INCENTIVE-BASED BUDGETING SYSTEMS IN PUBLIC UNIVERSITIES

Edited by
Douglas M. Priest, William E. Becker, Don Hossler, and Edward P. St. John

Edward Elgar
Cheltenham, UK • Northampton, MA, USA
CHAPTER 5

RESPONSIBILITY CENTER BUDGETING AND MANAGEMENT AT INDIANA UNIVERSITY

Kenneth R. R. Gros Louis
Maynard Thompson

The Bloomington campus of Indiana University, after three years of planning, initiated its version of responsibility-centered management (RCM) in 1990, the second public institution of higher education to adopt this budgeting mechanism, although as most know, it was in use for years at a few private institutions. Our plan is to sketch the history of RCM in Bloomington from its inception through two reviews in 1995-1996 and 1999-2000. Thus, we will describe:

• its positive features as these were perceived initially;
• the major elements of RCM in Bloomington, recognizing that there are other ways to implement this budgeting approach;
• the chief beneficiaries of RCM;
• the potential problems inherent in the mechanism and how these might be countered;
• and finally, the findings of two five-year reviews and their recommenda
tions.

The reviews of RCM (Ruesink and Thompson, 1996; Theobald and Thompson, 2000) illustrate an important aspect of the implementation at Indiana University Bloomington: the involvement of faculty in the design, review, and revision of the system. It has been customary for Bloomington faculty to play an important role in determining the policies and administrative structures within which the campus, the College of Arts and Sciences (the largest unit on campus), and the schools function. The creation of an RCM system was no exception, and
faculty played significant roles in the design of the original system through membership on the committees charged with developing the basic policies. According to the timeline developed in 1987-1988, the Bloomington campus was scheduled to implement its version of RCM in July 1989. However, in late 1988 the campus administration decided to defer implementation a year to better understand the implications of various alternatives and to solidify support in the faculty and among the deans. To help in this task, during the 1989-1990 year, the administration established three committees consisting primarily of faculty and chaired by faculty, to review areas that seemed especially complex and make recommendations for handling them. By focusing on a single set of issues in a period of a few months, each committee prepared a helpful report and recommendations, and, in each case, the recommendations were incorporated in the final design. Faculty participation has continued, and the fact that the review committees consisted primarily of faculty has helped give the reviews high credibility among individual faculty members and other faculty groups, including College and school policy and advisory committees, and the Bloomington Faculty Council.

ATTRIBUTES OF RCM

RCM, like all budgeting mechanisms, does not by itself create resources—that's obvious enough. It does, however, create an environment that stimulates resource growth and in which efficient resource use is rewarded. The attributes of this environment, that is, the positive features of RCM, include the following:

1. It offers incentives for schools and departments to strive for excellence in teaching, research, and service.
2. It provides information and incentives that can lead to significant efficiencies and streamlinings, even major restructuring.
3. It decentralizes responsibility and involves more faculty in budget and planning decisions.
4. It makes clear and open which schools are subsidized and to what extent (clearly, this information can cut two ways).
5. It encourages multi-year planning more fully than other budget mechanisms.

There is no one model for how to introduce or implement RCM—the key is giving greater responsibility at the local, that is, the school, and even the department, level. Bloomington chose three key elements:

1. All income generated is retained by the instructional units to meet expenses: all tuition income, indirect cost income, fees collected for services, executive and continuing education, and so on. This was our choice—the campus could have retained a portion of fee income, for example.
2. The noninstructional units are supported by assessments charged to the instructional units according to various algorithms, differing for each noninstructional unit. Examples: if a school has 10 percent of the graduate students on campus, it is assessed 10 percent of the costs of operating the Graduate School; if a school generates 20 percent of the grants and contracts, it is assessed 20 percent of the costs of the research office.
3. A percentage of the incremental state appropriation is retained by the campus to support "common good" needs and to encourage campus-level projects and priorities. Again, this was our choice—other institutions implementing a version of RCM might decide differently. (Unfortunately, from 1990 to 1994, Indiana received no incremental state appropriation! This led to one of the major recommendations in the 1993-1996 review.)

BENEFICIARIES OF RCM

Who seemed to be the major beneficiaries of RCM in Bloomington? In several ways, the students were. Some observations:

The problem of course unavailability almost disappeared because units had incentives to add additional sections when courses filled, or to close sections with low enrollment and move resources to areas of greater need. Significant curricular innovations occurred. The School of Music, for example, indicated for years that it could not meet the demands of its majors and also offer general education courses in music appreciation. That attitude changed and the school began to offer a number of high quality courses for students across the campus. Such courses are supported by resource allocations. In 1990-1991, as a percentage of the operating budget, instruction in Bloomington was 53 percent; in 1994-1995, in a time of alleged "administrative blast," the percentage rose to 56.5 percent. Students benefited further because there were incentives for deans or unit heads to put the very best teachers into lower level courses to attract not only numbers of majors, but also the very best students as majors. Students also benefited because student services improved. Why? Units providing the services were monitored by the academic deans who paid their bills and who expected their students to be well served. An internal accountability emerged that existed previously only between the service units and the campus administration; under RCM, the relationship also involved the deans of all the degree-granting schools and their elected faculty policy committees. Senior satisfaction surveys revealed dramatic results: students evaluating services at the Student Health Center as "excellent" or "good" increased from 64 percent to 83 percent; for the Office of Student Financial Assistance from 51 percent to 70 percent. Such improvements, of course, may have taken place without RCM, but RCM surely was a contributing factor.

Faculty had much greater participation in budgetary and planning decisions. Prior to RCM, a campus-wide budgetary affairs committee made budget recommendations on distribution of funds to the campus administration. Under RCM, each school had its own budgetary advisory committee that made recommendations on the use of income to each of the deans. The campus might not have lived through the four years of decreased or steady state appropriations without RCM. Under the previous budgetary mechanism, the burden of making
ends met would have fallen solely on the campus administration, which held all the tuition income and all the state appropriation. Between 1990 and 1994, however, the need to balance the budget became the obligation of each responsibility center and, in fact, some schools were better off in 1994 than they were in 1990. The active participation of school deans and their policy/advisory committees in the fundamental resource allocation decisions of the College and schools clearly enabled the campus to cope better with these financial constraints. Faculty also benefited because unit heads had incentives to employ faculty expertise as needed and over the course of an individual’s career. Thus, faculty who excelled at service roles or in teaching large freshman-level courses became very valuable to a unit and their efforts were rewarded to a greater extent than under more traditional budgeting systems.

Staff benefited because even though greater accountability meant more monitoring or reviewing by the academic deans and their advisory committees, there were also greater rewards possible for units that performed well—rewards in the form of resources (through higher assessments), which led to increased staffing and/or new programs. Deans understood the value of centralized student services and were willing to pay more if those services improved.

The state benefited because students benefited; because research dollars increased dramatically, thus creating jobs, enhancing the reputation of the campus, and supporting more faculty and students. The state also benefited because of increased services—whether they were charged for or not. If charged, then the incentive was there to make the service as good as possible; if not charged, the incentive remained to generate goodwill, which could later be translated into greater results in fundraising and/or legislative appropriations. Finally, the state benefited because of the increased efficiency and productivity that resulted from RCM—each school really had incentives to be as efficient and productive as possible, in all areas of its activities.

**POTENTIAL PROBLEMS OF RCM**

From its inception, we were aware of the potential problems of RCM, either because we sensed them elsewhere, or because they were identified during our three years of planning. Our view is that the greatest risks of RCM might occur when all of the administrators in office at IU Bloomington in 1990 have been replaced and the older values, which governed campus decisionmaking so well for many years, are forgotten, and only the need to generate revenue dominates the discussions of school policy committees and the planning of academic deans. Thus, for example, over time the campus could become a federation of schools that happen to share the same geographic location. Consider the impact on interdisciplinary programs, students changing majors, joint appointments as they affect institutes and centers, etc.

Some are concerned about curricular duplication and overlap, as schools introduce courses that generate additional income. But there have always been grey areas in the curriculum: who should offer statistics? economics? basic computing? composition?

There could be a decline in the view of the “common good”—take, for example, the Library, which schools are assessed to help maintain. Increasingly, schools may become more parochial in their views of what the common good is. The same may occur as faculty committees and/or deans look to common good items and suggest that they be moved to fee for service categories.

Is there a risk of too much decentralization? Schools might pressure the campuses to distribute to the schools all fellowship and equipment monies, all funds for faculty development, all summer fellowships, and so on. The risk, if it is one, is that there will no longer be any monitoring of the quality of what is done with these resources as the financial bottom line dominates. Similarly, too much decentralization may limit the campus’ role as disciplines evolve in different schools. What a minimum for one school may not lead to the best outcome for the campus as a whole.

Faculty and deans may link their assessments too specifically to the services received (like school taxes/property taxes). The Law School, for example, when assessed some percentage for the Office of Student Financial Assistance, might contend that its financial assistance is given primarily by the school itself and therefore it should not be charged for the existence of the campus-level service.

There could be constant bickering over the appropriate level of state appropriation or, in another form of RCM, over the distribution of resident vs. nonresident fee income. Obviously, few deans will argue that their appropriation is too large and most will contend that it is too small. These views will get translated to faculty advisory committees and in turn to the campus-wide budgetary affairs committee.

Some fear the loss of campus-wide potential for innovative new programs, even the development of new schools and departments. If the system gets to the point where too few resources are available at the campus level, then clearly the opportunities for new initiatives seen from a perspective that is broader than the school level will decline.

An odd concern, perhaps: would deans hoard funds to guard against drops in enrollment or indirect cost income? Reserves are necessary up to a point, of course, but it is not good for a public institution of higher education to keep funds out of circulation. After all, current accounts are intended for current students and related university services.

In short, these major potential problems of RCM could lead to a significant loss in the collegiality of the campus. Some might argue—indeed some have argued—that such collegiality long ago disappeared at all large institutions and that faculty are as linked, if not more linked, to their national disciplinary communities than they are to the local community. Still, this seems a legitimate issue of concern over time.
AVERTING THE POTENTIAL PROBLEMS

There are means to counter the potential problems of RCM. A strong campus-wide curriculum committee is necessary — not a regulatory body and not a group that looks at new courses or course changes, but one that establishes basic principles to guide curriculum development across the campus and then monitors to ensure that these principles are being met.

Campus leadership must make the case for interdisciplinary programs, for collegiality, for the importance of the common good; argue against fees for services where these are inappropriate; and consider carefully the dangers of too much decentralization. This may be a new role for academic affairs officers, not entirely different, but certainly not where the focus is under other budgeting systems. The challenge is to achieve the proper balance between what schools do on their own (while encouraging their entrepreneurial spirit), and what the campus, as a whole, must oversee.

Campus leadership must also make sure that a strong rationale (not a formula but a set of principles) exists for the distribution and redistribution of the state appropriation (or, in another form of RCM, tuition income). There needs to be an agreed-upon means that remains standard over time by which the state appropriation to schools (or tuition income to schools) can be increased and/or decreased. This must involve the budgetary advisory committees of the schools, the deans’ advisory group that advises the campus administration on new expenditures, and the campus-level budgetary affairs committee that reviews the plans of schools and makes recommendations on requests for new funds from the noninstructional units.

The campus administration must have sufficient resources of its own — again balancing between enough but not so much that decentralized incentives are diminished.

Campus leadership must stress what a university is, ensuring that faculty and student exchanges between and among schools continue, that the various missions of the campus remain at the forefront of school planning and budgetary decisions, that the relationship between these missions and individual school plans are uppermost in the minds of members of the campus community.

1995-1996 REVIEW OF RCM

After five years of RCM, a task force reviewed the pros and cons of the budgetary mechanism, evaluated strengths and weaknesses, and was asked to make recommendations, including, if desirable, the dropping of RCM by the campus. A major challenge for the committee was sorting out what was caused by RCM and what resulted from other factors, such as growing criticisms of higher education, stable or decreased state appropriations, more hands-on actions by Trustees, and so on. The review committee consulted widely and gathered the positive and negative perceptions of RCM. It may be instructive to list both, noting that they were perceptions.

First, the positive perceptions, most of which are obvious, and not a matter of dispute.

Perceptions of RCM: Positive

- Provides all instructional units with strong incentives to generate income
- Places accountability with the least-centralized decisionmaker(s)
- Increases unit responsibilities, but gives them the opportunity to generate resources to meet those responsibilities
- Accommodates change because budgets can be readily modified at the local (RC) level
- Allows schools considerable flexibility and independence
- Places focus on serving people, i.e., students/customers
- Provides incentive for instructional units to improve quality of instruction and thus attract more students
- Increases responsiveness to students’ interests and concerns
- Encourages units to make long-range plans with greater confidence that they will have funds to implement plans
- Encourages bottom-up, rather than top-down, decision making and planning
- Allowed the campus to weather successfully the financial difficulties of the early 1990s
- Encourages units supported by assessments to be more accountable to units paying the assessments

Many of these positive perceptions were either outcomes envisioned during the three years of planning prior to 1990, or experienced during the years after implementation. Perhaps most striking are the favorable perceptions of the effects of decentralizing the budgeting process — opportunities were created, change could easily be accommodated, schools enjoyed the flexibility and independence afforded by RCM, long-range planning became possible, incentives enabled chairs and deans to make use of faculty talents where they were most needed. The last bullet under positive perceptions may seem a negative if one is directing a nonacademic unit, but actually, RCM creates stronger ties between academic and nonacademic units, a relationship that the heads of nonacademic units, on the whole, enjoy. It became clear that the deans would increase their assessments to pay for new services if retention of students, for example, could be improved, or nonresident enrollment increased, or financial aid advice was expanded and improved.

The most troubling issue faced by the 1995-1996 review committee was the effect (or lack of it) of RCM on quality. A positive perception was that units had an incentive to improve the quality of instruction, but some wondered whether quality or quantity was the driving force. The list of negative perceptions gathered by the review committee underscores the debate.
Perceptions of RCM: Negative

- Reduces collegiality by de-emphasizing cooperation and collaboration among schools
- Pressures schools to offer more courses, including those outside the school's areas of expertise, and to lower standards to attract more students
- Fails to respond to the quality of particular programs in any direct way
- Reduces quality because incentives emphasize other factors
- Units don't understand why and how changes in assessments occur
- Fails to provide a ready method for controlling costs
- Provides incentive to accomplish teaching with temporary or part-time faculty
- Instructional units pay costs of noninstructional units but do not have enough control over their management
- Noninstructional units have little means of income generation and are at the mercy of campus administration for resources
- Campus administration has less discretionary funding to help meet "common good" needs
- Noninstructional units have lost access to pool of reverted year-end funds
- Tends to cause proliferation of additional fees
- Encourages grade inflation

Data collected by the committee did not support the negative perceptions. Collaboration among schools in the form of new degrees, for example, was greater during 1990-1995 than it was in the five years preceding the introduction of RCM. Only one curricular conflict arose between 1990 and 1995 and that was satisfactorily resolved by the Campus Curriculum Committee. The data showed no increase in part-time faculty, between 1990 and 1995; no new fees were introduced during the period (in fact, some were dropped); grade inflation continued to inch higher, but at the same relative pace as between 1985 and 1990, and 1980 and 1985.

The vexing issue of quality remained at the heart of the committee's deliberations. Opponents of RCM argued that academic units added sections of popular courses, or created new and appealing ones, to increase credit-hour production and thus revenues. Counters exist to such arguments, but they are not conclusive. Additional revenues, for example, are not pure profit. With more students, instructional costs increase and assessments based on percentage of undergraduate credit hours and/or majors increase. National studies stress that students choose their majors or schools because of a program's quality. More crucially perhaps, the review committee found great pride in all units about their qualitative aspirations. Our belief is that we must have faith in the integrity of the faculty of each academic unit to offer quality courses that are within their historically established mission areas. But others challenge that belief. The quality vs. quantity issue was not definitively resolved by the 1995-1996 review committee, nor is it ever likely to be resolved to everyone's satisfaction.

What the review committee addressed in its recommendations were primarily those negative perceptions that might be reversed.

Recommendations of 1995-1996 RCM Review Committee

Major recommendations

- Maintain current version of RCM, with some modifications
- Create Chancellor's Discretionary Fund to leverage campus priorities and goals
- Encourage schools to recruit more nonresident students by differentially distributing tuition income (from increases in out-of-state student enrollment) above a set base value
- Implement performance measures for noninstructional units and evaluate progress through a series of unit reviews
- Develop governing principles to be used by deans when making decisions that affect other units
- Implement limited pilot program to identify possible fee-for-service arrangements (rather than assessments) in noninstructional units

Additional recommendations

- Distribute income from undergraduate instructional fees based on credit hours taught over the preceding two years
- Extend incentives to noninstructional units by permitting them to retain access to 60 percent of year-end balances for approved expenditures in future years
- More effectively communicate goals and concepts of assessment process
- Change the assessment algorithm for the research office from grant volume to faculty FTE
- Chancellor should adopt a proactive approach to fostering greater campus collegiality and cooperation

The Chancellor's Discretionary Fund (not that discretionary!) of 1 to 1.5 percent of the state appropriation each year was designed to: 1) focus on quality; 2) make investments that increased revenues; and 3) stimulate inter-unit ventures and campus-wide activities. Most of the other recommendations tinkered RCM as it had been practiced from 1990 to 1995, or responded to concerns identified during the review. The committee proposed changes in income distribution and in the assessment algorithm for the research office. Linking this assessment to grant and contract volume, as was done initially, had the consequence of providing disincentives for units to secure outside funding that did not carry indirect costs. Indeed, one school dean strongly argued that if the school were to incur additional assessment costs for the research office as a result of faculty members securing outside funding for a project, that fact might influence the dean's willingness to support the application. Indeed, in cases where the increased research did not provide new discretionary resources to the dean, it would be necessary to reallocate from existing activities to generate the resources needed to pay the higher assessments. In response to these concerns, and recognizing that research activity is an expectation for all faculty, in 1996 the driver in the assessment algorithm for the research office was shifted from the volume of funded research to the number of faculty.
The results of the first review of RCM and even several of the recommendations (especially the last one) suggest a particular kind of campus culture in Bloomington that might not exist elsewhere. Perhaps the 1997 North Central Accrediting Team captured the culture best when it noted that there seemed little distinction (some members thought too little) between "faculty" and "administration." Faculty governance leaders identified administrators as faculty first and administrators second; administrators clearly relied heavily on input from faculty committees. This relationship and the culture it fosters in Bloomington may explain why RCM has been well received and, at least through 1995-1996, well accepted.

THE 1999-2000 REVIEW

In both reviews, one of the tasks was to revisit the basic promises of the system: incentives for generating income and for efficient operations and distributed authority and responsibility. It was noted earlier that a basic decision of the initial design was to allocate all earned income — instructional fees and indirect cost income — and (nearly) all state appropriation to the College and the schools. In each review, this decision was re-examined and reaffirmed.

Findings and recommendations, 1999-2000

• The Bloomington version of RCM was widely viewed as having a positive effect on the ability of the College, schools, and campus to achieve their respective academic goals.

• The incentives were viewed as leading, in general, to positive outcomes, and the distributed responsibility and authority was viewed as a preferable alternative to the traditional system of centralized decisionmaking.

• There were, as one would expect, recommendations for changes intended to improve the system and respond to perceived shortcomings.

The question of allocating state appropriation was especially relevant in the 1999-2000 review because in the late 1990s other public universities had designed RCM-type systems in which certain of the noninstructional units were supported with state appropriation rather than through assessment income. One rationale for this decision, to summarize a very complex situation, is that certain core operations (the libraries, museums, and physical plant) are critical to the mission and stature of the university. It is most appropriate for financial decisions on core operations to be made by the unit directors and the Chancellor with advice from advisory committees and the school deans. These decisions are handled better in a centralized system than in a competitive RCM environment. Another rationale is that this approach greatly simplifies the assessment process by reducing the number of units supported with resources allocated through that process. The assessment process is viewed by many as something of a "black box," and if there are ways to avoid using it while retaining other aspects of RCM, we should do so.

Because some of the universities that were implementing new RCM-type systems — or revising existing systems — chose to adopt this approach and fund certain core operations with state appropriation taken "off the top" rather than funds generated through the assessment process, this alternative was discussed in depth by the 1999-2000 review committee. Ultimately, the committee was persuaded that the scrutiny and review of operations by the school deans, which is inherent in the assessment process, was valuable and should be preserved.

At the same time, there is a widely shared view that the assessment process is excessively complex and should be simplified. In addition, better means are needed to communicate about the assessment processes and the levels of assessments. The version of assessments initially used attempted to link the level of assessments with the use of services. For example, at the implementation of RCM in Bloomington, detailed data on the use of various computer resources formed the basis for allocating the costs of the computer services unit. After implementation it became clear that the detailed data were difficult and time consuming to maintain and explain. As time passed, confidence in these detailed cost allocation algorithms diminished, and the various advisory groups recommended moving to cost allocation based on less detailed but more readily understood information. The link between specific services provided and the cost of assessments for several of the noninstructional units have been weakened and a few easily understood "drivers" are now used to determine most assessments.

It is appropriate to review the committee conclusions on assessment methods in more detail. Originally, the goal was to view the assessment process as one of matching the costs to the use of services. A school's charge for the support of a specific noninstructional unit was related in some fairly direct way to the extent to which the school (or its faculty, staff, or students) used the services of that noninstructional unit. In practice, this approach sometimes failed to produce the intended consequences and sometimes led to technical complexity that was not matched by useful outcomes. The example of assessing the costs of the research office was described earlier. Another example is that of the costs of space. As originally designed, the algorithm for assessing the costs of space was designed with twelve rates reflecting the characteristics and the quality of the space. This complexity was based on the belief that if the cost of space were connected in a reasonably specific way to the characteristics and quality of that space, an active secondary market would develop. However, on the Bloomington campus space is such a scarce commodity that deans chose to retain space, even when it was clearly underutilized, in the belief that there would soon be a need for it, and if it were relinquished, it could not be replaced when needed. Thus, the complex assessment algorithm was serving no useful purpose, and it was simplified. This change is one of several that illustrate the dynamic nature of our version of RCM, and the willingness to make changes in response to concerns as they are recognized.

The 1999-2000 review reaffirmed the willingness of academic deans to provide resources to noninstructional units when the activity supported is viewed
as one providing value to the academic units. There have been multiple occasions when the deans agreed to provide additional resources to a noninstructional unit, resources which the deans understood came directly from their budgets, for high priority activities that are better located in a noninstructional unit than in a school. Examples of such decisions include funds for recruiting students, retention initiatives, and monitoring compliance for grants and contracts. In some cases the school deans considered transferring activities from noninstructional units to the schools and in some cases chose to do so—an example is financial aid counseling for professional students—and in some cases chose to keep the service in a noninstructional unit—an example is research compliance. The explicit comparison of where resources can be used most productively—a school or in a noninstructional unit—is one of the valuable aspects of an RCM system. This discussion is natural under RCM; it is much less likely to occur under more centralized systems.

It is also the case that modifications of the system are required as the need for new incentives arises. For instance, in the mid 1990s, after a period of flat or declining state appropriation, it became clear that instructional fees would, at least in the near term, play a major role in generating new resources. Nonresident students pay instructional fees at significantly higher rates, at rates intended to cover the full cost of instruction, and consequently, it was decided that the system of allocating instructional fees should be modified to include incentives for the College and schools to attract nonresident students. It was recommended that if incremental revenue was available from a change in the residency mix of undergraduate students, then those units that were teaching more nonresident students should benefit from that income in proportion to the amount of such instruction provided. Appropriate changes were designed and implemented. The 1999-2000 review recognized the value of having courses begin at times other than the beginning of a semester available to students who did not, for various reasons, register for them during the usual registration period. Under the existing income distribution algorithm, the College and schools did not receive instructional fee income for teaching these courses. The committee recommended that the income distribution algorithm be changed to provide incentives for teaching such courses, and the changes are being implemented.

Over time, it may be that the relation between certain expenses and income will change. For instance, an important campus initiative launched in the mid-1990s has led to a change in the way financial aid expenses are viewed. In 1994-1995, the campus began using the concept of financial aid leveraging. The idea is to review carefully the enrollment of various target populations of potential undergraduates, and use financial aid as a recruitment incentive. In this setting, financial aid is no longer purely an expense, but also a means of generating revenue. Indeed, we are moving toward a view of financial aid used in this way as a discount to revenue, and the concept of net tuition revenue is now a regular part of the discussion.

It is tempting for those not directly involved with delivering instruction to think of new instructional fees as resources that are available for enhancing quality and meeting other current program needs. If the instruction needed by the new students generating the incremental revenue can be provided without increasing instructional costs—for instance, if there is unused capacity in the advising system and space in existing sections—then much of that revenue may be available for enhancing quality. However, once unused capacity is exhausted, then costs may increase significantly. The task of estimating the costs of adding students once one moves beyond this margin is a complex one, and the way a school responds may influence the nature of the unit in basic ways. The response is likely to be different when the increase is viewed as long term rather than short term. For example, until an increase in the number of students appears likely to last, a school will probably choose to provide instruction with visiting or part-time faculty, overloads for current faculty, or similar short-term solutions, and to provide support services with temporary staff. If the increase appears permanent, then the school is likely to choose to increase its regular faculty and hire permanent staff. This is a situation where long-range planning is crucial.

A common feature of the discussions about revisions in RCM systems, both at Indiana University and elsewhere, is a reconsideration of the amount of resources allocated to the Chancellor (or the equivalent office) to maintain and enhance quality, to sustain common good activities, to support interdisciplinary initiatives, and to leverage other resources. The 1995-1996 review recommended the establishment of a Chancellor's Discretionary Fund for this purpose, and the 1999-2000 review recommended enlarging that fund substantially, from 1.5 percent of state appropriation each year to 2.5 percent. Much of the faculty support for the increase was a belief that this provided an opportunity to respond to the concern that RCM systems may make it difficult for College and school deans to maintain and enhance quality.

Although one of the frequent concerns raised in discussions with faculty about RCM relates to interdisciplinary activity, the deans have a somewhat different view. In fact, in the 1999-2000 review, several deans commented that they find it easier to support inter-school initiatives under RCM than under the traditional system. There is evidence of successful efforts, including the first inter-school bachelors degree at Bloomington. To some extent, the views of the deans may be a consequence of increased recognition of the values of such activity. It may also be a result of deans being more knowledgeable of the costs of such activities and more familiar with cost-benefit discussions.

A perplexing issue regarding faculty perceptions of RCM arose in both the 1995-1996 and 1999-2000 reviews. Because the system is a significant departure from the traditional system, it is, perhaps, to be expected that many faculty would have misunderstandings of RCM only a few years after it was introduced. It is less understandable why the lack of accurate information persisted long enough to be significant ten years after the system was introduced. Perhaps the traditional lack of faculty interest in administrative detail may be a contributing factor. During both reviews, committee members were struck by the widespread misinformation about the concepts, goals, and attributes of our system of RCM. In open forums held as part of each review and in communications sent to the committees, it was very common to have strong objections based on either incomplete information or misinformation. An example—note several times in
the comments to the 1999-2000 review committee— is the belief that there have been multiple instances where one school has introduced courses traditionally taught by another school purely to generate income. Most people who raised the issue could give no specific examples, and following up on the situations that were cited to support the statement yielded only one or two instances where there was basis for that conclusion, and even in these cases the situation was more complex than simply income generation. Another example was the belief expressed in the 1995-1996 review that grade inflation had accelerated as schools made courses easier to attract and retain students, but no confirming evidence was presented. These examples illustrate the range of undesirable effects that have been attributed to RCM. This is perhaps understandable in the 1995-1996 review, but the need for better communication is made clear by the persistence of this problem to the 1999-2000 review.

Most of the concerns raised in the 1999-2000 review were those associated with the level of resources rather than the resource management structure associated with RCM. Although state appropriations were flat or declining in the early 1990s, there was a significant shift of resources from noninstructional units to instructional units (by reducing assessments as a percent of total expenditure budgets for the instructional units) and relatively large increases in instructional fee rates. In the late 1990s, there were no corresponding transfers of resources from the noninstructional units and increases in instructional fee rates were more modest. Increases in enrollments moved beyond marginal increases, and real instructional cost increases were associated with volume-based increases in instructional fee income. The results of these forces were significant constraints on the ability of deans to maintain and enhance quality in the College and the schools. The committee specifically noted the challenges posed by raising faculty salaries and providing funds for increases in fringe-benefit costs in an era when state appropriations are a declining fraction of total resources. The basic question in this discussion, to which the Review Committee supplied an affirmative answer, is whether the campus would function better under a (version of) RCM than under an alternative system.

A consequence of the extremely constrained resources is diminished flexibility of school deans, and the potentially severe consequences of errors in financial planning. It has become clear that those involved with campus financial planning must be alert to early signs of deterioration in the financial status of the schools and willing to take quick action. In an effort to stress the responsibility of the schools for their own financial results, the Campus Budget Office has focused on providing information, advice, and suggestions and has been reluctant to take prompt independent action. The 1999-2000 review committee recommended that the Campus Budget Office should be proactive and intervene quickly when problems are identified. It is recognized that in extreme cases this will involve constraints on the ability of the school to make financial decisions.

CONCLUSION

As of this writing for the Bloomington campus, the case study for RCM is positive. Campus administrators plan to continue periodic reviews, fully recognizing that available resources, changes in the campus culture, and new approaches to budgeting, may lead to alterations in a budgeting mechanism, including our version of RCM.

NOTES

1. The IUPE campus was the first in 1988-1989 to implement RCM.

REFERENCES


CHAPTER 7

ACTIVITY-BASED BUDGETING AT THE UNIVERSITY OF MICHIGAN

Paul N. Courant
Marilyn Knepp

We begin this discussion on the budget system at the University of Michigan with a history of the events that brought us to adopt activity-based budgeting. We begin by describing a series of management incentives initiated through the 1980s and 1990s that culminated in the 1997 implementation of value-centered management (VCM), the university's version of a responsibility center budgeting system (RCB). Next, we discuss why VCM was short-lived and how it changed into our current system, university budgeting (known as university budget, UB), which we describe as an activity-based or a modified responsibility center management approach to budgeting. The rationale for the change is an important part of the story, and we will spend a little time on it before turning to a richer description and evaluation of the system as it works now.

EVOLUTION OF ACTIVITY-BASED BUDGETING AT MICHIGAN

Decentralized Management at the University of Michigan

Michigan has a long history of decentralized management. Following a series of actions, moving to an activity-based system of budgeting was a logical next step (albeit a large one). The university's circumstances, in a variety of ways, foster both decentralized management and the ability to change budgeting systems. Although we are a state-supported institution, we have a high degree of autonomy
guaranteed in the state constitution and affirmed over time through court rulings. We are governed by an elected Board of Regents, which has ultimate authority for all matters of policy and operations. Thus, we (the Regents) set our own tuition, make all decisions regarding academic programs and offerings, and have full financial authority and autonomy. The revenues we earn flow directly to us and, in every respect, are under our control. Although these factors may not be necessary for a public institution that wants to move to responsibility center budgeting, their presence makes such a decision vastly easier to implement than in institutions without such independence from state authority or governance.

Other attributes of Michigan contribute to our ability to successfully implement an activity-based budgeting system. The Provost is the chief budget officer as well as the chief academic officer. This combination provides more certainty that budget decisions will support academic priorities and that the design of an activity-based system will be tailored to support the academic mission. Our schools and colleges have strong deans and substantial unit autonomy. The deans are accustomed to engaging in entrepreneurial activities that enhance the flow of resources to their own units and are accustomed to the management responsibility that accompanies such activities. In areas other than the General Fund, revenues flow directly to units rather than into central coffers for allocation. All revenues that support the direct expenditures on sponsored grants, revenues from nondegree educational offerings or from conferences and publications, and almost all gifts for operating or endowment purposes are entirely under the control of the dean rather than any central administrator. In general, the deans are expected to be academic leaders, savvy financial managers, and responsible stewards of the unit’s and the university’s resources.

Our management practices encourage responsible oversight by unit managers. For nearly two decades, our units have had the ability to carry forward unspent balances, and have had the obligation to cover any overspending that may occur. We have a diversified and strong portfolio of revenue sources and the flexibility to exploit opportunities as they arise. All of our schools and colleges, and many other units as well, derive substantial revenue from gifts, from external grants and contracts, and from the provision of services (and sometimes goods) to entities both internal and external to the university. Our managers are accustomed to taking an all-funds approach to budgeting, as is the Provost’s office.

In the context of this culture and these circumstances it was quite natural for us to take a number of actions during the 1980s and 1990s that further decentralized management responsibility. Year after year saw the implementation of a number of “management incentives.” In each case, prior to the incentive, the central administration had been paying for activities for which the locus of decision was at the unit level. In implementing a management incentive, we would distribute the central pool of funds into unit budgets and make the units responsible for covering the costs (and enjoying the savings) and any subsequent changes. Thus we would align responsibility and costs.

The list of items handled in this manner included the tuition grants that are paid for graduate student assistants, staff benefits for all regular and temporary faculty and staff, obligations for a furlough year prior to retirement for faculty hired prior to 1984, and a pool of funding that represented the derived share of some basic infrastructure items (phones, networks, equipment) that could be attributed to the volume of sponsored research activity.

We also had a number of management initiatives that returned revenues to units when their actions created an increased flow to the university. We initiated several programs that distributed a portion of indirect cost recovery to units as research incentives. Tuition returns were made to units for differential tuition rate increases, for special purpose fee assessments, or for special programs boosting overall enrollments. Similarly, units that chose to implement differentially lower tuition increases or planned enrollment decreases had to adjust to budget reductions resulting from these actions. In sum, many elements of RCB were already in place by the early 1990s.

The Implementation of VCM

Robert S. Holbrook, professor of economics, served as Associate Provost from 1980 until his retirement from active service during the 1998 fiscal year. Holbrook’s leadership and vision, working with five different provosts during this time period, were driving forces behind these changes as he worked to introduce many of the principles of RCB into Michigan’s budgeting practices, readying the institution to consider the more radical change of adopting a responsibility center management system.

During the tenure of Provost Gilbert W. Whittaker, Holbrook led a full-scale effort to investigate and define Michigan’s version of responsibility center budgeting. This system, known locally as value-centered management or VCM, was implemented for the Fiscal Year 1997 budget, following a study period of about two years (Reprint, 1995).

VCM put all of the university’s units on an activity basis. The schools and colleges and separately budgeted research units received revenue allocations based on earnings formulas for tuition and other student-related fees, indirect cost recovery revenue, and interest. Simultaneously, they were assessed cost allocations for financial aid, space-related charges, the costs of administrative and service units, the costs of the university’s academic-related public goods units (libraries, museums, and such); and were taxed a modest amount for what was called “university participation.” All other units including administrative, service, and the academic-related public goods units received as revenue the costs that were assessed to others and, in turn, were assessed costs associated with their own use of administrative, service, and public goods units.

Initial implementation. The initial implementation of VCM was done in such a way as to hold all units harmless relative to the change in budgeting system. That is, all units’ budgets for FY 1997 were determined under the old incremental budgeting system, at the same time that all of the elements of the value-centered budget, VCM, were computed for each unit. At the very second that the Board of Regents approved the FY 1997 budget that had been developed
under the "old" incremental scheme, the computed VCM system was put into
place, with each unit receiving a Provost's allocation of precisely the magnitude
necessary to ensure that the bottom line, that is the unit's base budget, was
unchanged. Thus, all units were funded adequately to do what they had been
doing before the implementation of VCM, and the incentive effects of VCM were
expected to make themselves manifest going forward. Subsequent budgets were
to reflect the discretion of the academic leadership, as well as the workings of the
VCM formulas.

Initial reception. The initial reception on campus was mixed at best. A
number of faculty expressed concerns about the applicability of the language of
business to the purposes of the academy. Many faculty expressed concern that the
identification of responsibility centers would weaken the incentives for
interdisciplinary work in both teaching and research. Indeed, the Vice-President
for Research appointed a committee, chaired by Professor Michael Savageau of
the Department of Microbiology and Immunology, to advise the Vice-President
on ways to mitigate the untoward effects of VCM on interdisciplinary research.
The committee's report was widely circulated and discussed. The Institute for
Social Research (ISR), which had operated for nearly five decades on RCM-type
principles internally, looked to be unsustainable under the new model. Concerns
about ISR's health helped to crystallize skepticism about the new system on the
part of social scientists. This, in turn, led to a set of transition rules that were
designed to limit the effects of VCM on the ISR. At the same time, many
humanists expressed outrage that the model treated the university library as a
service unit rather than recognizing its academic mission. Humanists and others
were also concerned that units unable to survive on their own revenues would be
disadvantaged under VCM. There was also worry that the central administration
would lose interest in containing costs, because under the VCM model,
administrative costs could simply be passed on to the units.
The new system was not without support, of course, and it particularly
enjoyed the support of the President, the Provost, and a substantial majority of
deans and academic directors, who appreciated the flexibility and autonomy that
they would enjoy under VCM.

Changes in leadership. Provost Whitaker stepped down just as the first
VCM budget went into effect. His successor, Bernard Machen, who had been
involved in the planning for VCM as Dean of the Dental School, served as
Provost for the succeeding two years. One of his first acts as Provost was to
develop the FY 1998 budget in the VCM model. As it happened, this was the
only budget to be developed in the VCM model.

Early in 1997 a new President, Lee C. Bollinger, took office, and in July,
he announced the appointment of Nancy Cantor as Provost effective in
September. Bollinger made one important change in VCM affecting the
attribution of tuition before the 1998 fiscal year began. Quite soon after her
appointment, Cantor, in turn, proposed and implemented a substantial revision of
the VCM system overall, which took effect FY 1999. Like VCM, the revised

university budget model (UB) also was implemented with the principle that units
should initially be held harmless with respect to the change in budgeting systems.
This time, however, the changeover to the new model was made as the final
action of the 1998 fiscal year and so the FY 1999 budget was developed fully
using the UB model. In it, the Provost made a number of substantive policy
changes that led to the FY 1999 budget's being noticeably different from those that
would have obtained under VCM. Thus, VCM was in full force for only one
year, FY 1998, and even then was a lame duck for more than half the year.
The UB system has been used to determine three budgets, and is now
being used as the university puts together a budget for FY 2002. It has changed
only slightly since it was put in place, and we discuss those changes as we
describe the system below.

HOW AND WHY DID MICHIGAN REVISE ITS FIRST RCB SYSTEM?

The UB system was announced (although not yet named) and described in
broad outline in a speech to the university's Senate Assembly made by Provost
Nancy Cantor in November 1997. The case for revising VCM was made both in
Cantor's speech (1997) and in a companion paper written by Cantor and Courant
(1997).3

Like VCM, the UB system is an "activity-based" budget system, in that
increases in certain activities lead to automatic flows of resources and costs to the
units that do the work and obtain the revenue. Put simply, revenue follows
revenue-generating activity and units that engage in revenue-generating activity
are given (at least) the lion's share of those revenues. At the same time, increased
activities generally create increased costs, both directly in those units and
indirectly in other university administrative areas, and so associated costs
generally also rise as revenues increase. The advantage, at the heart of RCB
systems and their derivatives, is that the costs and benefits of various activities
can be seen most clearly where the activities are undertaken – in the schools,
colleges, and research units.

Michigan's change from VCM to UB is one illustration of the fact that
most of the potential problems with activity-based budgeting derive directly from
its strengths. By providing support for activities that are directly attributable
individual units within the university, there exists the possibility that activities
where such attribution is difficult or contested will be under-supported. In
addition, many vital parts of the university, including libraries, the campus police,
and a number of academic departments, cannot possibly survive based on
revenues that they generate directly. For these reasons, many universities that
have implemented or contemplated activity-based models have conducted
campus-wide debates on the possible negative consequences of the model on
interdisciplinary work, on collaborative research and teaching, on activities whose
compass is campus-wide, and activities that are academically vital but not
especially popular. It was just this set of concerns that led Michigan to adopt UB,
an activity-based system that leaves considerably more room for central discretion and for support of campus-wide activities than is the norm for such systems. The Provost identified five clusters of problems associated with VCM:

1. The use of attributed costs and the financing of central service units. Under VCM, service unit costs were attributed to academic units, auxiliary units, and to other service units according to some 24 different attribution formulas. For example, the formulas for attributing the costs of units that provide extensive support for students placed a heavy weight on numbers of students, while the formula for attributing the cost of research support units was based on the volume of research. The attribution formulas led to three sets of problems. First, no matter how detailed the formulas are they never fit perfectly, because the actual cost drivers in higher education are hard to identify and even harder to measure. Thus, there was continuing pressure to change the formulas (the 24 started as four) and continuing complaints by some units that the formulas overcharged them. Second, some cost drivers in higher education are related to things that we want to encourage, rather than discourage. Third, the system had relatively weak incentives to control service costs, because the costs were not under the control of those who would benefit from their reduction. Rather, if a manager or senior administrator reduced costs, the savings would be distributed to the academic and auxiliary units according to the attribution formulas, rather than be available for that administrator to reallocate. Likewise, increased service costs could simply be passed on by the Provost and President to become a problem for a dean to deal with instead of a problem for the central administration. Under UB, cost attribution has been dropped.3

2. Incentives for teaching. In its original form, tuition attribution in VCM was a mixed model with a portion allocated based on unit of enrollment and a portion allocated to the unit of instruction. The latter basis led to a strong incentive for units to duplicate offerings of popular courses, to regulate their own students’ curricula to require them to take courses “at home” and, possibly, to provide courses of dubious academic value that could generate substantial attributed revenue. Under UB (and under the actual implementation of VCM as revised by President Bollinger prior to the 1997-98 Fiscal Year), tuition attribution follows the unit of enrollment. This reverses the set of incentives discussed above, generating problems of its own, while minimizing incentives for duplication of course offerings and for requiring students to take more courses in their home units than warranted by curricular considerations.

3. Definition of service units. Under VCM, service units were distinguished from academic units largely as a function of their revenue structure. In particular, libraries and museums were seen as service units (just like the Department of Public Safety or Financial Operations) because their revenues do not come directly from charges levied to external customers. Under UB, units are defined by their function (academic or service) rather than by their sources of support. Thus, libraries and museums are part of a new category of University Academic

Units that directly perform academic missions for the university in general, rather than in a particular school or college.

4. Language. From the beginning, many on campus resisted the “business” language in which many of the discussions of VCM took place. In partial reaction to this concern, the name VCM (value-centered management) replaced the original, more general label RCM (responsibility center management) in order to signal strongly that the embodiment of academic values would continue to be the primary purpose of the university budget. This change generated new problems, in that many faculty members were troubled (quite vocally so) by the implicit proposition that the university’s values could be embodied in a budget model. In naming the current system simply as the university budget system, known as UB, Provost Cantor meant to emphasize that budgets serve policy, rather than make it.

5. The problem of penurious units. notwithstanding the initial hold-harmless implementation and repeated statements to the contrary, many members of the university’s communities were concerned that under VCM, units that could not survive on their “own” resources (principally tuition and indirect cost recovery) would be allowed to disappear, regardless of their academic quality and importance, while units that could charge high tuition or market their research successfully would prosper. This concern was closely tied to the concerns about language, in that one of the values that VCM seemed to be based upon was the value of having a positive financial bottom line. UB addressed this problem by a change of name, a change of leadership, and by increasing the ease with which the Provost can reallocate resources from year-to-year.

BUDGET MODELS AND BUDGET SYSTEMS

Before going any further, it will be useful to distinguish between budget systems and budget models. Both VCM and UB are budget models, which we define as a set of rules for arranging the elements of a budget. For example, under the rules that constitute UB, indirect cost recovery (ICR) is generally allocated as revenue to the unit(s) that generate the direct research associated with the ICR. Units are allowed to keep any balances in operating funds across fiscal years, and units with students in the Rackham Graduate School are assessed for financial aid based on the number of their students who are enrolled in Rackham programs. These are but a few of a long list of rules under which budgets are allocated in UB.

The budget system is broader than the budget model. The system includes all of the discretionary elements (including the authority and values of relevant decisionmakers) as well as the budget model that policymakers use to help them with budgeting. The distinction is easily seen with reference to the fifth cluster of concerns about VCM discussed above. The concern that the condition of units
could not float on their own bottoms was in jeopardy under VCM was alloyed in part by a change in leadership, which was a change in the budget system unaccompanied by any change in the formal budget model.

One could imagine a perfectly mechanical world in which a university budget system was coterminous with a university budget model. In such a world, once the model was written down there would be nothing further for the central leadership to do, at least with regard to resource allocation. Of course, no budget system is that mechanical. Still, one can imagine a continuum anchored by a completely mechanical system at one end and a completely discretionary one at the other. On such a continuum, the budgeting system at the University of Michigan is some distance from either extreme. The UB model has a number of highly consequential rules (rules that could be changed by the leadership, of course) but it is also designed to leave a fair amount of room for judgment by the President and Provost.

Discretion for discretion's sake is not the only reason why budget models and budget systems differ. As a practical matter, no set of rules can encapsulate all possible contingencies and policy responses to those contingencies. Thus, even if the leadership of a university were disposed to prefer that their budget system was based as much as possible on a budget model, there would still be cases where the outcome from such a model would create unintended consequences, requiring leadership intervention.

As a general matter, we believe that budget models should get in the way of good decision-making as little as possible, but we recognize that there will always be cases where the model will generate incentives that are not consistent with the best policies and practices. Thus, we take it that any budget system should include the principle that when the model seems to be getting in the way of making sound decisions, units should have an easy route to alert the budget authorities to the problem, and the budget system should have sufficient flexibility to override the budget model. Thus, budgeting models in general do not and should not determine budgets, any more than the specific characteristics of an automobile determine (except in the most general way) where and how fast it is driven.

The budget model itself neither knows nor cares whether its administrators are committed to, for example, building up the arts, or allowing all incremental resources to flow automatically to those units that enroll the most students, or producing across-the-board changes in budgets that leave every unit's share of resources the same as last year, or aggressively courting potential Nobel Prize winners, or any other specific set of policy commitments. All of this as it should be; the purpose of budgets is to implement policies, not to substitute for policymaking.

We view our budget system, of which the UB model is one part, as a cohesive whole; it is by definition a system. As with any system, it is important to consider the whole as well as the parts because, in general, tinkering with any single aspect will have consequences elsewhere in the system. Individual parts may appear to serve separate and distinct functions but their interrelationships require that one understand the system and its goals in order to understand fully each of its parts. The analogy to automobiles is again instructive; increasing the horsepower without adding to braking capacity and strengthening the suspension is likely to be dangerous. Complicated systems are often criticized piecemeal. Evaluating criticisms intelligently requires that proposed improvements be examined in light of all of their potential consequences.

HOW THE MODEL WORKS

As a technical matter, General Fund revenues all flow to the central administration and it is the Provost's task to determine budget allocations in order to make the most effective use of the resources available to accomplish the university's missions. In explaining the UB model, we refer to "analytic" flows of revenues and costs. It is important to note that in fact, allocation and attribution decisions are made in the model and the rules in place today do not create a forever-after entitlement to those particular methods of allocation. Of course, no administration would change those rules lightly, and current university practice is generally undertaken on the assumption that UB will be in force indefinitely.

The Provost uses the UB model as an aid in developing the General Fund budgets of both academic units and service units — that is for units that have significant activity-based revenues, and for units that do not. The Provost budgets to units at a fairly high level — to a school or college, not the departments within it; to an executive officer area, not the separate offices or functions within it. This is seen quite clearly in the level of detail within the UB model. Note that the system, as distinct from the model, represents a rich and detailed sharing of both qualitative and quantitative information among the Provost, the deans, executive officers, and other academic leadership. Throughout the annual budget cycle, the Provost seeks, develops, and is provided with information on faculty quality, salary pressures, national trends in the various fields, legal requirements, etc. She also learns a great deal about individual departments and offices that are within the larger units to which she provides budgetary support. All of this information affects the budget system and the decision-making within the system, even when it has no direct impact on the activities to which revenue flows in the UB model.

Types of Units

The way in which units are budgeted depends on their position on each of two dimensions. Units can be classified according to function — direct providers of academic services (teaching departments, research units, libraries) vs. other units, including service units and auxiliary units (financial operations, admissions, campus police, residence halls). Units can also be classified according to whether or not they generate activity-based revenues. The resulting 2 by 2 matrix yields entries in all four cells. Examples are shown in Table 7.1.
Table 7.1: Classification of Academic Units

<table>
<thead>
<tr>
<th>Academic Units</th>
<th>Nonacademic Units</th>
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<tbody>
<tr>
<td>(direct providers)</td>
<td>(other units)</td>
</tr>
<tr>
<td>Activity-Based</td>
<td></td>
</tr>
<tr>
<td>Schools, Research Units</td>
<td>Athletics, Housing</td>
</tr>
<tr>
<td>Centralized</td>
<td>Libraries, Museums</td>
</tr>
<tr>
<td>Budgeted</td>
<td>Police, Admissions, General Counsel’s</td>
</tr>
<tr>
<td>Office</td>
<td></td>
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</tbody>
</table>

From a budget model perspective, units divide according to whether their budgets are activity-based or not. Activity-based units receive a significant portion of their revenue as a function of what they do—whether they be enrolling students, obtaining NIH grants, or selling football tickets. As a result, the budget model treats the university library much as it treats the general counsel’s office. Both have their budgets determined centrally, because neither directly generates sufficient revenues to cover an appreciable portion of its operations. But the far more important division is based on whether a unit contributes directly to the university’s core missions, and therefore, the budget system treats these two units very differently. The library is an academic unit and as such its activities are viewed as valuable in their own right. The general counsel’s office is an essential unit, but its value is derived entirely from the support that it provides to the academic missions of the university.

Against this backdrop, we consider first the three types of academic units and then those that are nonacademic, starting with the activity-based units in each category.

Academic Units

1. Schools and colleges. These, of course, are the units that enroll students, provide instruction, grant degrees, conduct research, and perform public service and outreach. Their activities are responsible for the university’s receipt of revenue from student tuition and fees, recovery of indirect costs of sponsored research, and some interest from the balances they hold in the General Fund. Their activities create direct costs in the school or college itself, but also create costs in the many administrative and service units that support their activities and that provide services to their students.

All the schools and colleges, with the exception of the Rackham School of Graduate Studies, have their budgets developed using an activity-based approach. At the same time, there is no expectation that deans will follow UB model rules or, for that matter, any other set of similar rules when making resource allocation decisions for the separate departments and areas within their schools. Our budget system is very effective in determining the budgets of the schools. It was not, however, developed to provide a standard template to guide budgeting within our schools.

2. Research units. Organized research units exist to conduct research and to provide centers of collaborations in areas of university emphasis. These separately budgeted research units generally report to the Vice-President for Research. These units have their budgets developed using an activity-based approach. Although other “research units” exist as areas within schools and colleges, they are not budgeted by the Provost but rather by the dean who is the chief academic and budgetary administrator for a particular school. So, the set of research units within the UB model are only those that exist organizationally outside of the schools and colleges.

3. University academic units (UAU). These are primarily the museums and libraries, including the university library, which are not organizationally a part of a school, college, or other unit. The Provost has aptly described these units’ missions as the production and enhancement of the university’s shared public culture, and has characterized their activities as essential to the accomplishment of the university’s academic missions. However, UAU activities are rarely associated with the generation of direct revenue. Therefore, the UAs and the Rackham Graduate School, which does not directly generate activity-based revenue, are not budgeted using the activity-based model components, but have their budgets determined centrally.

Nonacademic Units

4. Auxiliary units. Auxiliary units are those whose activities are maintained by their own revenues. They are quite disparate, including the hospitals, housing, and the university press among their number. For the most part, their budgets lie outside of the General Fund and are, inherently, activity-based. However, these units impose a set of costs of the university in areas supported primarily by the General Fund and so a component of the university’s overall General Fund budget is a recovery of a portion of these costs.

Even prior to the initiation of VCM, we assessed two types of charges to the auxiliaries and the spirit of both lives on in our current system. The first, the business service offices’ charge, was levied to recover the costs of transactions and services that could be measured, costed, and assigned reasonably accurately. For instance, the payroll offices’ costs can be allocated based on payroll transactions that can be unambiguously counted and assigned to units. We continue to use this mechanism to recover the costs of a set of offices that includes payroll, purchasing, financial operations, the general counsel, and others.

The second historical assessment was the “administrative recharge” which was assessed to recover some of the costs of a set of administrative offices where one could not easily identify, count, and assign transactions. This recharge used a standard accounting metric, volume of expenditure, to identify the portion of costs of a set of central administrative and service offices such as the President’s office, the Provost’s office, the CFO’s office, the campus security force, and others that would be recovered from auxiliary units. We continue to use this mechanism for a subset of the university’s auxiliary units (primarily for our hospitals and our HMO) but have replaced it with transactions within the UB model for all others.
The following description of the UB model incorporates details pertinent to the auxiliary units that are “in the model.” Those units also pay the business service office recharge, as noted above. Auxiliaries that are outside the model continue to pay the administrative and business service office recharges, but the description of auxiliaries in the UB model made later in this chapter does not apply to them.

5. Central administrative and service units. These include everything else—from the President’s office to the Department of Public Safety and the Center for the Education of Women. These units’ budgets are not activity-based but rather are set to allow the unit to accomplish the set of activities and tasks that comprise its support of the academic enterprise. The UB system provides an incentive to the Provost to keep these budgets as small as possible, as doing so allows her to allocate more resources to the central academic missions of the university.

COMPONENTS OF ACTIVITY-BASED BUDGETS UNDER UB

An activity-based budget is developed using a set of rules for the attribution of a set of revenues and costs. Although the components are consistently included in all activity-based budgets, those that apply to students have no effect on the budgets of research or auxiliary units.

Revenues

Tuition. Under the UB model, tuition attribution follows the unit of enrollment, rather than the unit of instruction. Thus, the School of Music has attributed to it the tuition paid by students who are registered in the school, regardless of how many courses those students take outside the School of Music or how many students from other units take courses within the School of Music.

As noted before, the reason for this choice was to eliminate the incentives for duplicative course offerings or the possibility of “pandering” that might arise on a credit-hour-based system. However, the enrollment-based system gives rise to a prima facie incentive to enroll students and then forgo the costs of teaching them. As a result, under UB, the Provost’s office takes careful steps to assure that units continue to contribute their share of total teaching in the university. The Provost is also receptive to proposals that increase a unit’s base support if that additional support measurably increases the amount of teaching the unit provides to other units’ students.

Undergraduate student tuition is attributed such that all undergraduate units get credit for the university-wide average in-state/out-state mix, regardless of the unit’s actual distribution of enrollment by residency. The purpose of this attribution formula is to remove any unit’s incentive to admit and enroll based on residency, as overall residency limitations are managed centrally. Our tuition rate structure is highly differentiated, so that students enrolled in Engineering, for example, pay a higher rate than students in the College of Literature, Science and the Arts (LSA), who pay a higher rate than those in Art and Design. Undergraduate tuition attribution incorporates the differential tuition rates paid by students across units, but treats each student as having average undergraduate residency characteristics. This means that the average attributed tuition of a full-time student in Engineering is more than that attributed to LSA for one of its full-time students.

Graduate and professional student tuition is attributed such that the unit receives what students are actually charged, incorporating both rate differentials and residency differentials.

There is good reason for handling tuition attribution differently at the graduate and undergraduate levels. The cost to a unit for an enrolled undergraduate is basically the same regardless of whether the student pays resident or nonresident tuition. Attributing average tuition provides consistent revenue for the number of students enrolled, which is the main driver of the unit’s costs. In contrast, because units often use their own funds to provide substantial amounts of financial aid to graduate students, the cost of a student to a graduate unit is often directly related to residency status because of the differential tuition charged. The cost of a tuition grant rises with the actual cost of the tuition charged, and in order to provide such grants, a unit requires the revenue in the first place. So, unlike enrollments at the undergraduate level, an important set of costs associated with graduate and professional student enrollments is related to the residency mix in the unit.

All other graduate and undergraduate student-related fees are attributed based on unit of enrollment.

Indirect cost recovery (ICR). Indirect cost recoveries on sponsored research represent a revenue source to the General Fund. If a grant carries such recovery, then this ICR is attributed to the unit where the grant’s direct expenditures occur. A system of subaccounts in our financial systems permits both direct costs and ICR to be shared among any number of units.

Interest. Imputed interest to units is calculated and paid based on their monthly General Fund balances. The rate paid is the 30-day T-bill rate lagged a quarter and is the same rate paid to our units on their balances in other operating funds accounts. Paying interest on General Fund balances ensures consistency between it and the other operating funds. This means that units have no specific financial incentive to spend from one fund rather than another, as was the case when all balances except those in the General Fund earned interest for the holder.

Costs

Financial aid. The costs of centrally awarded financial aid are attributed to units based on the same distribution as tuition. That is, units are assessed a charge for centrally awarded financial aid on the basis of the number of students
whose tuition flows to them. Different offices handle centrally awarded graduate and undergraduate financial aid, but the same principles apply to each. Assessments for financial aid are based on averaged amounts; that is, a unit is assessed a charge for financial aid calculated as if all the unit’s students received the average aid package awarded to students of that level. The UB model incorporates this approach rather than one based on the actual aid furnished to a unit’s students for two reasons. First, we hold the view that financial aid is a university priority that should be supported across the campus. Second, our aim is to admit students based entirely on relevant academic criteria, independent of the students’ financial circumstances.

Space. In the UB model, the direct operating costs of “General Fund space” are assessed directly to the units that occupy the space. There are three components to the space costs we assess: (1) utilities; (2) plant operations, which includes maintenance, custodial, grounds and landscaping, refuse, and recycling; and (3) rental costs. Almost all of our buildings are separately metered for utilities so we can charge the actual costs of electricity, steam, natural gas, water, and sewer for the buildings occupied by a unit. We assess a charge per square foot occupied for the costs of maintenance, custodial, refuse/recycling, and grounds. This charge is building-specific and is based on the historical expenditures for that building. For both of these items, the charges levied on a building that is shared by multiple units are split based on their proportion of occupancy. When a unit occupies nonuniversity rental space, the costs of the rental are charged to the unit.

Although we do not fully cost space in the UB model, even this modest set of charges provides units with an incentive to economize on space, somewhat countering the traditional incentive for units to grab as much space as they can get. In our system, if one unit leaves space and another picks it up, the Provost generally transfers the funds to cover the operating costs of the additional space. Rather, the first unit gets to keep the savings that arise from occupying less space, and the second unit pays for the increase in costs from its existing resources.

Taxes

Activity-based units pay a set of expenditure taxes. These taxes flow to the Provost and increase the funds that are available each year for flexible allocation. All taxes are levied on an adjusted expenditure base, with a two-year lag. The adjusted base is designed to assure that an expenditure is taxed only once and only once, and to exempt from tax activity-based unit expenditures on financial aid, capitalized equipment, construction, contracts over $30,000, and general transfers. The formula also subtracts internal reallocations from the taxed expenditure base so that expenditures incurred in one unit on behalf of another are taxed only once and are paid by the ultimate user of the service. The university’s standard source/use financial categories are used to construct the tax base.

The two-year lag is used because it makes taxes in the coming fiscal year, the year that units are budgeting for, entirely predictable. By early fall of, say, the year 2000, we know actual FY 1999-2000 adjusted expenditures exactly, and hence we knew FY 2001-2002 taxes exactly. For most of our units, it is clear that the predictability of their taxes is a plus, although taxing contemporaneously would have two advantages: 1) The current year’s expenditures measure more accurately than lagged expenditure both a unit’s fiscal capacity and the costs that a unit imposes on the rest of the university; and 2) Because in general, revenues are growing, lagging the tax base two years makes the tax rates seem higher than they actually are and the size of the tax does occasionally invite complaints.4

There are three types of taxes and six different tax rates imposed on different activities and different types of units. There are also a number of special provisions that apply to specific activities in specific schools.

University participation. All of the units that pay taxes, pay a 2 percent tax called university participation (UP) on their full-adjusted expenditure base. UP can be thought of as a payment for the general benefit of being able to use the University of Michigan name and for being affiliated with this remarkable institution and all the benefits it offers.

Research taxes. All externally sponsored research undertaken is taxed at the rate of 9 percent. The base for this tax is constructed using the same categories of included and excluded expenditures noted above, but includes only those expenditures on externally supported grants (research and training) and contracts.

General taxes. A general tax is levied on the adjusted expenditure base other than externally sponsored grants and contracts. The general tax rate varies according to the type of unit. Auxiliary units pay a rate of 2 percent. As do significant auxiliary-like activities undertaken in academic units. Research units pay 19 percent on their expenditures that are not sponsored research. Schools and colleges that have most or all of their students in undergraduate and Raebach programs (and hence make extensive use of centrally provided student academic services) are taxed at 28 percent. The remaining schools and colleges are taxed at 22.5 percent on their general expenditures. In all cases, adjusted general expenditure is the residual after externally sponsored research and auxiliary-like activities are subtracted. (The Medical School, consistent with a seemingly universal principle that medical schools are always different from everyone else, has somewhat different treatment of its auxiliary activities. The purpose of this is to prevent changes in fiscal relationships between the Medical School and the hospitals from having major effects on tax revenue.)

The tax system plays two important roles in the budget system. Because the tax base grows at approximately the same rate as expenditures within the university, growth in tax revenues creates an automatic mechanism for reallocation. That is, the year-to-year increase in tax revenues creates an automatic amount of reallocation in activity-based units’ budgets and the funds
freed up by this mechanism become available to the President and Provost to reallocate beyond within-unit reallocation if appropriate. At the same time, the system provides the potential to redistribute some resources from those units that are gaining wealth, both from general fund sources and from such activities as sponsored research, sale of services, and success in fundraising, to other units that are, for whatever reasons, not as well-situated financially. The Provost and President may choose to make such reallocations or not, but the tax system permits them to make such choices without explicitly cutting budgets in one place and raising them in another.

The General Fund Supplement (GFS)

The last item in this discussion of the components of the activity-based budgets is perhaps the most important of all the components. The general fund supplement (GFS) represents the additional support provided to a unit beyond the net of the revenues and costs mentioned above. The UB model (like VCM) was designed so that every unit would still need supplementation rather than function as "a tub on its own bottom." It is this element that gives the Provost leverage in determining the budget and, therefore, the sets of activities undertaken by units. The GFS represents both the historical measure of a unit's necessary funding and the accretion (or decline) of funds provided through subsequent policy and programmatic decisions.

Recall that when VCM was initiated the GFS (then known as the Provost's allocation) was determined to be the residual needed to create the identical bottom line for a unit once all the revenue and cost items had been calculated. Since that time, the GFS changes have been based on deliberate additions or subtractions. This is where central policy decisions are reflected.

Budgeting, Projections, and End-of-Year Adjustments

The budgets that are activity-based are the algebraic sum of a number of debit and credit items for the year, some of which are known in advance and some of which must be projected. Those that are firmly known are the GFS, the facilities plant operations charge, the general and research taxes, and the university participation tax. The projected items include tuition, application and registration fees, indirect cost recovery, General Fund interest, rental and utility costs. Projected items are adjusted after the close of the fiscal year. For each of these items, the unit projects an amount for the coming year that is incorporated into the budget itself. At the end of the year, we calculate the value of each of those items and then a transfer of funds is made either to or from the unit to correspond to the actual amount.

Clearly, wildly inaccurate projections or circumstances of extreme unpredictability would create situations that put a unit at significant financial risk. In general, this is not a concern here. Our enrollments are highly predictable and stable in aggregate and are managed and measurable at the unit level. The volume of research and ICR moves steadily upward. Spending patterns for operations do not vary much from year-to-year. Utility costs fluctuate as a result of weather and fuel prices but even years with hard weather do not result in savings that create significant overall financial vulnerability. Even so, we are not complacent.

We have three types of safeguards in place to ensure that the inclusion of projections in budget development does not lead to eventual bankruptcy. First, our units are generally well managed and aware of their own circumstances. The academic leaders, assisted by professional budget administrators, have proven to be capable of accurate forecasting. Most of our units have implemented conservative approaches that lead to budget stability and a flow of year-end money that can be allocated to high priority one-time needs. Second, the central budget office staff pays a great deal of attention to projected figures and creates secondary analyses whenever an item looks questionable. During the year, the central budget office and unit staffs monitor the flow of actual income and expenses so that variances are identified early, enabling an immediate response to occur, when appropriate. Third, both units and central administration hold a set of reserves that can be called on to supplement shortfalls in critical areas. The Provost's and deans' interest is to ensure adequate resources to mount the academic programs deemed essential to a unit's mission. If a shortfall occurred that put those programs at risk, we would identify a short-term option to ensure viability while longer-term planning occurs to create a lasting fix for the problem.

Budgeting Units That Are Not Activity-Based

Units whose budgets are not activity-based receive a budget developed through a more traditional style of incremental budgeting. Typically, these units are provided with an annual increase, known as the general operating program (GOP), that is typically an amount that is somewhat less than the rate of wage growth. In addition, the relevant director (for a UAUD or Vice-President submits a budget request, and the Provost and her staff evaluate these requests, weighing them against the requests for support that have been made for the activity-based academic units. The formal system is thus incremental (the GOP) and at the same time augmented by discretion.

Putting the Budget Together—the Provost's Sources and Claims

The Provost has three significant sources of allocable revenue in any given year—the increase in the state appropriation, increases in taxes, and planned reductions in units' General Fund supplements or General Fund budgets (for administrative units). With these sources, she must support the GOP, cover any increases in mandatory charges such as debt service or insurance costs, fund increases in imputed interest, honor any base commitments made in prior years,
and provide other base allocations to both academic and nonacademic units. The allocation decisions must incorporate the entire set of university needs and desires and explicitly weigh the tradeoffs between academic and support priorities.

One-Time Funds

All of the discussion so far has taken place in terms of presumptively recurring base budgets. However, at every level of the university, the ability to make budget decisions using flexible one-time or time-limited funds is of great value. These funds are used for everything from upgrading wiring and repairing buildings to seeding new academic initiatives, helping to provide laboratory facilities to a new hire, or helping a unit to weather a temporary fiscal crisis. Having flexible funds also allows the leadership to respond to opportunities that arise unpredictably, that is, outside of the regular budget cycle. Such items can be funded on a contingency basis until they can be incorporated into a unit’s base budget.

One-time funds appear in two different ways. Some of them are budgeted directly. Thus, the Provost budgets a line of flexible funds for her use in making one-time allocations, as do many of the deans. In this case, the total amount of these flexible funds is actually a recurring budget item in the existing base budget. It is the specific projects and items that these funds support that change year-to-year. The second source of flexible funds is the year-end adjustment of projected items mentioned above. This is essentially the underbudgeted amount of a recurring revenue source available as a lump sum for one-time items in the year earned and is generally then incorporated at the higher expected level in the following year’s base budget.

ASSESSMENT

Overall, we think that the UB system has served the University of Michigan well, striking a reasonable balance between the strengths of activity-based budgeting systems and the difficulties that such systems pose in the University of Michigan’s culture. Relative to its immediate predecessors, it has provided the Provost considerably more discretion than did VCM or incremental budgeting, while generating a far greater variation in annual and cumulative percentage changes in unit budgets than did the old incremental system. The system allows the university’s leadership to see clearly the fiscal implications of the activities at the school, college, and research unit level, while allowing considerable flexibility to determine how best to adjust to fiscal circumstances in light of the university’s missions. The system is well designed for an active provost who is willing to reallocate resources towards the academic mission and among academic units.

In assessing the system, we return to the areas of concern about VCM that led to the change to UB and ask how well UB has done in addressing those concerns, and what further improvements and changes might be warranted?

1. Although the change in language and tone has generally reduced the level of contention about the academic legitimacy of the budget system, there is one set of issues that has not gone away, that still causes difficulty, and that seems to be an inescapable feature of activity-based based systems. The problem is that users of the system often assume that each activity-based revenue stream must be adequate to support the associated activity.

   Academic leaders are sometimes prone to strict interpretation of the “rules” as fully embodying institutional values or viewing their budget in discrete components rather than as a whole. These views can lead to their turning back grants or cutting back on curricula because the ICR on the grant or the tuition costs associated with the curriculum will not cover the full costs. This is both detrimental to the accomplishment of mission and is at odds with logic and the intent of the system. The unit engages in a range of activities, some of which may not only cover full costs but may even subsidize others. In order for an activity-based system to work well, there needs to be enough overall revenue in the system to allow academic leadership to choose among activities based on their overall merit, recognizing that the not financial cost or benefit, while often relevant, should never be dispositive. That a grant or a gift comes with strings attached such that it does not cover its cost does not in itself imply that the grant or gift should not be accepted. Similarly, a unit should not engage in activity simply because it is profitable when the activity is inconsistent with the accomplishment of the university’s missions.

   This sort of difficulty seems to be unavoidable, and the Provost and her staff spend a good deal of energy trying to explain that we do not believe that every little tabulet is meant to float on its own little bottom.

2. The system of taxes provides an ongoing stream of revenue that allows the Provost and President to support penurious units and to engage in substantial reallocation across academic priorities. At the same time, the tax system (like any tax system) provides disincentives to some activities that could be self-supporting without it, and adds to the complications discussed above that arise when decisionmakers are “too” responsive to the details of the budget model. Moreover, the nonuniformity of the taxes leads to modest incentives to reallocate the locus of some activities, although we have not detected any significant behavior resulting from these incentives. (We have, however, made a number of adjustments where the incentives were large, as in cases where academic units facing 30 percent tax rates also operate auxiliary activities facing 4 percent tax rates.)

   It would be possible to have a model similar in structure to UB with a lower and more uniform set of tax rates. The advantage of lower tax rates would be less distortion of behavior. The disadvantage would be less revenue available to support academic priorities that would not be self-supporting on an activity
basis. This is precisely the design conundrum facing public institutions generally, and the right answer depends on the culture and leadership of the relevant institutions. At Michigan, this implies taxes that are surely higher than the 2 percent university participation tax that was part of VCM. That tax generated realizable revenue of only about 0.1 percent (2 percent of 5 percent) of the budget, if expenditures were growing at 5 percent per year. Whether a set of tax rates ranging from 4 percent to 30 percent is optimal is less clear. Optimal or not, the leadership seems to be quite comfortable with it and the deans generally seem to be able to live with it, as well.

3. A more fundamental issue with respect to the tax system is the expenditure tax base itself. A revenue-based tax would have a number of advantages, not the least of which would be ease of explanation (everyone is familiar with income taxes). Revenues are more easily classified and identified, and it is generally more difficult to use the accounting and financial system to reclassify revenue sources than it is to move expenditures from one category to another; at least in the university context. Revenue taxes also have two perceptual characteristics that might make them operate more smoothly: a) A revenue tax that raised the same revenue as an expenditure tax would have a lower rate – due to the fact that generally there are positive savings; and b) Under a revenue tax, the tax can get taken off the top and the units see only their “take home pay,” which they can spend as they choose, whereas with the expenditure tax, the taxpayers see the gross flow of revenue and then see the taxes as deductions, leading, perhaps, to a sense that they don’t get to spend all of their revenue. This is one of the few points on which the authors of this chapter disagree. The economist believes that taxes are taxes, and that the taxpayer will care only about the net amount of money he or she has available; the only effect of revenue vs. expenditure taxes would be on the incentives for saving, which are greater under an expenditure tax.

The experienced university budgeter and researcher believes that there is a psychological advantage to giving a portion of revenue (e.g., 70 percent of tuition and ICR) where there had been none before, and that attributing the full revenue stream and then taking some of it back causes needless resentment. We both agree, of course, that it would be perfectly possible, of course, to exempt certain expenditures (e.g., financial aid) from a revenue tax. These expenditures would simply be deductible from the tax base.

4. Tuition attribution is an area where we believe that the budget model might be revised to do better. In conversations with people at other universities, we have frequently heard that credit hour-based tuition attribution systems tend to result in the most effective teachers being deployed in the largest classes. There is no incentive for this in the UB system. Of course, no formula can capture the perfect balance between incentives to teach well and the elimination of incentives to hand out free credits to large numbers of students. Hence, billing tuition attribution 100 percent on unit of enrollment and zero percent on credit hours is surely too extreme. Further, UB is not obviously superior to a credit hour-based system in encouraging interdisciplinary teaching, as the latter could lead to units looking for

and finding productive opportunities for collaboration. Indeed, the academic leadership at Michigan is currently considering moving towards a mixed tuition attribution plan, albeit one that would still give the majority of the attribution to the unit of enrollment, rather than to the unit of instruction. We are also looking at the possibility of implementing a general program, with budgetary consequences but outside the formal budget model, that would make it easier for academic units to support teaching that involved faculty from more than one unit. This is an example of how fiscal flexibility in the budget system permits us to improve on the mechanical workings of the budget model.

5. The set of space costs that are currently in the budget model constitute a bit less than half of true space costs. As the system evolves and measurements improve, we hope that more space costs, including long-term maintenance, implicit rent, or depreciation may also be charged to the units. When new elements of space costs are imposed in this way, funds to pay them will generally be made available to the units that face the new charges. However, the incentive to reduce the use of space will become more powerful, because units that economize on space will be able to keep the new revenue but shed the new, higher cost.

6. In the initial implementation of VCM, we made what we now believe to have been two significant technical errors, the consequences of which were foreseeable but not foreseen. The first had to do with the articulation of the initial year’s hold harmless policy with the adjustment of actual activity-based revenue (principally tuition and ICR). Suppose a school or college underpredicted its tuition revenue by $1 million. Under the hold harmless policy, we would give them $1 million more than we should have in their initial General Fund supplement, to keep the budget where it would have been under incremental budgeting. Then, when the actual tuition revenue was calculated, we would have given them an additional $1 million in one-time money at the end of the year, because the actual was $1 million higher than budgeted. What we should have done, but only figured out recently, was to have reduced their GFS for the second year by the amount that actual activity-based revenue exceeded the budgeted amount in the first year. Of course, for units that overpredicted their initial activity-based revenues we should have done just the opposite. At the time, we thought our behavior was holding units harmless, but it was not. We systematically (albeit accidentally) rewarded those who underpredicted their FY 1998 revenues and punished those who overpredicted.

A second implementation error involved what had been a systematic practice of underbudgeting both tuition and ICR. Under the underbudgeting yields year-end funds that were mostly used to support major maintenance and renewal projects. With the advent of VCM and then UB, even if the units chose to underbudget these revenue streams, the process of adjustment at year-end would provide year-end funds to the units, rather than to the central administration. Had we also decentralized the responsibility for major maintenance and capital renewal to the units, this might have made sense, although even then an argument can be made that the central administration has
an interest in the quality of the overall physical plant. But the way in which we did the implementation, significant flow of resources was transferred from central major maintenance to distributed academic priorities without anyone explicitly considering whether that outcome best met the university's priorities. We now find ourselves squeezing annual growth in central budgets to replace the flow of funds that were used for major maintenance.

CONCLUSION

The UB system is a modified form of responsibility center budgeting that has been adapted to the University of Michigan. It has worked well enough to generate three budgets, with a fourth in prospect, that have substantial variation in their impact across units and have met with general approval. The basic structure of the model works well, yielding a combination of predictability and adaptability that make it a useful tool for budgeting and fiscal management. We cannot emphasize enough the importance of adaptability, a property that is at the heart of the distinction between a budget system and a budget model, and that allows for adjustments in the model that meet the goals of the academic leadership. Models must run on what can be straightforwardly measured, which perforce leaves the discretionary parts of the system to do a good deal of heavy lifting that can look informal and ad hoc. In fact, such discretion is an essential part of the system.

NOTES

1. See http://www.umich.edu/~urecord/9495/Mar27_95/20.htm
3. Our problems with attributed costs are plainly not universal. We have been interested to learn in discussions with other universities using RCB that where there are fewer schools and colleges (UM has 19), it is often possible to obtain consensus among deans as to appropriate levels of overall expenditure by administrative and service units. Perhaps this would have evolved to become the case at Michigan, but our experience prior to scrapping the attributed cost system was that far more energy was spent arguing about the formulas than examining the costs and benefits of the service units.
4. The two-year lag means that in present value terms, expenditure undertaken today and taxed at rate t faces a present value of taxes of about 5t, assuming an interest rate of 5 percent. If taxes were imposed contemporaneously they could all be cut 10 percent without materially affecting either the unit’s or the Provost’s fiscal position. Yet absolutely no one (with the exception of one of the authors of this chapter) sees, for example, that 22.5 percent tax currently imposed on professional schools and colleges (with a two-year lag) as “really” being a 20.4 percent tax on current expenditures.
5. Total tax revenue under this system is set so that the sum of research and general taxes in FY 1998 is just equal to the total attributed costs for central service units in FY 1998. Neither the Provost nor the academic units made any profit on the switch from VCM to the tax system. Indeed, Provost allocations (later called General Fund supplements) were revised such that unit by unit, each academic unit had exactly the same General Fund support, net of attributed costs (under VCM) or taxes (under UB) at the end of FY 1998.

REFERENCES