and the differences between financial and managerial accounting has been provided as background. Several cost accounting considerations have also been included such as the requirements for allowable costs, the definition of direct costs, and the complexity of assignment of costs in academic departments. The basic concepts of service centers (or recharge centers) are introduced since they particularly affect cost assignment for unrelated activities.

The paper concludes with a general discussion of the indirect cost processes prescribed in Office of Management and Budget (OMB) Circular A-21, "Cost Principles for Educational Institutions." This discussion includes an overview of the cost items included in each indirect cost pool and the allocation method normally used to assign overhead costs to benefiting functions. The paper was written from the perspective of universities with federal grants and contracts that are subject to OMB Circular A-21. Due to a recent change in terminology, the circular refers to "indirect costs" as "facilities and administrative" (F&A) costs. These terms are used interchangeably throughout this paper.

FINANCIAL / FUND ACCOUNTING[1]

Why Fund Accounting?

Colleges and universities are nonprofit organizations with missions in the fields of instruction, research, and public service. As such, institutions of higher education have unique obligations for accounting and financial reporting according to the sources of funds received and their subsequent uses rather than to report net income to investors. The different constituencies that have special interests in the ways universities use their funds include federal, state, and local governments, commercial organizations, individual donors, and bondholders. Governments may appropriate funds for instruction or make contract and grant awards through competitive processes for research. Other constituents, such as individuals, may provide funds for scholarships, fellowships, or other special purposes.

What is Fund Accounting?

"Fund accounting is the procedure by which resources for various purposes are classified for accounting and reporting purposes in accordance with activities or objectives as specified by donors, in accordance with regulations, restrictions, or limitations imposed by sources outside the institution, or in accordance with directions issued by the governing board."[2] Fund accounting principles used in higher education require that income be reported based on funding source and expenditures be reported based on function (use).

Basics of the Accounting / Internal Control System

Universities use the concept of a "fund" to account for the various financial activities of the institution. Funds with similar characteristics are combined into fund groups such as current funds, loan funds, plant funds, etc. Current funds (operating funds of the university) are distinguished between restricted and unrestricted sources. Within each fund, the university establishes many separate accounts to track both income and expense. Within the hierarchy of fund group, fund, and account, universities also establish multiple balance sheets to appropriately carry out the fiduciary responsibilities of each source of funds. The balance sheet for the university in total can be derived from the sum of the individual balance sheets within the accounting system.

Income and expenditure transactions are assigned to codes, usually called "object codes," as they are recorded in each account. Generally speaking, an object code is a generic description of the transaction. An object code may be used across many or all funds and accounts, but most accounting systems are capable of restricting the use of an object code by fund or by specific account. In this fashion, the university can establish an automated control system within its financial accounting system to help ensure that restrictions imposed by the source of funds will be carried out. The internal control system of a university will be a complex combination of policies, procedures, automated and manual reports, audits, etc. The university accounting system, including the chart of accounts, accounting manuals and accounting policies, is one component of the internal control system.

MANAGERIAL / COST ACCOUNTING

Need for Cost Allocation

In addition to the financial accounting requirements imposed by the various funding sources and the accounting profession, colleges and universities also have internal managerial or cost accounting needs for much the same reasons as commercial organizations do. The missions of instruction, research and public service require an extensive investment in physical assets such as buildings and specialized equipment. Similarly, large sums are expended annually for the general and administrative functions of the institution and for specific administrative units such as student services organizations and contract and grant administration. In order to properly evaluate the cost / benefit of a program, or to determine the price of many services, these "overhead" costs need to be allocated to individual activities of the institution.

There are many different methods of allocating costs to the different activities conducted by the institution. Before these methods are discussed, it is appropriate to cover how individual transactions are identified with specific accounts, how costs accumulated within the accounting system are identified as direct costs or indirect costs, and finally, how indirect costs are distributed to direct functions or activities.

Allowable Costs

General Considerations

Each procurement or expenditure incurred by the university must be allowable, that is, it must conform to the restrictions placed on the uses of funds by the provider and benefit the functional use for which the funds were intended. This functional use may be determined by the provider of the funds or by the administrators of the institution. For example, a state legislature may appropriate funds to the university trustees to support "necessary expenses" of the institution. The university trustees, along with the university administration, will identify how the state appropriation will be distributed on a department by department basis, including general and administrative departments. In accordance with this allocation, a procurement that benefits instruction for the chemistry department may be charged to the state appropriation account for chemistry.[3] Likewise, a procurement that benefits the payroll department may be charged to the state appropriation account for the payroll department. Each of these transactions conforms to the funding restrictions of the state ("necessary expenses") and benefits the functional use for which the funds were intended.

Institutional Differences

Because there is a wide variation in the sources of operating funds across universities, and the restrictions placed on the use of those funds also vary widely, the types of costs that constitute allowable expenditures will also vary across institutions. Characteristically, state-funded institutions have more restrictive accounting and procurement practices than private institutions due to funding restrictions imposed by state legislatures.

Federal Considerations

Institutions that receive funds from the federal government are restricted in their assignment of costs to federal funds based on the requirements of OMB circulars, funding agency regulations, federal statutes, etc. Most federal funds for research or sponsored programs received by an institution are subject to OMB Circular A-21 which dictates that for any cost to be allowable to a federal project it must first be reasonable, it must be allocable, it must be given consistent treatment through the application of generally accepted accounting principles, and it must conform to any limitations set forward in the circular or by the funding agency. Federal limitations on allowable costs are generally more restrictive than those for funds received by an institution from other sources. Therefore, additional effort is required by the recipient of federal funds to ensure that unallowable costs are not charged to federal funds as either direct costs or indirect costs.

Allocable Costs

Cost allocation is the process of assigning a transaction to one or more accounts or "cost objectives." Cost allocation includes both the direct assignment of cost or the reassignment of cost from an overhead pool. A cost is allocable to an account, a department, or an activity if it can be assigned in accordance with the relative benefits received or another equitable relationship. If the cost does not benefit the cost objective (e.g., the account, department, or activity), it is not *allocable* to the cost objective and, therefore, is not *allowable*.

Direct Costs

Definition

In addition to the general criteria described above under Allowable Costs, a cost is considered a direct cost if it “can be identified specifically with a particular sponsored project, an instructional activity, or any institutional activity, or that can be directly assigned to such activities relatively easily with a high degree of accuracy.”[4]

Identification and Assignment

Once it has been determined that an item is allowable (i.e., reasonable, allocable, not restricted), one must determine whether the item qualifies as a direct cost or an indirect cost. This determination is usually made at the time the cost is initially identified to an account. The distinction between direct and indirect cost is often not an issue for charges to general operating funds. If the charge conforms to the restrictions of the donor and benefits the intended use of the funds, the item may be charged to the account. For sponsored program accounts, the distinction between direct cost and facilities and administrative cost is *critical* at the time of cost assignment and needs to be carefully considered. Many institutions develop detailed policies or procedures regarding the treatment of certain costs to help reduce the complexity of the distinction for the individuals who make the initial decisions on cost assignment.

Complexity

As indicated above, the assignment of cost as a direct cost is relatively simple in most cases. Costs that benefit the physical plant, accounting office, president’s office, etc., are assigned to accounts in those departments. Costs that are incurred in the academic departments are not as simple. For example, if the item in question benefits a federally sponsored program, the funding source to be charged must be determined on the basis of federal and institutional rules regarding direct versus facilities and administrative costs. Specifically, even though the telephone in a particular office clearly benefits a sponsored account, it will probably be charged to the department’s general operating account because the institution treats telephone costs as facilities and administrative costs to federal projects in accordance with federal regulations. The sponsored account in question will be “charged” for telephone costs through the application of the institution’s facilities and administrative cost rate.

The assignment of costs to unrelated business activities normally follows the rules established for direct charges to general operating funds. If the item in question can be directly attributed to the activity in question, it may be charged to the account established for the unrelated activity. In instances where the unrelated activity is a subset of a larger operation, such as sales to external entities that result from certain internal recharge or service center activities, the allocation of direct costs between related and unrelated activities becomes more complex, and is addressed separately below.

Reassignment via Service Centers or Other Activities

Service centers or recharge centers are formed within a university to provide goods or services necessary to conduct the instruction, research, or other programs of the institution. The scope of a service center may be campus-wide, such as a printing service operation or computing facility, or it may be incidental to departmental operations such as glass blowing shops, machine shops, etc. Direct costs are identified with the activity as described above and then redistributed to the users of the center through a rate setting and recharge process. The fees charged for the services of these activities are based on the *cost* of the activity and are established such that the service unit “breaks even” over a period of time. That is, the net income (income minus expense) of the unit should be close to zero over a three- to five-year period. This time frame eliminates drastic fluctuations of rates during a single year for the sole purpose of achieving zero net income within the year.

Charge rates are computed at the break-even level by estimating expenses for an upcoming time period (usually one year) and deducting any accumulated surplus or adding any accumulated deficit from prior years. The resulting costs are divided by the anticipated utilization for the same time period to determine the cost per unit of utilization. This break-even cost per unit should become the charge rate for the upcoming period.[5] Examples of utilization estimates include hours of usage of a computing facility, number of copies for a printing center, and the number of productive labor hours for a glass shop or machine shop.

In most instances, multiple services are provided by a service center. The costs of the center must be grouped according to the service to be provided and multiple rates determined based on the anticipated utilization of each service. For example, charges for computing time are differentiated by computer system and printer charges are separate from computing time. Costs within the service center that cannot be identified specifically with one product should be allocated to the products or services of the center on a reasonable allocation metric.

Service center rates must be established in a manner that does not discriminate between federal and nonfederal activities. In order to meet this requirement, the break-even rate calculated during the rate setting process must distribute the full cost of the center to *all* users of the activity. Therefore, an estimate of external utilization must be made at the time rates are established to ensure that costs are distributed correctly to all potential customers in the rate calculations. This assures that costs are identified on a unit basis regardless of the type of user.

The charge rates for external customers may include a factor for overhead in addition to the calculated internal break-even rate. Another practice is to charge external customers a “market rate” when the perceived market price exceeds the internally calculated rate. This practice ensures that the university does not unfairly compete with local businesses. (However, establishing external rates at the market price does not eliminate the need to allocate costs to external usage during the rate setting process.) The income received from external customers can be separately identified in the accounting system by the use of a separate object code and compared with the unit costs previously computed.

Other entities may exist within the university structure such as bookstores, hotel operations, golf courses, etc. These operations are not restricted by federal costing guidelines when establishing fees for services. Income and expense for these entities are captured in the accounting system as described above. The distinction between related and unrelated business activity, and the allocation of costs between the two for these latter operations, is not discussed in this paper.

Cost Groupings

Once costs have been assigned to specific accounts in the financial accounting system, the process of managerial or cost accounting usually begins. (The major exception to this statement is the considerable cost accounting required to determine service center rates.) For the purposes of allocating F&A costs, the individual accounts and/or cost items need to be grouped according to the purpose of the cost study. In order to determine an F&A rate, costs must be distinguished between direct and indirect. Even though a cost may have directly benefited an account, the account itself may be considered an indirect item, e.g., the accounting department.

Costs that do not meet the test of "direct" usually are indirect costs (but see the definition of indirect cost below). Proper A-21 F&A allocation procedures require that indirect cost items be allocated "to the major functions of the institution in proportions reasonably consistent with the nature and extent" of the direct function's use of the cost in question.[6] Therefore, direct cost functions and indirect cost pools must be identified in sufficient detail to determine the cost-benefit relationship between the facilities and administrative cost pools and direct cost functions.

The identification of the beneficial or causal relationship between the cost pool to be allocated and the cost objective to which the cost is assigned is a fundamental cost accounting concept, regardless of the industry conducting the study. However, the concepts of *materiality* and *cost averaging* are especially important in a university's F&A rate study. For example, an item of cost may be incurred in a university's school of science and be classified correctly as an F&A cost. This cost item may be appropriately allocated to the direct functions of instruction, research, etc. The particular item in question may provide no benefit to research projects outside the school of science (i.e., the school of engineering), however, the averaging concept allows the cost to be allocated to the function of research and subsequently distributed to research projects in the school of engineering upon completion and negotiation of the F&A rate.

If an item of cost *materially* affects the calculation of the rate (i.e., causes an inequitable distribution of the cost under normal cost allocation processes) then the circumstance should be treated separately. In the example above, if the cost in question caused the school of science rate to be 10 points higher than the school of engineering rate, the university could calculate, negotiate, and apply separate F&A rates to the two schools. The use of multiple F&A rates for the same function is, in fact, observed at many institutions.

A-21 Facilities and Administrative Rate Process

The following discussion is intended to provide an overview of the federal F&A cost processes prescribed in OMB Circular A-21. This perspective will provide the reader with a general familiarity of the types of costs normally identified through the A-21 process, and the methods typically used to allocate those costs. It must be stressed that there is wide variation in A-21 F&A cost studies across institutions, both in terms of cost identification and cost allocation. This paper does not attempt to identify or explain those differences.

The F&A cost process always begins with the university's annual financial report. The costs included in the F&A study must be traced to the audited financial statements. The federal government insists that a reconciliation between the audited financial report and the F&A cost proposal be included with each proposal. The indirect cost study analyzes the costs (not residual balances) contained in two fund groups within the accounting system, the current funds and the plant funds. "Current funds expenditures represent the costs incurred for the goods and services used in the conduct of the institution's operations."[7] "The plant funds group consists of (1) funds to be used for the acquisition of physical properties for institutional purposes but unexpended at the date of reporting; (2) funds set aside for the renewal and replacement of institutional properties; (3) funds set aside for debt service charges and for the retirement of indebtedness on institutional properties; and (4) funds expended for and thus invested in institutional properties."[8]

Facilities and Administrative Costs

Definition

According to A-21, "F&A costs are those that are incurred for common or joint objectives and therefore cannot be identified readily and specifically with a particular sponsored project, an instructional activity, or any other institutional activity."[9] A-21 defines the categories that are used in the F&A cost allocation process. "Facilities is defined as depreciation and use allowances, interest on debt associated with certain buildings, equipment and capital improvements, operations and maintenance expenses, and library expenses. Administration is defined as general administration and general expenses, departmental administration, sponsored projects administration, student administration and student services, and all other types of expenditures not listed specifically under one of the subcategories of Facilities (including cross allocations from other pools)."[10]

F&A Cost Identification and Allocation Methods—Long Form

The circular identifies two separate F&A cost calculation processes. The long form process is used by universities with covered costs in excess of $10M annually. The short form process is used by institutions with covered costs less than $10M annually.

The first step of the long-form F&A rate process is the removal of cost items specifically identified as exclusions by A-21.[11] These excluded items are removed from the current fund expenditures of the audited financial statements. The second step of the process is to reclassify the remaining expenditures from their financial report classification to their A-21 "cost pool" designations.[12] The third step in the process is the addition of the allowable plant fund expenditures to the appropriate indirect cost pools. The fourth step includes identification of any adjustments or transfers required to properly state the F&A cost pools or direct cost bases of the study. The fifth step in the process is the "step down" or allocation of costs from overhead pools to benefiting functions. The final step in the process is the calculation of the rates by dividing the sum of the overhead pools for each direct function by the direct costs attributed to each function.

The mission areas of the university constitute the "direct" costs, or denominators of the rate calculation process. For federal F&A rate study purposes, the major functions of the university are instruction, organized research, other sponsored activities, and other institutional activities (OIA). Costs that can be directly assigned to these functions in accordance with the definition of direct costs given above become the denominator of the F&A rate calculation. Rates are usually calculated for instruction, research and other sponsored programs. A rate is not calculated for OIA even though direct costs are identified and F&A costs are allocated to them.

A brief description of the types of costs included in each of the F&A cost pools and the allocation process associated with those pools is provided below.

Facilities

SPACE ALLOCATION PROCESSES. Costs accumulated in the facilities category are allocated to the indirect and direct functions of the university on the basis of the space (square footage) of the institution. Available space in higher education is a precious commodity and is tightly controlled. Most institutions track space utilization in automated systems unrelated to the financial accounting systems. Space assignments are captured on a department by department basis within the space tracking system. The square footage for each department is assigned in the F&A rate study to the same cost pool(s) as their associated costs from the financial system (discussed below). If the costs of a single department are contained in more than one cost pool, the space for that department must likewise reflect multiple uses. The assignment of space to cost pools is based on the *usage* of the space (instructional lab, research lab, other functions), not on the operating costs of the department. The proportional relationship of the space within a given building is used to allocate the facilities costs associated with the building.

Space data may be subject to significant study and adjustment in the F&A rate process according to the complexity of the rate study. Space utilization in academic departments, medical schools and hospitals is the primary subject of these studies as space in these areas may be used for multiple functions.

INTEREST. Interest costs associated with debt issued to acquire buildings and equipment may be allowable if approved by the federal government. The interest expense must be for an asset used in the support of sponsored programs, and must be paid to a party external to the university. The allowable interest cost is allocated to functions on the basis of the space associated with the asset.

BUILDINGS. The capitalized value of the buildings in use at a university is captured in the plant funds of the financial system. Building values are captured on a historical cost basis and may be adjusted over time due to significant alterations or renovations to the building. There are two allowable methods for claiming reimbursement for the university's investment in buildings. A "use allowance" of two percent of the capitalized value of buildings in use at the time the study is completed may be claimed. Alternatively, the university may include an annual depreciation charge for the building if detailed accounting records regarding the composition of the building structure have been kept. Depreciation must be calculated using the straight line method. Depreciation or use allowances are identified on a building by building basis and allocated to functions on the basis of the space of each building.

EQUIPMENT. Investment in equipment is likewise tracked in the plant funds of the university financial system. An equipment inventory is kept on an item by item basis to track the location of the equipment and to substantiate equipment values. In accordance with OMB Circular A-110, a physical inventory of movable equipment must be completed every two years.

A university may claim a "use allowance" of six and two-thirds percent of the acquisition cost of the equipment in use at the time of the F&A rate study. The institution may elect to depreciate the equipment over the useful life of the asset using the straight line method. When depreciation is used, no allowance may be claimed for assets in use that have outlived their depreciable lives.

Depreciation or use allowance for equipment is allocated to functions on the basis of the space where the equipment is located. Many institutions allocate the cost associated with each piece of equipment based on the individual room in which the equipment is located. This requires an extensive matching of the equipment records and space files. Another acceptable method is to aggregate the depreciation / use allowance on a building basis and allocate the total amount based on the proportional use of the building space.

OPERATIONS AND MAINTENANCE EXPENSES (O&M). Operations and maintenance expenses are those incurred for administration, supervision, and other operating expenses associated with police and fire protection, utilities, janitorial services, repairs and maintenance, environmental safety, or other functions related to the physical facilities of the institution. The variety and dollar value of O&M costs requires significant grouping of costs and special care in the development of allocation bases to ensure that a cost benefit relationship exists between each cost pool and allocation base. Most O&M costs are allocated on a space basis modified to match the costs being allocated.

LIBRARY. Library expenses include the costs of operating the library and the procurement of books and materials. Any applicable credits (income from overdue books, loans, etc.) must be deducted from costs. Costs of rare books are not allowable. Library costs are allocated to functions on the basis of the users of the library, students, faculty and staff, outside users. The student category is allocated to instruction and external users are allocated to other institutional activities. The faculty and staff category is allocated according to the distribution of their salary and wage costs across the various functions.

Administration

Two "caps" or limits on cost recovery have been imposed on administrative costs by OMB Circular A-21. The first cap limits the recovery of administrative costs of faculty to 3.6 percent of modified total direct costs (defined below). The second cap places an overall limitation of 26 percent of modified total direct costs on the sum of all administrative categories. The inclusion of these limits in an F&A rate process for unrelated activities would be more conservative than the existing IRS code.

MODIFIED TOTAL DIRECT COSTS. Most expenses under the administration category are allocated on the basis of modified total direct costs (MTDC). Modified total direct costs consist of all allowable direct costs of a given function less specific exclusions as identified in A-21. The primary exclusions are expenditures for capital equipment, charges for patient care, rental costs, scholarships and fellowships. Other exclusions exist. MTDC by function constitutes the final denominator by which the allocated F&A costs will be divided to determine the F&A rate. A variant of MTDC is modified total costs (MTC). An MTC allocation basis may be used to allocate the costs of most of the administrative cost categories where appropriate. MTC is simply MTDC adjusted for any cost factors that more accurately reflect the beneficial or causal relationship between the F&A cost pool and the direct costs to which they are allocated.

GENERAL AND ADMINISTRATIVE (G&A). The G&A cost pool(s) consists of the executive and administrative offices which do not relate solely to any one function of the university. Examples include the president's office, institution-wide financial management, personnel management, budget and planning, etc. Costs must be pooled in accordance with the relative benefits to the functions of the institution. G&A costs are allocated on an MTDC or MTC basis.

DEPARTMENTAL ADMINISTRATION (DA). Expenses included under departmental administration include the administrative and support services that benefit common or joint activities in academic deans' offices, academic departments and divisions, organized research institutes, study centers, and research centers. Guidance is provided in A-21 regarding the types of cost that are normally direct and normally indirect. Each institution is cautioned to take special care to insure that costs incurred for the same purpose in like circumstances are treated consistently as either direct costs only or indirect costs only. Indirect and direct costs are accumulated within each academic school on a department by department basis. Within each school, the academic dean's costs are allocated to the departments within that school. The administrative costs of each department, including the proportional share of dean's costs, are allocated to functions on the basis of the MTDC of each department.

SPONSORED PROJECTS ADMINISTRATION. Expenses included in this category are for the organizations established to administer sponsored projects, such as federal and nonfederal contract and grant administration. These expenses are allocated to major functions on the basis of the modified total cost of sponsored projects.

STUDENT SERVICES. The expenses under this heading include those incurred for student affairs and for services to students such as the dean of students, admissions office, registrar, counseling and placement, academic advising, etc. These costs are allocated entirely to instruction.

F&A Cost Identification and Allocation—Short Form

The short form calculation is conducted by institutions with annual federal sponsored project expenditures of less than $10M. The short form method establishes one F&A pool and one distribution base. The F&A pool consists of the following items:

- general administration and general expenses exclusive of student services, student aid and scholarships;
- operation and maintenance expenses;
- depreciation and use allowances after deduction of costs applicable to OIA;
- library costs;
- departmental administration computed as 20 percent of the salaries of deans and department heads.

The distribution base consists of the salaries and wages of the institution (exclusive of fringe benefits) after adjustment for the F&A costs identified above and costs identified as OIA per the long form instructions. All A-21 unallowable costs must also be removed from the short form study.

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[1] Many concepts taken from "Industry Audit Guide - Audits of Colleges and Universities", AICPA, May 1, 1994

[2] Ibid.

[3] It must be noted that most academic departments have several sources of funds that support the instruction function. The determination of which account to debit is an issue of cost allocation, discussed later.

[4] OMB Circular A-21. Section D.1. <u>Direct Costs. General</u>

[5] Charges may be made at less than the break-even rate. Charges to federal programs cannot exceed the break-even rate. External rates are discussed later.

[6] A-21. Section E.2.b.

[7] "Industry Audit Guide...", AICPA, p.29

[8] Ibid. p. 47

[9] A-21. Section E.1. <u>F&A costs. General</u>.

[10] A-21. Section F.1. <u>Identification and Assignment of F&A Costs. Definition</u>.

[11] A distinction must be made between "exclusions" from the study and "unallowable costs." Some unallowable costs may be removed at this point in the process. Exclusions may be thought of as items which should not draw overhead.

[12] Unallowable *functions*, such as fund raising, are moved to the Other Institutional Activity (OIA) MTDC base. This item may need to be considered further for unrelated business income cost allocation. Unallowable functions are moved in total from their financial report classifications to OIA. Single cost items designated as unallowable, such as entertainment expense, are deleted from the study.