Berkeley Center for Studies in Higher Education

Research & Occasional Paper Series: CSHE.3.2020

STRATEGIC BUDGETING AT COLLEGES AND UNIVERSITIES

May 2020

James A. Hyatt*
University of California Berkeley

ABSTRACT
In recent years a number of colleges and universities have explored alternative strategies for developing operating budgets. In part this exploration was driven by the desire for transparency among various constituent groups and the need to tie budgeting to campus strategic planning. With the advent of declining federal and state support, along with changing student demand, the need for a more strategic approach to budgeting has gained momentum. This paper highlights the various budgetary approaches currently in use and provides examples of their application in a variety of university settings. Particular emphasis is given to the process by which universities develop new models.

Keywords: Higher Education Finance; Strategic Planning; Budgeting

During the last several years colleges and universities have explored alternative approaches to developing and implementing operating budgets. These initiatives have been tied to a number of developments including:

- The need to tie budget development to campus strategic plans;
- The need for transparency with regard to how funds are generated and how they are expended;
- The need to create incentives for generating new or additional sources of revenue;
- The need to respond to fiscal crises such as reduced state support for higher education.

Unfortunately, at too many campuses strategic plans are developed that are not tied to the campus operating budgets. As a consequence, major strategic initiatives are either unfunded or inadequately funded, and there is no way to tie them to existing resources. This not only creates a credibility problem for the institution but leads to disillusionment among faculty, students, staff, and other supporters of the plan.

To many faculty, students, and staff, the campus budget process appears to be a "black box" where funds go in and allocations go out, but there is no explanation for how budget decisions are made. This phenomenon has resulted in cries for both accountability and transparency. To address this problem and to meet fiscal shortfalls a number of campuses have developed budget advisory committees composed of students, faculty, and administrators. While these actions are initially applauded by constituent groups they soon fall into disfavor as the groups get bogged down in minutia and the crisis of the moment is resolved. As a result, campuses have tried to build transparency and accountability into their budget model.

As state and other governmental support for higher education has diminished, colleges and universities are looking at other ways to generate additional revenue. Other sources include differential fee programs for certain areas of study such as business, engineering, medicine, and law. These fees are tied to student demand and the higher income expectations of program graduates as well as the higher cost of operating these programs. Other areas for revenue generation include expanding research programs and partnerships with industry and other for-profit entities.

Support for these changes have come from a variety of sources. Given the dramatic increases in tuition and fees, students have demanded better accountability as to how the university expends its revenue. Faculty have demanded increased transparency

* James A. Hyatt is Vice Chancellor and CFO Emeritus at the University of California Berkeley.

and accountability as to how funds are allocated within the university. In light of financial exigencies at a number of colleges and universities, state legislatures and accrediting agencies have demanded increased accountability.

ALTERNATIVE BUDGET MODELS

Over the years colleges and universities have employed a variety of budget models. Outlined below are the most common models and a comparison of each model based on its perceived advantages and disadvantages.[1]

Incremental Budgeting

This is the oldest and most common budget model used in higher education, where budget proposals and decisions are largely based on funding levels of the previous year. The underlying assumption is that the institution's fundamental goals and objectives will not change markedly from this year to the next.

Advantage: Easy to implement, provides stability, and allows campus units to plan.
Disadvantage: Little incentive to create new programs or means to evaluate resourcing of existing programs.

Formula Budgeting

This is a strong central-campus budget model in which funding is computed by applying selected measures of unit costs to selected output measures.

Advantage: Depoliticizes the appropriations process by relying on quantitatively-oriented agreed-upon algorithms for distributing funds.
Disadvantage: Formulas can be ineffective in incorporating quality in resource allocation.

Zero-Based Budgeting

At the beginning of every budget planning period the previous year's budget for each campus unit is cleared. Every campus unit must re-request funding levels and all spending must be re-justified.

Advantage: Focuses on outcomes and results and perceived as a highly rational, objective approach.
Disadvantage: Assuming no budget history runs counter to continuing commitments, such as faculty tenure. Is highly time-consuming and potentially volatile and subject to capricious decisions.

Performance Budgeting

In this model, decisions are made centrally and are based on policies that relate inputs such as enrollment or research volume to determine funding levels. Units must perform in certain ways and meet certain expectations to receive funding.

Advantage: Focuses on accomplishments and results rather than on inputs and processes. Once defined, the approach is relatively simple
Disadvantage: Difficult to define performance criteria and appropriate measures. There is a tendency to measure only that which is most easily measured.

Incentive-Based Budgeting (IBBS)

This model delegates significant operational authority to schools, divisions, and other campus units, which allows them to prioritize their academic missions. A significant portion of the unit's revenue and income, including student tuition, is retained. Each unit is assigned a portion of government support. Units are responsible for their own expenses, as well as for a portion of expenses incurred by the university's general operations. This model allows support units to charge for their services, and some academic units can tax others for the service instruction that they provide.

Advantage: A more rational approach to budgeting. Operating units have greater responsibility for budget development and control. Academic priorities are made closer to the instructional level. Tuition resources are moved in relation to the institution's enrollment patterns. There is an incentive to enhance revenues and manage costs.
Disadvantage: Academic programs may become budget-driven at the risk of sacrificing academic performance, priorities, and innovation. Local services that duplicate those offered elsewhere may be expanded to generate revenue. Developing equitable cost algorithms for taxing units can be problematic.

In terms of implementation a 2017 survey of college and university business officers conducted by *Inside Higher Education* found that:[2]

CBOs are most likely to say their institution employs an incremental model — using the current budget as the starting point for the new budget. Forty-nine percent say their institution uses an incremental approach, including roughly two-thirds of those at public master's or baccalaureate institutions.

Thirty-six percent of CBOs say their college uses a zero-based budget model — in which new budgets are developed from scratch, with each unit needing to request and justify its spending allocations each year. CBOs at public associate degree colleges or private baccalaureate colleges are most likely to indicate their college uses a zero-based budgeting model.

One-third of CBOs use a responsibility-centered budget model, a decentralized approach in which individual units on campus receive and manage their own revenues. Two less common budget approaches are formula and performance, used by 24 percent and 19 percent of CBOs, respectively.

STRENGTHS AND WEAKNESSES OF EXISTING BUDGETARY MODELS

Prior to implementing a new budget model most colleges and universities have conducted an assessment of their current budget model. The University of Missouri conducted such an assessment and found the following issues related to their existing model:[3]

- The budgeting process has little transparency, sometimes even to those directly involved.
- The current model also lacks transparency in that it does not objectively allocate core funds based on program quality or other relevant metrics (e.g. students served).
- The current use of multiple resource allocation models creates confusion and perceived inequities. The core model is based on historical budgeting. The Missouri online revenue model strongly incentivizes online courses and programs. Supplemental fees provide needed additional support for programs currently under-funded by the campus' resource allocation model but valued in the marketplace, while simultaneously providing a strong incentive for growth of credit hours. However, on the flip side, they are not recognized as an allocation of revenue because of the budget model in place.
- The current model allocates core funds on the basis of historical budgeting, not productivity or centrality to mission.
- There is no sense of shared accountability for budget management and outcomes. When a resource allocation decision is made, the rationale or basis for the decision may not be clearly explained.
- The current system takes program quality into consideration only in the allocation of flexible resources available for distribution by central administration. The allocation of these funds is done through individual negotiations rather than through a more transparent process that links allocation with strategy and metrics.
- Resource allocation and reallocation becomes a political process. There are few clear financial incentives for improvement or innovation, even as resources are a clear driver when it comes to successful implementation of new or existing programs.
- The current model does not align resources to activity, and therefore responding to shifts in educational demand is difficult. There is no incentive to encourage better instruction, innovative instruction, interdisciplinary collaboration, or enrollment of more students. Successful innovation in an existing program or development of a new program does not attract continuing funding, even when it draws significant enrollment.
- The current resource allocation model does not foster innovation. It does not capitalize on innovation and discovery but maintains the status quo.

The University of Illinois's Campus Budget Advisory Task Force also expressed similar concerns:[4]

- Current practice does not have adequate mechanisms for transparent strategic decision-making. It is difficult to use the current budget model to meet long term challenges or to set and achieve long-term goals.
- Incremental budgeting on an annual basis does not lend itself to longer-term strategic budgeting. The formula-based portion of the budget doesn't allow for longer-term planning. The processes in place for making discretionary allocations were built around annual incremental budgeting and have shown themselves to be inadequate for long-term or strategic planning.
- The "hold harmless" and incremental approaches to budgeting enshrine historical practices which may not be optimal. The current budget model used by campus provides for incremental changes from the situation in FY11 when Illinois was experiencing deep post-recession budget cuts. If the situation at that time was unsatisfactory, then it is unfortunate to have "baked" the old allocations into the new system by the "hold harmless" approach.
- Decision-making and budgeting are not well-aligned. Even units which are relatively well funded in the current model find that they lack the authority to deploy resources optimally. Units have difficulty taking advantage of strategic opportunities.

- Current budgeting practice does not provide decisionmakers at the campus, unit, or department levels with clear understandable incentives. Additionally, any existing incentives may not correspond to institutional values.
- Even for college-level units directly involved in instruction, it is difficult to understand the incentives of the current model. For example, the manner in which IUs have been monetized may create unintended negative consequences on undergraduate education.
- Published policy mostly governs budgeting between the campus and college-level units. Budgeting between colleges and departments is not governed by the same principles, making incentives even more difficult to understand at the departmental level.
- The current budget model provides insufficient guidance and information about the funding of units not directly involved in instruction.
- The current budget model does not provide incentives related to the use of facilities or utilities.
- The process for making discretionary allocations contributes to mistrust by allocating resources according to principles that are not clearly expressed or widely disseminated and understood.

IDENTIFYING BUDGETING PRINCIPLES

In developing a new budget model, it is important to identify the principles that support the model. Principles should not only address the deficiencies in the current budget model but include attributes that will lead to a more transparent process that aligns the budget with the campus' strategic plan. Many campus also like to incorporate the institution's mission and goals.

The University of Missouri based their budget or resource allocation model on the university's Statement of Values which include respect, responsibility, discovery, and excellence.[5]

Specific principles that are tied to these values were as follows:

Respect

- Transparency: The resource allocation model will be transparent and include components that are clearly articulated to all campus stakeholders. It will identify available resources, how they are allocated, and the process leading to their allocation—whether required or discretionary. It is essential to have a resource allocation system that provides reasonable guidance and enables all decision-makers to understand and communicate the details of their units' revenues, costs, spending, and overall budget.
- Accountability: The resource allocation model will ensure that decisionmakers are accountable to all relevant stakeholders. Those making decisions about strategic resource allocations and those receiving such allocations will be accountable for their stewardship. In general, both decisionmakers and the resource-allocation process need to be accountable to the values of the institution and to the university's tradition of shared governance. Accountability depends on transparency.
- Reflect diversity: The resource-allocation model will recognize, support, and reflect the individual and intellectual diversity of the campus and the communities that it serves. This encompasses the experiences and goals of students, faculty, and staff.

Responsibility

- Strategic alignment with the university's core mission and goals: The resource-allocation model will align funding with the university's core missions of teaching, research, service, and economic development, creating incentives for the success of the university as a whole, and allowing for investment in new campus-wide initiatives. The resource-allocation model will support entrepreneurship and innovation that lead to outcomes consistent with campus strategy and mission.
- Stewardship: The resource-allocation model will promote good financial stewardship and revenue generation that is consistent with the university's values.
- Collaboration: While the autonomy of units in deciding how to distribute resources internally is important, consistency, cooperation, and collaboration across units is vital.

Discovery

- Create incentives: The resource-allocation model will enable the campus and its units to make long-term plans and to seize emerging opportunities. The campus needs to be able to invest in activities and programs that are of value to the campus and that support the university's mission. The model will recognize and quantify the limited funds available for discretionary investments and ensure that the mechanisms for allocating them are consistent with other guiding principles.

- Fostering innovation: Consistent with the principles governing the resource-allocation model, units will have the opportunity to be collaborative and entrepreneurial, so as to capitalize on discovery and innovation.

Excellence

- Data-driven decisions: Programs and initiatives will be supported by clearly articulating mission-driven impacts, outcomes, costs, and revenues. Indicators to measure their impact in support of the university's mission will be made available on a regular basis.
- Commitment of campus leadership: Given that the new resource allocation model will involve a substantial change, it will need to be implemented over time. The ongoing commitment of campus leadership will be crucial for its successful implementation.

In developing a new budget model, the University of Wisconsin identified the following principles that are essential to the successful transition:[6]

- The budget allocation model should recognize, accommodate, and complement external fiscal parameters imposed by the state and the University of Wisconsin System Board of Regents;
- The budget allocation model should align funding with the university's core missions of teaching, research, service, and outreach, creating incentives for the success of the university as a whole, and allowing for investment in new campus-wide initiatives;
- A new budget allocation model should be part of a transparent budget development and allocation process;
- The budget allocation model should support entrepreneurship and innovation that lead to outcomes that are consistent with campus strategy and mission. Specifically, the budget allocation model should encourage growth in revenue;
- The process for developing, implementing, and evaluating a new budget-allocation model should acknowledge the tradition of shared governance, recognizing the cultural differences across campus;
- The budget-allocation model should distribute resources to schools, colleges, and campus-level units but not allocate resources within those schools, colleges, and campus units. Deans and directors remain the primary arbiters of school, college, and campus-unit strategy;
- The budget-allocation model must ensure good stewardship of resources, align resources with activity, and be flexible, simple, transparent, and easily understood;
- The new budget system and allocation model should provide the information necessary for sound decisions about the types, amounts, costs, and charges for research and educational programs, and provide sub-unit information that supports decentralized (school and college level) decision-making about instructional programs;
- The budget-allocation model should reflect institutional priorities and strategies. In addition to objective metrics, it should allow discretionary distribution of resources to support qualitative measures of success and respond to special needs and new opportunities;
- The budget system and allocation model should provide information to encourage schools, colleges, and campus-level units to increase the quality and innovation of the education they provide. This can be accomplished by allowing units to retain a larger share of the tuition revenue they generate and allowing demand to influence other resource allocations;
- The budget-allocation model should be implemented in a way that avoids large or discontinuous shifts in allocations, recognizes the time horizons of existing commitments, and aligns with the pace of operational change;
- Allocations should initially focus on tuition and federal indirect cost reimbursement and allow for some discretionary funding to be held centrally. The committee should take a prudent approach by initially focusing only on budget allocations based on measures of activity, as recommended in a 2014 Budget Model Review Committee white paper. The more complex issue of cost allocation for space, centralized services, and utilities and other services can be addressed at a later stage of model development

BASIC COMPONENTS OF A NEW BUDGET MODEL: REVENUE GENERATION

Operating budgets usually consist of two major components. The first component identifies sources of revenue. For private colleges, these normally consist of tuition and fees, endowment income, private gifts, grants and contracts, indirect cost recoveries on sponsored project activities, depreciation, interest, and auxiliary enterprise revenue. For public universities, state or other governmental appropriations is added to the list of revenue sources.

The second major component of college and university budgets are expenditures, which can include salaries and wages, employee benefits, utilities, supplies and services, and other operating expenditures. Expenditures can also be categorized functions, such as instruction, research, public service, academic support, student services, institutional support, operation and maintenance of plant, grants and contracts, and auxiliary operations.

Constructing a new budget model requires that all revenue and expenditure categories be reviewed. Based on this review, a determination is then made of how to recognize both revenues and expenditures and how to allocate them to various units within the institution. In considering a new budget model, we'll first examine revenue generation.

Tuition Revenue Allocation Strategies

There are multiple sources of tuition revenues including: resident and nonresident undergraduate and graduate tuition, professional master's tuition (e.g. business, law), summer-term tuition, and extension revenue. There also a variety of mandatory or supplemental fees that are dedicated to certain schools and colleges or programs.

The distribution of tuition and fee revenue from central campus to schools and colleges can vary based on the nature of the budget model. Schools employing the incremental budget model tend to hold 100 percent of tuition revenue centrally. Schools with a responsibility-centered approach tend to allocate a 100 percent of tuition and fee revenue to the schools and colleges. Other budget models recommend allocating between 70 and 80 percent of tuition and fee revenue to individual schools and colleges.

Tuition revenue allocation weighting. In activity-based revenue allocation, units receive financial resources based on their share of student activity as defined by the institution (e.g., number of students enrolled, student credit hours taught).

While a minority of institutions with unique characteristics (e.g., highly consistent leadership, strong religious mission) can successfully maintain centralized models, most institutions should allocate 70 percent of tuition revenue or more through an activity-based formula.[7]

The University of Washington employs an activity-based budget (ABB) system. Revenues are distributed to schools and colleges using ABB principles. ABB does not distribute funds to the departmental level. Rather, each dean determines how to allocate these funds within their school or college. Under ABB, 70 percent of net tuition operating fee revenue is distributed to schools and colleges, and 30 percent is retained by the provost for basic university functions and strategic investments.[8]

Under the University of California Davis' incentive-based budget model net undergraduate tuition is distributed to schools, colleges, and divisions according to the following formula: 60 percent based on student credit hours, 30 percent based on degree majors, and 10 percent based on degrees awarded. Net undergraduate tuition is equivalent to the total undergraduate tuition charged, less waivers and the return to financial aid. All units receive credit for the campus wide blend of resident and nonresident supplemental tuition for undergraduates.[9]

In considering tuition allocation weighting, the University of Wisconsin Madison Budget Model Development Committee identified two approaches: credits follow department (CFD) and credits follow instructor (CFI). CFD attributes course credits to an academic unit based on "ownership" of a curricular subject, without regard to departmental affiliation of the instructor. With cross-listed courses, attribution of credits in CFD is based on the department through which the student registers. In contrast, CFI attributes the credits to the academic unit that pays the salary of the instructor based on the payroll system records. When course instructors are not paid by any instructional unit, CFI attributes the credits to the unit offering the course.[10]

Ultimately, the committee found no compelling reason to treat undergraduate and graduate students differently in terms of the use of these metrics in a budget model and agreed to recommend an 80-20 weighting of CFI and CFD for both student populations. However, students in professional programs constitute a different case, and the suitability of this weighting approach for this population will be explored further as the new budget model is implemented.

Enrollment Smoothing. The number of years of enrollment data used to determine revenue allocations impacts stability of unit budgets and how quickly allocations increase to reflect growth — and therefore the strength of financial incentives.

Institutions typically take one of two competing approaches to determine tuition revenue allocations for academic units. The more common approach is to base tuition allocations on one year of enrollment, either prior year or current year projections. This approach rewards academic unit growth with immediate increases in next year's allocations but may create volatility in unit budgets and impede deans' ability to plan. Alternatively, some institutions have opted for a multi-year averaging approach known as enrollment smoothing, where tuition revenue allocations are based on two-to-four years of enrollments. This method creates more stability and provides deans adequate time to adjust to enrollment declines but creates a lag between enrollment growth and funding — potentially weakening the incentive for growth.[11]

For purposes of calculating the instructional metric based on the 80-20 weighting, the University of Wisconsin Madison's Budget Model Committee agreed that multi-year data should be used. The committee recommended using data for the prior two years, with the most recent year weighted at twice the value of the prior year. The committee believed that this approach would help mitigate the impacts of changes in the underlying data, while still rewarding and incentivizing credit production and enrollments.[12]

State Appropriation Allocations

The approach public institutions take to allocate unrestricted state appropriations primarily impacts the amount of flexible funds central leadership can deploy outside the activity-based allocation formula. This decision also has a strong downstream impact on other important budget model elements such as subvention and strategic reserves.

Historically, most public institutions combined tuition and state dollars into a single pool of revenue to allocate to the units. The other option is to allocate tuition revenue through the activity-based formula, but hold state appropriations centrally to fund subvention or strategic reserves. While less common in the past, more institutions are adopting this approach to shield deans from volatile state funds, decrease unit reliance on state funds, and provide central administration with more flexible dollars.[13]

In reviewing other institutions' allocation of state funds, the University of Missouri at Columbia Resource Allocation Committee felt that it was important to recognize that the state of Missouri has certain expectations as to how state funds are utilized by its institutions of public higher education. These expectations have included: student access, statewide extension programs, and educating physicians and nurses to provide health care to the citizens of the state. The committee also recognized that these expectations can change over time and that any resource allocation model must be flexible enough to adjust to these changes.
The committee therefore recommended that state funds be allocated to specific functional areas that meet both institutional and state priorities such as student financial aid, statewide extension programs, and medicine and nursing.[14]

Indirect Cost Recoveries

Indirect cost recovery (ICR) funds are reimbursements for administrative and overhead costs associated with research. ICRs are frequently referred to as facilities and administrative costs (F&A), those costs incurred for common or joint objectives and cannot be identified readily and specifically with a particular sponsored project. Indirect costs are grouped into two categories:

- Facilities costs, such as utilities, routine maintenance and repair, building and equipment depreciation, and services of the library.
- Administrative costs at both the central level and the department level such as proposal preparation and submission, grant administration, accounting, payroll, purchasing, and student service that support research projects but are not readily or specifically attributable to a particular research project.

Universities have different approaches to allocate ICRs. Some institutions hold them centrally in order to found research-related programs and initiatives. Other universities use an allocation methodology that distributes funds to colleges, departments, and principal investigators.

Since the manner in which indirect cost recoveries are generated ties allocations to the costs of specific functions — such as administration and operation and maintenance of plant — the University of Missouri's Resource Allocation Committee believed that allocating these funds in way they were generated represented a more transparent approach than that used by other research universities. Furthermore, the committee felt that the need to address critical infrastructure needs related to the maintenance and renovation of facilities also made a compelling argument to allocate these funds in this manner.

The University of Illinois at Urbana-Champaign employs the following methodology in distributing indirect cost recoveries:

- Principal investigator home college portion (45 percent): These revenues should be attributed to colleges based on the home college of the PI or per negotiated agreement. This allocation recognizes the costs incurred by the college employing the PI.
- Campus portion (55 percent): Since under the new integrated and value-centered budget model the cost of administration space and utilities that are currently covered centrally will be attributed to the colleges, it is appropriate for these revenues to be attributed to colleges. This must be done with consideration of (1) the college managing the grant fund, (2) the home college of the PI or co-PI, and (3) the college where the facilities the PI or co-PI uses for the pertinent research.[15]

BASIC COMPONENTS OF A NEW BUDGET MODEL: COST ALLOCATION STRATEGIES

Once the budget model distributes revenues the next step is to allocate appropriate costs to revenue centers.

Facilities
Facilities space for classrooms and offices is a scarce resource on every campus. As institutions look to maximize space utilization, they are finding that charging units for the space they occupy is a powerful way to inflect campus behavior. There are four common budget model mechanisms colleges and universities can use to allocate the cost of facilities: bill-to-unit, net assignable square feet, quality of assignable square feet, and shared expense.

General Administration
Executive and administrative offices are a form of overhead at every college and university. Although they do not directly generate revenue for the institution, they provide important services that benefit the entire campus.

At the University of Missouri general administration consists of units under the chancellor; the vice chancellor for operations and chief operating officer, the vice chancellor for finance and the chief financial officer; the vice chancellor for advancement; the vice chancellor for human resources and affirmative action, and the vice chancellor for marketing and communications.

There are five budget model mechanisms colleges and universities can use to allocate the cost of general administration: expense taxes, full-time equivalent faculty, revenue taxes, shared expense, and full-time equivalent students.

Academic Affairs
As with general administrative costs, costs associated with academic affairs represent university overhead associated with student services and other academic support. Since some academic units benefit more than others from these services, institutions should look for ways to equitably assign academic affairs costs across campus.

There are five budget model mechanisms colleges and universities can use to allocate the cost of academic affairs: full-time equivalent faculty, revenue taxes, share of student credit hours, shared expense, and full-time equivalent students.

Central Funds
While the allocation of tuition and other sources of revenue to schools and division can create incentives for revenue growth, it is also important to recognize that the central campus also requires funds to meet unexpected revenue shortfalls and to fund campus-wide strategic initiatives. Those funds include:

Contingency Funds
Revenue shortfalls can occur for a variety of reasons. Unanticipated declines in enrollment can result in revenue shortfalls. Without contingency funds this can result in layoffs and sever curtailments of programs and services. For public universities, major budget reductions at the state level can lead to reductions in expenditures. Drastic declines in the stock market can also impact income from college endowments with a negative impact on programs. For these reasons, colleges and universities normally set aside contingency funds to meet unforeseen circumstances.

Strategic Initiative Funds
Strategic planning at colleges and universities can lead to new initiatives to advance the role and mission of the university. In the absence of new central campus revenue, campuses need to have sufficient resources to implement these initiatives. The existence of a sound business plan that is tied to the strategic plan is highly desirable, but in many instances, start-up funds are required to launch the initiative. The availability of central campus funds is commonly the source for these funds.

An example of a central funding, or central revenue, pool is outlined below:

- Subvention: Ensure that resources are available to address college subsidies (deficits)
- Strategic initiatives: Enable university leadership to provide resources to address university priorities and revenue growth strategies that will help the university fulfill its mission and accomplish its goals
- Principles used in allocating funds from a central pool: Distributions from the CRP should not be viewed as an annual entitlement. To promote stability, a diverse set of revenues should be used to fund the central pool. The CRP will promote neutral starting points for the colleges at implementation of the new model, making resources available to fund deficits.

- Determining the amount to set aside in a central pool: Fifteen percent of college revenues (excluding grants and indirect costs) would go into the CRP. This participation rate ("tax") should stay intact for the first three years and then can be reviewed.[16]

BUDGETARY CONTROL

Budgetary control is defined by the Institute of Cost and Management Accountants (CIMA) as:

> The establishment of budgets relating the responsibilities of executives to the requirements of a policy, and the continuous comparison of actual with budgeted results, either to secure by individual action the objective of that policy, or to provide a basis for its revision.[17]

Budgetary control can facilitate communication among managers by highlighting key areas of concern such as deviations between planned objectives and actual results. It can also enable managers to more effectively plan for future operations and highlight strengths and weakness in current operations.

In keeping with the principles outlined earlier, budgetary controls should be clearly articulated and applied consistently at both campus and school and college level. The development of an annual campus operating budget is followed by the development of detailed operating budgets for each division and operating unit.

Budgets should be monitored on a monthly basis and an assessment of budget variances should be analyzed on a quarterly bases. Any major deviations should be thoroughly explored and a plan for correcting any negative deviations prepared. Negative budget deviations can include both revenue shortfalls and over expenditures. Plans to correct these deviations can include expenditure reductions — or if caught early enough in the budget cycle, plans to increase revenue production.

At the campus level, the focus of budget control is by administrative divisions, such as academic affairs and general administration. Any negative deviations in budget become the responsibility of the division head to address. If this is not possible, the central administration must use any available central funding resources, such as contingency reserves, to address the problem in the short run. This is accompanied by more permanent budget strategies that can involve expenditure reductions or strategies to increase revenues.

SUMMARY

The development of an effective budget model is dependent on a number of factors. A key factor is that the model should reflect the culture and values of the institution. The development of the model should involve representatives of all the constituents of the institution including students, faculty, staff, and senior-level administrators. The principles and components of the model should be clearly articulated in a language that is clear and easily understood by a variety of constituents.

Key to the development of an effective budget model is the understanding that model should be dynamic enough to accommodate by changing circumstances and emerging issues. To accommodate this requirement, a number of institutions, including the University of Washington and UC Davis, have committed to review the model five years after its implementation. The University of Washington's decision was based on the following rationale:

> When ABB [activity-based budget] was adopted in 2012, a commitment was made to leave the basic elements in place for five years to provide an opportunity to understand the consequences of ABB as it was initially structured. In the meantime, an ABB review committee was formed to monitor and review the current model and to provide recommendations about possible changes that might be considered.[18]

UC Davis implemented its incentive-based budget model in 2012. The decision to review the model was based on the following objectives:

- Establish understanding of common positive and negative perceptions of the responsibility-centered management budget model at UC Davis across all constituencies (e.g., deans, Academic Senate, and administration).
- Investigate opportunities for improvement based on internal perceptions and leading practices.
- Provide a point of view of the implications and the potential opportunities that the changes will have on the university.[19]

The recommendations based on this review are outlined in the following graphic:

There are three primary measures UC Davis can do to improve the budget system in place today

	1 Enhance the budget model to better balance growth and quality of education incentives	2 Review the budget process to improve transparency of decision making for non-RCM allocations	3 Identify and develop potential new sources of revenue and evaluate existing cost structure to identify reduction opportunities
Potential Actions	1. Provide Incentives for Quality of Education Outcomes Outside the Model Construct 2. Make adjustments on the margin 3. Provide Training Resources to Deans and Department Chairs	1. Open Up Decision Making Processes at Provost, School and College Levels 2. Establish Objective Criteria to Enable Budget Decision Making Process 3. Publish comprehensive performance of the University, Schools and Colleges	1. Engage in process to develop a revenue enhancement strategy for the University and activate action plan (e.g., 3P, Online, business undergrad) 2. Complete comprehensive review of cost structure
Benefits	1. Improve alignment of incentives to quality of education, not just growth 2. Ability to objectively measure and reward quality of education outcomes 3. Reduce tribal behavior and promote existing interdisciplinary culture	1. Improve transparency of Provost allocation logic 2. Enhance dean accountability 3. Remove subjectivity from decision making process by introducing criteria/metrics 4. Improve trust gap	1. Reduce reliance on flat state funding, impact of Regental policies and anticipate flat growth of enrollment in future years
Change Impact	**Medium:** • Definition of metrics will involve input from many stakeholders and will require debate • Formula change not expected to have significant change impact as framework is already in place	**High:** • Process change will impact a large portion of the campus and many stakeholders • Process changes will require training of Deans and Assistant Deans and other school/college contributors	**High:** • Reduction of cost structure is likely to impact many stakeholders depending on the breadth of review • There may be resistance to new sources of revenue (e.g., on-line education)

UCDAVIS

32

ENDNOTES

1 6 Alternative Budget Models for Colleges and Universities www.hanoverresearch.com/insights-blog/6-alternative-budget-models-for-colleges-and-universities/ April 19, 2013
2 2017 survey of college and university business officers conducted by *Inside Higher Education*
3 Report of the University of Missouri Resource Allocation Committee May 2019
4 University of Illinois Campus Budget Advisory Task Force (CBATF) final report 24 June 2016
5 Report of the University of Missouri Resource Allocation Committee May 2019
6 University of Wisconsin-Madison Budget Allocation Model Past, Present and Possibilities White Paper presented by the Budget Model Review Committee January 2014 pages 19-20.
7 EAB: Aligning the Budget Model to Strategic Goals 2016 page 21.
8 ABB Frequently asked questions. University of Washington 2011
9 UC Davis Incentive-Based Budgeting FAQs UC Davis 2012
10 Building a New Budget Model for the University of Wisconsin-Madison , Budget Model Development Committee Report to Chancellor Rebecca Blank September 2014 page 12
11 EAB: Aligning the Budget Model to Strategic Goals 2016 page 33
12 Building a New Budget Model for the University of Wisconsin-Madison, Budget Model Development Committee Report to Chancellor Rebecca Blank September 2014 page 12
13 EAB: Aligning the Budget Model to Strategic Goals 2016 page 43
14 Report of the University of Missouri Resource Allocation Committee May 2019
15 The University of Illinois at Urbana-Champaign's Framework for Budgeting System Reform Version: December 22, 2017
16 The University of Northern Kentucky, Inside.nku.edu/content/dam/cfo/docs/new budget model
17 Cost Accounting, K Alex Pearson Education India, 2011 page 654
18 The University of Washington ABB Committees and Reports: www.washington.edu/opb/uw-budget/activity-based-budgeting/abb-committees-and-reports/
19 UC Davis Budget Allocation Assessment Report: Current State Findings and Future State Options: Prepared by EY April 15, 2018: https://ucdavis.app.box.com/s/3x837zyjmrme3i57d6f57dpuqzkqe8qi