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ABSTRACT

This description and discussion of the budgetary process at the University of Michigan is divided into three major sections. The first section deals with the structure of the process and includes discussions of budget organization and format, an overview of the process, the general fund budget cycle, capital outlay appropriations, general fund priorities, innovation and the budgetary process, and the potential for resource reallocation. The second section discusses the relationship of the university budget and the state, and the third and final section debates the pros and cons of centralization versus decentralization of budgetary decisionmaking. (HS)

THE BUDGETARY PROCESS AT THE UNIVERSITY OF MICHIGAN

Commission on Resource Allocation

The University of Michigan

April 1972

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"Annual income twenty pounds, annual expenditure nineteen nineteen six, result happiness. Annual income twenty pounds, annual expenditure twenty pounds ought and six, result misery."

-- Dickens, David Copperfield

"Das Glück dient wie ein Knecht für Sold,
Es ist ein mächtig Ding, das Gold."

-- Beethoven, Fidelio

PREFACE

The descriptive and analytic body of this report was researched and drafted by thirteen Institute of Public Policy Studies and Law School students in a Fall Term 1971 Seminar on University Budgeting under the direction of Economics Professor F. M. Scherer. Other members of the Commission assisted in obtaining information for the case studies which are described herein. The report was then discussed critically by members of the University Commission on Resource Allocation; it was revised and extended accordingly. Interpretations and value judgments in the report do not necessarily reflect the views of all Commission members or of the University of Michigan executive officers.

In accord with its original mandate the Commission will submit policy and programmatic recommendations to President Robben Fleming based on findings in this report and from other reports and activities of the group. Recommendations will also be prepared by the Seminar students for submission to the President. It is anticipated that both sets of recommendations will be made available to the Senate Assembly and the University Community.

Members of the Commission on Resource Allocation during 1971-72 include:

Professor Rosemary Sarri, Chairman
Dean Hayden Carruth
Professor James Hayward
Vice President Wilbur K. Pierpont
Professor Jacob Price
Professor Frederic M. Scherer
Vice President Allan Smith
Dean Gordon Van Wylen

Professor Theodore Meadows and Dean Alfred Susman were members of the Commission during 1970-71.

Student members of the Seminar on University Budgeting were: Richard Allen, Richard Curtis, Howard Gary, William Hughes, Marilyn McCoy, Jacob Miklojcik, Victor Miller, Harvey Schubothe, Roger Short, Leonard Stearns, Wallis Stromberg, Sherry Suttles, and Cecille Weiss.

I. The Structure of the Process

In the fiscal year ending June 30, 1971, the University of Michigan expended nearly $300 million for services, stipends, materials, equipment, and the extension of its physical plant. Its physical and financial assets had a recorded book value of $722 million.

A critical component in the management and direction of this vast enterprise is the budgetary process -- that is, the process of determining how much financial support each activity in the University community shall receive. The proximate focus of the budgetary process is the periodic preparation of a budget -- a more or less detailed statement relating revenues and fund allocations to specifically designated units and activities.

Actually, one can find in the University thousands of different budgets prepared at varying degrees of aggregation, each serving its own special management and control functions. The budget, or the official over-all operating budget, is the so-called "Grey Book," a document of some 100 pages prepared each year after the State Legislature has passed its general educational fund bill and final apportionments among University operating units have been resolved by the University Administration and the Regents. In the Grey Book are detailed the General Fund allocations to each operating account by name and number, along with a summary of revenues and allocations to other operating funds. Regental approval of Grey Book resolutions is the official act by which expenditures are authorized. In this report we shall be primarily concerned with the process by which General Fund budgetary allocations detailed in the Grey Book are determined, though other fund allocations will receive ancillary attention.

Other key documents in the budgetary process include the University's annual request to the Governor and State Legislature for appropriations and the annual Financial Report, an after-the-fact summary of the principal expenditure and revenue accounts and fund balances. The Grey Book and annual appropriation requests are treated as internal working documents, disseminated more or less on a "need to know" basis. The annual Financial Report is a public document, available inter alia in the Graduate Library.

Budget Organization and Format

The financial accounts of the University of Michigan and other State of Michigan universities conform to a uniform organizational format featuring four main operating funds: the General Fund, the Designated Fund, the Expendable Restricted Fund, and the Auxiliary Activities Fund. These are supplemented by five funds, mostly involving longer-term, low-turnover asset holdings: the Plant and Equipment Fund (through which plant expansion outlays are expended and in which the book value of existing plant is recorded), the Student Loan Fund, the Endowment Fund (with assets of $66 million in June 1971), the Employee Retirement Fund, and a custodial fund for diverse extra-curricular activities known as the Agency Fund. In this report the Student Loan, Endowment, Employee Retirement, and Agency funds will not concern us at all. The four operating funds, on the other hand, merit somewhat more extended discussion.

The General Fund is by a substantial margin the largest in terms of annual expenditures, totalling $121 million in fiscal year (FY) 1971 for the Ann Arbor, Dearborn, and Flint campuses combined. It embraces the bulk of expenditures for the University's instructional programs plus outlays for administration, libraries, student aid, student services, public services, operation of the physical plant, and some research. Within the $121 million total for FY 1971, the main expenditure components included $47 million for direct academic staff salaries, $35 million for other salaries, $10.5 million for fringe benefits, $19 million for supplies and other outside purchases, $3.5 million for student aid, $1.2 million for books, $500,000 for equipment, and $3.8 million for plant maintenance, improvements, and extensions. State appropriations constitute the largest single source of revenue for the General Fund -- $72.6 million in FY 1971, or 60 percent of total revenues. Second in importance as a General Fund revenue source are student fees, totalling $34.6 million in FY 1971. A third significant revenue component, credited to the General Fund only since FY 1969, are funds received from research and similar program sponsors to reimburse costs incurred indirectly in connection with the conduct of such sponsored projects. This indirect cost reimbursement item amounted to $10.8 million in FY 1971. A separate report on indirect cost reimbursement is being issued by the Resource Allocation Commission in collaboration with the Vice President for Research. Also flowing into the General Fund are user charges and other special revenues collected by the various departments, interest income from temporary investment of working capital, and a small amount of unclassified miscellaneous income.

Second among the funds in terms of expenditures is the Expendable Restricted Fund. Its revenues come from grants, gifts, and contracts conferred for some restricted purpose -- i.e., support of a particular research project or the provision of certain types of fellowships. Expendable Restricted Fund expenditures of $72 million in FY 1971 went mainly into organized research ($44.6 million), student aid ($14.0 million), departmental research and specially funded instructional programs ($10 million), and new buildings and plant renovation ($1.8 million). For the most part, only the direct costs of sponsored programs (such as outlays for salaries, fringe benefits, supplies, computer use, and travel) are charged to the Expendable Restricted Fund. As noted above, the indirect cost component of sponsored research contracts and grants appears as a revenue item in the General Fund budget, offset by disbursements spread throughout numerous General Fund expenditure accounts. Since nearly all Expendable Restricted Fund accounts are established in response to a specifically earmarked grant, contract, or contribution from some outside agency, the University Administration has little or no discretion to transfer funds between Expendable Restricted Fund accounts. The fund in effect embodies the accumulation of countless dispersed decisions and negotiations involving faculty researchers, research administrators, benefactors, research sponsors, and others. Due to this special quality, the fund has its own unique budgetary process about which we shall have little to say in the present report.

The Auxiliary Activities Fund, with expenditures of $67 million in FY 1971, covers a variety of University units and activities supported essentially by revenues derived through service and other charges. The largest single component is the University Hospital System, with expenditures of $47 million in FY 1971. Others include student residences, the intercollegiate athletic program, the Michigan Union and Michigan League, the University Press, the various student publications, and the University parking system. Also budgeted within the Auxiliary Activities Fund are certain internal service units such as the Computing Center, the Printing Service, Transportation Services, the University Stores, and diverse plant maintenance units whose revenues consist largely of charges to other funds in the University budget -- e.g., when a research project account classified in the Expendable Restricted Fund is charged by Transportation Services for rental of a University automobile. Not all units budgeted within the Auxiliary Activities Fund are completely self-supporting; some also derive support through transfers from accounts in the General Fund and other funds for services rendered.

The smallest of the operating funds is the Designated Fund, with expenditures of $4.8 million in FY 1971. It covers two main types of activity: conferences, institutes, and activities supported largely through their own special fees (such as the English Language Institute and the Annual Engineering Summer Conference); and capital improvement projects financed through interest income earned through the temporary investment of working capital.

Budgets can serve a variety of managerial and control functions. The University of Michigan budget structure for the General Fund, as epitomized in the Grey Book, is geared primarily toward letting the various operating units know how much they are authorized to spend in a given fiscal year. That is, once decisions have been made, it provides a useful set of hooks on which to hang the quantitative implications. The General Fund Budget system has not been designed to provide a "program" analysis in which all costs and revenues attributable to a particular operating unit are consolidated, although other funds in the Grey Book do show revenue and expense relationships for programs or functions. With revenues reported on a consolidated basis separately from costs and with the costs of a typical academic department spread over several accounts in the General Fund and elsewhere, it is seldom possible from the standard budgetary documents alone to determine the extent to which a specific tub is resting on its own bottom. In part to fill this information gap, formal new supplemental information systems have been developed in recent years. These include the College Resource Analysis System (CRAS), integrating budgetary data with individual faculty workload information to provide quantitative indicators of student/faculty ratios, average class size, cost per credit hour, and the like by teaching unit. Also, as we shall elaborate in Section II, the State of Michigan is in the process of implementing a new Program Budget Evaluation System (PBES) whose aim is to establish a closer link between costs and outputs for all State-supported institutions and activities.

An Overview of the Process

The budgetary process is structured temporally and organizationally, as well as by accounts and funds. For the General Fund budget in particular there is a regular cycle of activities tied to the timing of the State appropriations process. The actors in this drama include the State Legislature, and especially the Senate Finance Committee and the House Appropriations Committee; the Governor, his Budget Director, and the budget staff; the Board of Regents; the Executive Officers

of the University and key members of their staff; diverse campus-wide faculty committees; the deans and their college executive committees; and the department chairmen or unit heads and their executive committees.

The roles played by particular actors vary with the nature of the decision to be made and also somewhat unsystematically from year to year. As a broad general principle, decisions become more and more aggregative and details are less visible to an increasing degree as one moves up through the organizational hierarchy from the operating units to Lansing. Still it is not unusual for legislators to focus intensively on a few details of any given year's budget -- i.e., for the FY 1972 budget, on payments to the City of Ann Arbor for police and fire fighting services.

One key locus of decision-making is the Vice President for Academic Affairs, who serves as the University's chief budget officer for the General Fund, with which we shall be primarily concerned here. (Other funds are managed by the Vice President and Chief Financial Officer.) To the Academic Affairs Vice President flow the budget requests of all academic units -- sixteen schools and colleges, five library units, seven museums, and more than a score of independently organized research centers and special educational programs. He and a few close aides screen the requests and cull out low-priority items, seek information from and negotiate over priorities with unit heads, and make recommendations for semiofficial decision to the Budget Administration Committee, which is chaired by the Academic Affairs Vice President. Its other members are the President, the other University vice presidents, and the Dearborn and Flint campus chancellors (when matters affecting their operations are under consideration). Though not officially members, two faculty representatives from SACUA are regularly invited to sit with the Committee.

It is not much of an exaggeration to say that the Chief Budget Officer's job comes very close to being humanly impossible. That it gets done at all well is attributable in no small measure to the stamina and wisdom of the Academic Affairs Vice President and his staff. An important contributing factor is a characteristic of the process which at first might seem surprising, but which in fact is typical of decision-making in most governmental organizations exhibiting substantial continuity: at the central level the decisions are essentially of an incremental nature. That is, the unit budgets established in preceding

years are taken as a virtually unassailable baseline. Attention focuses primarily on the increments to that baseline: how much shall be added to any unit's budget in the upcoming year? During periods of steady growth for most areas of the University, little or no thought has been devoted at the Executive Officers' level to reducing unit budgets selectively. Even under conditions of budgetary stringency like those experienced in recent years, high-level decisions have been essentially incremental in nature. Thus, when cutbacks were necessitated, they have typically been on an across-the-board basis as a first approximation, although remissions have then been granted to especially hard-pressed operating units. This incremental approach makes the Chief Budget Officer's job relatively easy in one sense during a tight-budget year: all he needs to do is identify those relatively few programs with an overwhelming claim to additional support, for there simply are no resources for the others. The hard part of the job is maintaining an Abominable No-Man stance before dozens of persistent and forceful program advocates.

With the central administration making decisions mainly on budgetary increments, discretionary control over the disposition of baseline budget resources is in effect delegated to the deans, department chairmen, and unit heads. To be sure, that discretion is far from complete. Any given year's baseline budget is the accumulation of incremental decisions made during previous years. Also, the real resources -- people, mimeograph machines, telephone services, steam boiler fuel, and the like -- behind the facade of budgetary numbers are subject to inertia, especially in an institution granting tenure to senior faculty and near-tenure to technical personnel and clerical staff with seniority. Still as we shall see, there is a fair amount of turnover each year even among the professorial ranks, and professors remaining with the University are often willing and eager to undertake new programs. To the extent that new programs can be put into motion and new personnel hired within existing budgets, unit heads have nearly complete discretion to do so. This is one sense in which it is accurate to say that budgetary decision-making at the University of Michigan has been decentralized. Furthermore, money for compensation increases -- in most years a sizeable component of the total budget increment -- is generally doled out to the operating units on a simple formula basis, to be dispersed among individual faculty members on merit grounds. Here again discretion in resource allocation is exercised decentrally by unit heads.

Exactly where decisions are made on program changes and major new appointments within baseline budgets appears to vary in different quarters of the University. In connection with a study to be discussed in Section III, student members of the Seminar on University Budgeting interviewed the chairmen of twelve academic departments encompassing several schools and colleges, [illegible]eans of two additional schools. Among other things, the interv[illegible]e.ealed that the main focus of program change and personnel decision-making was the department executive committees in LS&A, while power seemed to gravitate toward the dean in certain other schools, with the Engineering School occupying a middle position on the spectrum. The reasons for these differences were complex. One apparent difference was the existence of a well-developed sense of disciplinary professionalism. In the Literary College departments this tends to be particularly strong; it affords a bulwark against decanal tampering at other than the margins of programs. In two other schools the deans exercised great power, partly because, according to interviewees, departmental faculty lacked strong disciplinary bonds and were relatively unprestigious nationally. Other factors which appeared to enhance the dean's decision-making role included rapid change in the school's disciplinary bases or clientele, a size small enough to permit close contact between deans and faculty, and perhaps also intellectual traditions placing some weight on respect for authority.

One major issue of budgetary policy is whether decision-making should continue to be as decentralized as it has been under the University's incremental budgeting philosophy, or whether the central administration and deans should intervene more actively in shifting baseline budget resources among units. We shall return to this question in later sections.

The General Fund Budget Cycle

To illustrate the budgetary decision-making process in more concrete detail, it is worthwhile to trace through the events occurring over the course of a General Fund budgetary cycle. No single cycle is perfectly representative; we focus here on the yet-to-be completed and hence partly conjectural cycle generating a budget for the 1973 fiscal year -- that is, the year beginning July 1, 1972 and ending June 30, 1973. We shall describe the process as it has been in the past, ignoring among other things the still unclear role to be played by the newly formed University Office of Budgeting and Planning.

Ideally, the process for FY 1973 was supposed to get underway in January of 1971, a year before the Governor's FY 1973 budget message. Deans and independent unit heads are asked to submit to the Vice President for Academic Affairs five-year budgetary projections and a detailed set of first approximation proposals for increments to the FY 1973 budget. Each dean has a "wish list." In LS&A there had in the past been no formal procedure by which the deans solicited budgetary proposals from the departments; department chairmen made their needs known more or less continuously. Beginning with the FY 1973 budget cycle, however, a regularized request mechanism was instituted. In Engineering, the dean and his executive committee meet formally with department chairmen and their executive committees to consider projections, proposals, and priorities. Other schools have their own procedures; there is no fixed mold. But one way or another, the deans identify those areas in which they believe they need more money. Usually in consultation with their executive committees, they establish ordinal priorities for the incremental funding requests they transmit to the Vice President for Academic Affairs, the first most urgent request receiving a "1" rating, the second a "2," and so on. The requests are written up on standard forms which among other things provide an opportunity to describe the nature of the need and to present the case for its support. A similar routine is followed by heads of non-academic units. The academic budget requests are reviewed by the Academic Affairs Vice President and his staff, and individual conferences are called between the deans and top administrators to air questions and discuss possible modifications. Meanwhile the contours of the actual FY 1972 state appropriation are becoming clear in Lansing; unexpected developments there may cause changes in the plans for FY 1973. By late spring or early summer of 1971, the size of the FY 1972 appropriation should normally be known with some precision, and deans are asked to make their final FY 1973 requests. In fact, Legislative action on the FY 1972 appropriation bill was unusually late, and as a result some final college requests for FY 1973 did not reach the Vice President's office until late August 1971.

Throughout spring and summer the Academic Affairs Vice President and his staff analyze the requests pouring into their office. Early consultations with deans are sufficient to discourage some requests with little or no chance of support; others remain pending. At some point during the summer the package of requests acquires sufficient form to go before the Budget Administration Committee. Preliminary Regental discussions may also begin. The dynamics of the decision-making process which then occurs are complex. One basic strategy problem resolved in committee is whether to transmit all still pending unit requests to the Governor's office or to carry the winnowing job

further. Rarely do all requests get transmitted, but there has been no general pattern of exclusion. For FY 1973, it was concluded that State support for new programs and program expansions would be meager and that a better case could be argued by exercising considerable selectivity in advance. As a result, of academic unit requests totalling $7.97 million, only $2.91 million were forwarded to Lansing. All requests from the vice-presidents for Research, State Relations, Student Affairs, and University Relations were reduced to zero. When such matters are under consideration, the Budget Administration Committee meets roughly one hour per week as an extension to the regular executive officers' meetings. The transition from one meeting to the other is marked mainly by a shift in the chairman's role from the President to the Vice President for Academic Affairs and the entrance of two SACUA representatives. The number of substantive decisions a committee of twelve can make meeting one hour per week is limited. Consequently, much of the final FY 1973 request culling was delegated by the Budget Administration Committee to the Vice-President for Academic Affairs. When detailed substantive issues are discussed in committee, it is often difficult for the SACUA representatives to make a pointed contribution, partly because they have entered only moments earlier into an otherwise ongoing meeting, partly because the agenda is seldom distributed in advance, and partly because they lack the background knowledge possessed at least by the Academic Affairs Vice President and often by other vice presidents. As a rule, therefore, their contributions tend to be oriented toward questions of broad strategy and the palatability of controversial choices to the general academic community.

Certain budgetary requests are generated not by the decentralized operating units but by the central administration. Of these, perhaps the most important is the compensation program. Schools and independent units prepare their incremental funding requests assuming prevailing salary and wage rates, except in the case of proposed new appointments. How large an increase the Budget Administration Committee recommends to the Regents is determined after consideration of compensation trends at peer universities and in the State of Michigan civil service and often after consultation with faculty groups. It is true, as the Committee on Rights and Responsibilities of the Faculty has asserted, that the Committee on the Economic Status of the Faculty has not played a very active role in this consultative process, except with respect to

fringe benefit changes. However, the Budget Administration Committee is acutely sensitive to faculty views on the compensation issue, and FY 1973 compensation strategy was discussed at length during the spring and summer of 1971 in the Resource Allocation Commission (on which the Vice President for Academic Affairs sits), with representatives of SACUA, and with the Academic Affairs Advisory Council (including the deans and major academic unit heads). And in the fall of 1971, before a critical Rights and Responsibilities report was issued, the Academic Affairs Vice President asked his faculty advisory committee to investigate thoroughly the whole question of faculty salary structure. Once relevant facts and opinions related to the compensation request have been gathered, a broad strategy question remains: should the University ask the Legislature for what it believes it needs to maintain a salary structure competitive with leading peer institutions, what it believes it can realistically get (which in austere years is apt to be considerably lower), or some compromise figure? Consultations are usually held with the Regents on this issue before a final choice is made. The strategy chosen evidently varies from year to year. Experience suggests that the actual amount appropriated depends much more on the fiscal climate in Lansing and on recommendations of the State Civil Service Board concerning public employees' pay than on the University's strategy option. The only serious mistake can be to ask too little in a year of unusual Legislative generosity.

Other academic budget increment requests generally reserved for central resolution include student financial aid program increases and an over-all "inflation factor" -- that is, the amount required to maintain book, supply, telephone service, fuel, insurance, and other outside purchase programs intact in the face of price increases.

The diverse requests for incremental budgetary support usually add up to a sizeable sum. For Fiscal Year 1973, Ann Arbor campus requests (including the centrally-determined compensation, student aid, and inflation factor programs) totalled $25.6 million, compared to the FY 1972 General Fund budget for the Ann Arbor campus of $123.5 million, of which $72.5 million originated in the State's General Fund appropriation. After winnowing was completed, it was decided to request additional State appropriations of $18.4 million, including $10.5 million to increase compensation of all employees paid under the General Fund, $1.74 million to cover inflation of supply costs, $2.7 million to provide additional student financial aid and supportive services, $2.9 million to fund academic unit program improvement

and expansion requests, and $519,000 to maintain new buildings recently completed or in the process of completion.

Of cource, the state appropriation provides only a part, albeit the lion's share, of support for General Fund operations. While expenditure requests for the 1973 fiscal year are being considered during the summer of 1971, preliminary thought is devoted to other sources of finance. The volume of sponsored research and other program indirect cost reimbursement funds is estimated. Though final decisions do not have to be made until six months later, there are tentative discussions of whether tuition increases will be economically and politically feasible and desirable. If there is a strong prospect that neither State appropriations nor tuition revenue increases will suffice to support mandatory program expenditure growth, a decision may be taken -- as it was for the 1972 fiscal year in the fall of 1970 -- to impose an across-the-board or other cutback in units' baseline budgets in order to reallocate resources to the new and pressing needs. Such crucial questions are discussed, usually on more than one occasion, with the Regents, the Academic Affairs Advisory Council, and (less systematically) with committees like the Resource Allocation Commission and the Academic Affairs Vice President's faculty advisory committee before a final decision is taken.

The budget request formulation process reaches a crescendo in late August and early September, nine months before the start of the fiscal year toward which it is pointed. At the September Regents' meeting, the completed Lansing budget request package is discussed and approved. In October the package is submitted to the Governor's office, complete with financial data, narrative explanations, and priority assignments. Although there have already been informal consultations concerning guidelines, conferences are called between University representatives and members of the State Budget Director's staff and perhaps even with the Governor to discuss and argue out details of the University's request. When good working relationships exist at this juncture, University officials can usually glean by late November a fairly accurate picture of what the Governor will recommend to the Legislature in January, and there is still time to modify the University request so as to assign higher priority to those items likely to receive favorable consideration. Also, as a result of information gained during these conferences, the University administration is developing a closer working approximation to what the actual 1973 budget climate will be. On the strength of this information, the Vice

President for Academic Affairs in late fall of 1971 began notifying deans as to the probable outcome of their requests -- in most cases, telling them not to expect an increase beyond their 1972 baseline budgets.

On January 19, 1972, the Governor presented his budget message to the Legislature. It recommended an increase of $9.57 million for the Ann Arbor campus General Fund budget -- one of the largest dollar appropriation increments in University of Michigan history, but still a sizeable reduction from the $18.4 million originally requested. At this point we can no longer report actual history and must rely upon the pattern of past experience. As a rule the Governor's budget provides a good first approximation to the appropriation which will eventually be passed. The House Appropriations Committee and Senate Finance Committee do make changes -- sometimes upward, sometimes downward, depending upon how their views of the fiscal climate differ from those of the Governor. The committees' actions are followed closely by the University executive officers, who plead their case at committee hearings and make further marginal changes in internal planning documents in response to feedback from legislators. While legislative committees are considering the University's funds request, the University must move toward final decisions on its tuition schedule. We shall return later to the problems embodied in these fee-setting decisions.

Ideally before the new fiscal year begins on July 1, but typically somewhat later and in 1971 not until September, the Legislative appropriations committees have issued their recommended bills, differences have been reconciled in conference committee, and the formal appropriation is passed by the two chambers. When a new fiscal year begins before the appropriations act is passed, the Governor's office disburses funds to the University at a rate reflecting the previous year's appropriation. Once the conference committee has cleared its compromise bill and Legislative approval appears virtually certain, the Budget Administration Committee meets to settle final details of the allocations to operating units. After Regental approval of the detailed Grey Book budget is secured, deans and unit heads are notified officially of the amount of money they will have to support program increases and how much they will have to distribute for salary and wage increases. Although they have been given an informal approximation months earlier, there are usually a few last-minute changes, and all know that minor marginal adjustments will continue, so there is a brief flurry of meetings between the Vice President for Academic Affairs and persistent advocates. Finally, the loose ends are tied, the Grey Book is disseminated to

authorized recipients, the deans and unit heads resolve their final internal allocation decisions, and the various units spend happily ever after.

Actually, the story does not end quite so simply. The Governor is required by the State Constitution to balance state income and outlays each year, and he has Constitutional authority to reduce any current year's appropriation to help perform his balancing act. This prerogative was exercised during Fiscal Years 1971 and 1972, forcing the University to make a series of midstream adjustments in what had been hoped were final budgets. Also, it is impossible to predict with perfect accuracy nine to twelve months in advance expenditures, tuition revenues, indirect cost reimbursements, and the other elements determining the General Fund balance. A prediction error of one percent is easily made, and with a budget of $120 million or more, its consequences are hardly trivial. The University, unlike many peer private institutions, has very little in the way of undesignated reserve funds accumulated in previous years into which it can dip to meet unanticipated needs. General Fund cash reserves are held at a level barely sufficient to earn the discounts allowed for prompt payment of bills at the low point of the revenue-expenditures cycle balance. Roughly 77 percent of General Fund expenditures are for salaries and wages, and the vast bulk of these are connected with appointments which cannot be undone at the last minute to achieve budgetary balance. Eleventh hour salary cuts would no doubt create severe morale problems, while an end-of-the-year bonus would hardly sit well with the Legislature. Expenditures for student aid, insurance, utilities, and many other items are equally inflexible. The only thing over which considerable timing discretion can be exercised is the purchase of equipment, durable supplies, and contracted repairs and building renovation. Expenditures for such items are therefore held well below budgeted levels during the first eight months of the fiscal year. Along about March, the budget balance picture becomes clearer. If it is unfavorable, the lid is held tight on outside purchases. If it should be favorable, budgeted equipment items can be purchased and renovation projects set into motion. It may even be possible to exceed the original budget figures. The vice presidents all maintain lists of projects which can be initiated throughout the spring if a favorable budget balance is anticipated. In FY 1971, when such a situation materialized, these included renovation of the Student Health Service Building, a substantial allocation to the libraries for book purchases, the acquisition of certain major research equipment items, and (to the astonishment of many faculty members sensitized by the unusually austere fiscal climate) the planting of several dozen

good-sized trees on the central campus. In response to Resource Allocation Commission urging, it is anticipated that mechanisms will be developed to secure a broader advance consensus, including faculty participation, on a contingency plan for adjusting to last-minute budgetary deficits and surpluses. But even with the best of all organizational structures, this perhaps inescapable approach to budget balancing poses problems for the University. In times of mounting austerity there is a reasonable probability that the end of the year will witness more retrenching efforts than unexpected slack. To the extent that this is so, equipment purchases and physical plant maintenance may bear a disproportionate share of the adjustment burden, to the special detriment of equipment-dependent students and faculty and those who happen to work in the more decrepit buildings. This is a problem on which we shall have more to say later.

Capital Outlay Appropriations

Outlays for new buildings and major plant expansions, which totalled approximately $250 million during the 1960's, are generally budgeted through the Plant and Equipment Fund. The decision-making cycle is superficially the same as the General Fund cycle. A request for State budgetary support must be submitted in October (in a document separate from the General Fund operational appropriations request). This submission has been preceded by months of meetings, first between unit heads and executive officers and their staff; then within various committees and subcommittees involving the executive officers and faculty representatives; and finally with the Regents. The Governor makes his recommendations to the Legislature, which conducts its own independent deliberations, primarily in the Joint Capital Outlays Subcommittee (consisting of four senators and four representatives) before passing an appropriations bill.

There are, however, important differences. One is that in recent years the Legislature has provided a smaller fraction of the funds for construction than it has for operations. In the 1960's only about one-third came from State sources; approximately one-third originated in federal government sources; and the remaining third from private gifts and internal sources.

For the projects financed internally, there are three main funds sources. One is borrowing. Thus, dormitories and apartments are financed by borrowing against a pledge of revenues from existing and planned housing. Several buildings (i.e., the North Campus

Commons, the University Events Building, the Michigan Union, and the Michigan League) have been built or remodelled with funds borrowed and secured by a pledge of student fees. Parking structures have been financed partially through borrowed money secured by a pledge of parking revenues. A second internal source arises from the fact that indirect cost reimbursements for sponsored research contracts and other grants include what in effect is a rental charge for the use of University buildings. This sum has amounted to roughly $500,000 per annum recently; it has been allocated to such capital projects as the North Campus Computing Center construction and remodelling of the C. C. Little Science Building. The third source is revenue the University derives from short-term investment of cash-flow working capital. Such interest income, totalling approximately $1.6 million in FY 1971, has been used among other things to finance new construction and the acquisition of land for contemplated future buildings.

Given this diversity of sources, the capital expenditure decision-making process is not tied rigidly to the State appropriations cycle. In fact, it tends to proceed more or less continuously the year around. The principal committee responsible for evaluating capital expenditure proposals and formulating priorities is the Plant Extension Committee, whose formal membership consists of the executive officers, with the Vice President and Chief Financial Officer as chairman. Meetings are regularly attended also by the State Relations Vice President's capital planning assistant, two members of the Financial Vice President's staff, a faculty representative from the Senate Advisory Committee on Financial Affairs, and another faculty representative nominated by SACUA. Recommendations by the committee to initiate new capital construction projects receive close scrutiny from the Regents before final approval is granted.

In capital expansion decisions the budgetary increment is the whole pudding; there is no baseline budget which will continue under its own momentum, as with the General Fund. Decisions taken also make a lasting imprint on the character of the University. The process by which priorities are set centrally is therefore especially important. It is also quite complicated, and we have not analyzed it thoroughly enough to permit more than a few crude generalizations.

The factors which guide decisions depend to a considerable extent upon the particular circumstances. Other things being equal, preference is generally given to academic as opposed to non-academic purposes. But other things are not always equal. The source of funds

also matters. A private donor is usually inclined to specify the purpose for which his or her funds will be used. Indeed, the University has found it necessary to maintain a list of priorities for encouraging private gifts somewhat different from the list presented annually to the Legislature, since each source can be expected to ignore buildings it believes should be supported by alternate sources. In such decisions there is inherently an element of opportunism. For instance, when a private source can be found to meet the lion's share of a new building's cost, priority may be given to allocating enough internally generated funds to complete the project, even though the project might not receive first priority on a list drawn up in vacuo.

Nevertheless, the increasingly austere fiscal climate facing the University is apt to impose significant constraints upon such decisions. The opening of a new building subjects the University to a stream of utilities and maintenance outlays continuing for the life of the building. Funds to cover these costs have become more and more difficult to find. As a result, proposals to construct new buildings with external funds are not likely to be approved in the future without careful consideration of sources by which maintenance and utility costs can be defrayed.

Sometimes priority decisions are influenced in subtle ways by the analysis of secondary or even tertiary effects. For example, a decision to finance an extension to the Aerospace Engineering Laboratories on North Campus was influenced in part by the need for additional space there, but also because the project would make it possible to move Engineering staff members from the Central campus, thereby solving an acute space problem faced by the School of Natural Resources.

The story is not greatly dissimilar with respect to buildings financed largely through State appropriations. The Vice President for State Relations and his staff labor diligently with operating unit heads to identify the University's most pressing physical needs and to portray those needs accurately to officials in Lansing. But the Legislature, caught between finite resources and seemingly limitless appropriation demands, has not viewed capital expansion at the University of Michigan as one of its top priority concerns, so in recent years the number of major projects it has been willing to support has been small. Legislators also may have strong preferences to which University planners cannot be insensitive. Consequently, when the Legislature determines that more dentists are needed for the State of Michigan,

and given that the U of M has the only state-supported School of Dentistry, expansion of the Dentistry complex finds its way onto the priority list. In capital appropriations, as in everyday life, them what has, gits.

General Fund Priorities

On budget allocations within the General Fund it is possible to say a good deal more, but the priority structure which has guided decision-making is complex, and any simple, unqualified ordering is as apt to mislead as to inform. Some expenditure increments are essentially beyond the University's discretionary control. Thus, when the Michigan Public Utilities Commission approves a substantial increase in heating gas rates, as it has recently, there is little the Chief Financial Officer can do but pay and pray for a warm winter. Certain commitments to finance expansion of the Opportunity Program have been of this nature. But for the most part there are no absolutes. The University has, as we shall see, accorded a top priority to improving its competitive position on academic staff salaries. Still a point must be reached at which the n-millionth incremental dollar is better allocated to new books, equipment, a new professorship in some highly promising specialty, or repairing elevators than on further additions to the compensation program. The law of diminishing marginal returns applies in universities as elsewhere.

Because priorities are not easily articulated in operational form, because they change over time, and because different persons may have divergent views on what the priority structure is, it is also not easy to pin down with any precision what the actual balance has been. We have used three main approaches: consultation with budgetary decision-makers, examination of explicit priority assignments in Budget Administration Committee working documents and the University appropriations requests to Lansing, and analysis of recent budget allocation changes. For the most part, the different approaches yield consistent conclusions.

During the 1950's and early 1960's the University was expanding its academic programs and student enrollments rapidly. More recently this growth has come to a virtual stop, although some change of enrollment "mix" continues without over-all growth in areas shown special preference by the State Legislature. The general cessation of growth is more an indication of the State government's priorities than internal University choices. Internally there appear to be mixed emotions concerning the

merits of further growth. The State Legislature has made clear that what growth higher education in Michigan sustains is to be concentrated largely in the four-year colleges and junior colleges. Nevertheless, within these constraints the University does have some internal discretion; it could legally allocate a share of the funds provided by the Legislature for salary improvement to support program expansion. That it has not done so is one implicit indication that strengthening the existing program has been accorded higher priority than adding to the program.

The University's executive officers state unequivocally that improving the compensation program has in recent years received the highest budgetary priority, with the possible exception of Opportunity Program support. In internal Budget Administration Committee worksheets for the 1973 fiscal year, the compensation improvement program shared the highest priority rating with the Opportunity Program and adjustments to offset price inflation on books, telephone service, utilities, and other purchases. In each of the past four years, compensation improvement has held the pole position in the University's request to Lansing for General Fund support.

Nevertheless, these compensation program goals have not been fully attained. The University's faculty compensation ranking has fallen perceptibly relative to other Big Ten universities and all schools in the AAUP listing (although some recovery is probable as several peer institutions experience zero increases for the 1971-72 academic year). The simplest explanation for what has happened would be that it reflects higher-level priority judgments in Lansing. That is true, but too simple. One might suppose that the University should make up for legislative appropriations shortfalls by seeking more revenue from alternate sources -- e.g., tuition and fees -- or by internal reallocations to increase the salary budget. However, seeking non-appropriations support is not per se a solution because, as we shall elaborate in the next section, the Legislature may take such revenue sources into account in determining how large the State appropriation will be. The University did attempt to amass resources for a frontal attack on the salary lag problem by imposing a cut in unit baseline budgets for fiscal year 1972, hoping that the savings could supplement increased State support. But a subsequent retrenchment in State appropriations frustrated the effort and limited the average compensation increase to 6.5 percent. Indeed, difficult tradeoff decisions had to be made in order to achieve even that target. In particular, inflation was ignored on such non-salary items as equipment and plant renovation and maintenance to secure money for salary increases. This was a

deliberate decision expressing in the clearest possible fashion where the priorities balance lay, for cutbacks in equipment purchases caused distinct hardship for many physical scientists and engineers, and the plant maintenance fund stringencies will have a small but long-lived impact on the quality of the University's physical environment.

Though it seems indisputable that high priority has been given to the compensation program, it has not, to repeat, been an absolute priority. Equipment cuts could have been still deeper, replacement hiring could have been stifled, and other items of expenditure might have been pruned more aggresively. Whether this would have been desirable is open to question; priority decisions are neither simple nor easy. Also, within the over-all compensation program the faculty have not enjoyed preferred status. The Rights and Responsibilities Committee correctly observed that unionized employees have received somewhat larger percentage increases than faculty members in recent years. It neglected to point out that such personnel account for less than two percent of the General Fund wages and salaries budget, so that the over-all impact on funds availability was small. Deliberate decisions have also been made to increase clerical, technical, and professional personnel compensation at about the same rate as for faculty members -- in most years to prevent heavy losses of competent staff to well-heeled Ann Arbor area private firms and in 1971, when the labor market was slack and the threat of raids less pressing, on simple equity grounds. Similar policies have been pursued toward teaching fellow stipends. Again, whether these choices reflect the "right" priority balance may be arguable. It is worth noting that faculty members of the Resource Allocation Commission concurred unanimously in the 1971 non-academic staff and teaching fellow compensation decisions.

A somewhat different perspective on priority choices is provided by Table 1, showing percentage changes in the main Ann Arbor campus General Fund allocation categories during two three-year intervals: from FY 1966 through 1969, and from FY 1969 through 1972. The data in part document what has been said already. The largest percentage increase for both periods occurred in Student Aid. Plant renovation and improvement bears the most visible scars of retrenchment during the more recent 1969-72 interval. (Cutbacks in scientific equipment outlays are buried within the Instruction and Departmental Research totals, which increased at a pace not much greater than the rate of price and wage inflation; and in Organized Research, whose previously rapid growth virtually ceased due to the simultaneous deceleration of state and federal government support.) Further patterns are more difficult to

identify. In fact, the rank correlation between the two sets of growth rates is only +0.014, suggesting no systematic tendency for functions which grew especially rapidly in one period to maintain a pace-setting role.

Table 2 focuses more narrowly on the General Fund instructional budget, showing the budget allocation and enrollment growth rates of 14 schools and colleges between fiscal years 1966 and 1972. The six-year growth data exhibit considerable responsiveness to social needs and express legislative priorities: the highest growth rate was experienced in Dentistry, favorite of the State Legislature; the second highest in Social Work, with its strong welfare program orientation; and the fourth highest in environment-oriented Natural Resources. Aside from a perceptible health and welfare sciences bias, there is little support for the often-heard assertion that the professional schools have received preferred treatment in budget allocations. Among schools with the lowest budget growth rates were Law, Pharmacy, Architecture and Design, and Business Administration. A surprising finding is that budget growth rates are only weakly correlated with Fall Term student head count growth rates, the simple product moment correlation being +0.22. One reason may be certain arbitrary characteristics of the head count data; different measures (such as average fiscal-year-equated student registrations) show slightly different patterns. Perhaps more important, if three outlying observations -- for Pharmacy, Public Health, and Natural Resources -- are excluded, the correlation coefficient jumps to +0.76. A straight line fitted by least squares regression to the data for the remaining 11 schools and colleges has the following equation:

$$\begin{matrix}\text{Annual Percentage} \\ \text{Growth in Budget}\end{matrix} = 9.3 \text{ percent} + 1.76 \begin{matrix}\text{Annual Percentage} \\ \text{Growth in Enrollment}\end{matrix}$$

With budget outlays increasing by 1.76 percentage points for every percentage point increase in enrollments, there is a hint that diseconomies of scale are being encountered, though this inference is sensitive to changes in a few of the extreme growth rate observation values. Enrollments in Pharmacy, Public Health, and Natural Resources, on the other hand, expanded much more rapidly than the fitted regression equation would predict. In Pharmacy, this may reflect scale economies realized by building upon a very small academic staff base. For the Public Health School, enrollment growth was financed in appreciable measure by training grants budgeted outside the General Fund; while the growth of Natural Resources School enrollments evidently occurred so rapidly and to some extent unexpectedly that increases in budgetary support could not keep pace, forcing substantial increases in average class sizes.

Table 1

CHANGES IN ANN ARBOR CAMPUS GENERAL FUND BUDGET ALLOCATIONS, FISCAL YEARS 1966-69 and 1969-72*

Budget Category	Percentage Change		FY 1972 Allocation ($millions)
	FY 1966-69	FY 1969-72	
Instruction and Departmental Research	29.6	24.5	67.8
Other Educational Services (such as registrar, admissions, audio visual, and Office of Institutional Research)	58.5	40.4	2.8
Libraries	34.5	16.8	6.2
Organized Research	43.0	3.3	7.6
Extension and Off-Campus Education	19.3	22.9	1.9
Student Services (such as counseling, Health Service, placement, and bus service)	30.5	1.1	5.2
Student Aid	87.4	92.5	4.9
State and Public Service (including publications, Information Service, WUOM, television, Development Council, and Alumni)	20.9	21.8	2.1
General Administration	12.8	49.6	1.7
Business Operations	48.4	25.8	6.3
Plant Operation & Maintenance, Utilities, Security, Rentals, City Services, Insurance, etc.	26.1	35.5	14.7
Plant Renovation and Improvement	51.8	-26.3	2.3
ALL FUNCTIONS	31.6	23.3	123.5

*Source: Grey Books for the relevant years and internal working documents. The FY 1972 data do not include adjustments necessitated by the State's two percent funds holdback. FY 1966 exclusions for Dearborn and Flint are approximate. The FY 1966-69 comparisons exclude sponsored research indirect cost reimbursement allocations; the FY 1969-72 comparisons include such allocations.

Table 2

AVERAGE ANNUAL BUDGET AND ENROLLMENT CHANGES IN THE SCHOOLS AND COLLEGES: FISCAL YEARS 1966 THROUGH 1972

School	Average Annual Budget Change: FY 1966-1972	Average Annual Change in Fall Head Count: 1965-1971
Architecture & Design	8.7%	1.8%
Business Administration	9.3	2.0
Dentistry	32.5	7.2
Education	19.2	3.2
Engineering	9.4	-1.7
Law	7.9	1.4
LS&A	10.1	2.5
Medicine	13.5	-0.3
Music	8.5	-0.1
Natural Resources	18.1	18.5
Nursing	15.5	5.1
Pharmacy	7.9	14.6
Public Health	9.0	15.3
Social Work	20.8	9.1
ALL SCHOOLS AND COLLEGES	11.9	2.3

At a still more microscopic level of detail, it is instructive to examine the differences in budget allocation growth rates within the LS&A College, home to slightly more than half of all fiscal-year-equated student enrollments on the Ann Arbor Campus. The eight academic departments comparable over time experiencing the most rapid General Fund budget growth rates between fiscal years 1966 and 1972, along with American Council on Education rankings of "graduate faculty quality" for 1964 and 1969 (with ties designated by asterisks), were as follows:

Department	Budget Growth per Annum	1964 ACE Ranking	1969 ACE Ranking
Residential College	75.1%	na	na
Political Science	15.2	10*	5
Near Eastern Languages	15.1	na	na
Geography	14.5	9	2
Anthropology	12.5	4	3
Economics	12.3	8*	7*
History	12.2	9*	8*
Psychology	11.2	3*	2

Characteristics which appear to explain the high growth rates for these units include newness, technical or social changes intensifying interest in their disciplines, a ranking among the top ten departments in the 1964 ACE survey, and quite possibly the tenure of particularly aggressive chairmen. It is striking that all six of the ACE-rated departments advanced in rank between 1964 and 1969, in two cases spectacularly.

Excluding such specialized units as the English Language Institute and the Language Laboratory, LS&A departments experiencing the lowest budgetary growth during the same period were:

Department	Budget Growth per Annum	1964 ACE Ranking	1969 ACE Ranking
Speech	2.3%	na	na
Journalism	5.9	na	na
Astronomy	6.2	8	14
Philosophy	6.4	2*	3
Botany	6.5	3	2*
Zoology	6.5	9*	8*
Germanic Languages	6.7	11*	14
Chemistry	7.7	19	20*

The reasons for the particularly slow budgetary growth of these units are much less obvious. The six ACE-rated low-growth departments had only slightly lower 1964 rankings than the high-growth units: the average rank was 8.7 for the former compared to 7.2 for the latter. If Chemistry is excluded, the average initial rank of the five lowest-growth ACE-rated units was actually higher -- 6.6. There is a modest tendency among the low budget growth departments toward a decline over time in ACE rankings. Whether this implies a casual connection and, if so, in what direction, is not clear. A unit's rank may have deteriorated because budgetary support was weak and able professors departed, or budgetary growth may have been slowed because key persons left and the department lost recruiting momentum. The phenomenon clearly merits further study. Indeed, it will be difficult to formulate sound resource allocation strategies for the future unless deeper understanding of the dynamics is achieved.

Perhaps equally interesting is the relatively tight cluster of budget growth rates over the six-year interval covered. Of the 25 LS&A departments for which consistent growth rates could be calculated, all but nine had average values ranging between 6 and 12 percent -- the lower bound approximating what a department with no real staff growth and an average rate of compensation increase would have experienced. If conscious priorities were being expressed in the decisions to support some units more liberally than others, it was done in a distinctly gentle fashion.

Innovation and the Budgetary Process

Thus far we have devoted most of our attention to the "yea" and "nay" saying aspects of the budgetary process, without much regard to the substantive differences in proposals for incremental support and how they affect the ultimate outcome. We inquire now into that side of the picture. In particular, since innovation and change are essential to the University's vitality, how do new things get going? Where do proposals for change acquire their momentum? Who are the successful innovators? How do they build budgetary support? And is mere budgetary support a sufficient condition for change, or must there be other complementary factors?

Some insight into these questions was provided by seven case studies of significant changes proposed and in most instances implemented at the University during the past decade. They include inception of the Residential College, the acquisition of an IBM 360-67 time-sharing

computer system, the construction of a new home for the Computing Center on North Campus, the creation of the Opportunity Awards Program, the change in the old Institute of Public Administration to a new behavioral science-oriented curriculum with a new name, a reorganization in the Engineering School giving rise to the Department of Electrical and Computer Engineering, and the aborted plan to purchase the Conductron buildings and land northeast of North Campus. Students participating in the Seminar on University Budgeting interviewed numerous individuals involved in these changes and analyzed records to piece together comprehensive case histories, some of which will be made available as appendices to this report. In addition, the Resource Allocation Commission surveyed more casually other episodes in innovation upon which we draw.

We shall not attempt to argue that the sample is at all representative. In one respect it clearly is not: it is weighted heavily in favor of highly visible changes requiring a significant injection of incremental budgetary support. Only the Electrical and Computer Engineering Department reorganization was accomplished without any fund allocation by the central administration. Thus, the case studies shed little light on what must be an enormous amount of small-scale innovation within the bounds of departmental and college budgets as new research projects are initiated, new courses are created, and whole new curricula are developed by faculty not content to continue tilling the old intellectual furrows. The vital importance of such small-scale innovation to the University's sustained vigor is undeniable.

Even within our restricted sample of cases, it was evident that the original sources of innovative impetus are extremely diverse. In four instances the first real push appeared to have come from near the top of the administrative hierarchy, although it is possible the case studies failed to bring out some of the more subtle influences playing upon administrators who performed the most sharply focused innovative role, but who were responding to more or less clearly articulated wants among other members of the University community. The Residential College idea seems to have evolved out of the faculty-generated "Pilot Project" concept, but it was first formally advocated, following discussions with colleagues, by Roger Heyns as Dean of LS&A. Heyns was also responsible shortly thereafter as Academic Affairs Vice President for conceiving and setting into motion the Opportunity Awards Program. Prime mover in seeking to acquire the Conductron property was the Vice President for Finance, who was in a position to recognize the space needs of University units and whose well-developed Ann Arbor real estate

intelligence system brought the property's availability to light. And although the need for better Computing Center quarters was widely recognized, a serious plan for the new building was first advanced by the Vice President for Research, who enjoyed a better perspective than other advocates for determining how its financing could be arranged. The specific decision to move forward with a building project was said by senior members of the Computing Center staff to have come as a complete surprise to them.

Wave-making initiatives can also arise in the ranks. The first nudge which led to the establishment of a multidisciplinary two-year program for public sector administrators came from an assistant professor who, following a department meeting to consider absorbing the Institute of Public Administration program into the Political Science curriculum, persuaded the Political Science chairman that a broader multi-department approach had merit. The history of what is now the Institute of Public Policy Studies also exhibits two further characteristics typical of the innovative process. First, what set the stage for a fresh look was the resignation of IPA's director. At such times it is possible to minimize the influence of personal preferences and tradition and to consider an especially wide range of substantive changes. Resignation of the Computer, Information, and Control Engineering Program chairman was likewise the triggering element leading ultimately to a merger between that program and the Electrical Engineering Department. Second, once the initial idea of a multi-disciplinary public administration program caught the enthusiasm of the Political Science chairman and then the Graduate School dean, a review committee was established whose membership, including articulate representatives of disciplines in which the old IPA program had been weak, virtually guaranteed a sympathetic hearing for a proposal to explore new educational approaches.

Committee composition was also important to the directions taken in the computer choice case and the Residential College's inception. When it became clear that demand would soon outpace the Computing Center's IBM 7090 machine capacity, the committee assigned to consider the next step had a strong complement of learning theorists and other behavioral scientists with special interest in man-machine interactions. This weighting appears to have tipped the choice toward a system with extensive remote terminal and time-sharing capabilities, rather than the sheer central processor computing power physicists and other "number crunchers" preferred. The composition bias in this instance was evidently inadvertent. But when Dean Heyns established a committee to explore the Residential College idea, it was packed with faculty

members he knew were sympathetic. Even when the committee's report encountered resistance in LS&A faculty meetings and a new, more critical review committee was formed, care was taken to include a forceful Residential College advocate.

Two other sources of initiative not covered explicitly by our case studies deserve briefer mention. One is the faculty entrepreneur. Vigorous entrepreneurial activity by two professors in conceiving the idea, building University community support, and soliciting seed money from outside sources largely explains the genesis of the Institute for the Study of Mental Retardation. A University-wide committee appointed by the central administration at the entrepreneurs' instigation helped develop support and the Vice President for Academic Affairs nurtured its further development. Second, a push sometimes comes from outside the University. This was the story of the Power Center. As a member of the Ann Arbor theatre-going community, then Regent Eugene B. Power took the initiative in offering a substantial gift to get what he considered a much-needed project going. Although finding the additional funds proved to be unexpectedly difficult, the project from its outset had the enthusiastic backing of University President Hatcher, and this helped assure eventual success. It is clear too that the Highway Safety Research Institute would not have come into being without encouragement and a large $55 Million Campaign grant from the automobile industry.

Once a proposal for change is advanced, what factors determine whether it will receive the budgetary support it needs to thrive? One major variable is the general budgetary climate. Getting new things going was relatively easy in the growth environment of the early 1960's. From the very beginning, it was recognized that a massive infusion of money would be required to turn the Residential College idea into viable reality. A faculty committee recommended that the College be started only if its funding not impinge upon support of the LS&A College's ongoing program. But everyone concerned assumed that the money would somehow become available, so students were enrolled and the first year's curriculum was established with partial, preliminary funding absorbable within the still growing University budget. Then, however, the quest for Residential College funds as a part of the Sesquicentennial $55 Million Campaign failed completely, University budgetary growth virtually halted in real terms, and realization of the Residential College's original academic program aspirations was frustrated inter alia by chronic financial stringency. The development of the Institute of Public Policy Studies is an intermediate case. As a study committee labored during the 1967-68 academic year on a proposal for major changes in the old public administration

program, the budgetary screw was tightening visibly. In the early phases of its study the committee was assured that money was not to be considered a constraint, but by the spring of 1968 the administration's ability to find new resources had deteriorated significantly. After a dispute over the generosity with which the new program was to be supported, the administration found itself able to recruit a director only by pledging incremental funds sufficient to implement the committee's full recommended program. The Conductron property negotiations in late 1970 and early 1971 mark off a third point on the scale. University administrators were enthusiastic about the acquisition, but cash was short, and the only way the acquisition could be accomodated would be to take over an existing lease with moderate annual payments and an attractive eventual purchase option. This was unacceptable to the owners, and so negotiations were terminated without a purchase by the University.

Personal support of a proposal from both key individuals in the University power structure and a broader constituency is also important. The new Computing Center building project went forward during a period of budgetary tightness because it had a well-placed advocate in the Vice President for Research and one of the most broadly-based constituencies on campus -- the host of computer users who knew all too well what life in the North University Building snake pit was like. The Vice President for Academic Affairs experienced pressure to support the Institute of Public Policy Studies program from an advocacy group including two deans, three department chairmen, and several prestigious faculty members who had served on the formative study committee. Support from on high and from research units scheduled to occupy the Conductron building evidently would have been sufficient to push the property purchase through, had the financial terms been palatable. The decision to engage in serious negotiations does not appear to have been impeded by a memorandum to the President from non-administration members of the Resource Allocation Commission, cautioning that the acquisition as proposed might solidify the University's commitment to Willow Run Laboratories, then under attack from student and faculty opponents of classified research. The Residential College idea had supporters both powerful and numerous. However, there was also a sizeable opposition; in a critical LS&A faculty vote the proposal barely managed to gain a majority. It seems probable that this division of sentiment was more a premonition of the staffing difficulties which were to follow than a proximate cause of the College's financial woes. Finally, the Opportunity Awards Program began with personal support from the Vice President for Academic Affairs, but it lacked a broad,

active constituency. When the program was started its director was made a special assistant to the Vice President.. However, when both Roger Heyns and the original program director left the University almost simultaneously, this special organizational relationship ended. Whether that change had any impact on the program's growth and the eventual Black Action Movement strike is difficult in hindsight to ascertain.

As the B.A.M. strike showed vividly, tough, concerted bargaining can also be an instrument of budgetary change. That, one hopes, was a rare and perhaps special case. But hardnosed bargaining on a small scale and restrained by the academic analog of the Marquis of Queensbury Rules is a common component of program change processes. It occurs in particular when a new dean or department chairman or unit head must be found, as in the I.P.P.S. case. The most vigorous candidates usually come with a bundle of ideas for change, some of which require new money. The Academic Affairs Vice President or dean must then bargain -- if he does not produce a sufficient quantity of resources to support proposed changes, he may not be successful in enlisting the leader he desires. In times like the present when very few resources can be found with which to effect such bargains, the pressures upon University administrators attempting to maintain orderly succession become enormous, and unless they are somehow relieved, the University may well face an operating unit leadership crisis.

The Potential for Resource Reallocation

As the University's budget tightens, these pressures mount and large-scale innovation becomes increasingly difficult. This by no means implies that all educational change must be stifled. As we have observed, a great deal can be accomplished within the framework of existing baseline budgets. And though many outside financial support agencies have also come upon hard times, the remaining resources are vast, and a really good new idea energetically promoted has a good chance of tapping that external potential. Yet costly innovation is certainly more difficult than it was in the past. Is there anything the University can do internally to reallocate additional resources to support worthwhile changes?

Budget cuts imposed at least as a first approximation across-the-board are one possibility. The University has now experienced three in the past three years, but they were directed more toward solving immediate financial crises than building a pool of resources reallocable in deliberately selected new directions. In Section III we shall assess the effects of the cutbacks thus far implemented.

It seems clear that they have not been pushed to their outer limit. The University of Minnesota, for example, embarked in 1971 upon a drive in which each unit is required to reduce its baseline budget by 15 percent over a three-year period. The funds captured in this way are then to be reallocated by the central administration in consultation with a faculty committee to those units and programs with the most impressive growth claims.

Another possible approach might be position controls, and especially controls over professorial positions, since the faculty is necessarily the vanguard of academic program changes. Conscious control and reallocation of positions opened up by retirements and other departures is already practiced in some schools, including the College of Engineering. LS&A has such a system on paper, but it had not been implemented meaningfully when this report was written. The Vice President for Academic Affairs has also considered exercising position controls from his central vantage point, though again, no formal action has been taken.

The turnover of positions, academic and otherwise, within the course of any single academic year is small. One naturally supposes that academic personnel turnover from year to year is also low, given tenure and other stabilizing institutions. In fact, however, a staff study of late 1960's experience revealed that on the average, approximately ten percent of the persons on academic appointments in a given year (excluding teaching fellows, instructors, and research assistants) had left the University's employ the following year. Turnover of such a magnitude suggests a substantial potential for change within a relatively few years, if it can be harnessed and directed effectively.

The problem is, can such conscious control actually be achieved? What would be the incentive effects? Would the reallocation process best be directed centrally or on as decentralized a basis as is possible? These are vital questions to which we shall return after further groundwork has been laid.

II. The University Budget and the State

An important component of the budgetary stringency presently faced by the University is traceable to Lansing. The State Government -- and in this respect the Governor's office and the Legislature are indistinguishable -- has not in recent years been able to support the University at levels permitting it to accomplish its educational objectives at that standard of excellence toward which it aspires. There are several reasons for this imbalance between wants and wherewithal. One is the inflationary hangover of the Vietnam war. Merely to stand still during the late 1960's required a rate of budgetary growth which in the early 1960's would have permitted significant real growth. But this can be only a minor explanation; inflation affected state revenues by roughly the same proportion as it raised costs of doing the State's business. Moreover, the figures show a distinct decline in the rate of General Fund growth as the rate of price inflation rose. The State's contribution to the University's General Fund budget grew by approximately 12.8 percent per annum from FY 1962 to FY 1967, but from FY 1967 through FY 1972 it grew by only 7 percent -- barely sufficient to keep pace with inflation. A more immediate cause was the pressure on the State Treasury associated with the extremely rapid expansion of welfare payments and medical care plans. Also, priority has consciously been redirected toward broadening the base of higher education in the State, with concomitantly rapid growth for junior colleges and four-year institutions and a relative decline in support for the research-oriented universities stressing graduate education.

Much of this may well have been virtually inevitable. Support for higher education has fallen upon hard times as a result of pervasive fiscal pressures in most of the older, large industrial states with the notable exception of Massachusetts and (until very recently) New York, both late starters in the publicly supported higher education game and both recognizing their critical economic dependence upon highly educated human resources. More unique to Michigan are three special issues involving relations between the universities and the state government: the dispute over autonomy, the philosophy adopted toward external sources of financial support, and the implementation of formal program evaluation and budgeting systems.

The Autonomy Suit

Through most of its 154 years of existence, the University of Michigan has been recognized under the Michigan constitutions and by

the courts as an autonomous "body Corporate" governed by a Board of Regents. Ever since the Constitution of 1850 the Regents have been vested with "the general supervision of the university, and the direction and control of all expenditures from the university funds." This short phrase has been the focus of nearly a dozen court cases over autonomy, the most recent one decided at the Circuit Court level on December 6, 1971. Early cases dealt with such issues as legislative attempts to limit the amount of expenditures supporting some specific academic department, to remove a medical college from Ann Arbor to Detroit, and to subject certain University expenditures to the general supervision of a state board. There has been a tendency for such cases to cluster shortly after new state constitutions have been adopted.

The most recent autonomy suit was filed jointly by the University of Michigan, Michigan State University, and Wayne State University to test the legitimacy under the new 1963 Michigan Constitution of numerous provisions included in various legislative appropriations acts. Chronologically, the first issue to emerge concerned legislation requiring an explicit and detailed state planning and architectural role in capital construction projects financed by state appropriations. A preliminary consequence of the dispute was a stoppage of capital appropriations to the University; then the dispute was brought for settlement to the courts. The three plaintiff universities argued that by requiring new building plans to be approved in detail by the State Architect and the Bureau of the Budget, the State was attempting to "supplant the reasoned judgments of the governing boards of the universities with those of the state budget director and of a joint legislative committee." The Attorney General responded on behalf of the State that no appropriations to the schools were in fact involved, since the money for planning went directly to the Bureau of the Budget and was therefore outside the jurisdiction of the governing boards. He contended also that such approval requirements were a valid pre-requisite for the appropriation of capital funds, since the Legislature had no absolute duty to provide such funds and did have an interest in ensuring that orderly planning preceded the use of funds.

With respect to General Fund appropriations, the three universities challenged several recent legislative practices. Some involved allegedly direct restrictions over educational activities. These included appropriations act sections specifying the minimum number of classroom contact hours or credit hours expected of faculty, requiring that various detailed special reports be submitted, and establishing formulas for the determination of tuition. Other legislative practices were questioned

as indirect attempts at control. Among them were appropriation act stipulations mandating a reduction in the amount of money appropriated if tuition increases leading to higher fee revenue were announced after some specified date, restrictions on the proportion of out-of-state students admitted and the fees such students had to pay, and various provisions forbidding payment of state funds to students or faculty involved in campus disruptions. Also contested were certain "line item" appropriations under which the Legislature earmarked the amount of money to be spent in narrowly defined components of the schools' general fund budgets.

In defending these practices, the Attorney General's argument stressed two points. First, the Governor and Legislature were said to have a legitimate interest, especially in times of great fiscal pressure, in the purposes for which state money was used. Second, the State was said to require special reports and the information line item appropriations conveyed in order to allocate state funds rationally.

Another point argued by the plaintiff universities was that the State of Michigan had a constitutional obligation to "maintain" them, and they construed the "plain meaning" of the word "maintain" as requiring the State to provide funds sufficient to keep their operations at least at the level attained in the previous year.

Finally, there was a dispute over whether the State Board of Education has the power and authority to make final decisions approving or disapproving program expansions at the various universities, as the Board had insisted, or whether it was intended by the framers of the 1963 Constitution to be merely an advisory body.

In his December 1971 decision, Circuit Judge Marvin Salmon grasped most of these nettles squarely. The main point on which he did not rule was the question of what it means for the State to "maintain" a university. In favor of the plaintiff universities, he concluded inter alia that it is unconstitutional for the Legislature to prescribe minimum teaching loads, to limit the number of out-of-state students admitted or to establish minimum tuition fees for such students, to stipulate tuition rates generally or to include in appropriations bills a formula relating appropriations to changes in tuition schedules, to prohibit the use of state funds to pay or instruct individuals convicted of interfering with university operations or damaging university property, and to engage in line-item budgeting of expenditures within the plaintiff universities' general fund appropriations. He ruled also that the

State Board of Education has no constitutional authority to prohibit the universities from expanding or establishing programs with their own appropriated funds. On two other points he supported the Attorney General and the Legislature, concluding that the Legislature could indeed demand such reports as were relevant to its appropriation functions and that it could require Budget Bureau approval of plans for buildings to be financed with state capital appropriations (but not for projects supported within the institutions' general funds or through outside contributions).

It is not clear at this writing whether the case will be appealed to the Michigan Supreme Court, although the State Board of Education has stated its intent to appeal that part of the decision circumscribing its authority.

Whether the court's reaffirmation of the three universities' autonomy on several counts will lead to significant substantive changes in university - legislature relations is also uncertain. Future appropriations bills will presumably have fewer restrictive provisions pertaining to faculty workloads, tuition policy, and the like. But many of the restrictions which precipitated the 1971 autonomy suit are symptoms of deeper legislative and gubernatorial concerns which cannot be wiped away by the stroke of a judge's pen. The state government is under heavy fiscal pressure; expansion of the educational base may continue to receive higher priority than improving conditions at the summit; legislators will continue to be interested in the number of out-of-state student admissions and the fees such students pay; and the question of whether costs can be reduced by increasing professorial productivity by spending more hours in the classroom and teaching more students per semester will not go away. The Circuit Court decision makes it clear that officials in Lansing can demand from the University quantitative reports detailing the University's performance on such counts. If that performance fails to meet the expectations of those who hold the purse strings, munificence in annual lump-sum general fund appropriations is less likely. So the basic problem is not about to disappear. A mutual accommodation will have to be found.

The Problem of Legislative Recoupment

A problem related to the autonomy suit warrants further consideration. As suggested already, a major point at issue was the inclusion of a stipulation in appropriation bills that the actual amount

appropriated be reduced automatically by the amount of any revenue gained through tuition increases announced subsequent to some specified date. The first such condition appeared in the FY 1970 appropriation bill; the date after which newly announced tuition increases were to be recouped was September 30. Similar provisions were included in the FY 1971 and 1972 appropriations, except that the deadline was moved from September 30 to April 15 preceding the fiscal year covered.

Actions of this sort reflect the complex pressures to which members of the Legislature are subjected. On one hand, tuition charges pose a political problem for legislators. They have risen significantly both in absolute terms and relative to all General Fund revenue sources during the 1960's. During the 1962, 1963, and 1964 fiscal years, they averaged roughly 24 percent of all General Fund revenue sources; by 1971 their share (excluding indirect cost reimbursement) had risen to 31.5 percent. The tuition and standard fees paid by a Michigan resident undergraduate meanwhile climbed to $660 for two normal semesters in the 1971-72 academic year. Legislators are said to receive a fair amount of mail complaining about tuition rates at the University of Michigan and other state universities. The attempt to write increase-dissuading provisions into appropriations bills in part reflects their sensitivity to this grass-roots pressure. Other pressures -- notably, the mounting demands of health, welfare, K-12 education, and other programs on the State treasury -- induce a different and in some respects contradictory response pattern. For a given total budget implying some more or less well-defined set of educational programs and quality standards, the more funds the University secures from non-appropriations sources, the less will be the necessary State appropriation. Consequently, legislators may also view tuition increases as a substitute for increased appropriations support.

For the University administration the present situation poses a dilemma. Presumably, a primary objective is to maintain the University in its long-established position as one of the top ten universities in the United States. If legislative appropriations prove insufficient to achieve that objective, tuition increases represent an alternative potential source of support -- though it must be noted that out-of-state tuition hikes for the 1971-72 academic year seem to have reached a resistance point at which a significant diversion of the most able students to competitive institutions is threatened. However, there may be reason to fear that substantial increases in tuition, especially for in-state residents, will induce the Legislature to react by cutting State appropriations commensurately. Under the recent autonomy suit

judgment terms, an automatic recoupment would undoubtedly be unconstitutional. But the Legislature is not barred from reacting in more subtle ways, such as tightening the screw on the following year's appropriation. And it is recognized that one cannot sustain a great university by taking steps which add strength for only a single year.

This problem extends beyond the bounds of tuition policy. Grants and payments from outside sources are also vulnerable. The FY 1970 State appropriation bill specified, for example, that "All moneys ... received ... as an allowance for or in payment of overhead expense, shall be considered by the legislature in the same category as fees or other income and treated as deductions from the gross authorized scope when calculating the net general fund subsidy." In response to pressures from the State Auditor, the University in Fiscal Year 1969 shifted research contract indirect cost reimbursement payments from the Expendable Restricted Fund to treatment as a revenue item in the General Fund. It simultaneously shifted to the General Fund all those indirect cost items which had previously been charged against indirect cost reimbursement in the Expendable Restricted Fund. In principle, the changes should have been a pure washout. But this was not quite true. Comingling made the equipment cost reimbursement account previously tied clearly to research more vulnerable to cannibalization to solve General Fund budgetary crises, and this may operate to the disadvantage of research-oriented faculty heavily dependent upon new equipment.

One further bit of history must be recorded. In the fall of 1970, the University executive officers decided to deal with a rapidly mounting imbalance between needs and resources by requiring all units to reduce their planned baseline FY 1972 salary budgets by three percent. Funds thus freed -- for the most part, by reducing staffing levels -- were to be plowed back into enhancing the University's competitive position in salaries and staff benefits. But only weeks later, the State Budget Director announced that <u>all</u> state universities were expected to achieve a "productivity increase" for Fiscal Year 1972 equivalent to a three percent across-the-board cutback in FY 1971 baseline budgets, and unusually modest increases in recommended appropriations were rationalized by the assumption that these productivity increases would in fact be effected. Whether the U of M initiative and the subsequently broadened State action were casually linked is difficult to determine. It is clear that fiscal pressures on the State were such that FY appropriation increases would have been very lean in any event, and the productivity increase mandate may simply have been a rationalization

for belt-tightening which otherwise would have occurred under some other guise. Yet many University of Michigan officials viewed the fall 1970 events as further confirmation of their fear that funds generated internally or through appeal to non-State sources would be recouped by the State government, leaving the University no lasting advantage.

That these fears of recoupment exist is a fact. That they influence tuition-setting and other fund-raising behavior is highly probable. In an attempt to determine whether symmetric views were held in Lansing, student members of the Seminar on University Budgeting interviewed a number of State government officials. What they were told is that there has not been any systematic desire in Lansing to recoup outside funds secured by the University. The automatic tuition recoupment provisions written into the last three appropriations bills were said to have been intended mainly to make the University (and other state institutions) declare its tuition policy at an earlier stage in the appropriations cycle. Early announcement, state officials claimed, poses no great threat to the size of the University appropriation because the Legislature has historically tended to hew closely to the magnitudes recommended by the Governor in his January budget message, well before the April 15 announcement deadline. They also argued that there has not been a close historical correlation between appropriations increases recommended by the Governor in January and tuition decisions of the preceding year. Yet it was also said that the possibility of recoupment could not be ruled out -- i.e., if the University were to announce a tuition increase considered clearly excessive by legislators or if in any other way it presented the appearance of accumulating excessive "fat."

The real problem, then, probably turns not on some mechanical linking of State appropriations to non-appropriations income, but on different conceptions of how generousiy the University of Michigan (and other universities) should be supported. There appears to be little hostility in Lansing to the notion of academic excellence. If a disparity of objectives exists, it concerns relative degrees of excellence. The characteristic attitude in Lansing seems to be, "We really do want the University of Michigan to be outstanding -- but could you do it just a bit less expensively?" To the extent that this characterization is accurate, there appears to be little likelihood of an acute, pointed conflict over recoupment, assuming that the University exhibits sensitivity to the limits of legislative tolerance on such matters as resident tuition burdens. There is, however, a risk of gradual erosion as State officials view non-appropriations revenue as a means of keeping

the old ship afloat and in running order at lower long-run cost t the State treasury. And in that much more subtle and slow-moving way the recoupment problem is no doubt a real one.

The Program Budget Evaluation System

One further wind blowing from the Northwest deserves some attention. The State of Michigan is in the process of introducing a new budgetary decision-making aid, the Program Budget Evaluation System (PBES), which could have more than merely technical implications for the University of Michigan.

A bit of historical background may be helpful. Throughout the 20th Century, government budgetary reform has been much talked about but little acted upon. A prominent deviation from this pattern occurred in the 1960's. When he took office as Secretary of Defense in 1961, Robert S. McNamara vigorously pushed implementation of the Planning-Programming-Budgeting System (PPBS), which had been developed conceptually at the RAND Corporation during the 1950's. President Johnson was so impressed by the results that in 1965 he ordered the extension of PPBS to other departments of the Federal executive branch. This change was effected at an accelerated pace, despite bureaucratic resistance and an acute shortage of people who understood what the system was all about at other than a superficial level. Though there were some successful applications, especially in the Department of Health, Education, and Welfare, the system turned out to be very costly and yielded disappointingly little in the way of improved decision-making. PPBS was also blamed (mostly unfairly) for the failures of various McNamara organizational and procurement reforms and in some quarters even for the Vietnam War debacle. Dissatisfaction led to its downgrading by the Nixon administration. Meanwhile, however, enthusiasm for the system spread unattenuated to city and state governments. The State of Michigan began planning its own variant in 1967, and early in 1971 the Governor announced that formal use of Michigan's PBES procedures would commence with the Fiscal Year 1974 budget (for which the University's first submission is due in May of 1972).

Program budgeting systems have two main explicit objectives, one technical and the other quite fundamental: (1) to structure the accounts by which a budget is organized so as to emphasize the relationship between expenditures on the one hand and goal-oriented programs and ultimately the accomplishments of those programs on the other; and

(2) to develop methods of analyzing relationships between program accomplishments and expenditures so as to make better choices of which programs to support and how liberally to support them. In the process a third implicit objective may also be realized: in structuring their budgets along goal-oriented lines and searching for links between accomplishments and expenditures, organization heads are forced to think systematically about what their goals are, what they are trying to accomplish, and why it matters. Such introspection, remarkably enough, appears to be rather rare in government agencies; the insights PPBS has allegedly inspired among Federal bureaucrats are said by some to have been its most important achievement.

Under the proposed new State PBES, seven very broad "programs" are defined: protection of persons and property; maintaining a physically and mentally healthy population; intellectual development and education; social adjustment and development; economic development and income maintenance; transportation and communication; and recreation and cultural enrichment. These will be the basic accounting building blocks of the State program budget. The University of Michigan has activities relevant to each of these programs, but most of its functions will be classified to the "intellectual development and education" program. Under that broad heading are arranged "program categories" -- notably, instruction, research, and public service. These in turn have a host of "subcategories" -- e.g., instruction for the master's degree in elementary education, or research in the field of nuclear reactor technology; from which sprout a further set of "program elements" such as formal course work, qualifying examinations, field training, etc.

All this is rather complicated but hardly earth-shaking. Matters become more interesting when attention turns to specifying for each program subcategory a set of "impact indicators" -- defined as measures which describe "the effect programs have upon the environment or upon individuals," and for each program element (such as a solo recital for master of music in voice candidates) a set of "outputs," or "quantifiable units produced as a result of activity carried out at the element level." When one realizes that the University of Michigan PBES structure is likely to have about 500 program subcategories, each with its impact indicators, elements, and outputs, one begins to envy the simple life led by the man from St. Ives with seven wives.

More important, operation of PBES implies that program impacts and outputs will be measured quantitatively. How does one measure the impact of a degree program in Mandarin Chinese language, or the

output of a research project on the determinants of industrial factory sizes and geographic locations? And once measures have been compiled, how does one use them in allocating resources among program elements, and in determining how large a program's (and more immediately, a university's) over-all budget shall be?

It is anticipated that, at least in the early stages of PBES, the impact indicators for instructional program subcategories will emphasize the number of degrees granted, student credit hours generated, and some indices of how fully the State demand for various skills (such as for physicians, elementary teachers, etc.) has been satisfied by the supply of university graduates. For want of better alternatives, research program output measures will evidently include the number of projects carried out, the number of papers published, the number of Ph.D. theses supported, manhours spent at conferences, etc. At least on the instructional side, the reporting of degree and credit hour impact indicators to Lansing is not new, although past reports have not been nearly as detailed as those called for under PBES, nor have direct links been established between a particular type of degree and the budgetary support required to "produce" it.

The crucial question is, how will these data be used in decision-making? The ultimate ideal of a PBES-type system is to develop output indicators and analytic techniques by which decision-makers can determine which programs deserve budgetary support (or more support) and which should be cut back. It is fair to say that the progress made thus far in developing and applying such techniques has been extremely meager. From millions of dollars spent on staff studies in connection with the Federal government's PPBS during the middle and late 1960's, somewhere between one and three dozen competently executed "benefit/cost" studies resulted, covering a minute fraction of the total Federal budget, and only a fraction of these had unambiguous action implications. Thus far in the western world, only about a half dozen studies have been published which estimated with some success the social benefits attributable ex post facto to particular basic or applie scientific research projects. A considerable amount of progress has been made on the methodology of benefit/cost studies, but the job is very difficult, and it is unrealistic to expect a great deal to be accomplished quickly under Michigan's new PBES.

The individuals responsible for administering PBES in Lansing nevertheless expect that instructional program output data generated by the system will be fed into the State's budget decision-making process.

Two main analytic approaches are presently contemplated. First, comparisons may be made among the various state colleges and universities on the basis of crude rules of thumb developed by the Budget Bureau -- i.e., that one Ph.D. level credit hour is equivalent to 1.9 undergraduate credit hours or 1.5 M.A. credit hours. Needless to say, the results of any such analysis depend critically upon the relative weights assigned, about which there is considerable disagreement and little in the way of a concrete analytic foundation. Second, degrees granted may be value-weighted by the average starting salaries of graduates receiving the degrees. Members of the Governor's PBES staff recognize that, to the extent earnings data are relevant at all, a better case could be made for examining changes in a person's lifetime income-earning expectations associated with gaining as opposed to not receiving a particular degree, perhaps adjusted for differences in native ability and motivation. But obtaining such data for a sufficient array of degree programs is infeasible. They also know that the use of starting salaries leads to paradoxical results for M.D.'s, who assume internships at a pittance but rise rapidly to a high income stratum; and that the young Law School graduate who goes to work for Ralph Nader at $2,500 per year may do great public service, but a disservice to the U of M's PBES rating. The intent in Lansing is to iron out as many such bugs as possible and then get on with the show.

In all probability, it will be a long time before the impact indicators have enough plausibility to play an important role in decisions concerning the total level of budgetary support to be accorded the various state universities and colleges. Two narrower uses appear more likely for the near future. First, the compilation of budgetary costs for some 518 different U of M degree and certificate programs will permit State Budget Bureau personnel to identify the highest-cost programs and to use cost comparisons as an arguing point for prodding the University to improve "productivity." This is clearly intended. It is not new, however. "Productivity" has been a recurrent theme in budget negotiations during the past five years; only the level of detail will be altered. Second, Budget Bureau staff members expect to use PBES impact indicators to encourage internal resource reallocation with the University -- i.e., toward medicine and dentistry, where state demand for graduates is believed to exceed supply, and away from elementary and secondary education, where there are more graduates than jobs.

These are matters about which the University should be concerned in its internal decision-making. State government intervention in them is rationalized in Lansing by references to current supply and demand

imbalances, with the implication that the University has not done a satisfactory job resolving them in the past. PBES will generate masses of data which will clearly provide the potential for much greater Lansing oversight and involvement in detailed resource allocation decisions of the University. Whether these decisions are best guided in Lansing or in Ann Arbor will be the issue. According to the several autonomy case decisions, the framers of the Michigan Constitutions opted in favor of Ann Arbor. As PBES takes hold, it seems inevitable that the autonomy debate will enter still another round.

III. Centralization vs. Decentralization of Decision-Making

The autonomy issue in all its variants is essentially a question of the optimal degree of decision-making decentralization between the State government and University officials. A similar question recurs within the University. As we have seen, many key budgetary decisions are made by the executive officers, but to the maximum extent feasible, decision-making has been decentralized to the schools, departments, and research units.

A crucial policy question is whether the historical balance of centralization vs. decentralization should be maintained in the future, or whether it should be altered in greater or lesser degree. There are certainly straws of change in the wind, largely in response to the increasingly austere fiscal climate within which the University has operated recently and in which it appears destined to operate in coming years. In some quarters it is urged that the University depart from its incremental approach to budgeting, adopting instead a "zero base" philosophy under which whole programs or parts of programs might be terminated to concentrate resources in fields of greater promise. The creation of a University Office of Budgeting and Planning with substantial faculty involvement symbolizes at least an interest in considering such choices seriously from a central vantage point and perhaps to encourage them actively. The question again is, how far can the centralization of budgetary decision-making proceed before it detracts from rather than enhances the University's traditional strengths? Is there an optimal balance between centralization and decentralization?

The Theory of Budgetary Decentralization

Some centralization of budgetary decision-making is inescapable in large, complex organizations. At the very least, central decisions must be made on the size of the budget with which each operating unit will work. What can vary are the criteria by which budgets are set -- i.e., whether the central resource allocator evaluates the totality of a unit's activities or merely certain limited indicators; and the extent to which operating units are free to reallocate resources internally once over-all budget targets have been assigned. Within this broad framework, the great virtue of a decentralized structure is that it places most decisions where interest in and knowledge of the probable consequences are greatest. The more specialized and technically intricate the questions to be resolved are, the more significant decentralization's

advantages become.

Under any system of resource allocation, economic theory shows, decision-makers seeking to make the best possible use of their limited resources should try to establish budgets for the various operating units such that the "marginal returns" -- that is, the incremental value of results achieved from the last equal-sized blocks of funds allocated to each unit -- are brought into rough equality. If this condition does not hold, a net gain can be realized by reallocating resources from low-marginal-return units to high-marginal-return units. In business organizations this budgetary principle is relatively easy to implement, since returns can be measured in terms of a convenient dollar common denominator. In universities (and many other government activities) the problem is much more difficult, since there is no practical, generally accepted way of measuring in commensurable terms the characteristically intangible benefits of such activities as instruction, research, and public service endeavors. Highly subjective comparative evaluations are inescapable.

Further problems must also be faced. For one, since judgments about program benefits are inherently subjective, different decision-makers are likely to hold divergent views about the incremental value of an activity. As a consequence, the outcome of choice processes may depend critically upon where in the organization a decision happens to be made. Second, given the intricate specialization of academic disciplines and the difficulties of measuring goal accomplishment, there exists considerable opportunity for playing budgetary "games." That is, decisions on inter-unit resource allocations ought to be based on evaluations of the "marginal" activities in each program -- the activities which yield the lowest benefits per dollar of support and which can therefore be dispensed with at least sacrifice. But the shrewd, ambitious unit head is apt to conceal from higher-level resource allocators his marginal activities, basing his case for additional budgetary support (or minimal withdrawal of support) on the claim that high-benefit activities will otherwise be foregone. Third, decentralized decisions may go astray because they fail to take proper account of so-called "spillover" effects -- costs or benefits which affect the welfare of one or more units other than the decision-making unit. For example, if each operating unit tries to do the best possible job from its own standpoint within a given budgetary constraint, it may spend too little on those activities whose principal benefits accrue to other parts of the organization, or it may over-emphasize programs whose costs fall heavily upon other units.

In view of the fundamental conceptual difficulties pervading university resource allocation processes, no decision-making structure is likely to produce results at all closely approximating some theoretical ideal. Still broad strategic tradeoffs must be made in designing the decision-making system. Favoring maximum feasible decentralization are the knowledge and interest operating units bring to bear in deciding their own fates. On the other hand, a stronger hand at the central controls may be called for if decentralized units tend repeatedly to ignore spillover effects or if there are strong tendencies for the benefits from resources applied at the margins of some units' programs to be much higher than they are for other units.

A Survey of Departmental Responses to Fiscal Austerity

To determine how the decision-making system at the University has in fact reacted to an environment of increased budgetary stringency, student members of the Seminar on University Budgeting conducted interviews with the chairmen or former chairmen of 12 academic departments and the deans of two medium-sized schools. The prime focus of questioning was how the units had adjusted to budget cutbacks and how they might react to further hypothetical cuts of diverse types and magnitudes.

The units in which interviews were held were selected to span a wide range of sizes, academic disciplines, and professional specialties. They included among others six departments in LS&A and two Engineering departments. Although no sample of 14 can be completely representative, there was no reason to believe that the one chosen was grossly unrepresentative. Since confidentiality was assured interviewees, the units cannot be identified precisely. We must confine the analysis to a summary of broad patterns.

When the interviews were conducted during the fall term of 1971, the units had experienced two recent budget cutbacks and were threatened with a third. At roughly the midpoint of the 1970-71 academic year a one percent "across-the-board" cut had been imposed in that year's expenditures to accomodate an unplanned recession-induced reduction in the State's general fund appropriation. Almost simultaneously, operating units were asked by the University administration to develop for the forthcoming 1972 fiscal year a baseline budget three percent lower than the 1971 budget, with the understanding that the savings were to be applied to compensation program improvements. Then, in the fall of 1971, the University was

required by the Governor's office to begin planning not to spend a further one to three percent of the 1971-72 State appropriation in case State budget imbalances necessitated an actual reduction later in the fiscal year. At the time of our interviews, unit heads had been informed that they would have to absorb a part of this adjustment (later set at $1\frac{1}{4}$ percent) by reducing ongoing General Fund expenditures, while other holdbacks were to be accomplished centrally by freezing a part of selected accounts (notably, for equipment and renovation).

The interviews with unit heads emphasized several questions related to these adjustments: How severely had their operations been strained? How had the units in fact managed to meet their expenditure reduction quotas? To what extent were course offerings, class sizes, and promotion decisions affected by the new climate of austerity and by the threatened tightening of position approvals and renewals? What approaches to expenditure reduction were considered most tolerable, and which caused the most serious adverse repercussions?

The Incidence of the Budget Squeeze

Before we turn to the findings, one important fact must be noted. The three baseline budget cutbacks disseminated out to operating units were ostensibly enforced on an across-the-board basis. Actually, however, the pattern was more uneven. Some units -- most prominently, LS&A -- successfully pleaded poverty and had a part of their cutback obligation waived. A few more affluent units were induced to reduce their budgets by more than the University-wide quota. Thus, what at first glance appeared to be an almost automatic budgetary adjustment mechanism in fact involved a fair amount of central decision-making discretion as the administrative officers negotiated with the various unit heads.

Even among those units which did experience budget reductions, the impact appeared to be irregular. Some were squeezed hard. But some were doing better than ever, and others were a considerable distance from having to make very hard choices.

For the most part, the units that were not severely strained (other than those given explicit waivers) were those able to tap substantial amounts of outside funds. Among the several units in this position, one in the health sciences appeared to be the strongest financially. This was largely the result of a massive and continuing influx of Federal funds. A large fraction of its faculty was supported by Federal research or training grants. Most of its graduate students were receiving federally supported traineeships or research assistantships.

The principal constraint on the amount of research funds the unit could obtain was said to be ability to staff projects with good people. This situation was expected by the unit's chairman to extend into the indefinite future as federal concern over health care expanded.

Three other highly research-oriented units located on the Central Campus reported little budgetary stringency. One suffered only a very small decline in outside funds, which made up approximately half of its budget. A second actually increased the amount of outside funds. This it did by drawing upon its prestige and exerting an extra effort to capture a larger share of the diminishing volume of research funds being dispensed in its field. A third unit, considered to be at the top of its field in the United States, used its prestige as an arguing point in persuading the University administration to waive a part of its required expenditure reduction. It was also able to secure additional outside funds to compensate for the remainder of its general fund budget cutback, though this shift implied a reduction in teaching activities in favor of research.

Still another unit found itself with more money to go around in 1971 than it had in previous years, largely because the entrepreneurial efforts of an extraordinarily vigorous head had begun to bear fruit in the form of numerous research and training grants. Most of these grants were earmarked for particular new programs. Faculty members flowed into these new projects from other programs scheduled to be abandoned, freeing funds to absorb the University-wide budget cuts and at the same time to strengthen old programs whose continuation was merited.

There were, however, other University units in which the effects of the 1970 and 1971 belt-tightening were felt more strongly, and in which further reductions were expected to cause additional discomfort and perhaps damage. Although the LS&A College as a whole was relieved of a part of its budget-cutting obligations, several LS&A departments fell more or less clearly into this category. Most of these had few promising outside funding sources to replace internal budgetary reductions. As of 1971, the social science and humanities departments covered by the interviews had been hurt only slightly. They experienced some teaching position attrition necessitating class size increases and/or the dropping of certain course offerings. Their chairmen anticipated that very tough choices would be faced if the budgetary screws were turned tighter in coming years. On the other hand, the situation in the natural sciences was reported to be "very bad" already and was expected to get worse in the future. Natural science departments

found themselves squeezed by equipment budget freezes as well as by reductions in baseline salary expenditures.

Among the comparable equipment-oriented departments of the Engineering School, some departments fared well because of their access to outside support, but others were said to be experiencing hardships. Three variables appear to distinguish the degree of success physical science and engineering departments enjoyed in minimizing the adverse effects of the squeeze. For one, there was wide variation in federal research support trends. Some fields of engineering were hit much harder than others, and in general, support for basic research declined much more significantly than support for applied research, to the relative detriment of LS&A units as compared to Engineering departments. Second, LS&A physical science departments are on the average less highly rated nationally than units in the School of Engineering, so they had less prestige upon which to draw in competing for dwindling research support. Finally, some units exhibited greater entrepreneurial initiative in tapping outside funding sources.

In the health sciences too the pattern was not completely uniform. While one unit covered by our interviews was doing well as a result of generous outside support, another found itself strained by a decline in federal research funds for its specialty. These difficulties motivated a search for new sources of funds which would permit the unit to sustain its level of activity in quantitative terms, although the unit's chairman feared that the shift from basic research to applications would reduce the over-all quality of his program.

Of the 14 units interviewed, the hardest hit was one which experienced a rapid rise in enrollments just as the University was entering its period of budgetary tightness. It did receive some increase in General Fund support while other units were being cut back, but class enrollments were rising still more rapidly. Access to outside sources of support was limited, and even if research funds could have been secured, they would not have solved the unit's basic problem of burgeoning class sizes.

It seems clear that the impact of the 1970 and 1971 budget crises has been far from uniform among University departments. This does not necessarily reveal that the approach taken was a less desirable way of adjusting to fiscal stringency than either more or less selective cutbacks would have been. There is at least some evidence that units with outstanding national reputations fared better than weak departments, and this might be considered a favorable sign if one places emphasis on preserving the University's centers of excellence. Still the great

variation in impact intensities suggests that the marginal returns of budget resources invested in the various departments has not in fact been equalized.

How the Budget Reductions Were Effected

There are two main ways that departments and schools met the budget cuts of academic years 1970-71 and 1971-72 and are likely to affect future reductions of a similar nature. The first, as we have seen, was to obtain more funds from outside the University, largely for research activities but also extending to traineeships and research assistantships with direct relevance to the teaching program. Four units indicated that this is what they have done in the past and what they would continue to do in the face of future cuts. The second main method was position attrition. This was used and will continue to be used by departments lacking access to increased levels of outside financial support. Four departments emphasized this approach in the past and three more expected to do so if the period of austerity continues. Such cuts can be executed in a variety of ways; i.e., through an outright decrease in the number of faculty employed or by replacing a departing senior professor with a new junior person.

Several other strategies deserve mention. Two departments adjusted their budgets by cutting back on clerical help, and two more reduced the number of teaching assistants hired. Three departments attempted to save money by not buying equipment (or at least, until equipment purchases were frozen by the central administration). One department eliminated all funds for lecturers, including both visitors and part-time appointments. Two (and the strategies named are not mutually exclusive) saved some money in the area of travel expenditures. Finally, one department dropped courses offered during the spring and summer sessions.

In the event of future cuts, seven departments planned to stress faculty attrition (although two of these said they would also begin to consider across-the-board salary cuts rather than suffer attrition to a level undesirable for the remaining faculty). Two others expected to continue reducing funds for teaching assistants. Three more were either implementing or planning cuts in the number of graduate students admitted. For those departments unable to tap outside funds, then, the basic strategy is likely to be cutting academic salary budgets for regular faculty, irregular appointments, or teaching assistants. This means that there will be either fewer teaching staff or faculty in lower salary categories. There was no

clear relationship between the strategies selected to meet budget cuts and most characteristics of the units, including department size and type (such as science, humanities, professional orientation, etc.). The one factor that did make a difference was the availability of outside funds.

Implications for the Educational Program

In order to assess how these changes are likely to affect the University's educational program, it is useful to review briefly some well-known characteristics of academic department goal structures. Their importance was stressed repeatedly by interviewees.

In most academic units at an institution like the University of Michigan, faculty members tend to identify themselves as professional scholars. The focus of their professional values is the discipline rather than the university. A common organizational manifestation of this value structure is concern with the national ranking of one's department. This is viewed as a measure of the quality of work done in a department and is highly significant for purposes of recruiting new faculty and graduate students.

The reference group to which the typical faculty member looks is other members of his discipline, not just locally, but throughout the nation. It is they who judge the value of his work, both in terms of his own self image and his chances for professional advancement. While teaching performance is a "plus," the critical factor in an academician's disciplinary standing is the quality of the research he does. Prestige is also gained by having one's disciples -- notably, graduate students -- make significant contributions to the discipline.

Given this value structure, it is possible to predict the general effect of budget cuts in departments unable to tap additional outside funds. For want of other alternatives, major budget cuts must be made in the area of academic salaries. In most cases this means that fewer people will be available to teach classes and sections. Given constant enrollment, the average class size will increase and/or the average faculty member will be responsible for more classes. This is what legislators call "productivity increases." In terms of student contact hours or other such measures, it is true that there will be more output for a given level of input. It must be expected, however, that there will be a decline in the quality of those outputs. At the margin, interviewees indicated, there will be a gradual shift to objective tests instead of essay examinations, to tests instead of term papers, to lecture classes rather than seminars, an increase in section sizes for large classes, a general fall in the amount of work required of

students for a class, and the dropping of some laboratory sections. While it cannot be demonstrated conclusively that these changes cause a reduction in the quality of the education experience, they would certainly appear to do so according to most accumulated wisdom.

This decline will probably be most pronounced at the undergraduate level. Many professors employ graduate students as research assistants. In addition, graduate students are professionals in training. Their quality will reflect on the quality of the department as a whole, and especially upon the faculty member with whom a particular student is associated. There exist therefore strong incentives to pay considerable attention to the individual graduate student and to see that such students are adequately trained. The linkage between faculty values and teaching is weaker in undergraduate education (with the partial exception of engineering, where an engineer with an undergraduate degree is often considered a professional). It is weakest for lower division undergraduates. While most, if not all, faculty would agree that lower division undergraduates should be well taught, fewer would emphasize that goal over the goal of having well-trained graduate students or doing high-quality research. Very few choose to concentrate in lower-division education themselves. Since budget cuts do force the faculty to make choices of this nature at the margin, it seems clear that significant budgetary cuts will lead to a greater deterioration in the quality of undergraduate education than in the other functions of the University, all else being equal.

This situation is exacerbated where departments offer service courses or have a large proportion of non-majors enrolled in some courses, particularly lower division courses. In order to maintain quality standards in courses offered primarily to departmental majors, such spillover-generating courses are apt to be downgraded with special severity. In a number of interviews it was stated that this could indeed happen if a department's teaching resources were tightly squeezed. One department had begun to move consciously in that direction.

There are three main forms the downgrading can take. The first two are rather dramatic and are not likely to be attempted often, lest retaliation from other departments or the central administration be provoked. These are the abolition of service courses given almost exclusively for students of another discipline or allowing departmental majors priority for admittance to blocked-enrollment courses. The third type is both the most dangerous and the most likely to occur. Departments will simply let the size of their introductory courses, service courses, and courses taken primarily by non-majors increase in size without a commensurate increase in

teaching staff. If many departments began doing this on an extensive scale, the spillover problem could become quite severe. Each department would be protecting its own special interests, but viewed in the aggregate, the total program of instruction will be weakened due to the disproportionately reduced quality of courses taken by students outside their majors.

This propensity to downgrade service courses is probably the most serious spillover problem associated with foreseeable budgetary developments. Two others already mentioned deserve more explicit consideration. One department, it was noted, met its budget reduction quota by discontinuing summer session course offerings, while several others are moving in the direction of curtailing graduate enrollments. Each choice has significant financial repercussions which fall outside the individual departments' scope of concern -- the summer session course discontinuations by rendering even less attractive summer attendance already discouraged by the paucity of available courses; and the graduate enrollment cutbacks by reducing a source of relatively high tuition payments and by weakening the University's case for receiving higher state appropriations per FTE student than state institutions stressing undergraduate education.

Thus, certain adverse spillover effects are to be expected when departments make resource allocation decisions on a decentralized basis and when the budgetary constraints on their academic programs are stringent. This problem seems more apt to emerge, the further the process of budgetary retrenchment proceeds in the aggregate and the harder any individual department is hit by a combination of general fund cutbacks and loss of outside support opportunities. If it is to be combatted, it will be necessary to devise either more effective means of central resource allocation guidance or incentive mechanisms which induce teaching units to take fuller account of spillover effects in their staffing decisions.

The more general erosion of educational program quality caused by general funding cutbacks is a problem unlikely to be averted by any conceivable change in the budget decision-making structure. It may well be an inevitable consequence of fiscal austerity. Or if this bleak prognosis is unacceptable, it is apt to be minimized only by significant alterations in faculty incentives -- e.g., by placing greater emphasis on undergraduate teaching performance in promotion and salary decisions.

Alternative Retrenchment Strategies

The department chairmen and deans were also asked about the probable effects of budget cuts made on other than an across-the-board (or at least approximately across-the-board) basis. One such strategy would be some type of freeze. At the time of the interviews, an equipment freeze had been in effect briefly. It had varying repercussions. In many departments, it had little impact. In others, however, and especially in the physical sciences and engineering, it caused significant difficulties. To such units equipment is very important both for instruction and research. It is subject to obsolescence, breakage, and depreciation. The natural sciences and to a lesser degree engineering chairmen interviewed indicated that events were reaching a point at which some new equipment was needed to continue running an adequate education program.

If really substantial savings are to be realized from a freeze, the freeze must cover hiring, since the salary budget is by far the most important component of most departmental budgets. An ambitious freeze would presumably prevent the replacement as a matter of course of departing staff members. Respondents were therefore asked what would happen if a non-replacement freeze in hiring were imposed.

The answers were diverse. One group of department heads said that such a freeze would at worst be no worse than an across-the-board budget cut. These were generally representatives of units expecting no significant natural attrition among their faculty during the next few years. A second group said that such a freeze, rigidly administered, could destroy their departments within a few years. Their major concern was that they would be unable to cover the diverse specialties within their disciplines and thus could not offer a high-quality educational program. Presumably, however, the budget cuts the University might have to absorb would not be of such magnitude as to force absolute enforcement of a position freeze. The administration could and undoubtedly would grant dispensations to departments otherwise likely to be injured seriously.

There was a third group of departments (including, under the dispensation assumption, the second group) that found themselves in an uncomfortable position. Any net faculty attrition would set into motion the course quality erosion process discussed earlier. Unless a department had some assurance that departing faculty members could be replaced, it would probably try to forestall attrition by granting tenure to junior faculty who did not quite merit the promotion. Most

department heads insisted that they would refuse out of professional principle and self-interest to promote obviously incompetent individuals. The more important case concerns the slightly sub-par professor considered almost able to perform adequately. He would be kept on to prevent teaching loads from increasing to the point that no one could do a good job. This practice could in the long run lead to a gradual deterioration in professional standards, prestige, and the quality of the University. Its implications are magnified by the fact that, with academic job markets generally slack and with many highly promising junior and proven senior scholars seeking positions, University departments could actually increase their average staff quality if permitted sufficient hiring flexibility.

The final approach to budget cutting about which questions were asked involved differential cuts made by some higher authority within the University based upon an articulated set of priorities. Again, the reactions were mixed. Several unit heads believed that matters were reaching the point at which some hard choices had to be made centrally or the University would suffer uniform deterioration. It was better, in their view, to accept decline in certain carefully selected areas in exchange for being able to maintain or increase quality in others. The departments favoring this approach were, not surprisingly, those which believed they could make an extremely good case for an increased budget share. Most interviewees objected to such an approach, however, arguing that all groups should be made to bear equally the burdens of austerity -- at least to the extent that equality could in fact be achieved in the face of differential access to outside funding.

Other than general philosophical objections, only one specific adverse effect of selective budget cutting was cited. The units chosen for a starvation treatment would suffer a serious decline in faculty morale. This could lead to additional attrition, especially of the superior staff members. Presumably, if the University chose to cut deeply into some programs it would be prepared to accept such an exodus. But it is at least conceivable that the morale problem could get out of hand and lead to virtually complete deterioration of impacted departments.

If the differential cutbacks were enforced in selected sub-fields within departments rather than between whole departments, much the same danger would arise in the less favored sub-units. In addition, there might be a strong reaction from other faculty of the departments who, according to interviewees, would feel that their professional judgment was being challenged. This could again provoke a general decline in departmental morale.

Conclusion

It seems clear that none of the budgetary strategy options is without its problems, assuming that pressures toward austerity continue. Across-the-board cuts have widely varying impacts, depending upon the external opportunities available to departments. Carried far, they threaten an erosion of instructional program quality, proliferation of adverse spillover effects, and possibly the loss of outstanding faculty members dismayed by mounting demands for increased "productivity." Rigidly enforced freezes cause inequities related to largely fortuitous circumstances. They also distort incentives, especially in tenure decisions. Selective cuts threaten morale and may encourage political in-fighting among departments. If astutely administered they may offer the greatest promise of preserving excellence at the University, but even that result is not unambiguously optimal. It depends upon one's goals. The pursuit of excellence is consistent with traditional academic value structures, but if excellence is to be maintained by sacrificing breadth of educational opportunities open to State of Michigan citizens, other groups may be less than adequately served. There is no way of avoiding hard choices.