UNIVERSITY OF HAWAI'I SYSTEM REPORT

REPORT TO THE 2011 LEGISLATURE

Report on the
Sources of Revenue for the Research Training and Revolving Fund

Act 180, Session Laws of Hawai'i 2010
(Section 8 (11))

December 2010

Pursuant to Act 180, Session Laws of Hawaii 2010, Section 8, Paragraph 11, the University of Hawai`i respectfully submits its report on the Research Training and Revolving Fund sources of revenue, including the following information:

The University already provides the legislature with a detailed report that includes the amount collected and the allocations resulting from that collection. A copy of that report is attached. A second report, prepared by the System Chief Financial Officer, that covers all revolving accounts and special funds provides the balance in the RTRF account. There is no need for an additional report.

Based on the FY 2010 114A report, the ratios of the sources of revenue are:

- Federal sponsors paying full rates (80.3%)
- Federal sponsors paying less than full rates (11.4%)
- Private sponsors paying full rates (5.0%)
- Private sponsors less than full rates (1.0%)
- State & Local Gov't sponsors paying full rates (0.2%)
- State & Local Gov't sponsors paying less than full rates (2.1%)

The conduct of research in a university is expensive; the costs associated with compliance of state and federal laws alone is approximately 20% of the indirect costs collected---and this cost is ever increasing as new regulations (such as ITAR) are added. The reimbursements partially offset these institutional costs.

The purposes of federal indirect overhead reimbursements are to defray costs incurred by the University in developing and maintaining the facilities & administrative infrastructure necessary to support extramurally funded research and non-research activities. They include, but are not limited to, the costs of providing: centralized and departmental grants and contracts administration; research compliance functions (e.g., protection of human and animal subject, environmental health and safety, etc.); use of offices, labs, classrooms, conference rooms, and other facilities on the ten campuses or in other facilities paid for by the University; related building and grounds maintenance and utilities; and use of campus and departmental libraries.

Generally, the federal regulations do not specify how the reimbursements are to be utilized. Thus, colleges and universities have discretion on utilizing the reimbursements to reinvest in the infrastructure and to grow extramurally funded programs and projects.

Funds are directed to specific programs and activities that support the research infrastructure of the University as a whole. Examples include (but are not limited to): payment of the RCUH fee; payment of salaries in ORS that are not covered by general funds; salary support for OTTED; the A-133 audit of research; Laboratory Animal Services; Institutional Review Boards (Human Subjects); cost-

match for institutional awards such as EPSCoR; all costs for the Office of the Vice President for Research (including salaries).

The basis for the fundamental distribution formula is that 75% of indirect funds collected is allocated to the campus where the funds were generated. The 25% retained by the System is largely used to pay for common expenses such as: payment of the RCUH fee; payment of salaries in ORS that are not covered by general funds; salary support for OTTED; the A-133 audit of research, and all costs for the Office of the Vice President for Research (including salaries).

The Vice President for Research distributes 75% of the RTRF at the start of each fiscal year. On the UH Manoa Campus, the Vice Chancellor for Research holds 25% of the total and allocates 50% to the respective Deans and Directors of the units that produced the RTRF. This system has resulted in strong incentives for the units to increase their research activities—and the growth in research awards, over the past 7 years has been much higher than the national average. Discretionary awards are done as collaborations between the System and the respective campus.

In 2007, the Hanover Research Council published a report addressing the distribution of IDC reimbursements. The picture is a complicated one with little consensus around a “best practice”. A copy of that report is appended. See Appendix A for a comparison of many university strategies.

Using the strategy that portions of the IDC reimbursements are returned to the campus responsible for their generation, the main question is: what fraction of the IDC is returned? For those universities employing this strategy, the return is typically 50% or above. The UH System for the last seven years has returned 75% to the campus chancellors, retaining 25% to pay research expenses that are common to the entire System (such at RCUH fees and partial ORS salaries). This approach at UH has stimulated an unprecedented growth in research and training awards where over the last decade, annual awards have grown from under $ 200 M per year to over $ 500 M in the 2010-2011 fiscal year.

The indirect cost rate (IDC) for “on-campus” research is obtained from the ratio of (1) allocable costs (costs) to (2) the campus research award base (base). The off-campus rate is calculated in the same way but the figures used for the various components are different. The IDC is, itself, made of several factors such as; (1) a facilities factor (F) and an administrative factor (A). At present, the facilities factor is 17.1% while the administrative factor is 11.7%. Other factors combine to produce an overall on-campus rate of 37.7 %.

To just maintain a previously negotiated IDC rate in the next negotiation period (2 to 3 years), in the face of a rapidly growing research base, UH must make additional investments in either the facilities component (F) or the administrative component (A). For example, in UH’s next negotiation cycle, it is projected the

on-campus research base will have increased by 30% over the last negotiation period. This will require an additional $ 5.1 M investment in allocable facilities expenses to maintain the 17.1% rate (F). For each $ 1.08 M investment, there will be a one-point increase in the rate. Therefore an additional investment of $ 8.4 M in allocable facilities costs will bring the facilities rate to 20%, a three-point increase.

Based on grants that are charged the negotiated IDC rate, the annual F&A cost reimbursement is now approximately $ 18 M. With the projected 30% increase in the award base, this increases to $ 23.4 M. A three-point increase in the F&A rate is worth approximately $ 1.8 M per year or $ 5.4 M over the anticipated 3 year term of the next rate agreement. The net impact would be approximately the same as the investment required but more jobs will be generated.

The primary form of reimbursement to the State General Fund comes in the form of job creation and maintenance. As the funding from the research base increases, 80% of the funds pay salaries in the State, making the UH one of the largest employers in the State.

Appendix

The Hanover Research Council Report of 2007 is appended to this response.

Indirect Cost Recovery Revenues at Major Research Universities

In recent years, as state support of public universities has waned, indirect cost recovery (ICR) funds from sponsored research programs have emerged as an important source of discretionary revenue. In this report, using a variety of publicly available resources, we survey the field of emerging practices and policies regarding the distribution of ICR revenues at major research universities. We delineate some of the principles underlying these distribution practices and consider the trade-offs and incentive structures that result from centralized versus decentralized allocations.

Introduction

> [T]he problem of indirect costs is inherently insoluble ... it excites extraordinary passions among people who are normally quite peaceable and reasonable. [1]

So wrote Robert M. Rosenzweig, former President of the Association of American Universities, in 1998 on the 50th Anniversary of the Council on Governmental Relations. The reimbursement of so-called indirect or Facilities and Administration (F&A) costs by federal funding agencies has been the subject of much discussion, and controversy in policy circles, with several reports, regulations, and academic papers devoted to the matter.[2]

As defined by Office of Management and Budget (OMB) Circular 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." Consequently, it is neither practical nor possible to restrict expenditure of the F&A cost recovery on a particular grant solely to the F&A costs incurred by that specific grant in that particular year.

Few federal or outside regulations apply to the disposition or use of accrued indirect cost recovery (ICR) revenues.[3] As a result, the subject of ICR distribution and use has remained an arena of diverse practice and relatively unarticulated principle. In recent years, however, as pressure from both state and federal budgets has mounted, ICR revenues have emerged as an important source of discretionary revenue. Issues pertaining to the distribution and use of these revenues have increasingly become the cause of longstanding if silent internal tussles at universities. Internal politics can be said to be an important aspect of ICR revenue decisions.

Since ICR revenue distribution/allocation is mostly an internal matter, many universities, especially private ones, have not cared to issue publicly available policy guidelines. In many cases, allocation decisions appear to be based on entirely ad hoc considerations.

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[1] Rosenzweig, Robert M. (1998) The Politics of Indirect Costs. *50th Anniversary Journal of Papers.* Council on Governmental Relations. p. 1.

[2] See for example, - Goldman, Charles A. and T. Williams, with David M. Adamson and Kathy Rosenblatt (2000) *Paying for University Research Facilities and Administration.* Santa Monica, CA: Rand. At http://www.rand.org/publications/MR/MR1135.1/
- Office of Management and Budget. Circular A-21 (2004) *Cost Principles for Educational Institutions.* Revised 5/10/04. http://www.whitehouse.gov/omb/circulars/a021/a21_2004.pdf
- Office of Science and Technology Policy (2000) *Analysis of Facilities and Administrative Costs at Universities.* At http://clinton4.nara.gov/WH/EOP/OSTP/html/analysis_univ.html
- Fife, Jerry and Robert Forrester (2002). Pricing the Services of Scientific Cores: Part II: Charging Outside Users. *Journal of Research Administration*, 33(2), 41-47.

[3] We discuss a limited exception in a later section. Also see the Appendix.

However, partly in response to questioning by research faculty, a number of public universities have sought to introduce some degree of transparency and equity in ICR allocation decisions. In this report, we focus on the constraints and principles that have driven ICR allocation policy at major research universities, particularly those belonging to the Association of American Universities (AAU).

In the immediately following section, we detail how mandates and budgeting systems can limit the degrees of freedom that are available to administrators in determining ICR allocation policy. We then consider how universities have shaped ICR allocation policies subject to these constraints, paying particular attention to the principles underlying the allocations.

Unfortunately, very little empirical research exists on the effectiveness of various ICR allocation models. Given this lack of information, we look instead at the conflicts that universities have faced in implementing their policies and the trade-offs they have had to make among competing goals.

Determinants of ICR Structure

For a number of public universities surveyed in this report, policy was prescribed and in some cases, determined at the state or system-wide level. In addition, a priori centralization or decentralization of ICR revenues was a function of the larger cost allocation/ budgeting system used by the university. For instance, universities which used Responsibility Center Management (RCM) devolved all costs and revenues to administrative units and departments. Further, the largest higher education recipients of federal R&D funds are subject to federal regulations under Circular A-21, revision 2004. This provision is described below.

Thus, the distribution of ICR revenues in many public and other universities is rendered a residual decision. We outline below how the budgeting system/process in place and state mandates can affect allocation of ICR revenues. The next section then turns to actual ICR revenue policies in existence at major research universities.

Federal Regulation

The Federal Office of Management and Budget (OMB) Circular A-21, which establishes principles for determining costs applicable to grants, contracts, and other agreements with educational institutions, does not lay down overarching guidelines for the use of F&A funds, once they have been recovered.

The one exception is the Circular A-21 requirement that institutions must demonstrate that federal F&A recovery associated with building and equipment depreciation has been expended or reserved to acquire or improve research facilities. This set of restrictions on the use of ICR recoveries applies only to the largest college and university recipients of Federal research and development funds. The provisions of the relevant section, as of the 2004 revision of Circular A-21, are contained in the Appendix.

Budgeting Process Requirements

The overall budget system in place at a university determines the level at which costs and revenues accrue. While universities use a variety of budgeting approaches such as Zero Base Budgeting, Incremental Budgeting, Program Budgeting and Responsibility Center Management (RCM), for our purposes the distinction between RCM and broadly centralized 'traditional' budgeting approaches is most pertinent. It may be noted that RCM is also known as Incentive Budgeting, Revenue Center Budgeting, and ETOB (Every tub has its own bottom).

In a traditional financial model, authority for financial planning, execution, and control is vested in the university's central executive management. Income is controlled at that level and resources are allocated at that level. The movement of resources within the budget requires executive approval and the executive management deals with surpluses or deficits created during the fiscal year.

In the RCM model, on the other hand, operational authority is delegated to major academic units within the university to make progress towards achieving academic priorities, and to maintain financial balance over time. In RCM systems, revenues earned by a school, college, or division generally flow to that unit. These would include tuition, directed giving, and ICR funds. Each unit is responsible for all of the direct expenses that it incurs (such as faculty salaries and benefits, unit administrative salaries and benefits, supplies, and travel), as well as an allocation of the campus support services that it uses (such as human resources, physical plant maintenance, and accounting). Of course, in a public university, the university leadership still controls and exercises leverage over allocation of governmental support.

Most relevant for our purposes, all ICR revenues in RCM schools flow directly to administrative units. At that level, the responsibility center is free to apply these funds as it chooses. It might provide research incentives such as funding for start-up packages, or provide research support linked to ICR revenue in some way, although the Dean could equally apply the principle of maintaining flexibility and fungibility within the Responsibility Center.

Universities that operated on an RCM model as of 2001 included, among others Harvard University, University of Southern California, Columbia, University of Pennsylvania, Case Western Reserve, Georgetown, Indiana, Cornell, Stanford, and Carnegie-Mellon.[4] At schools such as Harvard, even negotiation on F&A rates with the federal cognizant agency is partially decentralized. The Harvard Medical School and the School of Public Health negotiate separate F&A rates for the federal research grants and contracts they undertake.[5]

Note that the RCM budget system would make centralized ICR allocation policy somewhat unnecessary. Not surprisingly, we found ICR allocation policies for few RCM schools.

State and System-Wide Mandates

At the other end of the centralization-decentralization spectrum lie a number of public universities which are subject to state or system-wide mandates on ICR allocation. Examples include the University of Virginia, the University of Colorado system, the Oregon University system and the University of California.

At the University of Oregon-Eugene, for instance, 4 percent of ICR revenues are earmarked for the University of Oregon (OUS) System Chancellor's Office.[6] Universities within can set allocation policies for the remaining amount, but the OUS Controller's Division retains considerable control over negotiations with federal

[4] American University (2001) Budget and Payroll Forum Presentation. Available at: www.gurukul.ucc.american.edu/finance/budget/ppts_files/011901.ppt
[5] http://vpf-web.harvard.edu/osr/support/sup_cur_farates.shtml
[6] http://www.ous.edu/cont-div/fpm/acco.05.553.php#.250

agencies and direction of funds.[7] As of 2002, this led to demands from the University of Oregon-Eugene Senate for greater autonomy regarding ICR recovery funds.[8]

In contrast, the University of Colorado System provides extensive guidance for the development of ICR allocation policies by individual campuses, even though negotiations with federal and non-federal sponsors are devolved to the level of the campus.[9] Exhibit 1 below provides excerpts from these guidelines. We discuss the ICR allocation policy at the University of Colorado-Boulder in a later section.

Exhibit 1: University of Colorado System Policy on Indirect Cost Recoveries

The campuses shall develop a written policy regarding the allocation of indirect cost recoveries. The policy must be submitted to the Office of the President for review and approval. It may be changed or updated on an annual basis as long as the procedure for such change is clear within the policy. The following elements shall be included in the policy.

1. The policy shall recognize that ICR is reimbursement for past expenditures and should not be used simply for incentive for the new development of future awards.

2. The policy should recognize that investment in the development and maintenance of an infrastructure for research, including adequate administrative support staff, is the primary purpose of indirect cost recoveries.

3. The policy may allow the sharing of a portion of ICR to be provided to the school, center or division that attracted the sponsored award. The funds should be viewed as a means of supporting the infrastructure necessary to support the research mission and to attract future awards. The funds shall not be directly allocated below the department level and shall not be provided by the policy to a specific individual for his/her discretionary use. Departments may choose to provide further allocations as long as it does not "unbalance" their budgets.

4. The policy shall specify that all ICR funds will be allocated according to the campus budget. ICR funds shall be budgeted as part of the regular budgeting process of the campus and recognized as part of a school, center, or division expense allocation.

5. The policy should specify the consequences to a school, center, or division of waiving all or a part of indirect cost recoveries. These consequences must be a reasonable disincentive to the practice.

6. ICR funds are not restricted funds and therefore are allocated at the discretion of the campus. Recognizing this, unallocated ICR funds may be used to build revenue reserves for additional research space, equipment, personnel, and other infrastructure. A campus may choose to allocate a portion of unallocated earnings to the department that obtained the sponsored award, but must follow regular budget procedures in providing this allocation. These funds may only be allocated in such a manner if the campus is in a sound fiscal position; in other words, the funds must first be available to provide a balanced campus performance in a given fiscal year.

[7] http://www.ous.edu/cont-div/fasom/sec5/sec0501.php
[8] http://www.uoregon.edu/~uosenate/dirsen023/strategic06nov02.html
[9] https://www.cu.edu/policies/Fiscal/indirect.html

7. The policy should specify that the purpose of budgeting and allocating ICR funds as an incentive to schools, colleges and divisions is the continued support of the research environment. If the campus chooses to decentralize ICR funds to the divisions, each division receiving ICR funds shall have a research infrastructure plan in place. This plan, which should include plans for additional clerical and research staff, equipment, research space, and other necessary resources for performing sponsored activities and attracting sponsored awards, must be approved as a part of the campus regular budgeting process.

8. All funds must be budgeted, allocated, and expended in conformance with state and federal law, the laws and policies of the Board of Regents, and University administrative policies.

Source: University of Colorado System Administrative Policy Statements

In Virginia, legal statutes specify that indirect cost recoveries for all institutions of higher education shall be appropriated according to the following provisions:

a. Seventy percent shall be retained by the institutions as an appropriation of funds by the General Assembly for the conduct and enhancement of research and research-related requirements.

b. Thirty percent shall be transferred to the education and general revenues of the institutions.[10]

The University Comptroller at the University of Virginia distributed 100 percent of the overhead recoveries in accordance with this provision in 2001.[11] However, University officials currently have a great deal of leverage in allocations, according to Hanover's communication with the University of Virginia Director of Cost Analysis.

[10] http://www.doa.virginia.gov/Admin_Services/CAPP/CAPP_Topics/20705.pdf
[11] http://www.virginia.edu/finance/polproc/pol/viiid1.html#current

Principles and Conflicts in ICR Allocation Decisions

At most institutions, F&A recoveries on sponsored projects are collected by the central university administration. Central administration takes a share to recover administrative and other costs, and then remits the difference to the school or department. The school or department uses the recovery in its annual budget to pay operating expenses and to reimburse the institution for the cost of space. If the school or department is incurring costs but not being reimbursed, the budget suffers.

Fife and Forrester's (2002: 43) characterization of ICR revenue allocation policies at research universities provides a good overview of the kinds of uses these funds are put to at most universities. However, the broad brush ignores underlying principles and conflicts. In this section, we look more specifically at ICR allocation practices at a number of AAU universities, with special consideration for underlying policy issues and concerns.

Common Principles and Practices

Subject to restrictions imposed by the budgeting system, state and system-wide mandates, and federal regulations, universities must make some broad decisions on ICR allocation. In a 2004 report for the University of Alaska,[14] David Maddox, author of *Budgeting for Not-for-Profit Organizations*, pointed out that:

> All universities follow some principles in their ICR distribution systems, although the principles are often implicit. Furthermore, most universities have a system that involves a combination of principles.

Table 1 provides a broad classification of the principles and practices in ICR allocation at work in major universities. Maddox (2004) outlined two broad uses of ICR funds: fungibility and earmarking. While a number of universities prefer to adopt fungibility in the use of ICR funds, many others earmark these funds for specific uses.

Fungibility, or interchangeability, in allocation allows for maximum flexibility in use of ICR funds. In the words of Maddox (2004), this practice acknowledges the lack of restrictions on spending of these funds in contrast to the many sources of funds that come with specifications on their use, such as endowments or the direct costs of grant-funded research. Unrestricted funds have value because they can be used to fund general overhead, respond to requirements across the university, and pursue new opportunities.

Further, treating the funds as fungible is consistent with one view of the purpose of reimbursement for indirect costs, which is to make sure that universities have

[14] Maddox, David C. (2004) *Review of Indirect Cost Recovery Distribution Practices*. Conducted for the University of Alaska. At http://www.alaska.edu/swoir/research/RepUnivRes/ICR

sufficient funds to pay for necessary overhead functions without which they would not be organizationally viable.

One advantage of treating Indirect Cost Recoveries as fungible is that it avoids any risk of funding distortions that can come from earmarking funds for specific functions. The arrival of several large new grants could leave the functions that receive ICR funds with more money than they need - an especially frustrating situation if the institution is otherwise resource-constrained.

Table 1: Guiding Principles in ICR allocation

Principle	Practice	ICR Recipient/ Retainer
❖ ICRs are unrestricted funds, so stay flexible in their use by treating them as general revenue. ❖ Use ICRs to compensate for cuts in general funds.	Fungibility	Central administration/ Responsibility Center (under RCM model)
❖ ICRs are calculated based on the recovery of overhead costs and therefore should go back to those overhead purposes.	Earmarked for general overhead	Central administration/ Responsibility Center (under RCM model)
❖ Reward departments, centers, and schools for success in fostering research. ❖ Reward Principal Investigators (PIs) for success in building funded research.	Earmarked, directed to PIs or units that conducted research	PI/ Research Unit
❖ Use ICRs to build and maintain the physical infrastructure for research. ❖ Use ICRs to support the shared resources used in research. ❖ Support a vigorous research administration function to advocate for research. ❖ Use ICRs to fund new research initiatives.	Earmarked for support of research.	Office of Sponsored Programs/ Research Offices/ Centrally administration

Source: Maddox (2004)

Earmarking practices vary widely among universities. At some universities, ICR revenues are earmarked for general funds. At others, these revenues are earmarked specifically for research support, either in the form of incentive returns to principle investigators (PI) and research units, or research support channeled through research offices.

Maddox (2004) notes that earmarking for research support can in turn follow two broad principles – return funds where they were earned (what we could call the *incentive principle*) or allocate them where they are needed (what might be called the *equity principle*). Each of these approaches has pros and cons.

The pros of the *incentive principle* are easy to see. ICR revenues distributed this way create incentives for successful researchers to pursue more funding and for those who have less external funding to emulate the successful researchers, all of which accelerates research growth. The downside of this approach is that returning funds to the PI does not provide funds to get other researchers into the game.

However, if the return of ICR funds is linked to the percentage of total allowable indirect costs that the department obtained, it can provide incentives to departments and divisions to request the full indirect cost recovery and not waive it where they have that option. With increasing competition for research grants, many PIs and research units have come to see indirect cost rates as a competitive disadvantage. As F&A primers at a number of universities have noted, this perception is exacerbated because many research sponsors encourage such cost-based competition and ICR waiving. Returning part of ICR revenues where they are earned can help counteract many of these disincentives to charging full ICR rates by researchers.

Principle and Practice at Major Research Universities

Not surprisingly, in an effort at getting the best of all worlds, many universities we looked at followed a combination of these practices.

Exhibit 2: ICR Fund Allocation at Select Universities

Stanford, MIT, and Chicago

Stanford and MIT both treat ICR funds as general revenue to the University which is then distributed in their normal, centralized budget development process. At Stanford, two formula-based units, the schools of Medicine and Business, retain their ICR funds. In both institutions, support of research is funded from a variety of sources. When asked about the incentives to researchers to pursue grants, Vice Provost Tim Warner of Stanford argued that the incentives are "embedded into what it means to be a faculty member" at Stanford.

The University of Chicago is organized on a Responsibility Center basis in which each academic division stands as a separate center. In the University's budgeting system, all of the ICR funds are associated with the school conducting the research that generated the funds. University of Chicago faculty report that informal factors such as influence within one's department and division drive the incentives to pursue external funding for research.

Source: Maddox (2004)

In general, private universities treat ICR funds as fungible revenue – whether at the central or responsibility center level. By keeping ICR funds fungible as general revenues, universities are able to ensure flexibility in their use and allocate funds to research support as required.

While this means that lower-level administrative units such as departments cannot budget for these funds on a predictable basis, it also prevents the emergence of distorted incentive structures that are a problem at other universities discussed in a later section.

On the other hand, it is more common that public universities have systems in place in which they direct more than half of the ICR funds to the units that earned them or to specific units and purposes within the University. The reasons for this difference in practice seem to lie in the differences of governance between private and public universities. Private universities, operating independently of legislative oversight or externally appointed boards, bear less onus to defend their use of the funds they receive, and do not negotiate with legislatures for appropriation funding.

For a public university to work outside some sort of formula or system of designating uses of the ICR funds bears unacceptable risks such as the possibility that the legislature will see increases in ICR funding as an opportunity to reduce state appropriations. While the fiscal principle of maximizing flexibility in allocation of funds is sound, its application in this case could have the result of reducing total resources to support a public university's mission.

Some public universities such as the University of Washington (UW)[15] and the University of North Carolina- Chapel Hill[16] do appear to use F&A funds fungibly, for a wide variety of purposes. The UW Office of Research states that broadly:

> When the UW develops its budget for a biennium, it starts with an estimate of the total revenues available for that biennium, including State funding, tuition, F&A cost reimbursement and interest and investment income. All these funding sources are combined to pay the UW's operating expenses, including F&A costs related to research.

However, at UW, the PI's school or college is also generally allocated about one-third of F&A costs through the Research Cost Recovery (RCR) allocation. While these funds are used at the discretion of the Dean and Chairs to support research in their units, existing ICR revenue allocation mechanisms have come under questioning at UW.

The University of Iowa is also required to include an estimate of its F & A cost recovery as a part of its General Fund budget request to the Board of Regents. The combination of the money received from state appropriations, tuition and fee

[15] http://www.washington.edu/research/4researchers/fa.php#fac8
[16] http://research.unc.edu/red/fanda_2005.php#more

income, and F & A cost recoveries comprises the general operating budget of the University and is allocated through the annual budget process to all departments.[17]

In keeping with the incentive principle outlined above, a number of other schools earmark allocations for departmental use. These include the University of Colorado-Boulder, which provides general fund support to departments in proportion to indirect cost recovery generated from a unit's sponsored programs.[18] Twenty-nine per cent of campus ICR was earmarked for departments in this way in 2001.

A similar policy also exists at Pennsylvania State University where a Research Incentive Fund was allocated to encourage development of faculty research initiatives and new sponsored programs. The size of the allocation provided to each College or Unit is in proportion to their recovered F&A costs.[19]

The University of Nebraska-Lincoln has one of the most well-defined ICR allocation policies we found. Under their policy, the Office of Research allocates F&A return to various Campus Units based proportionately on their F&A costs recovered in the previous fiscal year. Their policy is also unique in fostering PI enterprise by allocating five percent (in total) of the recovered F&A costs to investigators for those competitive, full F&A-bearing grants with total costs of $1,000,000 or more per year.[20]

The University of Toronto, one of the two Canadian members of AAU, also has a well-defined ICR allocation policy that distributes 50 percent to the researcher's department, of which no less that 25 percent (i.e. 12.5 percent of the total) shall be allocated, in such a manner as the PI shall designate, to the infrastructure and related costs of the PI's research program, unless there is a Departmental policy to provide support for the research program of the PI in some other way.[21]

While a number of universities have long-standing practices on distribution of ICR revenues, these allocations have come to be evaluated and revamped recently. Judging from publicly available documents from a variety of universities, two major issues have driven change in ICR revenue allocations. The first of these relates to the incentive principle described above, which is being incorporated into a number of university policies that previously did not earmark ICR funds. The second, much knottier issue relates to disincentives to inter-disciplinary collaboration caused by ICR revenue return to departments. We consider both issues in greater detail in the following section.

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[17] http://research.uiowa.edu/dsp/main/index.php?get=fandainfo&PassToURL=%22indirect%22%22costs%22%22portion%22%22research%22%22grants%22

[18] http://www.colorado.edu/ocg/award/index.html#twenty-one

[19] http://www.research.psu.edu/osp/PSU/Proposal/indirect.htm#howus

[20] http://www.unl.edu/research/docs/DistributiontoCollegesDivisions.pdf

[21] http://www.finance.utoronto.ca/gtfm/restricted/research/oh.htm#indirect

Evolving Practices in ICR Allocation Decisions

While there are few empirical, peer-reviewed studies of ICR revenue allocation practices at major research universities, careful perusal of publicly available documents from universities reveals some common issues that arise in allocation practices. As Maddox (2004) points out, a number of unstated political considerations often underlie ICR allocation practices at postsecondary research institutions. The structure of incentives and disincentives set in motion by ICR allocation policies often takes such a seemingly political form.

This is particularly true of the disincentives to collaborative research introduced by decentralization of ICR revenues. A wide range of universities have grappled with this issue in recent years, judging from committee reports and policy amendments. But first we focus on the simpler issue of implementing an incentive principle in the allocation of ICR revenues.

Earmarking for Incentives

Until 2004, Northwestern University[22], in keeping with the trend noted at most private universities by Maddox (2004), did not earmark ICR revenues, calling instead for a 'macroscopic approach' (Northwestern 2004:21). In that year, a University-level Indirect Cost Recovery Committee was established to explore and evaluate possible mechanisms for returning some fraction of F&A costs to the faculty of other schools and colleges in the University, following the practice at the School of Medicine.

A new policy introduced in fiscal year 2006, seeks to better support the departmental administration of sponsored project activity and align growth of departmental resources to growth in sponsored project activity, especially the direct support of PIs with large research groups. Under this new program, the research-intensive areas are to receive the portion of F&A recoveries that are attributable to the department administration component of the University's calculated organized (sponsored) research F&A rate, which represents approximately 28.0% of the total F&A recovery. Research-intensive areas are those that are managed under the centralized financial management structure, and those areas for which the annual F&A cost recovery revenue exceeds $350,000.

Important restrictions apply to the use of these funds. The allocated recovery funds cannot be used for:

- Research activities of a single individual PI;
- Faculty salaries, including summer salary for full-time faculty;
- Salaries for research staff having no administrative responsibilities;
- Scientific equipment purchases;

[22] http://www.research.northwestern.edu/research/pdfs/F&Aprimer2004.pdf

- Expenditures related to sponsored project matching/cost sharing requirements. [23]

Other universities, where ICR revenues have traditionally been held as general funds have also started research incentive and 'investment' return to research units. Purdue University, for instance, has taken limited steps in this direction by distributing 'incremental' ICR revenues to schools and colleges and wider research-related initiatives.[24]

In a sense, the *incentive principle* and its implementation at a growing number of universities represents the pressures of decentralization in ICR allocation. In response to these and other larger financial pressures, institutions such as the University of Minnesota have increasingly transitioned to RCM-type budget models.[25] However, countervailing pressures exist in the direction of centralization. We look at some of these issues in greater detail in the following sub-section.

Disincentives to Collaboration

Many of the universities discussed above, including Northwestern University[26], the University of Minnesota[27] and University of Nebraska–Lincoln have instituted policies and procedures for inter-departmental or research center-based collaborations. Others that have failed to do so have found instead that tussles over ICR revenue-sharing among collaborating departments have seriously undermined inter-disciplinary collaboration.

The central issue is that returning ICR revenues to departments or colleges allows non-departmental and inter-college units to fall through the cracks. When revenue accrues to administrative units, all entities that are not recognized as such are left without reliable revenue streams. The problem can be particularly acute for units which do not attract even tuition revenue. While special earmarking in many systems saves libraries from this problem, research centers are rendered vulnerable.

The problem has been well-documented at two major research universities, UW and Ohio State University (OSU), with fairly different budgeting systems. As discussed above, UW does not clearly earmark ICR funds. However, among the barriers to interdisciplinary work, the UW Committee on the Organization of Colleges and Schools noted that (2006: 43)[28]:

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[23] http://www.research.northwestern.edu/research/policies/newFACostRecovery.html
[24] http://www.purdue.edu/Research/vpr/policies/returnpolicy.shtml
[25] http://www.budget.umn.edu/FY08docs/FY08_Academic_Unit_Budget_Instructions_Supplemental.pdf
[26] http://www.research.northwestern.edu/research/policies/trackingAward.html
[27] http://process.umn.edu/groups/ppd/documents/procedure/cost_proc4.cfm
[28] Committee on the Organization of Colleges and Schools (2006). At http://www.washington.edu/provost/reports/CSOCreport.pdf

> Interdisciplinary programs are rarely returned indirect costs from research projects that are direct results of the program, except when individual "deals" are made between departments and schools.

The UW Graduate School's Network of Interdisciplinary Initiatives (NII)[29] also recommended that the University:

- Assess the current flow of indirect cost funds and how they are allocated in various units across campus. The flow of this resource throughout the University needs to be understood before considering ways to revise policies that can build sustainability of resources to support ID initiatives.

- Allocate a percentage of the future increases in indirect costs throughout the University to fund ID programs. This would lessen potential conflicts over re-allocation of existing indirect cost resources.

- Incentivize collaboration among units by sharing the indirect costs rather than allocating all of these funds to departments/deans. This could be one aspect of University policy that consistently and uniformly encourages interaction across disciplines and guides the sharing of revenue.

Ohio State University (OSU) meanwhile has seen extensive budget restructuring in recent years[30], wherein (Ohio State University Senate Fiscal Committee 2004:2):

> [I]n order to provide an incentive to increase externally funded research activities, it was decided that the "indirect costs" charged against external grants would (except for a small administrative overhead) be returned to the college/s whose faculty had generated this external funding and were engaged in the conduct of funded research.

While the Senate Fiscal Committee, cited above, found no adverse effects on inter-disciplinary research, the report of the Committee on Barriers to Interdisciplinarity a few months later cited serious concerns about the effects of ICR allocation policies on collaborative work (2004: 6)[31]:

> Indirect cost allocations to centers were not considered in the budget restructuring model. Faculty members find it difficult to get agreement with departments and colleges on the percentage of sharing indirect costs when gathering signatures on the PA-005 form. Departments and colleges want a larger portion of the indirect costs for their operation, and centers also need these indirect costs to continue functioning under the present budget environment.

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[29] http://www.grad.washington.edu/Acad/interdisc_network/ID_Docs/NII_Recs_for_Action.pdf
[30] Ad Hoc Budget Restructuring Review Committee, and the University Senate Fiscal Committee (2004) Budget Restructuring: An Assessment. At http://senate.osu.edu/FISADHOC.pdf
[31] http://senate.osu.edu/Reports/FCEC/InterdiscRptfinal.pdf

Many of these concerns seem to have found expression in a report by the National Academy of Sciences Committee on Facilitating Interdisciplinary Research[32], which stated in its recommendations that in order to foster interdisciplinary research, institutions could (2005: 204):

> Put in place policies that allow the return of some indirect cost revenues to research units such that interdisciplinary centers and programs with external funding are not disadvantaged.

How does the impact of ICR allocation policies on interdisciplinary research relate to the bigger issue of ICR centralization versus decentralization? Clearly, one straightforward solution adopted by a number of universities cited above has been to put in place clear allocations and policies for ICR sharing among departments and research centers.

However, the incentive distortions introduced by ICR revenue allocations have been serious enough at one university to lead to a reconsideration of budgetary systems. At least partly in response to such issues surrounding revenue and cost allocation, the University of Michigan has revised aspects of the budget system. In a Self Study Report for Institutional Reaccreditation in 1999, the Working Group on Research explained the issues succinctly[33]. It is worth quoting them at length:

> Policies concerning indirect cost recovery (ICR) are a specific area of concern, particularly for the increasing number of research collaborations straddling schools and colleges and large research units. At present, ICR follows assignment of direct costs. Before the move to responsibility-centered management took place, the University recouped directly most indirect costs from grants and used these resources as opportunity funds for general University purposes. Units had little incentive to seek external support for research activities. While disputes over credit remain a fundamental part of the competitive spirit of the research university, indirect cost returns were not a source of contention among schools and colleges and between academic and research units.
>
> [RCM] changed this system, assigning ICR to the units where the research is done: recovered indirect costs are returned to the unit that incurred the costs in support of the research and where faculty from more than one unit collaborate, sub-accounts are used to reflect the different levels of contributing effort. While who gets credit was always important, there now are consequences for both revenue as well as standing. Accordingly, Deans have new incentives to ask faculty to keep research within their home unit. The result is felt most directly on research that takes place across units.

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[32] National Academy of Sciences, National Academy of Engineering, and Institute of Medicine of the National Academies. Committee on Facilitating Interdisciplinary Research. Committee on Science, Engineering, and Public Policy. (2005) *Facilitating Interdisciplinary Research.* Washington, DC: The National Academies Press. At http://www.nap.edu/openbook.php?isbn=0309094356

[33] http://www.provost.umich.edu/reports/slfstudy/pdf/research.pdf

These changes in managing ICR come at a time when many research areas are requiring more collaborations across fields.

Partly in response to such concerns, University of Michigan has moved to an activity-based system of budgeting in recent years.[34]

[34] http://www.provost.umich.edu/budgeting/ub_model.html

Conclusions: Decentralization v. Centralization

To the range of concerns in ICR revenue allocation policies we have outlined above, may be added the fundamental principle of clarity and simplicity. In general, complex, opaque systems undermine the incentive effects of revenue allocation policies. A recent report of an Indirect Cost Recovery Subcommittee set up by the Office of the Provost at the University of Illinois-Urbana Champaign[35] (UIUC) notes this as a significant test for any ICR allocation policy. The Shared Success Model they recommend (2006-07:6) is aimed at:

a) Promoting transparency and clarity in the ICR distribution policy,
b) Enhancing research productivity and efforts in both interdisciplinary and disciplinary scholarship,
c) Defraying infrastructure costs associated with research.

The ICR allocation policy at UIUC is only one of many that have come up in recent years in response to the incentive and disincentive structures set into motion by ad hoc or poorly planned allocations. While many universities are grappling with these issues, there is little guidance in the literature on the pros and cons of alternative ICR revenue allocation procedures. Our survey of the landscape of ICR revenue allocation at major research universities suggests the range of considerations that must be balanced to arrive at a policy that is relatively free of distortions.

'Relatively' is the operative characterization here. As we have seen, there are significant trade-offs involved in centralized versus decentralized allocation of ICR revenue. While centralized allocations, even when subject to external mandates and budget systems, allow for high levels of flexibility, they reduce incentives for researchers. On the other hand, automatic devolution of ICR revenues can generate serious incentive distortions and adversely impact the spread of research collaborations. Recognition of these trade-offs is key to arriving at a sustainable ICR revenue allocation policy.

[35] http://www.provost.uiuc.edu/committees/reports/ICR.pdf

APPENDIX A: ICR Distribution Profiles[36]

Note: "Research rank" indicates rank of NSF assessment of "Total R&D expenditures at universities and colleges" for fiscal year 2002.

Private Universities

Johns Hopkins

Research rank:	1
Description of ICR distribution:	70% returned to the department.
Date of source document:	n.a.

Stanford

Research rank:	8
Description of ICR distribution:	Held centrally as general revenue, 100% returned to 2 formula units (Business and Medicine).
Date of source document:	Interview, 2004

Penn

Research rank:	9
Description of ICR distribution:	81% returned to the division earning it.
Date of source document:	2002

MIT

Research rank:	15
Description of ICR distribution:	Held centrally as general revenue.
Date of source document:	Interview, 2004

Duke

Research rank:	15
Description of ICR distribution:	76% General revenue 14% Deferred maintenance 5% Instruction/shared resources 1% Tech transfer 4% Department discretion
Date of source document:	2003

[36] Maddox, David C.

Chicago

Research rank:	53
Description of ICR distribution:	Returned to division earning it as general revenue within RCM system.
Date of source document:	Interview, 2004

Public Universities

Michigan

Research rank:	3
Description of ICR distribution:	Returned to division earning it as general revenue within RCM system.
Date of source document:	2002

Washington

Research rank:	5
Description of ICR distribution:	Distributed in portion to contributions to cost pool.
Date of source document:	n.a.

Minnesota

Research rank:	11
Description of ICR distribution:	51% returned to department (Incentives for Managed Growth program), 49% retained as general revenue.
Date of source document:	2002

Penn State

Research rank:	12
Description of ICR distribution:	12% returned to college, 1.5% to support research administration.
Date of source document:	n.a.

Texas A&M

Research rank:	17
Description of ICR distribution:	50% general administration 25% VP for Research 25% returned to the department
Date of source document:	2004

Illinois

Research rank:	19
Description of ICR distribution:	70% general administration 25% department 5% school
Date of source document:	2002

Colorado

Research rank:	25
Description of ICR distribution:	29% to the department, based on the ratio of departmental administrative costs to all administrative costs.
Date of source document:	2001

Alabama-Birmingham

Research rank:	49
Description of ICR distribution:	All revenue flows to the department of the PI.
Date of source document:	1999

Cincinnati

Research rank:	57
Description of ICR distribution:	48% general administration 3% Provost 5% school/college 44% department, recommended that 25% go to PI
Date of source document:	2002

Iowa State

Research rank:	64
Description of ICR distribution:	30% VP Research 30% school/college 40% PI
Date of source document:	2002

Colorado State

Research rank:	70
Description of ICR distribution:	52.7% general administration 7.1% VP Research 40.2% school/college Less $400K research building revolving fund and $250 to the Provost.
Date of source document:	2001

Missouri

Research rank:	72
Description of ICR distribution:	75% general administration 25% department Department portion intended to go to PI.
Date of source document:	2004

Nebraska-Lincoln

Research rank:	75
Description of ICR distribution:	10% Research Infrastructure Fund 30% general administration 30% VC Research and Chancellor 30% College VCR portion includes 5% returned to PIs on large grants (over $1M).
Date of source document:	2004

Oklahoma

Research rank:	77
Description of ICR distribution:	4% College 18% department
Date of source document:	n.a.

Hawaii

Research rank:	80
Description of ICR distribution:	25% System Research Office 25% Campus president 50% College
Date of source document:	Interview, 2004

Oregon State

Research rank:	81
Description of ICR distribution:	26%-42% returned to college based on overall F&A recovery. 4% for improvements to research space. 8% for research equipment.
Date of source document:	n.a.

Mississippi State

Research rank:	83
Description of ICR distribution:	40% general administration 20% VP for Research 40% department In Extension and Ag School, split is 50% department, 50% divisional administration.
Date of source document:	Interview, 2004

Arizona State

Research rank:	96
Description of ICR distribution:	20% School/college 5% PI Part of the school/college share goes to the department, and the VP Research retains a share of the total.
Date of source document:	2002

Utah State

Research rank:	97
Description of ICR distribution:	70% VP Research 30% School/college Strongly recommended that part of the school/college share return to the PI.
Date of source document:	2003

Alaska

Research rank:	98
Description of ICR distribution:	12.8% System 87.2% MAU
Date of source document:	2004

Washington State

Research rank:	99
Description of ICR distribution:	38% campus president 7% library 8% school/college 15% department Shares also go to facilities operations, research administration, equipment funds, and general administration.
Date of source document:	n.a.

APPENDIX B: Circular A-21 restriction on ICR Use

This section applies to the largest college and university recipients of Federal research and development funds as displayed in Exhibit A, List of Colleges and Universities Subject to Section J.14.h of Circular A-21.

(1) Institutions shall expend currently, or reserve for expenditure within the next five years, the portion of F&A cost payments made for depreciation or use allowances under sponsored research agreements, consistent with Section F.2, to acquire or improve research facilities. This provision applies only to Federal agreements, which reimburse F&A costs at a full negotiated rate. These funds may only be used for (a) liquidation of the principal of debts incurred to acquire assets that are used directly for organized research activities, or (b) payments to acquire, repair, renovate, or improve buildings or equipment directly used for organized research. For buildings or equipment not exclusively used for organized research activity, only appropriately proportionate amounts will be considered to have been expended for research facilities.

(2) An assurance that an amount equal to the Federal reimbursements has been appropriately expended or reserved to acquire or improve research facilities shall be submitted as part of each F&A cost proposal submitted to the cognizant Federal agency which is based on costs incurred on or after October 1, 1991. This assurance will cover the cumulative amounts of funds received and expended during the period beginning after the period covered by the previous assurance and ending with the fiscal year on which the proposal is based. The assurance shall also cover any amounts reserved from a prior period in which the funds received exceeded the amounts expended.[37]

Exhibit A -- List of Colleges and Universities Subject to Section J.14.h:

1. Johns Hopkins University
2. Stanford University
3. Massachusetts Institute of Technology
4. University of Washington
5. University of California-Los Angeles
6. University of Michigan
7. University of California-San Diego
8. University of California-San Francisco
9. University of Wisconsin-Madison
10. Columbia University
11. Yale University
12. Harvard University
13. Cornell University

[37]Office of Management and Budget. Circular A-21 (2004) *Cost Principles for Educational Institutions.* Revised 5/10/04. http://www.whitehouse.gov/omb/circulars/a021/a21_2004.pdf

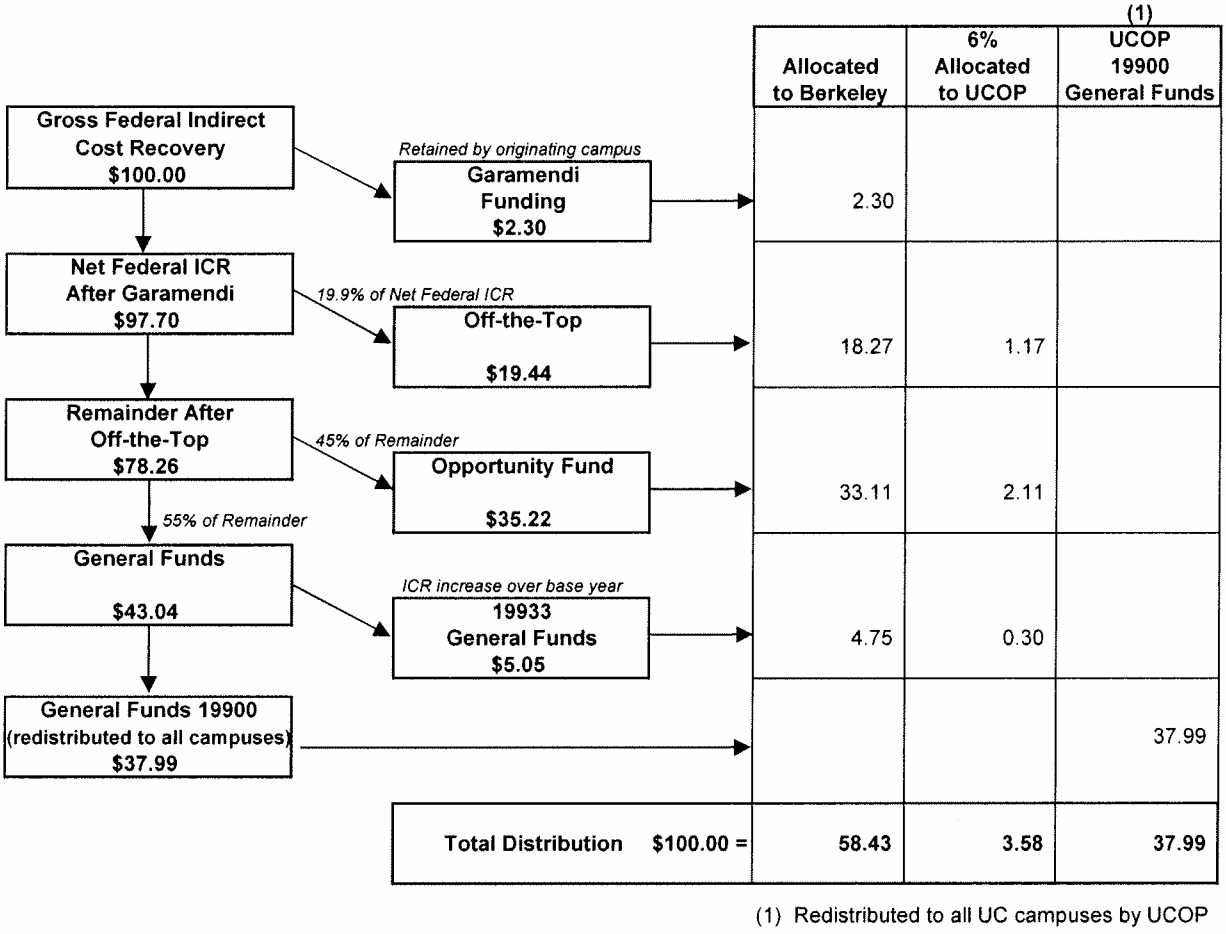
14. University of Pennsylvania
15. University of California-Berkeley
16. University of Minnesota
17. Pennsylvania State University
18. University of Southern California
19. Duke University
20. Washington University
21. University of Colorado
22. University of Illinois-Urbana
23. University of Rochester
24. University of North Carolina-Chapel Hill
25. University of Pittsburgh
26. University of Chicago
27. University of Texas-Austin
28. University of Arizona
29. New York University
30. University of Iowa
31. Ohio State University
32. University of Alabama-Birmingham
33. Case Western Reserve
34. Baylor College of Medicine
35. California Institute of Technology
36. Yeshiva University
37. University of Massachusetts
38. Vanderbilt University
39. Purdue University
40. University of Utah
41. Georgia Institute of Technology
42. University of Maryland-College Park
43. University of Miami
44. University of California-Davis
45. Boston University
46. University of Florida
47. Carnegie-Mellon University
48. Northwestern University
49. Indiana University
50. Michigan State University
51. University of Virginia
52. University of Texas-SW Medical Center
53. University of California-Irvine
54. Princeton University
55. Tulane University of Louisiana
56. Emory University
57. University of Georgia
58. Texas A&M University-all campuses
59. New Mexico State University
60. North Carolina State University-Raleigh
61. University of Illinois-Chicago
62. Utah State University

63. Virginia Commonwealth University
64. Oregon State University
65. SUNY-Stony Brook
66. University of Cincinnati
67. CUNY-Mount Sinai School of Medicine
68. University of Connecticut
69. Louisiana State University
70. Tufts University
71. University of California-Santa Barbara
72. University of Hawaii-Manoa
73. Rutgers State University of New Jersey
74. Colorado State University
75. Rockefeller University
76. University of Maryland-Baltimore
77. Virginia Polytechnic Institute & State University
78. SUNY-Buffalo
79. Brown University
80. University of Medicine & Dentistry of New Jersey
81. University of Texas-Health Science Center San Antonio
82. University of Vermont
83. University of Texas-Health Science Center Houston
84. Florida State University
85. University of Texas-MD Anderson Cancer Center
86. University of Kentucky
87. Wake Forest University
88. Wayne State University
89. Iowa State University of Science & Technology
90. University of New Mexico
91. Georgetown University
92. Dartmouth College
93. University of Kansas
94. Oregon Health Sciences University
95. University of Texas-Medical Branch-Galveston
96. University of Missouri-Columbia
97. Temple University
98. George Washington University
99. University of Dayton

APPENDIX C: University of California System

Figure 1

The Distribution of $100 Federal Indirect Cost Recovery to UC Berkeley



	Allocated to Berkeley	6% Allocated to UCOP	(1) UCOP 19900 General Funds
Garamendi Funding $2.30	2.30		
Off-the-Top $19.44	18.27	1.17	
Opportunity Fund $35.22	33.11	2.11	
19933 General Funds $5.05	4.75	0.30	
General Funds 19900 (redistributed to all campuses) $37.99			37.99
Total Distribution $100.00 =	**58.43**	**3.58**	**37.99**

(1) Redistributed to all UC campuses by UCOP

Source: Indirect Costs at Berkeley: A primer

Note

This brief was written to fulfill the specific request of an individual member of The Hanover Research Council. As such, it may not satisfy the needs of all members. We encourage any and all members who have additional questions about this topic – or any other – to contact us.

Caveat

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